DATEXEL

ELECTRONIC AND CONTROL PROCESS DEVICES

01 CATALOGUE

EXPERTISE | RELIABILITY | PROFESSIONALISM

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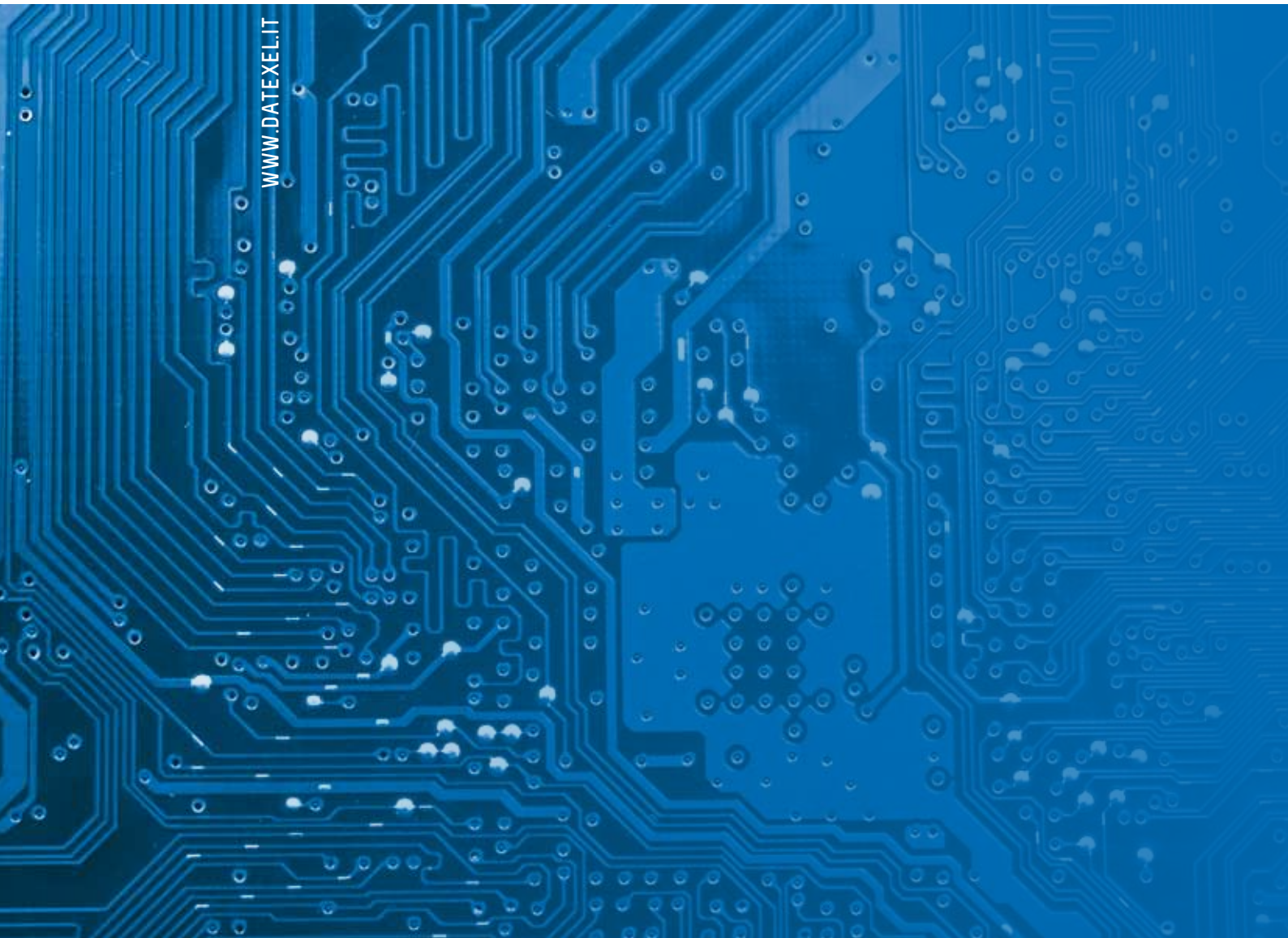
ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL



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Summary

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The Company DATEXEL

The success of a company depends on many factors: expertise, reliability, professionalism.
If all this is also true for DATEXEL, nevertheless it is not enough to draw a full picture.

DATEXEL was founded in 1992 on the commitment and ambitions of a few partners as a small provincial company, and through the years became a consolidated entity that today operates on national and international markets as a manufacturer of electronic equipment for industrial automation and process control.

EXPERTISE • RELIABILITY • PROFESSIONALISM




Products that represent innovative solutions capable of satisfying the requirements of the main industrial automation sectors:

- Energy production
- Oil
- Foodstuffs
- Pharmaceutical
- Chemical industry
- Water processing
- Automation & engineering
- Paper

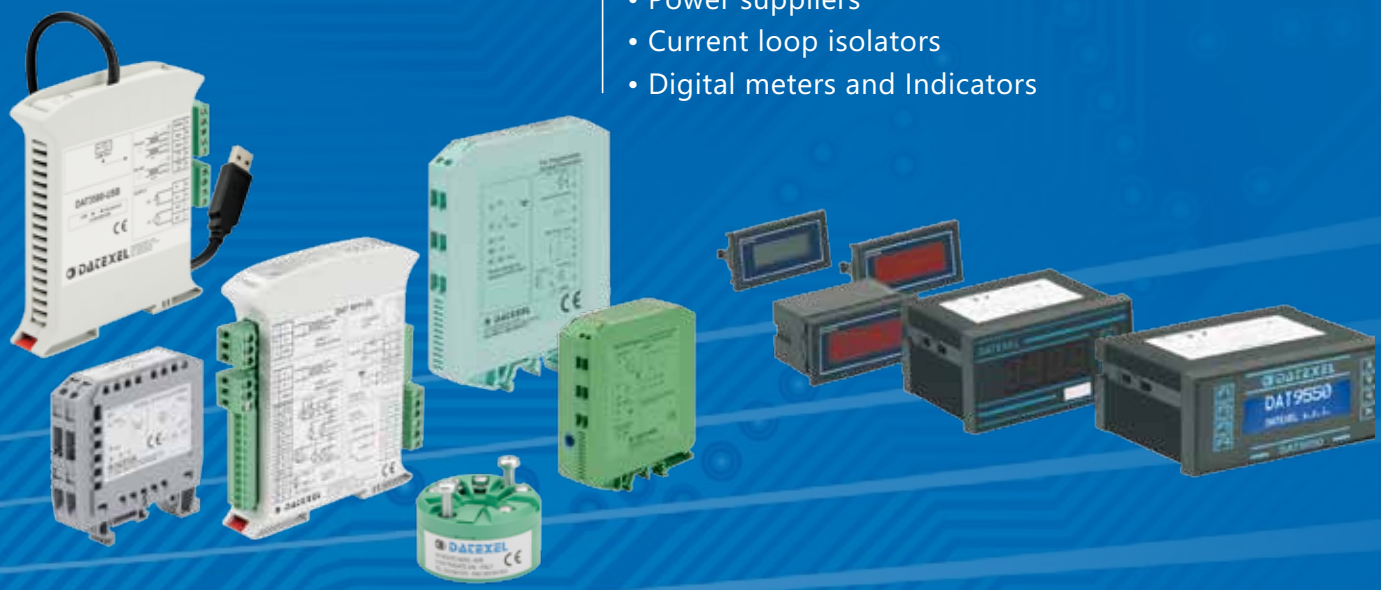
A wide range of products

The DATEXEL range is vast and complete: Transmitters, Temperature converters (both analogue and digital), Galvanic isolators, Signal splitters, Distributed I/O modules, A/D interface modules for PLC, Trip amplifiers, Power suppliers, Current loop isolators, Digital meters and Indicators.

Products that represent innovative solutions capable of satisfying the requirements of the main industrial automation sectors: energy production, oil, foodstuffs, pharmaceutical, chemical industry, water processing, automation & engineering, paper.

The DATEXEL range is vast and complete:

- Transmitters
- Temperature converters (both analogue and digital)
- Galvanic isolators
- Signal splitters
- Distributed I/O modules
- A/D interface modules for PLC
- Trip amplifiers
- Power suppliers
- Current loop isolators
- Digital meters and Indicators



The synergy

But behind the equipments and systems branded DATEXEL, there is the dedication and professionalism of our employees. All work processes (design, assembly, testing) are carried out within our company.

DATEXEL is organized:

- **DESIGN/ RESEARCH & DEVELOPMENT**
- **PRODUCTION**
- **SALES ITALY / ABROAD**
- **ADMINISTRATION and PURCHASING**
- **QUALITY**

Constant research and development

Technological innovation and the constant search for integrated solutions allow us to offer our customers an exclusive service: the work process is carried out automatically with the use of cutting-edge machinery (pick and place for assembly), and the products are 100% tested, also thanks to the use of specific software applications and instruments regularly subjected to calibration.

EXPERTISE • RELIABILITY • PROFESSIONALISM

The team

All departments and offices are perfectly integrated and compatible one with the other. And each one contributes to the company's overall success.

Specifically, the SALES, RESEARCH & DEVELOPMENT– DESIGN, PRODUCTION units play a crucial role.

During the design phase, a team of specialized technicians assists the customer, identifying all its specific needs and requirements.

In the PRODUCTION department, duly trained personnel handle the manufacture and finishing of DATEXEL equipment, as well as the final testing (before the delivery).

In a constantly evolving sector such as industrial automation, RESEARCH & DEVELOPMENT represents a strategic department capable of acquiring and maintaining COMPETITIVE ADVANTAGES.

The ambitions

The company's growth and expansion philosophy translates into a wider and wider product offer.

As a result, qualified personnel are always searching for customers and distributors in order to acquire new markets: not only in Italy, but in EC and non-EC countries too, specifically in developing countries such as Brazil, South Africa, Australia and China.

New and distant horizons then: the same horizons that DATEXEL is striving to reach in the areas of quality and innovation as well.

DATEXEL

Quality control

DATEXEL invests significantly in RESEARCH & DEVELOPMENT, obtaining first-class results thanks to the contribution of highly specialized researchers and technicians.

And let's not forget the QUALITY factor: DATEXEL has taken on the quality challenge, developing a careful study of production processes and paying great attention to materials and innovative systems.

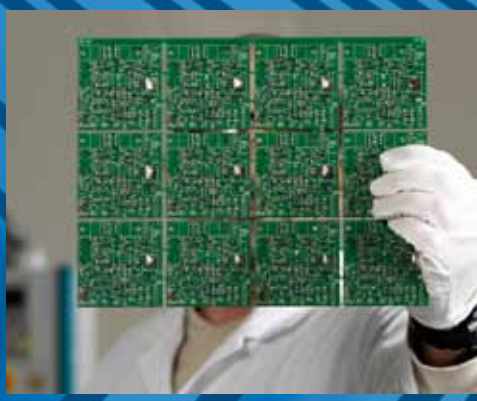
Operating daily in full compliance with quality standards has made it possible for DATEXEL to obtain its certification according to Standard UNI EN ISO 9001 (1996), subsequently converted into the current standard ISO 9001:2008.

Another important acknowledgement is the ATEX 94/9/EC certification, concerning the type-approval of safety requirements for equipment and protection systems intended for use in potentially explosive atmospheres.

Lastly, in July 2006 DATEXEL conformed to the RoHS Directive (regulation 2002/95/EC) which sets restrictions on the use of certain hazardous substances when building various types of electric and electronic equipment, thus offering environmental guarantees as well with its products.

A well-structured organization, operating in facilities that cover a surface area of 450 square meters, with spaces efficiently subdivided into three macro areas: managerial, technical, production.

With regards to the sales area, DATEXEL relies on an in-company division that interacts with Customers on a daily basis in handling the usual commercial activities (issuing proposals or negotiating discounts or delivery times), through a capillary network of distributors (in Italy and abroad) that coordinates and provides assistance with an uninterrupted series of contacts.



Application areas

The products of Datexel cover several type of applications due to a wide variety of conditions of use and ambient factors:

Industries:

Industrial automation and control process linked to all sectors.

Food business:

Food production, Cellars, dairies, pasta production, packaging and bottling lines.

Energy:

Thermal, hydropower, alternative energy (photovoltaic, solar, geothermal, wind, etc...)

Board Machine - Industrial automation:

Process control in steel plants, steel works, cement works, pharmaceutical, food and paper industry, etc.

Water treatment:

Water recycling, dams, remote control and management, data-logging.

Petrochemical offshore:

Process control in the petrochemical and offshore sectors.

ELECTRONIC AND CONTROL PROCESS DEVICES

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DATEXEL

PRODUCT CATALOGUE

ELECTRONIC AND CONTROL PROCESS DEVICES

Temperature and signal converters "SLIM SERIES"

The line of converters "SLIM series"has been designed to provide to the user the highest flexibility in the signals conversion.
The series is composed of:
*- Converters for universal input with double output and trip amplifier (**DAT4530**)*
*- Single channel converters dedicated for typology of input (**DAT4531**)*
*- Double channel converters (two independent inputs and outputs) dedicated for typology of input (**DAT4532**)*
*- Signal splitters dedicated for typology of input (**DAT4631**)*
*- Mathematical modules (**DAT4632D**)*
*- Frequency converters (**DAT4540**)*
It is possible to program the devices either via dip-switches to set the most common input and output ranges or via Personal Computer using the software DATESOFT by which the user can personalize the input and output ranges for his own necessities.

All of these features are available in only 12.5 mm thickness.

INDEX

SLIM SERIES

01

SLIM series Temperature and signal converters

UNIVERSAL ISOLATED CONVERTER CONFIGURABLE BY DIP-SWITCH OR PC DOUBLE OUTPUT & TRIP AMPLIFIER

DAT4530

GENERAL DESCRIPTION

The universal isolated converter DAT 4530 is able to measure and linearise voltage, current and resistance signals, potentiometers and the standard thermocouples and Sensors with, if required, the cold junction compensation, the wires compensation.
For mV, V and mA input it is possible to set an option for the fast sampling (option HS) or to extract the square root of the measured signal (option SQRT). In function of programming, the measured values are converted in a current or voltage signal on the two outputs.
Moreover an output contact is available as trip alarm.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Universal configurable input for: mV, TC, RTD, Res, Potentiometer, V and mA
- Two outputs configurable in current or voltage
- Trip alarm
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among all the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	20 .. 30 Vdc
Rever. polarity protection	60 Vdc max)

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

CURRENT CONSUMPTION	
Current output	90 mA max.
Voltage output	30 mA max.

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

ALARM TRIP	
Contact	SPST
Max Load (resistive):	
Voltage	48 V (ac/dc)
Current	0.4 A

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	100°C
K	-200°C	1300°C	100°C
S	0°C	1750°C	400°C
R	0°C	1750°C	400°C
B	0°C	1850°C	400°C
E	-200°C	1000°C	100°C
T	-200°C	400°C	100°C
N	-200°C	1300°C	100°C
Voltage			
mV	-100 mV	+90 mV	5 mV
mV	-100 mV	+200 mV	10 mV
mV	-100 mV	+800 mV	20 mV
RTD (2, 3, 4 wires)			
Pt100	-200°C	850°C	50°C
Pt1000	-85°C	185°C	30°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	30°C
RES. (2, 3, 4 wires)	0 Ω	500 Ω	50 Ω
	0 Ω	2000 Ω	50 Ω
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %
Voltage	-10 V	10 V	1 V
Current	0 mA	20 mA	1 mA
Calibration (1)			
mV, TC	the higher of ±0.1 % and ±12 uV		
RTD	the higher of ±0.1 % and ±0.2°C		
Res.	the higher of ±0.1 % and ±0.15		
Potentiometer	± 0.05 % f.s.		
Volt	the higher of ±0.1 % and ± 2 mV		
mA	the higher of ±0.1 % and ± 6 uA		
mV, V, mA	± 0.5 % f.s (opt. HS)		

(1) referred to the input Span (difference between max. and min.)

Linearity (1)	
TC, RTD	± 0.1 % f.s.
mV, V, mA	± 0.05 % f.s.
Input impedance	
TC, mV	>= 10 MΩ
mA	~22 Ω
Sensor excitation current	
RTD,Res	400 uA
Voltage Aux.	>18 V @ 20 mA
Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
RTD 3 wires	0.05%/Ω (50 Ω max balanced)
RTD 4 wires	0.005%/Ω (100 Ω max balanced)
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
CJC compensation	± 0.5°C

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Voltage Aux.		>12V @ 20 mA	
Burn-out values			
Max. output value		22 mA or 11 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		30 mA max	
Response time (10÷ 90% of F.S)		about 400 ms	
		100 ms (opt. HS)	

ISOLATED CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531 A

GENERAL DESCRIPTION

The isolated converter DAT 4531 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for TC and mV
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	35 mA max.
Voltage output	20 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	100°C
K	-200°C	1300°C	100°C
S	0°C	1750°C	400°C
R	0°C	1750°C	400°C
B	0°C	1850°C	400°C
E	-200°C	1000°C	100°C
T	-200°C	400°C	100°C
N	-200°C	1300°C	100°C
Voltage			
mV	-100 mV	+90 mV	5 mV
mV	-100 mV	+200 mV	10 mV
mV	-100 mV	+800 mV	20 mV
Input calibration (1)			
mV, TC	> ± 0.1 % f.s. and ± 12 uV		
Linearity (1)			
TC	± 0.2 % f.s.		
mV	± 0.1 % f.s.		
Input impedance (1)			
TC, mV	>= 10 MΩ		

Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
Thermal drift (1)	
Full scale	± 0.01% / °C
CJC	± 0.01% / °C
CJC compensation	± 0.5°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 11 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

ISOLATED CONVERTER FOR RTD AND RESISTANCE CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531 B

GENERAL DESCRIPTION

The isolated converter DAT 4531 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable compensation.
In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for RTD and resistance
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	35 mA max.
Voltage output	20 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
RTD (2, 3 wires)			
Pt100	-200°C	850°C	50°C
Pt1000	-85°C	185°C	30°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	30°C
RES. (2, 3 wires)	0 Ω	500 Ω	50 Ω
	0 Ω	2000 Ω	50 Ω
Calibration (1)			
RTD	the higher of ±0.1 % f.s. and ±0.2°C		
Low Res.	the higher of ±0.1 % f.s. and ±0.15 Ω		
High Res.	the higher of ±0.2 % f.s. and ± 1 Ω		
Linearity (1)			
RTD	± 0.1 % f.s.		
Sensor excitation current			
RTD, Res	500 uA		
Line resistance influence (1)			
RTD 3 wires	0.05%/Ω (50 Ω max balanced)		
Thermal drift (1)			
Full scale	± 0.01% / °C		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

ISOLATED CONVERTER FOR PTC/NTC/POT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531 C

GENERAL DESCRIPTION

The isolated converter DAT 4531 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers.
In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	35 mA max.
Voltage output	20 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
PTC			
KTY81-210	-55°C	150°C	50°C
KTY81-220	-55°C	150°C	50°C
KTY84-130	-40°C	300°C	50°C
KTY84-150	-40°C	300°C	50°C
NTC			
Coster 10K	-10°C	100°C	50°C
Coster 1K	-30°C	40°C	25°C
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %
Calibration (1)			
PTC, NTC	the higher of ±0.1 % f.s. and ±0.2°C		
Potentiometer	± 0.05 % f.s.		
Linearity (1)			
PTC, NTC	± 0.1 % f.s.		
Sensor excitation current			
PTC,NTC	500 uA		
Thermal drift (1)			
Full scale	± 0.01% / °C		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 11 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 500 ms	

(1) referred to the input Span (difference between max. and min.)

ISOLATED CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531 D

GENERAL DESCRIPTION

The isolated converter DAT 4531 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	35 mA max.
Voltage output	20 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Voltage	0 V	10 V	1V
Current	0 mA	20 mA	1 mA
Calibration (1)			
Volt	the higher of ±0.1 % f.s. and ± 2 mV		
mA	the higher of ±0.1 % f.s. and ± 6 uA		
Linearity (1)			
V, mA	± 0.05 % f.s.		
Input impedance			
Volt	>= 1 MΩ		
Current	<= 50 Ω		
Thermal drift (1)			
Full scale	± 0.01% / °C		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.6 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 100 ms	

(1) referred to the input Span (difference between max. and min.)

DOUBLE CHANNEL, ISOLATED CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532 A

GENERAL DESCRIPTION

The isolated converter DAT 4532 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for TC and mV
- Configurable output in Current or Voltage
- Configuration by PC allows to program the two channels with two independent settings
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	100°C
K	-200°C	1300°C	100°C
S	0°C	1750°C	400°C
R	0°C	1750°C	400°C
B	0°C	1850°C	400°C
E	-200°C	1000°C	100°C
T	-200°C	400°C	100°C
N	-200°C	1300°C	100°C
Voltage			
mV	-100 mV	+90 mV	5 mV
mV	-100 mV	+200 mV	10 mV
mV	-100 mV	+800 mV	20 mV
Input calibration (1)			
mV, TC	the higher of ±0.1 % f.s. and ±12 uV		
Linearity (1)			
TC	± 0.2 % f.s.		
mV	± 0.1 % f.s.		
Input impedance			
TC, mV	>= 10 MΩ		

Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
CJC compensation	± 0.5°C

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

DOUBLE CHANNEL, ISOLATED CONVERTER FOR RTD AND RESISTANCE CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532 B

GENERAL DESCRIPTION

The isolated double channel converter DAT 4532 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable compensation. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for RTD and resistance
- Configurable output in current or voltage
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)			
Input type	**Min**	**Max**	**Span min**
RTD (2, 3 wires)			
Pt100	-200°C	850°C	50°C
Pt1000	-85°C	185°C	30°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	30°C
RES. (2, 3 wires)	0 Ω	500 Ω	50 Ω
	0 Ω	2000 Ω	50 Ω
Calibration (1)			
RTD	the higher of ±0.1 % f.s. and ±0.2°C		
Low Res.	the higher of ±0.1 % f.s. and ±0.15 Ω		
High Res.	the higher of ±0.2 % f.s. and ± 1 Ω		
Linearity (1)			
RTD	± 0.1 % f.s.		
Sensor excitation current			
RTD, Res	500 uA		
Line resistance influence (1)			
RTD 3 wires	0.05 %/Ω (50 Ω max balanced)		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

DOUBLE CHANNEL, ISOLATED CONVERTER FOR PTC/NTC/POT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532 C

GENERAL DESCRIPTION

The isolated double channel converter DAT 4532 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Configurable output in current or voltage
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)			
Input type	**Min**	**Max**	**Span min**
PTC			
KTY81-210	-55°C	150°C	50°C
KTY81-220	-55°C	150°C	50°C
KTY84-130	-40°C	300°C	50°C
KTY84-150	-40°C	300°C	50°C
NTC			
Coster 10K	-10°C	100°C	50°C
Coster 1K	-30°C	40°C	25°C
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %
Calibration (1)			
PTC, NTC	the higher of ±0.1 % f.s. and ±0.2 °C		
Potentiometer	± 0.05 % f.s.		
Linearity (1)			
PTC, NTC	± 0.1 % f.s.		
Sensor excitation current			
PTC,NTC	500 uA		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.6 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 500 ms	

(1) referred to the input Span (difference between max. and min.)

DOUBLE CHANNEL, ISOLATED CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532 D

GENERAL DESCRIPTION

The isolated converter DAT 4532 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for voltage and current
- Configurable output in current or voltage
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- Two independent channels
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)			
Input type	**Min**	**Max**	**Span min**
Voltage	0 V	10 V	1 V
Current	0 mA	20 mA	1 mA
Calibration (1)			
Volt	the higher of ±0.1 % f.s. and ± 2 mV		
mA	the higher of ±0.1 % f.s. and ± 6 uA		
Linearity (1)			
V, mA	± 0.05 % f.s.		
Input impedance			
Volt	>= 1 MΩ		
Current	<= 50 Ω		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.6 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 100 ms	

(1) referred to the input Span (difference between max. and min.)

ISOLATED FREQUENCY TO VOLTAGE, FREQUENCY TO CURRENT CONVERTER CONFIGURABLE BY DIP-SWITCH OR PC, TRANSISTOR OR RELAY OUTPUTS

DAT 4540

GENERAL DESCRIPTION

The isolated frequency converter DAT 4540 is able to measure, up to 20 KHz, the frequency of TTL, Namur, NPN, PNP and Tachometer digital signals. In function of programming, the measured values are converted in a current or voltage signal. Moreover two relays are available in order to be programmed as trip alarm (version "-R"). For the Namur input is continuously checked the integrity of the sensor; in case of fault (short circuit or interruption), on the transistor output is generated an alarm.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Measure of the frequency for the following digital contacts input: Namur, TTL, NPN, PNP, Tachometer, Volt
- Configurable output as current or voltage
- Double optional trip alarm
- Fault alarm condition for Namur sensor
- Configurable by Dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among all ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in according to EN-50022 and EN-50035 standards

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	90 mA max.
Voltage output	30 mA max.
(+ 10mA for each relay output active)	

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
DAT 4540 (mm)	WxLxH: 90 x 112 x 12.5
DAT 4540-R (mm)	WxL xH: 90 x 112 x 22.5
Weight	about 90 g.

INPUT	
Namur (DIN 19234)	
Low level Trig.	< 1.2 mA
High level Trig.	> 2.1 mA
Voltage Aux.	8.2 V – 8 mA
Impedance	~ 1000 Ohm
Interruption Alarm	< 0.2 mA
Short Circuit Alarm	> 7.0 mA
TTL	
Low level Trig.	< 0.8 V
High level Trig.	> 2.0 V
Impedance	> 20 KOhm
PNP	
Low level Trig.	< 4.0 V
High level Trig.	> 7.0 V
Voltage Aux.	17 V – 20 mA
Impedance	~ 2.2 KOhm
Tachometer	
Low level Trig.	< -50 mV
High level Trig.	> +50 mV
Impedance	> 100 KOhm
Voltage (programmable)	
Level Trigger	0.05 V ÷ 7.0 V
Voltage Aux.	5 ÷ 17 V @ 20 mA
Impedance	> 20 KOhm

Frequency	0.1 Hz ÷ 20 KHz
Sample Time	< 50ms + period

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Voltage Aux.		>12V @ 20 mA	
Burn-out values			
Max. output value		22 mA or 11 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		30 mA max	

RELAY OUTPUTS	
Relay Outputs (Only for version "-R") N° 2 SPDT	
Max. load (Resistive)	250 Vac, 2A
Isolation between terminals	1000 Vac max
Transistor Output	
Max. load (Resistive)	30 Vdc, 100mA

ISOLATED SPLITTER/CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4631 A

GENERAL DESCRIPTION

The isolated splitter/converter DAT 4631 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for TC and mV
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	100°C
K	-200°C	1300°C	100°C
S	0°C	1750°C	400°C
R	0°C	1750°C	400°C
B	0°C	1850°C	400°C
E	-200°C	1000°C	100°C
T	-200°C	400°C	100°C
N	-200°C	1300°C	100°C
Voltage			
mV	-100 mV	+90 mV	5 mV
mV	-100 mV	+200 mV	10 mV
mV	-100 mV	+800 mV	20 mV
Input calibration (1)			
mV, TC	the higher of ±0.1 % f.s. and ±12 uV		
Linearity (1)			
TC	± 0.2 % f.s.		
mV	± 0.1 % f.s.		
Input impedance (1)			
TC, mV	>= 10 MΩ		

Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
Thermal drift (1)	
Full scale	± 0.01% / °C
CJC	± 0.01% / °C
CJC compensation	± 0.5°C

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.6 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 500 ms	

(1) referred to the input Span (difference between max. and min.)

ISOLATED SPLITTER/CONVERTER FOR RTD AND RESISTANCE CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4631 B

GENERAL DESCRIPTION

The isolated Splitter/converter DAT 4631 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable compensation. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for RTD and resistance
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
RTD (2, 3 wires)			
Pt100	-200°C	850°C	50°C
Pt1000	-85°C	185°C	30°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	30°C
RES. (2, 3 wires)	0 Ω	500 Ω	50 Ω
	0 Ω	2000 Ω	50 Ω
Calibration (1)			
RTD	the higher of ±0.1 % f.s. and ±0.2 °C		
Low Res.	the higher of ±0.1 % f.s. and ±0.15 Ω		
High Res.	the higher of ±0.2 % f.s. and ± 1 Ω		
Linearity (1)			
RTD	± 0.1 % f.s.		
Sensor excitation current			
RTD, Res	500 uA		
Line resistance influence (1)			
RTD 3 wires	0.05 %/Ω (50 Ω max balanced)		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

ISOLATED, SPLITTER/CONVERTER FOR PTC/NTC/POT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4631 C

GENERAL DESCRIPTION

The isolated Splitter/converter DAT 4631 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers.
In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
PTC			
KTY81-210	-55°C	150°C	50°C
KTY81-220	-55°C	150°C	50°C
KTY84-130	-40°C	300°C	50°C
KTY84-150	-40°C	300°C	50°C
NTC			
Coster 10K	-10°C	100°C	50°C
Coster 1K	-30°C	40°C	25°C
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %
Calibration (1)			
PTC, NTC	the higher of ±0.1 % f.s. and ±0.2 °C		
Potentiometer	± 0.05 % f.s.		
Linearity (1)			
PTC, NTC	± 0.1 % f.s.		
Sensor excitation current			
PTC,NTC	500 uA		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 500 ms		

(1) referred to the input Span (difference between max. and min.)

ISOLATED SPLITTER/CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4631 D

GENERAL DESCRIPTION

The isolated Splitter/converter DAT 4631 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.
The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.
ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min
TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Voltage	0 V	10 V	1 V
Current	0 mA	20 mA	1 mA
Calibration (1)			
Volt	the higher of ±0.1 % f.s. and ± 2 mV		
mA	the higher of ±0.1 % f.s. and ± 6 uA		
Linearity (1)			
V, mA	± 0.05 % f.s.		
Input impedance			
Volt	>= 1 MΩ		
Current	<= 50 Ω		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 100 ms		

(1) referred to the input Span (difference between max. and min.)

ISOLATED MATHEMATICAL MODULE FOR VOLTAGE AND CURRENT INPUT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4632 D

GENERAL DESCRIPTION

The isolated converter DAT 4632 D is able to measure voltage and current signals, execute a programmable mathematical function and provide on output a normalized current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Configurable output in current or voltage
- Calculation function (two independent outputs)
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among all the ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
CURRENT CONSUMPTION	
Current output	55 mA max.
Voltage output	25 mA max.
ISOLATION	
Among all the ways	1500 Vac, 50 Hz, 1 min
TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE : 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)			
Input type	**Min**	**Max**	**Span min**
Voltage	0 V	10 V	1 V
Current	0 mA	20 mA	1 mA
Calibration (1)			
Volt	the higher of ±0.1 % f.s. and ± 2 mV		
mA	the higher of ±0.1 % f.s. and ± 6 uA		
Linearity (1)			
V, mA	± 0.05 % f.s.		
Input impedance			
Volt	>= 1 MΩ		
Current	<= 50 Ω		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		
Burn-out values			
Max. output value	22 mA or 10.6 V		
Min. output value	0 mA or -0.6 V		
Output load Resistance - Rload			
Current output	< 500 Ω		
Voltage output	> 10 KΩ		
Short circuit current	26 mA max		
Response time (10÷90% of f.s.)	about 100 ms		

(1) referred to the input Span (difference between max. and min.)

ELECTRONIC AND CONTROL PROCESS DEVICES

"SMART SERIES" Temperature and signal transmitters and converters for DIN rail mounting

The SMART series devices can accept on their input several types of signals coming from the field; the series is composed of:

- *4÷20 mA two wires isolated Transmitter for universal input (**DAT4035**)*
- *Isolated Converters for universal input with configurable output as voltage or current (**DAT4135, DAT 4235**)*
- *Isolated Converter for universal input with configurable output as voltage or current and trip amplifier (**DAT4520**)*

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SMART SERIES

02

SMART series Temperature and signal transmitters and converters for DIN rail mounting

DAT 4035

GENERAL DESCRIPTION

The transmitter DAT 4035 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 4035 is able to measure and linearise the standard thermocouples with internal cold junction compensation.
The measured values are converted in a 4÷20 mA current signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable
- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

CE RoHS 2002/95/EC Pb lead-free

Application areas

POWER SUPPLY	
Power supply voltage	10 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

ISOLATION VOLTAGE	
Input/Power supply	2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-400 mV	+400 mV	2 mV
mV	-100 mV	+700 mV	2 mV
Volt	- 10 V	+10 V	500 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10 %
	200 Ω	500 Ω	10 %
	0.5 KΩ	50 KΩ	10 %
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Current mA	-10 mA	+24 mA	2 mA

Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω

INPUT	
Input calibration (1)	
RTD	the higher of ±0.1% f.s. and ±0.2°C
Res. Low	the higher of ±0.1% f.s. and ±0.15 Ω
Res. High	the higher of ±0.2% f.s. and ±1 Ω
mV, TC	the higher of ±0.1% f.s. and ±18 uV
Volt	the higher of ±0.1% f.s. and ± 2 mV
mA	the higher of ±0.1% f.s. and ± 6 uA
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.4 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 22.5 mA
Min. value output	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current		± 7 uA	

PC PROGRAMMABLE ISOLATED UNIVERSAL SIGNAL CONVERTER

DAT 4135

GENERAL DESCRIPTION

The converter DAT 4135 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal , conversion of a voltage signal even coming from a potentiometer connected on its input. Moreover the DAT 4135 is able to measure and linearise the standard thermocouples with internal cold junction compensation.
In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable
- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

CURRENT CONSUMPTION	
Current output	40 mA max.
Voltage output	20 mA max.

ISOLATION VOLTAGE	
Input/Power supply-Output	2000 Vac 50 Hz, 1 min.
OUTPUT LOAD RESISTANCE (RLOAD)	
Current output	</= 650 Ω
Voltage output	>/= 3.5 KΩ
Limitation current	about 25 mA

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-400 mV	+400 mV	2 mV
mV	-100 mV	+700 mV	2 mV
Volt	- 10 V	+10 V	500 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10 %
	200 Ω	500 Ω	10 %
	0.5 KΩ	50 KΩ	10 %
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Current mA	-10 mA	+24 mA	2 mA

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2°C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±18 uV
Volt	the higher of ±0.1 % f.s. and ± 2 mV
mA	the higher of ±0.1 % f.s. and ± 6 uA

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 23 mA or 10.8 Vdc
Min. value output	about 0 mA or 0 Vdc
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	0 mA	20 mA	4 mA
Reverse current	20 mA	0 mA	4 mA
Direct voltage	0 V	10 V	1 V
Reverse voltage	10 V	0 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		

PC CONFIGURABLE UNIVERSAL SIGNAL CONVERTER WITH COMMAND OF ENABLE/DISABLE OUTPUT

DAT 4135/SEL

GENERAL DESCRIPTION

The converter DAT 4135/SEL is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal , conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 4135/SEL is able to measure and linearise the standard thermocouples with internal cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable
- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

CURRENT CONSUMPTION	
Current output	40 mA max.
Voltage output	20 mA max.

ISOLATION VOLTAGE	
Input/Power supply-Output	2000 Vac 50 Hz, 1 min.

OUTPUT LOAD RESISTANCE (RLOAD)	
Current output	</= 650 Ω
Voltage output	>/= 3.5 KΩ
Limitation current	20 mA max.

EMC (for industrial environments) DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

SEL INPUT COMMAND	
Disable output	4÷30 Vdc
Enable output	0 Vdc or not connected

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-400 mV	+400 mV	2 mV
mV	-100 mV	+700 mV	2 mV
Volt	- 10 V	+10 V	500 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	50 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Current mA	-10 mA	+24 mA	2 mA

Input calibration (1)	
RTD	the higher of ±0.1% f.s. and ±0.2°C
Res. Low	the higher of ±0.1% f.s. and ±0.15 Ω
Res. High	the higher of ±0.2% f.s. and ±1 Ω
mV, TC	the higher of ±0.1% f.s. and ±18 uV
Volt	the higher of ±0.1% f.s. and ± 2 mV
mA	the higher of ±0.1% f.s. and ± 6 uA

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.8 uV/Ohm
RTD 3 wires	0.05%/Ω (50 Ω balanced max.)
RTD 4 wires	0.005%/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01% / °C
CJC	± 0.01% / °C
Burn-out values	
Max. value output	about 23 mA or 10.8 Vdc
Min. value output	about 0 mA or 0 Vdc
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	0 mA	20 mA	4 mA
Reverse current	20 mA	0 mA	4 mA
Direct voltage	0 V	10 V	1 V
Reverse voltage	10 V	0 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		

PC PROGRAMMABLE 3 WAYS ISOLATED UNIVERSAL SIGNAL CONVERTER

DAT 4235

GENERAL DESCRIPTION

The converter DAT 4235 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal , conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 4235 is able to measure and linearise the standard thermocouples with internal cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable
- Galvanic isolation at 2000 Vac on the 3 ways
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

CURRENT CONSUMPTION	
Current output	70 mA max.
Voltage output	50 mA max.

ISOLATION VOLTAGE	
Input/Power supply-Output	2000 Vac 50 Hz, 1 min.
OUTPUT LOAD RESISTANCE (RLOAD)	
Current output	</= 650 Ω
Voltage output	>/= 600 Ω
Limitation current	30 mA max.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-400 mV	+400 mV	2 mV
mV	-100 mV	+700 mV	2 mV
Volt	- 10 V	+10 V	500 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	50 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Current mA	-10 mA	+24 mA	2 mA

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2°C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±18 uV
Volt	the higher of ±0.1 % f.s. and ± 2 mV
mA	the higher of ±0.1 % f.s. and ± 6 uA

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 25 mA or 10.8 Vdc
Min. value output	about -25 mA or -10.8 Vdc
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	-20 mA	20 mA	4 mA
Reverse current	20 mA	-20 mA	4 mA
Direct voltage	-10 V	10 V	1 V
Reverse voltage	10 V	-10 V	1 V
Output calibration			
Current	± 7 uA or ± 15 uA (2)		
Voltage	± 10 mV		

(2) referred to the output ± 20 mA.

DAT 4520

GENERAL DESCRIPTION

The DAT 4520 device measures mV, V, mA or resistance signals, and can be directly connected to Thermocouple, RTD or potentiometer sensors.
The input signal is filtered, linearised, amplified and transfered to the output circuit, that converts it in a 0-10V range or 0-20mA range signal. Auxiliary power supply allows to supply the output current loop. Moreover, the device is able to control two trip alarm relay outputs. DAT 4520 has a 3 way isolation: input is 2000 Vac isolated from power supply and output; power supply and output are 1500 Vac isolated between them.

FEATURES

- Configurable input for Tc, RTD, Res, mV, V, mA, Potentiometer
- High accuracy
- Configurable by Personal Computer
- 0 to 10V, 0 to 20mA configurable output
- On-field reconfigurable
- 2000 Vac galvanic isolation between input, output
- Programming of the unit measure as °C or °F
- EMC compliance – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

CE RoHS 2002/95/EC lead-free

Application areas Industries · Board machine · Energy · Food business · Water treatment

TRIP ALARMS	
Output type	n° 2 Relay SPDT
Contact rating	2A, 250 Vac 2A, 30 Vdc
Load	resistive
Minimum load	5Vdc, 10mA
Voltage max	250 Vac (50/60 Hz) 110 Vdc
Isolation voltage	coil-to-contacts: 2000Vac between contacts: 1000Vac

POWER SUPPLY	
Power supply voltage	20 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

Isolation voltage	
Input/Output	2000 Vac, 50 Hz, 1min.
Input/Supply	2000 Vac, 50 Hz, 1min.
Supply/Output	1500 Vac, 50 Hz, 1min.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN Rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	about 150 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC (CJC int./ext.)			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Volt	0 mV	10 V	500 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	50 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Current mA	0 mA	20 mA	2 mA

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2°C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±10 uV
Volt	the higher of ±0.1 % f.s. and ± 2 mV
mA	the higher of ±0.1 % f.s. and ± 6 uA

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct voltage	0 V	10 V	1 V
Direct current	0 mA	20 mA	4 mA
Output calibration			
Current	± 7 uA		
Voltage	± 10 mV		
Output Load Resistance			
Current	< 650 Ω		
Voltage	> 4.7 KΩ		

ELECTRONIC AND CONTROL PROCESS DEVICES

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DATEXEL

"SMART SERIES" Temperature and signal transmitters and converters for Din rail mounting

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

Intrinsically safe smart series ATEX94/9/EC

The Intrinsically Safe SMART Series devices, type-approved according to Directive ATEX94/9/EC, are subdivided into three different product categories: universal input transmitters to be installed in a potentially explosive atmosphere (Zone 0) codes: ***DAT 2015 IS, DAT 4035 IS, DAT 1010 IS, DAT 1015 IS, DAT 1065 IS****.*

Converters / Barriers for universal input or current loop (0-4.....20 mA), suitable for installation in safe zone for connections towards zone 0. codes:

DAT 4235 IS in the following versions:
A*= Converter/Barrier,* ***B****= Double trip amplifier,*
C*= Converter/Barrier + Double trip amplifier.*

DAT 5030 IS in the following versions:
A*= Single-channel barrier,* ***AH=*** *HART transparent single-channel barrier,* ***B****= Double-channel barrier,* ***BH****= HART transparent double-channel barrier.*

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SMART ATEX SERIES

ATEX94/9/EC

03

SMART ATEX series Transmitters and converters for use in potentially explosive atmospheres

DAT 2015 IS
DAT 2015 IS/HT

GENERAL DESCRIPTION

The transmitter DAT 2015 IS is able to execute many functions such as measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 2015 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation.
The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Tc, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable
- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	11 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C **-20°C .. +85°C (vers. 'HT')**
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

EX DATA	
Output /supply	**Input**
Ui = 30 V	Uo = 6.2 V
Ii = 100 mA	Io = 100 mA
Pi = 0.75 W	Po = 500 mW
Li = 0.1 mH	Lo = 3.6 mH
Ci = 10 nF	Co = 5 uF

T6 : -20 ÷ +55°C
T5 : -20 ÷ +70°C
T4 : -20 ÷ +85°C (vers. 'HT')

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

INPUT	
Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±10 uV
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.4 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. output value	about 22.5 mA
Min. output value	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

UNIVERSAL INTRINSICALLY SAFE ISOLATED TRANSMITTER

DAT 4035 IS
DAT 4035 IS/HT

GENERAL DESCRIPTION

The isolated transmitter DAT 4035 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 4035 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation.
The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Tc, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- Galvanic isolation at 2000 Vac
- On-field reconfigurable
- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries · Energy · Water treatment · Petrochemical offshore

POWER SUPPLY	
Power supply voltage	11 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C **-20°C .. +85°C (vers. 'HT')**
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EX DATA	
Output /supply	**Input**
Ui = 30 V	Uo = 6.2 V
Ii = 100 mA	Io = 100 mA
Pi = 0.75 W	Po = 500 mW
Li = 0.1 mH	Lo = 3.6 mH
Ci = 10 nF	Co = 5 uF
T6 : -20 ÷ +55°C T5 : -20 ÷ +70°C **T4 : -20 ÷ +85°C (vers. 'HT')**	

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

INPUT	
Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±10 uV
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC	<=0.8 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. output value	about 22.5 mA
Min. output value	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

SIGNAL CONVERTER WITH TRIP AMPLIFIER FOR HAZARDOUS AREA SENSORS

DAT 4235 IS

GENERAL DESCRIPTION

The DAT 4235 IS device is a galvanic isolated Intrinsically Safety Barrier, defined as "Associated Apparatus".
The input measures mV, V, mA or resistance signals, and can be directly connected to Thermocouple, RTD or potentiometer sensors.
The input signal is filtered, linearized, amplified and transfered to the output circuit, that converts it in a 0-10V range or 0-20mA range signal.

FEATURES

- Configurable input Tc, RTD, Res, mV, V, mA, Potentiometer
- High accuracy
- Configurable by PC
- 0 to 10V , 0 to 20mA configurable output
- 2000 Vac galvanic isolation between input and output
- Programming of the unit measure as °C / °F
- EMC compliance - CE mark
- PROTECTION MODE: II (1) G D [Ex ia] IIC - [Ex iaD] in according to the Directive ATEX 94/9/EC
- Suitable for DIN rail mounting in according to EN-50022

Available in 3 different versions:

- **DAT4235 IS A Signal converter**
- **DAT4235 IS B Double trip amplifier**
- **DAT4235 IS C Signal converter + Double trip amplifier**

Application areas

TRIP ALARMS	
Output type	n° 2 Relays SPDT
Contact rating	2A , 250 Vac
	2A , 30 Vdc
Load	resistive
Minimum load	5Vdc, 10mA
Max Voltage	250 Vac (50/60 Hz) 110 Vdc
Isolation	coil-to-contacts: 2000Vac between contacts: 1000Vac

POWER SUPPLY	
Power supply voltage	20 .. 30 Vdc
Reverse polarity protection	60 Vdc max

ISOLATION	
Input/Output	2000 Vac, 50 Hz, 1min.
Input/Supply	2000 Vac, 50 Hz, 1min.
Supply/Output	1500 Vac, 50 Hz, 1min.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguish plastic
Mounting	DIN Rail
Dimensions	120 x 100 x 22.5
Weight	about 150 g.

EX DATA	
Terminals A-B-C-D; E-F-G-H-I-J; K-L Um=250V	
Terminals 1-2-3-4-5-6-7	Terminals 5-6-7
Uo = 7.8 V	Uo = 30 V
Io = 32 mA	Ii = 100 mA
Po = 140 mW	Pi = 0.75W
Lo = 20 mH	Li = ~0 mH
Co = 2 uF	Ci = 24 nF
Ta : -20 ÷ +55°C	

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
V	0 V	10 V	500 mV
Current mA	0 mA	20 mA	2 mA
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
Resistance			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±10 uV
V	the higher of ±0.2 % f.s. and ±2 Ω
mA	the higher of ±0.1 % f.s. and ±6 uV

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
V	>= 1 MΩ
mA	<= 50 Ω
Linearity	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence	
TC, mV,V	<=0.8 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Response time (10÷90% of f.s.)	about 0.4 sec.

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Voltage	0 V	10 V	1 V
Current	0 mA	20 mA	4 mA
Output calibration			
Current	± 7 uA		
Voltage	± 10 mV		
Output Rload resistance			
Current	< 650 Ω		
Voltage	> 4.7 KΩ		

CURRENT LOOP REPEATER / SUPPLY FOR HAZARDOUS AREA SENSORS

DAT 5030 IS

GENERAL DESCRIPTION

The DAT 5030 IS device is a galvanic isolated Intrinsically Safety Barrier, defined as "Associated Apparatus"
The input can measure 0-20 mA or 4-20 mA current loops, both active or passive mode; auxiliary power supply is available to supply the current loop through the hazardous area (ZONE 0).
The measure is converted in output as voltage signal (0-10V or 2-10V) or current signal (0-20mA or 4-20mA). Auxiliary power supply is available to supply the current loop connected to the output.

FEATURES

- 0-20mA or 4-20mA active or passive configurable input
- 0-10V, 2-10V, 0-20mA, 4-20mA configurable output
- Configurable by DIP – switch
- Single or Double Channel
- HART Compatible on request
- Galvanic isolation on all ways
- Power supply for current loop in hazardous area (ZONE 0)
- EMC compliance – CE Mark
- PROTECTION MODE: II (1) G D [Ex ia] IIC - [Ex iaD] according to the Directive ATEX 94/9/EC
- Din Rail mounting suitable in according to EN-50022

Available in 4 different versions:

- **DAT5030 IS A Single channel**
- **DAT5030 IS B Double channel**
- **DAT5030 IS AH Single channel HART compatible**
- **DAT5030 IS BH Double channel HART compatible**

Application areas

POWER SUPPLY	
Power supply voltage	20 ÷ 30 Vdc
Current consumption	80 mA per channel with Vaux operating
Reverse polarity protection	60 Vdc max.

TEMPERATURE & HUMIDITY	
Operating temperature	-20°C .. +60°C
Storage temperature	-40 ÷ 85 °C
Relative humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguish plastic
Mounting	DIN Rail
Dimensions (mm)	120 x 100 x 22.5

ISOLATION	
Input/Output	2000 Vac @ 50 Hz, 1min.
Input/Supply	2000 Vac @ 50 Hz, 1min.
Supply/Output	1500 Vac @ 50 Hz, 1min.
Between channels	2000 Vac @ 50 Hz, 1min.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

WEIGHT	
Single CH	about 100 g.
Double CH	about 160 g.

INPUT	
Input signal	Active or passive current loop
Range	
Configurable	0÷20 mA , 4÷20 mA
Zero regulation	± 5 %
Span regulation	± 5 %
Auxiliary Supply	> 15V @ 20mA
Input impedance	< 25 Ω

OUTPUT	
Output signal	
Configurable	4÷20 mA, 0÷20 mA, 0÷10 V and 2÷10 V
Output Rload resistance	
Voltage	> 5 KΩ
Current	< 500 Ω
Auxiliary Supply	> 12V @ 20mA

PERFORMANCES	
Calibration error	± 0.1 % of f.s.
Linearity error (*)	± 0.2 % of f.s.
Thermal drift	0.02 % of Full scale/°C
Response time (10÷90% of f.s.)	< 0.2 sec.
Frequency response (HART Protocol)	bidirectional 0.5 ÷ 4 Khz @ 3dB

(*) = inclusive of hysteresis, power supply variation and linearisation error.

EX DATA	
Terminals J-I; A-B-C-D; O-P-Q-R Um=250V	
Terminals 4-6; 14-16;	
Uo = 26.4 V	Ui = 30 V
Io = 93 mA	Ii = 100 mA
Po = 615 mW	Pi = 0.75W
Lo = 4.2 mH	Li = ~0 mH
Co = 75 nF	Ci = 12 nF
Terminals 6-5; 16-15;	
Uo = 1.2 V	Ui = 30 V
Io = 46 mA	Ii = 100 mA
Po = 14 mW	Pi = 0.75W
	Li = ~0 mH
	Ci = 12 nF
Ta : -20 ÷ +60°C	

DAT 1010 IS
DAT 1010 IS/HT

GENERAL DESCRIPTION

The transmitter DAT 1010 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable
- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting

Application areas

POWER SUPPLY	
Power supply voltage	11 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C **-20°C .. +85°C (vers. 'HT')**
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EX DATA	
Output /supply	**Input**
Ui = 30 V	Uo = 6.2 V
Ii = 100 mA	Io = 100 mA
Pi = 0.75 W	Po = 500 mW
Li = 0.1 mH	Lo = 3.6 mH
Ci = 10 nF	Co = 5 uF

T6 : -20 ÷ +55°C
T5 : -20 ÷ +70°C
T4 : -20 ÷ +85°C (vers. 'HT')

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dimensions	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.
Mounting	DIN B head or bigger

INPUT			
Input type	**Min**	**Max**	**Span min**
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2°C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV	the higher of ±0.1 % f.s. and ±10 uV
Input impedance	
mV	>= 10 MΩ
Linearity (1)	
RTD	± 0.1 % f.s

INPUT	
Line resistance influence (1)	
mV	<=0.8 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
Thermal drift (1)	
Full scale	± 0.01 % / °C
Burn-out values	
Max. output value	about 22.5 mA
Min. output value	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

INTRINSICALLY SAFE PC CONFIGURABLE TRANSMITTER FOR UNIVERSAL INPUT

DAT 1015 IS
DAT 1015 IS/HT

GENERAL DESCRIPTION

The transmitter DAT 1015 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. Moreover the DAT 1015 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, TC, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable
- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting

Application areas

Industries · Energy · Water treatment · Petrochemical offshore

POWER SUPPLY	
Power supply voltage	11 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C **-20°C .. +85°C (vers. 'HT')**
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EX DATA	
Output /supply	**Input**
Ui = 30 V	Uo = 6.2 V
Ii = 100 mA	Io = 100 mA
Pi = 0.75 W	Po = 500 mW
Li = 0.1 mH	Lo = 3.6 mH
Ci = 10 nF	Co = 5 uF

T6 : -20 ÷ +55°C
T5 : -20 ÷ +70°C
T4 : -20 ÷ +85°C (vers. 'HT')

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dimensions	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.
Mounting	DIN B head or bigger

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
Resistance			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input calibration (1)	
RTD	the higher of ±0.1 % f.s. and ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. and ±1 Ω
mV, TC	the higher of ±0.1 % f.s. and ±10 uV

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence	
TC, mV	<=0.8 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. output value	about 22.5 mA
Min. output value	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

DAT 1065 IS
DAT 1065 IS/HT

GENERAL DESCRIPTION

The isolated transmitter DAT 1065 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 1065 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, TC, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- Galvanic isolation at 2000 Vac
- On-field reconfigurable
- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting

Application areas

POWER SUPPLY	
Power supply voltage	11 .. 30 Vdc
Reverse polarity protection	60 Vdc max.

ISOLATION	
Input - Output/Power supply	2000 Vac, 50 Hz,1 min.

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C **-20°C .. +85°C (vers. 'HT')**
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN B head or bigger
Dimensions (mm)	Ø = 43 mm ; H = 24 mm
Weight	about 90 g.

EX DATA	
Output /supply	**Input**
Ui = 30 V	Uo = 6.2 V
Ii = 100 mA	Io = 100 mA
Pi = 0.75 W	Po = 500 mW
Li = 0.1 mH	Lo = 3.6 mH
Ci = 10 nF	Co = 5 uF

T6 : -20 ÷ +55°C
T5 : -20 ÷ +70°C
T4 : -20 ÷ +85°C (vers. 'HT')

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Input calibration (1)			
RTD	the higher of ±0.1 % f.s. and ±0.2°C		
Res. Low	the higher of ±0.1 % f.s. and ±0.15 Ω		
Res. High	the higher of ±0.2 % f.s. and ±1 Ω		
mV, TC	the higher of ±0.1 % f.s. and ±10 uV		

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV	<=0.4 uV/Ohm
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4-wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. output value	about 22.5 mA
Min. output value	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

ELECTRONIC AND CONTROL PROCESS DEVICES

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DATEXEL

SMART series intrinsically safe ATEX94/9/EC temperature and signal transmitters and converters

Industries | Energy | Water treatment | Petrochemical offshore

Application areas

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

"P.D.S. SERIES": temperature and signal transmitters and converters for DIN rail mounting

The P.D.S. (programmable by dip-switches) series transmitters and converters can accept on their input signals coming from 2 or 3 wires Pt100. Thermocouple and Strain Gauge sensors or Voltage and Current signals.

- *Single and double channel 4÷20 mA two wires transmitters for Pt100 input without galvanic isolation (**DAT2065**, **DAT2066**)*
- *4÷20 mA two wires transmitter for Thermocouple input without galvanic isolation (**DAT2045**)*
- *Single and double channel converters for Pt100 input with configurable output as voltage or current without galvanic isolation (**DAT2165**, **DAT2166**)*
- *Isolated converter for Pt100 input with configurable output as voltage or current (**DAT2061**)*
- *Converter for Thermocouple input with configurable output as voltage or current without galvanic isolation (**DAT2145**)*
- *Isolated signal converters with configurable input and output as voltage or current (**DAT5020**, **DAT5021**, **DAT5023I**, **DAT5023V**)*
- *Isolated signal splitter with configurable input and output as voltage or current (**DAT5022**)*
- *Isolated signal converter for Strain Gauge input with configurable output as voltage or current (**DAT5025**)*

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P.D.S. series Temperature and signal transmitters and converters, isolators, signal splitters

DIP SWITCH CONFIGURABLE TRANSMITTER FOR PT100

DAT 2065

GENERAL DESCRIPTION

The transmitter DAT 2065 is designed to provide on its output a linearised 4÷20 mA current loop signal proportional with the temperature characteristic of the Pt100 sensor connected on its input.
It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES

- Configurable Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- 4 to 20 mA linearised output on current loop
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	10 .. 30 Vdc
Rever. polarity protection	60 Vdc max
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD)			
Input type	**Min**	**Max**	**Span min**
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Typ.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	

Linearity error (*)	
± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA
Line resistance influence (1)	
0.05 % f.s. / Ω (100 Ω max balanced for wire)	
Response time (10÷90% of f.s.)	about 300 ms

(1) = referred to the input Span (difference between max. and min.)

(*) = inclusive of hysteresis, power supply variation and linearisation error.

DOUBLE CHANNEL DIP SWITCH CONFIGURABLE TRANSMITTER FOR PT100

DAT 2066

GENERAL DESCRIPTION

The double channel transmitter DAT 2066 is designed to provide on the output two linearised 4÷20 mA current loop signals proportional with the temperature characteristics of the Pt100 sensors connected on its inputs.
It is possible to connect on the input both 3 wire Pt100 and 2 wire Pt100.

FEATURES

- Configurable double Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- 4 to 20 mA linearised double output on current loop
- 1000 Vac isolation among the channels
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	10 .. 30 Vdc
Rever. polarity protection	60 Vdc max
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD)			
Input type	**Min**	**Max**	**Span min**
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Typ.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	

Linearity error (*)	
± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA
Line resistance influence (1)	
0.05 % f.s. / Ω (100 Ω max balanced for wire)	
Response time (10÷90% of f.s.)	about 300 ms

(1) = referred to the input Span (difference between max. and min.)

(*) = inclusive of hysteresis, power supply variation and linearisation error.

DIP SWITCH CONFIGURABLE CONVERTER FOR PT100

DAT 2165

GENERAL DESCRIPTION

The converter DAT 2165 is designed to provide on its output a linearised voltage or current signal proportional with the temperature characteristic of the Pt100 sensor connected on its input.
It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES

- Configurable Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- Linearised voltage or current output
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
CURRENT CONSUMPTION	
Current output	40 mA max.
Voltage output	10 mA max.
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD)			
Input type	**Min**	**Max**	**Span min**
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	0 mA	20 mA	-
Direct Voltage	0 V	10 V	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Typ.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	

Linearity error (*)	
± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA or > 10 Vdc
Line resistance influence (1)	
0.05 % f.s. / Ω (100 Ω max balanced for wire)	
Response time (10÷90% of f.s.)	about 300 ms

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis, power supply variation and linearisation error.

DOUBLE CHANNEL DIP SWITCH CONFIGURABLE CONVERTER FOR PT100

DAT 2166

GENERAL DESCRIPTION

The double channel converter DAT 2166 is designed to provide on the output two linearised voltage or current signals proportional with the temperature characteristics of the Pt100 sensors connected on its inputs. It is possible to connect on the input both 3 wire and 2 wire Pt100.

FEATURES

- Configurable double Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- Linearised double voltage or current output
- 1000 Vac isolation among the channels
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
CURRENT CONSUMPTION (for each channel)	
Current output	40 mA max.
Voltage output	15 mA max.
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD)			
Input type	**Min**	**Max**	**Span min**
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	0 mA	20 mA	-
Direct Voltage	0 V	10 V	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Typ.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	

Linearity error (*)	
± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA or > 10 Vdc
Line resistance influence (1)	
0.05 % f.s. / Ω (100 Ω max balanced for wire)	
Response time (10÷90% of f.s.)	about 300 ms

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis, power supply variation and linearisation error.

ISOLATED DIP SWITCH CONFIGURABLE CONVERTER FOR PT100

DAT 2061

GENERAL DESCRIPTION
The converter DAT 2061 is designed to provide on its output a linearised voltage or current signal proportional with the temperature characteristic of the Pt100 sensor connected on its input.
It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES
- Input for RTD type Pt100
- Unit of measure configurable in °C or °F
- Zero and Span values configurable by DIP-switches
- Voltage or current output
- Output values configurable by DIP-switches
- Galvanic isolation at 2000 Vac between input / output and power supply
- Good accuracy and performance stability
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	60 mA max.
Voltage output	40 mA max.

ISOLATION
2000 Vac, 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD)			
Input type	**Min**	**Max**	**Span min**
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	0 mA	20 mA	-
Direct Voltage	0 V	10 V	-

Min. input value programmability	
Programmable	-50 ÷ 50 °C

Input Calibration (1)
the higher of ± 0.1 % f.s. and 0.2 °C

RTD sensor excitation current	
Typ.	0.6 mA

Thermal drift (1)	
Full Scale	± 0.02 % / °C

Linearity error (*)
± 0.15 % of f.s.

Burn-out values	
Max. value output	>20 mA or > 10 Vdc

Line resistance influence (1)
0.05 % f.s. / Ω (100 Ω max balanced for wire)

Response time (10÷90% of f.s.)	about 500 ms

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis, power supply variation and linearisation error.

NOT LINEARIZED DIP SWITCH CONFIGURABLE TRANSMITTER FOR THERMOCOUPLE

DAT 2045

GENERAL DESCRIPTION
The transmitter DAT 2045 is designed to provide on its output a 4÷20 mA current loop signal linear and proportional with the value of voltage generated from the thermocouple connected to its input.
The DAT 2045 doesn't execute the linearisation of the input signal; this feature allows to use the transmitter with acquisition systems with an internal linearisation software.

FEATURES
- Configurable Input for thermocouples type K, J, R, S and T
- Good accuracy and performance stability
- Configurable by DIP-switches
- 4 to 20 mA "voltage linear" output on current loop
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	10 .. 30 Vdc
Rever. polarity protection	60 Vdc max

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT (TC)			
Input type	**Min**	**Max**	**Span min**
J	-50°C	950°C	100°C
K	-50°C	1370°C	100°C
S	-50°C	1760°C	700°C
R	-50°C	1760°C	700°C
T	-50°C	450°C	100°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	-

Min. input value programmability	
Programmable	-50 ÷ 50 °C

Input Calibration (1)
the higher of ± 0.1 % f.s. and 0.2 °C

CJC compensation	± 0.5°C

Thermal drift (1)	
Full Scale	± 0.02 % / °C

Linearity error (*)
± 0.05 % of f.s.

Burn-out values	
Max. value output	>20 mA

Input Impedance
10 MΩ

Line resistance influence (1)
0.2 µV / Ω

Response time (10÷90% of f.s.)	about 500 ms

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis, power supply variation and linearisation error.

NOT LINEARIZED DIP SWITCH CONFIGURABLE CONVERTER FOR THERMOCOUPLE

DAT 2145

GENERAL DESCRIPTION

The converter DAT 2145 is designed to provide on its output a voltage or current signal linear and proportional with the value of voltage generated from the thermocouple connected to its input.
The DAT 2145 doesn't execute the linearisation of the input signal; this feature allows to use the converter with acquisition systems with an internal linearisation software.

FEATURES

- Configurable Input for thermocouples type K, J, R, S and T
- Good accuracy and performance stability
- Configurable by DIP-switches
- Voltage or current "voltage linear" output
- Unit of measure configurable in °C or °F
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION	
Current output	40 mA max.
Voltage output	10 mA max.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT (TC)			
Input type	**Min**	**Max**	**Span min**
J	-50°C	950°C	100°C
K	-50°C	1370°C	100°C
S	-50°C	1760°C	700°C
R	-50°C	1760°C	700°C
T	-50°C	450°C	100°C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	-
Direct Voltage	0 V	10 V	-

Min. input value programmability	
Programmable	-50 ÷ 50 °C
Input Calibration (1)	
the higher of ± 0.1 % f.s. and 0.2 °C	
CJC compensation	± 0.5°C
Thermal drift (1)	
Full Scale	± 0.02 % / °C

Linearity error (*)	
± 0.05 % of f.s.	
Burn-out values	
Max. value output	>20 mA or 10 Vdc
Input Impedance	
10 MΩ	
Line resistance influence (1)	
0.2 µV / Ω	
Response time (10÷90% of f.s.)	about 500 ms

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis, power supply variation and linearisation error.

DIP SWITCH CONFIGURABLE 3 WAYS ISOLATED SIGNAL CONVERTER

DAT 5020

GENERAL DESCRIPTION

The converter DAT 5020 is designed to provide on its output a voltage or current signal proportional with the value of the normalised signal or the potentiometer applied on its input. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device. The 2000 Vac isolation between input, power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications. On the input side, an auxiliary supply source isolated from the power supply is provided; this allows to connect on input both active and passive current loops.

FEATURES

- Input for voltage, current and potentiometer signal
- Voltage or current configurable output
- High number of Input / output configuration
- Galvanic isolation at 2000 Vac on the 3 ways
- Isolated power supply source for passive current transmitter on input
- Good accuracy and performance stability
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 32 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply	18 Vdc min @ 20 mA

Current consumption	
Current output with active Power supply aux operative input (20 mA): 110 mA max.	
Voltage output	80 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Voltage	-10 V	10 V	-
Potentiometer			
(Rnom. from 1KΩ to 5 KΩ)	0 %	100 %	-

Max input signal
30 Vdc or 50 mA
Input Calibration (1)
± 0.1 % f.s.
Linearity (*)
± 0.15 % f.s.

Input Impedance	
Voltage	>/= 1 MΩ, Current: ~ 50 Ω
Thermal drift (1)	
Full Scale	± 0.02 % / °C

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Voltage	-10 V	10 V	-
Max output signal			
15 Vdc or 30 mA			
Response time (10÷90% of f.s.)	about 500 ms		

(1) = referred to the input Span (difference between max. and min.)
(*) = inclusive of hysteresis and power supply variation.

3 WAYS ISOLATED DIP SWITCH CONFIGURABLE SIGNAL CONVERTER

DAT 5021

GENERAL DESCRIPTION

The converter DAT 5021 is designed to provide on its output a voltage or current signal proportional with the value of the normalised signal applied on its input. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for voltage and current signal
- Input range configurable by DIP-switches
- Isolated power supply source for passive current transmitter on input
- Isolated power supply source for passive loads on output
- Voltage or current output configurable by DIP-switches
- Galvanic isolation at 2000 Vac between input, power supply and output
- Good accuracy and performance stability
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA
Aux. Power Supply IN	18 Vdc @ 20 mA

CURRENT CONSUMPTION	
Current output with active Power supply aux operative input (20 mA): 90 mA max.	
Voltage output	40 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Input Calibration	± 0.1 % f.s.		
Linearity (*)	± 0.05 % f.s.		
Thermal drift			
Full Scale	± 0.02 % / °C		
Response time (from 10 to 90 % of f.s.)	< 10 ms		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		

(*) = inclusive of hysteresis and power supply variation.

4 WAYS ISOLATED DIP SWITCH CONFIGURABLE SIGNAL CONVERTER/SIGNAL SPLITTER

DAT 5022

GENERAL DESCRIPTION

The converter DAT 5022 is designed to provide on its output two voltage or current signals proportional with the value of the normalised signal applied on its input. The user can program the input and outputs ranges by the proper DIP-switches available after opening the suitable door located on the side of device.
The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for voltage and current signal
- Input range configurable by DIP-switches
- Voltage or Current two independent output channels
- Voltage or current outputs configurable by DIP-switches
- Isolated power supply source for passive current transmitter on input
- Isolated power supply source for passive loads on outputs
- Galvanic isolation at 2000 Vac between input, power supply and outputs
- Good accuracy and performance stability
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA
Aux. Power Supply IN	18 Vdc @ 20 mA

CURRENT CONSUMPTION	
Current output with active Power supply aux operative input (20 mA): 120 mA max.	
Voltage output	60 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Input Calibration	± 0.1 % f.s.		
Linearity (*)	± 0.05 % f.s.		
Thermal drift			
Full Scale	± 0.02 % / °C		
Response time (from 10 to 90 % of f.s.)	< 10 ms		

OUTPUT (2 CHANNELS)			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		

(*) = inclusive of hysteresis and power supply variation.

DIP SWITCH CONFIGURABLE CONVERTER FOR AC CURRENT SIGNAL

DAT 5023Iac

GENERAL DESCRIPTION

The converter DAT 5023Iac is designed to detect the TRMS value of the AC current signal from 0÷5 A to 0÷60 A applied on its input providing a voltage or current output signal. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device. The 2000 Vac isolation between power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.
The measure of the input signal is executed by a cross connector and a Hall effect transducer; this allows to isolate the input side from the output and power supply.

FEATURES

- Input for AC current signal
- Build-in cross connector (8mm diameter)
- Measure by Hall effect transducer
- True Root Mean Square (TRMS) measure
- Galvanic isolation at 2000 Vac
- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

CURRENT CONSUMPTION	
Current output with Aux supply out operative (20 mA): 90 mA max.	
Voltage output	60 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 22.5
Weight	About 170 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
DAT5023Iac/A	0÷5 A	0÷10 A	-
DAT5023Iac/B	0÷20 A	0÷30 A	-
DAT5023Iac/D	0÷40 A	0÷60 A	-
Bandwidth (-3dB)			
40 Hz ÷ 1KHz			
Input Calibration	± 0.1 % f.s.		
Linearity (*)	±1 % f.s.		
Thermal drift			
Full Scale	± 0.02 % / °C		

OUTPUT			
output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		
Response time (10÷90% of f.s.)	About 400 ms		

(*) = inclusive of hysteresis and power supply variation.

ISOLATED CONVERTER FOR DC CURRENT SIGNAL WITH FIXED INPUT AND DIP SWITCH CONFIGURABLE OUTPUT

DAT 5023Idc

GENERAL DESCRIPTION

The converter DAT 5023Idc is designed to convert the DC current signal from 0÷5 A to 0÷60 A applied on its input in a voltage or current output signal. The device is available in three versions (A, B and D) in function of the input current value.
The user can program the output ranges by the proper DIP-switches available after opening the suitable door located on the side of device.
The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for DC current signal
- Build-in cross connector (8mm diameter)
- Measure by Hall effect transducer
- Galvanic isolation at 2000 Vac
- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

CURRENT CONSUMPTION	
Current output with Aux supply out operative (20 mA): 90 mA max.	
Voltage output	60 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 22.5
Weight	About 170 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current (A) (1)	0÷5 A	0÷60 A	-
Input Calibration	± 0.1 % f.s.		
Linearity (*)	±1 % f.s.		
Thermal drift			
Full Scale	± 0.02 % / °C		

(1) = To choose the input range refer to the technical data sheet.

OUTPUT			
output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		
Response time (10÷90% of f.s.)	About 400 ms		

(*) = inclusive of hysteresis and power supply variation.

DIP SWITCH CONFIGURABLE CONVERTER FOR AC / DC VOLTAGE SIGNAL

DAT 5023/V

GENERAL DESCRIPTION

The converter DAT 5023/V is designed to detect the TRMS value of the AC voltage signal or to convert the DC voltage signal applied on its input in a voltage or current output signal. The user can program the input type and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device.
The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.
The 1500 Vac isolation between input, power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.

FEATURES

- Input for AC/DC voltage signal
- Dedicated measure inputs
- Input type of measure (AC / DC) configurable by DIP-switches
- True Root Mean Square (TRMS) measure
- Isolated power supply source for passive loads on output
- Voltage or current output configurable by DIP-switches
- Galvanic isolation at 1500 Vac between input, power supply and output
- Good accuracy and performance stability
- EMC compliant – CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

CURRENT CONSUMPTION	
Current output with Aux supply out operative (20 mA): 80 mA max.	
Voltage output	60 mA max.

ISOLATION	
All the ways	1500 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT			
Input type(1)	**Min**	**Max**	**Span min**
Voltage (Vac)	0÷36 Vac	0÷550 Vac	-
Voltage (Vdc)	0÷36 Vdc	0÷550 Vdc	-
Bandwidth (-3dB)			
40 Hz ÷ 1KHz			
Input Calibration	± 0.1 % f.s.		
Linearity (*)			
(AC) ±1 % f.s.	**(DC)** ± 0.1 % f.s.		
Thermal drift			
Full Scale	± 0.02 % / °C		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		
Response time (10÷90% of f.s.)	(**AC**) 250 ms		
	(**DC**) 20 ms		

(1) = To choose the input range refer to the technical data sheet.

(*) = Inclusive of hysteresis and power supply variation.

ISOLATED PROGRAMMABLE DIP SWITCH CONVERTER FOR STRAIN GAUGE / BRIDGE SENSORS

DAT 5025

GENERAL DESCRIPTION

The converter DAT 5025 is designed to provide on its output a voltage or current signal linear and proportional with the output voltage coming from the output of a bridge transducer applied on its input.
The user can program the bridge excitation voltage value, the input and the output ranges by the proper DIP-switches available after opening the suitable door located on the side of device.
The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for Strain-Gauge
- Input range configurable from 0÷10 mV up to 0÷200 mV or from ± 5 mV up to ± 200 mV
- Current limiter on the input side
- Galvanic isolation at 2000 Vac on the 3 ways
- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant – CE mark
- Din rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

CURRENT CONSUMPTION	
Current output with active Power supply aux operative (20 mA): 120 mA max.	
Voltage output	80 mA max.

ISOLATION	
All the ways	2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT			
Input type(1)	**Min**	**Max**	**Span min**
Strain-Gauge	0 mV	10 mV	-
	0 mV	200 mV	-
	± 5 mV	± 200 mV	-
Bridge excitation voltage (Vexc)			
3.60 Vdc ± 0.1% (with bridge's resistance included between 100 Ω and 10 KΩ)			
10 Vdc ± 0.1% (with bridge's resistance included between 300 Ω and 10 KΩ)			
Bridge excitation current			
65 mA max.			
Input Calibration	± 0.1 % f.s.		
Linearity (*)	± 0.1 % f.s.		
Thermal drift			
Full Scale	± 0.01 % / °C		

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
	4 mA	20 mA	-
Voltage	0 V	10 V	-
	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-
Load resistance (Rload)			
Voltage output	>/= 5 KΩ		
Current output	</= 500 Ω		
Response time (10÷ 90% of f.s.)			40 ms

(1) = To choose the input range refer to the technical data sheet.

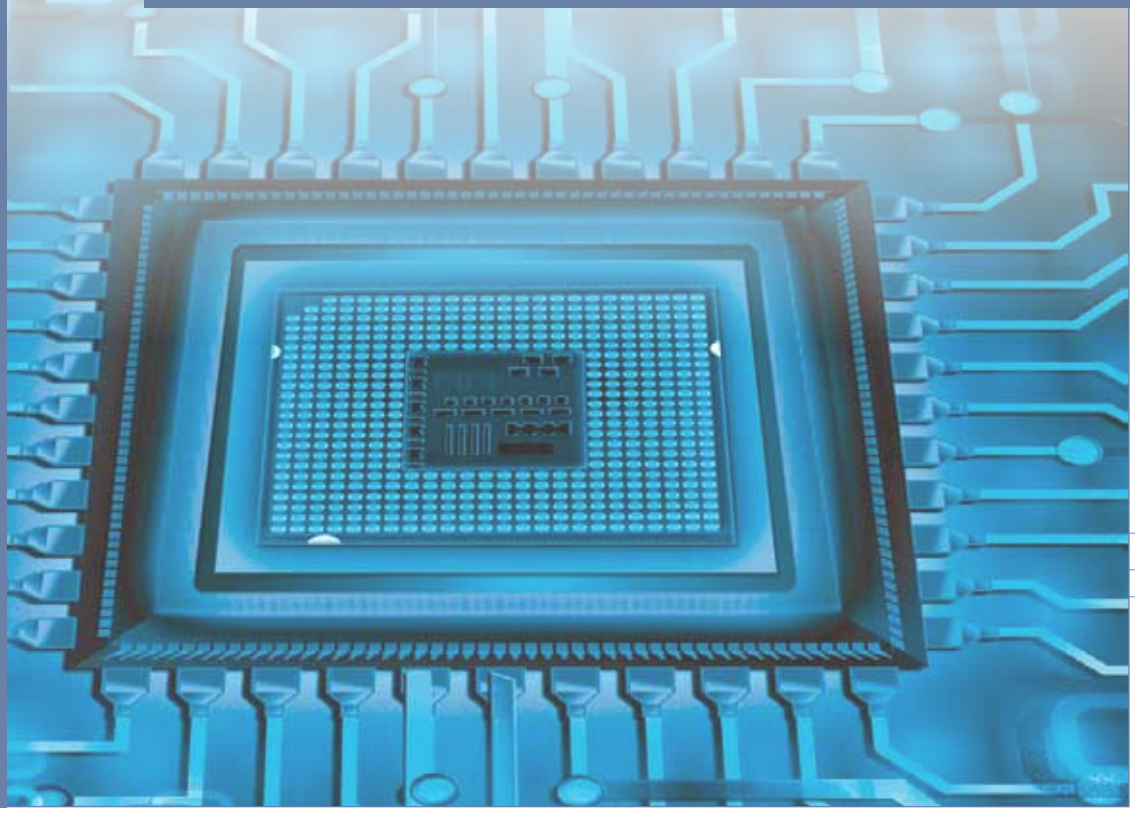
(*) = Inclusive of hysteresis and power supply variation.

ELECTRONIC AND CONTROL PROCESS DEVICES

www.datexel.it

DATEXEL

P.D.S. series temperature and signal transmitters and converters for DIN rail mounting



ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

DAT5028-DAT5024 SERIES:
Trip amplifiers for DIN rail mounting

The devices of the "DAT5028 - DAT5024" series can accept on input several types of sensor coming from the field.

- *TRIP AMPLIFIERS with universal analog input configurable by Dip-switch indication on display of the trip level value (**DAT5028**)*
- *TRIP AMPLIFIERS with dedicated analog input (**DAT5024**)*
- *TRIP AMPLIFIERS with configurable input Voltage or Current (**DAT5024E**)*

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05

Trip amplifiers

"DAT5028 / DAT5024 series" trip amplifiers for DIN rail mounting

TRIP AMPLIFIER WITH DISPLAY FOR UNIVERSAL ANALOG INPUT

DAT 5028

GENERAL DESCRIPTION

The DAT 5028 device is able to acquire RTD or Tc sensors, mV, V or mA input signals connected to the universal analog input.
By means of push-button and 4-digit display on the front panel, four different trip alarms are configurable. Each alarm threshold commands an output relay. Input signal can be retransmitted on the analog output in a Voltage or Current signal, configurable by means of dip-switch on the side of the device.
By means of an internal 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature.
The 1500 Vac isolation on all ways removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Universal Analog Input : Voltage, Current, TC, RTD, Resistance
- 2 SPDT + 2 SPST Relay Outputs (Version with 4 trips)
- 2 SPDT Relay Outputs (Version with 2 trips)
- 1 V/mA Analog Output for signal transmission
- 1500 Vac galvanic isolation on all ways
- High Accuracy
- EMC compliance – CE Mark
- DIN rail suitable mounting (EN-50022)

Application areas

POWER SUPPLY	
Power supply voltage	12 ÷ 30 Vdc
Current Consumption	120 mA @24Vdc (300mA max)
Rever. polarity protection	60 Vdc max

TEMPERATURE AND HUMIDITY	
Operative temperature	-30°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

ISOLATION	
Isolation voltage	1500 Vac (on all ways)

EMC (for industrial environments) DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN Rail
Dimensions (mm)	W x L x H : 90 x 112 x 22.5
Weight	about 150 g.

ANALOG INPUT				
Type	**Range**	**Accuracy**	**Linearity**	**Thermal drift**
100 mV	-100 / +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
10 V	-10 / +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
20 mA	0 / 20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt100	-200 / +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt1K	-200 / +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni100	-60 / +180°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni1K	-60 / +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Res	0 / 2 Kohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pot	0 / 100 %	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc J	-210 / +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc K	-210 / +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc R	-50 / +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc S	-50 / +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc B	+400 / +1825 C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc E	-210 / +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc T	-210 / +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc N	-210 / +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C

Lead wire res. influence	
RTD (3 wires)	0.05 %/Ω (50 Ω max)
mV, Tc	< 0.8 uV/Ohm
RTD excitation current, Res, Pot	~ 0.7 mA
Pot. Nominal value	2 KOhm
Sample Time	1 sec.
Warm-up time	3 min.

DIGITAL OUTPUT	
n.2 SPDT + n.2 SPST Relay	
Max Load (resistive)	2 A @ 250 Vac (per contact)
	2 A @ 30 Vdc (per contact)
Min Load	5Vdc , 10mA
Voltage Max.	250Vac (50 / 60 Hz) ,110Vdc

ANALOG OUTPUT				
Type	**Range**	**Accuracy**	**Linearity**	**Thermal drift**
10 V	0 / +10 V	±0.1 % f.s.	±0.05 % f.s.	100 ppm/°C
20 mA	0 / +20 mA	±0.1 % f.s.	±0.05 % f.s.	100 ppm/°C
Load Resistance			< 500 Ohm (current output) > 5 KOhm (voltage output)	
Auxiliary Voltage			>12V	

TRIP AMPLIFIER WITH DEDICATED ANALOG INPUT

DAT 5024

GENERAL DESCRIPTION

The trip amplifier DAT 5024 is able to accept on its input a wide range of normalised voltage signals, normalised current signals coming from both active and passive current loop, signals coming from RTDs, Thermocouples and resistance sensors. The input type and the input range are fixed: refer to the section "Technical Specifications", table " Input type " to order the device. The Threshold 1 is programmed as high alarm, while, by dip-switches, it is possible to set the Threshold 2 either as high or low alarm. The trip level of each threshold can be adjusted by the potentiometers and checked by the test-points located on the front of the device. It is possible to adjust by potentiometers also the values of the hysteresis level and delay time. The isolation between input and power supply is 2000 Vac. The isolation between input and contacts of relays is 2000 Vac.The isolation between power supply and contacts of relays is 1500 Vac. The isolations eliminate the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.

FEATURES

- Available analog inputs: RTD, TC, Voltage, Resistance and Current
- Two independent threshold: two high alarm or one high and one low alarm
- Trip level and hysteresis adjustable by potentiometer
- Delay time adjustable by potentiometer up to 25 sec.
- Two relays SPDT 250Vac, 2A
- Galvanic isolated among the three ways
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

CE RoHS 2002/95/EC Pb lead-free

Application areas Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	18 ÷ 32 Vdc
Current Consumption	110 mA max @ 24 Vdc
Rever. polarity protection	60 Vdc max
AUXILIARY SUPPLY	
(only for mA input)	> 18 V @ 20 mA

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE AND HUMIDITY	
Operative temperature	-30°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

ISOLATION	
Input – power supply	2000 Vac 50 Hz, 1 min
Input – contact of relays	2000 Vac 50 Hz, 1 min
Power supply – contact of relays	1500 Vac 50 Hz, 1 min.

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 22.5
Weight	about 90 g.

INPUT		
Input type*	**Min**	**Max**
Voltage		
50 mV	0 mV	+50 mV
100 mV	0 mV	+100 mV
500 mV	0 mV	+250 mV
1 V	0 mV	+1 V
10 V	0 mV	+10 V
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1370 °C
R	-50 °C	+1760 °C
S	-50 °C	+1760 °C
B	+400 °C	+1820 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C
RTD		
Pt100	-50 °C	+400 °C
Pt1000	-200 °C	+200 °C
Ni100	-60 °C	+180 °C
Ni1000	-60 °C	+150 °C
Resistance		
250 Ω	0 Ω	250 Ω
2 KΩ	0 Ω	2000 Ω
Current mA		
20 mA	0 mA	20 mA

* Specify in phase of order

Input calibration (1)	±0.1% f.s.
Linearity (1)	
mV, V, mA	± 0.05% f.s.
Tc, RTD	± 0.2% f.s.
Input impedance	
mV, Tc	> 1 MΩ
V	> 100 KΩ
mA	< 50 Ω
RTD excitation current	
Typical	0.6 mA
Thermal drift (1)	
Full scale	± 0.02 % / °C
CJC comp.	
Tc	± 0.5 °C
Thermal drift CJC	
Full scale	± 0.02 °C/ °C
Line resistance influence (1)	
mV, Tc	< 0.8 uV/Ohm
Threshold	Adjustable from 2 up to 98% f.s.
Hysteresis	Adjustable from 0.5 up to 10 % f.s.
Delay	Adjustable up to 25 sec.

RELAY OUTPUT	
N° 2 SPDT	
Contact rating	250 Vac, 2A
Isolation between contact	1000 Vac max

(1) referred to input Span (difference between max. and min. values)

ECONOMIC, ISOLATED TRIP AMPLIFIER CONFIGURABLE BY DIP-SWITCHES

DAT 5024E

GENERAL DESCRIPTION

The DAT 5024E is an economic trip amplifier able to accept on its input normalised voltage and current signals coming from both active and passive current loops. Both the trips can be configured as high or low alarm, the adjustment of the trip values is performed by the potentiometers THR1 and THR2 located on the front side of the device.
The adjustment of the hysteresis and delay value can be performed by the potentiometers accessible opening the suitable door located on the side of the device.
On the devices are foreseen the following isolation power supply/input: 1500 Vac; contact of relays/output-input: 1000 Vac.

FEATURES

- Input for Voltage and Current
- Two independent thresholds
- Type of alarm programmable by dip-switch as high or low
- Galvanic isolated among the ways
- Trip level and hysteresis adjustable by potentiometers
- Delay time adjustable by potentiometer from 1 up to 6 sec.
- Two relays SPDT (Form C)
- Good accuracy and linearity
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

Power Supply	
Power supply voltage	18 ÷ 30 Vdc
Current Consumption	110 mA max @ 24 Vdc
Rever. polarity protection	60 Vdc max
AUXILIARY SUPPLY	
(only for mA input)	> 18 V @ 20 mA

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

TEMPERATURE AND HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

ISOLATION	
Input – Power Supply	1500 Vac 50 Hz, 1 min
Input – contact of relays	1000 Vac 50 Hz, 1 min
Power Supply – Contact of relays	1000 Vac 50 Hz, 1 min.

HOUSING	
Material	Self-extinguishing plastic
Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Voltage	0 V	5 V
	0 V	10 V
	1 V	5 V
	2 V	10 V
Current	0 mA	20 mA
	4 mA	20 mA

Maximum operating voltage (on resistive load)
125 Vac, 30 Vdc
Maximum operating current (on resistive load)
0.5 A @ 125 Vac, 1 A @ 30 Vdc
Maximum switching capacity (on resistive load)
62.5 VA, 30 W
Trip value regulation
Configurable from 2 to 96 % of f.s.
Delay time value regulation
Configurable from 1 to 6 sec.
Hysteresis value regulation
Configurable from 1 al 9.5 % of f.s.

Input calibration (1)	
±0.1% f.s.	
Thermal drift (1)	
Full scale	± 0.02 % / °C

RELAY OUTPUT
N° 2 SPDT (Form C)

(1) referred to input Span (difference between max. and min. values)

ELECTRONIC AND CONTROL PROCESS DEVICES

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"DAT5028 / DAT5024 series" trip amplifiers for din rail mounting

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

"DAT200, DAT500 SERIES": signal transmitters and converters,galvanic isolators

The transmitters and converters of the DAT200 series can accept on their input signal coming from potentiometer sensors (DAT205) or voltage and current signals (DAT207) The series is composed of:

- *Not isolated transmitter for potentiometer input from 1 Kohm up to 10 Kohm. Powered from 4÷20 mA current loop (**DAT205 2W**).*
- *Not isolated converter for potentiometer input from 1 Kohm up to 10 Kohm. Fixed range (**DAT205 3W**).*
- *Not isolated transmitter for mV, V, mA input . Fixed range. Powered from 4÷20 mA current loop (**DAT207 2W**).*
- *Not isolated converter for mV, V, mA input . Fixed range. (**DAT207 3W**).*
- *Self-powered, 3000 Vac isolated converter for 0÷20 mA current loop. (**DAT511**).*
- *Self-powered, 1500 Vac isolated converter for 0÷20 mA current loop. Hart compatible (**DAT511-H**).*

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06

DAT200
DAT500
SERIES

Signal transmitters and converters, galvanic isolators

FIXED RANGE TRANSMITTER FOR POTENTIOMETER

DAT 205 2W

GENERAL DESCRIPTION
The transmitter DAT 205 2W is designed to provide on output a 4÷20 mA current loop linearised signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulation of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

FEATURES
- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- 4÷20 mA current loop linearised output
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	10 .. 32 Vdc
Reverse polarity protection	60 Vdc max
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Potentiometer (Rnom.1 ... 10KΩ)	0%	100%	-
Calibration			
Potentiometer		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	4 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Response time (10÷90%)		about 500 ms	

FIXED RANGE CONVERTER FOR POTENTIOMETER

DAT 205 3W

GENERAL DESCRIPTION
The converter DAT 205 3W is designed to provide on output a linearised voltage or current signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulations of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

FEATURES
- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max
CURRENT CONSUMPTION	
Current output	30 mA max.
Voltage output	10 mA max.
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Potentiometer (Rnom.1 ... 10KΩ)	0%	100%	-
Calibration			
Potentiometer		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Voltage	0 V	10 V	-
Burn-out values			
Max. value output		25 mA or 15V	
Response time (10÷90%)		about 500 ms	

FIXED RANGE TRANSMITTER FOR mV,V AND mA SIGNALS

DAT 207 2W

GENERAL DESCRIPTION
The transmitter DAT 207 2W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

FEATURES
- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- 4÷20 mA current loop output
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

The transmitter is available in 3 different versions:
- DAT 207A 2W to measure voltage signals included between 0 ÷ 5 mV and 0 ÷ 200 mV;
- DAT 207B 2W to measure voltage signals included between 0 ÷ 200 mV and 0 ÷ 20 V;
- DAT 207C 2W to measure current signals between 0 ÷ 5 mA and 0 ÷ 50 mA.

Application areas

POWER SUPPLY	
Power supply voltage	10 .. 32 Vdc
Reverse polarity protection	60 Vdc max
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Voltage			
Version"A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version"B"	0 ÷ 200 mV	0 ÷ 20 V	-
Current			
Version"C"	0 ÷ 5 mA	0 ÷ 50 mA	-
Calibration			
mV, V, mA		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	4 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Response time (10÷90%)		about 300 ms	

CONVERTER FOR mV,V AND mA SIGNALS

DAT 207 3W

GENERAL DESCRIPTION
The converter DAT 207 3W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

FEATURES
- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

The converter is available in 3 different versions:
- DAT 207A 3W to measure voltage signals included between 0 ÷ 5 mV and 0 ÷ 200 mV;
- DAT 207B 3W to measure voltage signals included between 0 ÷ 200 mV and 0 ÷ 20 V;
- DAT 207C 3W to measure current signals between 0 ÷ 5 mA and 0 ÷ 50 mA.

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Reverse polarity protection	60 Vdc max
CURRENT CONSUMPTION	
Current output	30 mA max.
Voltage output	10 mA max.
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Voltage			
Version"A"	0 ÷ 5 mV	0 ÷ 200 mV	-
Version"B"	0 ÷ 200 mV	0 ÷ 20 V	-
Current			
Version"C"	0 ÷ 5 mA	0 ÷ 50 mA	-
Calibration			
mV, V, mA		± 0.1 % f.s.	
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Voltage	0 V	10 V	-
Burn-out values			
Max. value output		25 mA or 15V	
Response time (10÷90%)		about 300 ms	

SELF-POWERED CURRENT LOOP ISOLATOR

DAT 511

GENERAL DESCRIPTION
The transmitter DAT 511 is a passive 0÷20 mA current loop isolator.
The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit.
The converter is a passive isolator: this means that the device employs the measurement signal to power it self, so it does not require any external power supply.

FEATURES
- 0÷20 mA isolated conversion
- No external supply required
- 3000 Vac galvanic isolation
- Good accuracy and performance stability
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +70°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Max. INPUT signal		50 mA	
Load resistance (Rload)			
From 0 to 700 ohm			
Thermal drift			
Full scale		± 0.02 % / °C	

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Isolation voltage			
3000 Vac, 50 Hz 1 min.			
Response time (10÷90%)		About 20 ms	

SELF-POWERED CURRENT LOOP ISOLATOR HART COMPATIBLE

DAT 511/H

GENERAL DESCRIPTION
The transmitter DAT 511/H is a passive 0÷20 mA current loop isolator. The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit. The device allows the bidirectional communication of signals HART protocol compatible. The converter is a passive isolator: this means that the device employs the measurement signal to power itself, so it does not require any external power supply.

FEATURES
- 0÷20 mA isolated conversion
- Hart compatible
- No external supply required
- 1500 Vac galvanic isolation
- Good accuracy and performance stability
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

TEMPERATURE & HUMIDITY	
Operative temperature	0°C .. +55°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Max. INPUT signal		50 mA	
Load resistance (Rload)			
From 0 to 700 ohm			
Thermal drift			
Full scale		± 0.02% / °C	
Bandwidth			
From 0.5 up to 4 KHz bidirectional within 3 dB			

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Current	0 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Isolation voltage			
1500 Vac, 50 Hz 1 min.			
Response time (10÷90%)		About 20 ms	

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

Signal transmitters and converters, galvanic isolators

Industries | Board machine | Energy | Food business | Water treatment

Application areas

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ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

"DAT3000 SERIES" data acquisition and control modules

The distributed I/O modules of the DAT3000 series represent a complete solution for the acquisition and control of the analog and digital I/O signals. The series is composed of:

- *Serial line converters and repeaters (**DAT3580, DAT3580 USB, DAT3580 MBTCP, DAT3590**).*
- *Modules for digital inputs and outputs (**DAT3130, DAT3140, DAT3148/8, DAT3148/12, DAT3188/4, DAT3188/8**).*
- *Modules for analog inputs (**DAT3011, DAT3014, DAT3015, DAT3016, DAT3017, DAT3018, DAT3019**).*
- *Modules with analog outputs (**DAT3022, DAT3024, DAT3028**).*

The devices communicate on the RS-485 serial line by the MODBUS RTU communication protocol and are able to communicate with the host computer on multipoint net using only two wires.

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DAT3000 SERIES

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DAT3000 SERIES Data acquisition and control modules

ISOLATED CONVERTER RS232◄►RS485 / 422

DAT 3580

GENERAL DESCRIPTION

The device DAT3580 is an isolated interface converter between asynchronous serials lines RS232 and RS485 or RS422 that guarantees a full isolation between power supply, serial line RS-232 and serial line RS-485 or 422 removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.
It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps. The transmission is asynchronous without settings of protocol, data format and baud rate.
On the line RS-232 are not necessary handshake commands (RTS, CTS, etc..) to control the baud rate.

FEATURES

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules
- DC or AC power supply
- Galvanic isolation on all ways
- RS232 connection on DB9 or removable terminals
- EMC compliance – CE mark
- EIA RS232, RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022

Application areas

POWER SUPPLY
10 ÷ 30 Vdc
9 ÷ 18 Vac (18 ÷ 30 Vac optional)

CURRENT CONSUMPTION
35 mA typ. @ 24Vdc

ISOLATIONS	
Power Supply/ RS232	2000 Vac, 50 Hz, 1 min.
Power Supply/ RS485-422	
RS232 / RS485-422	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 150 g.
CONNECTION	
RS-232	DB9 and removable screw terminals
RS-485/422	removable screw terminals

RS485 Interface	
Baud-rate	up to 115.2 Kbps
Max. distance / baud-rate ratio (recommended) (1)	1.2 Km @ 38400 bps
	2 Km @ 19200 bps
	3 Km @ 9600 bps
	4 Km @ 4800 bps
	5 Km @ 2400 bps
	7 Km @ 1200 bps
Number of modules in multipoint	32 max.
Switching time TX/RX (RS485)	150 us.
Internal terminator resistance (optional)	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

ISOLATED CONVERTER USB◄►RS485 / 422

DAT 3580-USB

GENERAL DESCRIPTION

The device DAT3580-USB is an isolated interface converter between USB port and asynchronous serial lines RS485 or RS422 that guarantees a full isolation between power supply, USB and serial line RS-485 or 422 removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.
It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps. The transmission is asynchronous without settings of protocol, data format and baud rate.

FEATURES

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules
- DC or AC power supply
- Galvanic isolation on all ways
- EMC compliance – CE mark
- USB 2.0. EIA RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022

Application areas

POWER SUPPLY
10 ÷ 30 Vdc
9 ÷ 18 Vac (18 ÷ 30 Vac optional)

CURRENT CONSUMPTION
35 mA typ. @ 24Vdc

ISOLATIONS	
Power Supply/ USB	2000 Vac, 50 Hz, 1 min.
Power Supply/ RS485-422	
USB / RS485-422	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 150 g.
CONNECTION	
USB	USB cable integrated
RS-485/422	removable screw terminals

RS485 Interface	
Baud-rate	up to 115.2 Kbps
Max. distance / baud-rate ratio (recommended) (1)	1.2 Km @ 38400 bps
	2 Km @ 19200 bps
	3 Km @ 9600 bps
	4 Km @ 4800 bps
	5 Km @ 2400 bps
	7 Km @ 1200 bps
Number of modules in multipoint	32 max.
Switching time TX/RX (RS485)	150 us.
Internal terminator resistance (optional)	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

ETHERNET ISOLATED GATEWAY MODBUS TCP◄►MODBUS RTU

DAT 3580-MBTCP

GENERAL DESCRIPTION

The gateway DAT3580-MBTCP allows to connect the Modbus RTU devices of a RS-485 network to the Ethernet network through the Modbus TCP protocol.
By means of the Telnet interface it is possible to configure all the Modbus TCP side options (IP address, subnet mask, etc..) and the Modbus RTU side options (baud rate, etc...).
The device guarantees a full isolation between lines, allowing the use even in the heavy environmental conditions.

FEATURES

- Network interface
- Ethernet 10/100Base-T, Modbus TCP
- Telnet configuration
- RJ45 connection
- RS-485 Serial interface
- Modbus RTU Master
- Baud rate up to 115.2 Kbps
- Distance up to 1200 m, up to 32 devices in multipoint
- Removable screw-terminal connection
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 and RS485 compliant
- Suitable for DIN rail mounting in compliance with EN-50022

Application areas

POWER SUPPLY
18 ÷ 30 Vdc
CURRENT CONSUMPTION
45 mA typ. @ 24Vdc (sleep mode)
80 mA max

ISOLATIONS	
Power Supply/ Ethernet	1500 Vac, 50 Hz, 1 min.
Power Supply/ RS485	2000 Vac, 50 Hz, 1 min.
Ethernet / RS485	2000 Vac, 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 150 g.

CONNECTION	
Ethernet	RJ-45
RS-485	removable screw terminals

Network interface	Ethernet 10/100 Base-T
Protocol	Modbus TCP
Connection	RJ-45
Baud-rate (RS-485)	up to 115.2 Kbps
Max. distance / baud-rate ratio (recommended) (1)	1.2 Km @ 38400 bps
	2 Km @ 19200 bps
	3 Km @ 9600 bps
	4 Km @ 4800 bps
	5 Km @ 2400 bps
	7 Km @ 1200 bps
Number of modules in multipoint	32 max.
Switching time TX/RX (RS485)	150 us.
Internal terminator resistance (optional)	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

REPEATER/ ISOLATOR RS485 / 422

DAT 3590

GENERAL DESCRIPTION

The device DAT 3590 is an isolated repeater between asynchronous serials lines RS485 or RS422 that guarantees a full isolation between power supply and serial line removing eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions. It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps.
The transmission is asynchronous without settings of protocol, data format and baud rate.

FEATURES

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules
- DC or AC power supply
- Galvanic isolation
- EMC compliance – CE mark
- EIA RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022

Application areas

POWER SUPPLY
10 ÷ 30 Vdc
9 ÷ 18 Vac (18÷24 Vac optional)
CURRENT CONSUMPTION
35 mA @ 24Vdc

ISOLATIONS	
Power Supply/ RS485-422	2000 Vac, 50 Hz, 1 min.
RS485-422 / RS485-422	2000 Vac, 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 150 g.

CONNECTION	
RS485/422	removable screw terminals

Baud-rate	up to 115.2 Kbps
Max. distance / baud-rate ratio (recommended) (1)	1.2 Km @ 38400 bps
	2 Km @ 19200 bps
	3 Km @ 9600 bps
	4 Km @ 4800 bps
	5 Km @ 2400 bps
	7 Km @ 1200 bps
Number of modules in multipoint	32 max.
Switching time TX/RX (RS485)	150 us.
Internal terminator resistance (optional)	120 Ohm

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 4 RELAY OUTPUTS ON RS-485 NETWORK

DAT 3130

GENERAL DESCRIPTION

The device DAT 3130 is able to acquire up to 4 digital inputs and to drive up to 4 relay outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network.
To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. The 1500 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 4 relay outputs (2 SPDT + 2 SPST)
- Watch-Dog alarm
- Configurable from a remote terminal
- Three ways galvanic isolation 1500 Vac
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	18 .. 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	1500 Vac 50 Hz, 1 min.
Inputs – Supply	
RS-485 – Supply	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	4
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	up to 38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

OUTPUT	
Output channels	4
Type	
n° 2 SPDT relays	
n° 2 SPST N.O. relays	
Switching power (max.)	
2 A @ 250 Vac (resistive load) per contact	
2 A @ 30 Vdc (resistive load) per contact	
Minimum load	5Vdc , 10mA
Max. Voltage	250Vac (50 / 60 Hz), 110Vdc

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 8 NPN OUTPUTS ON RS-485 NETWORK

DAT 3140

GENERAL DESCRIPTION

The device DAT 3140 is able to acquire up to 4 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network.
To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. The galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 8 digital outputs, NPN type
- Watch-Dog alarm
- Configurable from a remote terminal
- Galvanic isolation on all ways
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – Outputs	1000 Vac 50 Hz, 1 min.
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Inputs – Supply	2000 Vac 50 Hz, 1 min.
Outputs – RS485	2000 Vac 50 Hz, 1 min.
Outputs –Supply	2000 Vac 50 Hz, 1 min.
RS-485 – Supply	2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	4
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	up to 38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	20 ms max

OUTPUT	
Output channels	8
Type	NPN
Max. Load	600 mA per channel
	3 A max per module
Max. Voltage	30 Vdc
Over-current protection	NO

DISTRIBUTED I/O MODULE 8 DIGITAL INPUTS ON RS-485 NETWORK

DAT 3148/8

GENERAL DESCRIPTION

The device DAT 3148/8 is able to acquire up to 8 digital inputs. The data are transmitted with MODBUS RTU/ASCII on RS-485 network. To assure safe operation of the system, the device is equipped with two Watch-Dog timers.
The 2000 Vac galvanic isolation between inputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 8 digital inputs
- Watch-Dog alarm
- Configurable from a remote terminal
- Four ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	35 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Input 0÷7	1500 Vac 50 Hz, 1 min.
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Inputs – Supply	2000 Vac 50 Hz, 1 min.
RS-485 – Supply	2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	8
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

DISTRIBUTED I/O MODULE 12 DIGITAL INPUTS ON RS-485 NETWORK

DAT 3148/12

GENERAL DESCRIPTION

The device DAT 3148/12 is able to acquire up to 12 digital inputs. The data are transmitted with MODBUS RTU/ASCII on RS-485 network. To assure safe operation of the system, the device is equipped with two Watch-Dog timers.
The 2000 Vac galvanic isolation between inputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 12 digital inputs
- Watch-Dog alarm
- Configurable from a remote terminal
- Four ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	35 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Input 0÷7 / 8÷11	1500 Vac 50 Hz, 1 min.
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Inputs – Supply	2000 Vac 50 Hz, 1 min.
RS-485 – Supply	2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	12
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 8 PNP OUTPUTS ON RS-485 NETWORK

DAT 3188/4

GENERAL DESCRIPTION

The device DAT 3188/4 is able to acquire up to 4 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network (is available the RS-232 interface model).
To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. Also, the outputs are protected against over currents and over temperature.
The 2000 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 8 digital outputs, PNP type
- Over-temperature and over-current protection
- Watch-Dog alarm
- All the ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS (Input / Output / RS485 / Supply)

2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	4
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	115.2 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

DIGITAL OUTPUTS	
Output channels	8
Type	PNP
Max. Load	500 mA per channel*
	1 A per module
Inductive Load	48 Ω - 2 H max.
Voltage	10.5 ÷ 30 Vdc

(*) = Protection against over-current and over-temperature
Short circuit current 1.7 A max.

DISTRIBUTED I/O MODULE 8 DIGITAL INPUTS + 8 PNP OUTPUTS ON RS-485 NETWORK

DAT 3188/8

GENERAL DESCRIPTION

The device DAT 3188/8 is able to acquire up to 8 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network (is available the RS-232 interface model).
To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. Also, the outputs are protected against over currents and over temperature.
The 2000 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 8 digital inputs
- 8 digital outputs, PNP type
- Over-temperature and over-current protection
- Watch-Dog alarm
- All the ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS (Input / Output / RS485 / Supply)

2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS	
Input channels	8
Input voltage (bipolar)	
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 KΩ
Data Transmission (asynchronous serial)	
Baud rate	115.2 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

DIGITAL OUTPUTS	
Output channels	8
Type	PNP
Max. Load	500 mA per channel*
	1 A per module
Inductive Load	48 Ω - 2 H max.
Voltage	10.5 ÷ 30 Vdc

(*) = Protection against over-current and over-temperature
Short circuit current 1.7 A max.

UNIVERSAL REMOTE I/O MODULE ON RS-485 NETWORK

DAT 3011

GENERAL DESCRIPTION

The device DAT 3011 is able to acquire RTD or Tc sensors, mV, V or mA input signals connected to the universal analog input. Moreover a second V/mA analog input is available. The device is able to acquire up to 3 digital inputs and to drive one solid-state relay and two SPST relays. Data values are transmitted with MODBUS RTU protocol on the RS-485 network.
By means of a 16 bit converter, the device guarantee a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 1500 Vac isolation on all ways (Power Supply / RS485 / Universal input / V-mA input / Digital inputs / Relay outputs) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Modbus RTU (Slave) communication
- 1 Universal Analog Input
- 1 V/mA Analog Input
- 2 0-20mA Analog Outputs
- 3 Digital Inputs
- 1 SSR Digital Output + 2 Relay Outputs
- Watch-Dog Alarm
- 1500 Vac galvanic isolation on all ways
- High Accuracy
- EMC compliance – CE Mark
- DIN rail suitable mounting (EN-50022)

Application areas

POWER SUPPLY	
Supply Voltage	18 ÷ 30 Vdc
Current consumption	30 mA (100mA max)
Rever. Polarity protection	60 Vdc max

SERIAL PORT	
Type	RS-485
Protocol	Modbus RTU (Slave)
Baud Rate	up to 38400 bps

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

ISOLATIONS	
Type of Isolation	1500 Vac (on all ways)

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 150 g.

ANALOG INPUTS				
Type	**Range**	**Accuracy**	**Linearity**	**Thermal Drift**
100 mV	-100 ÷ +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
10 V	-10 ÷ +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
20 mA	0 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt100	-200 ÷ +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt1K	-200 ÷ +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni100	-60 ÷ +180 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni1K	-60 ÷ +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Res	0 ÷ 2000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pot	20 ÷ 2000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc J	-210 ÷ +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc K	-210 ÷ +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc R	-50 ÷ +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc S	-50 ÷ +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc B	+400 ÷ +1825 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc E	-210 ÷ +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc T	-210 ÷ +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc N	-210 ÷ +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C

Lead wire res. influence	
RTD (3 wires)	0.05 %/Ω (50 Ω max)
mV, Tc	< 0.8 uV/Ohm
Excitation current	
RTD, Res, Pot	~ 0.7 mA
Sample time	1 sec.
Warm-up time	3 min.

ANALOG OUTPUT				
Type	**Range**	**Accuracy**	**Linearity**	**Thermal Drift**
20 mA	0 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Load Resistance	< 500 Ohm			
Auxiliary Voltage	>12V			

DIGITAL INPUTS	
Input channels	3
Input voltage (bipolar)	OFF State : 0÷3 V
	ON State : 10÷30 V
Input Impedance	4.7 KOhm

DIGITAL OUTPUTS	
N.1 Solid State Relay (dry contacts)	
Max. Voltage	48 V (ac/dc)
Max. Load	0.4A max (resistive)
N.2 Relays SPST	
Switching power (resistive load)	2 A @ 250 Vac (per contact)
	2 A @ 30 Vdc (per contact)
Minimum load	5 Vdc , 10mA
Max. Voltage	250 Vac (50 / 60 Hz) ,110Vdc
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.

REMOTE I/O MODULE 4 CHANNELS RTD INPUT ON RS-485 NETWORK

DAT 3014

GENERAL DESCRIPTION

The DAT 3014 device is able to acquire up to 4 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect RTD , Potentiometers or Resistance signals.
By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- RTD, Resistance and Potentiometer configurable input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	**Min**	**Max**
RTD 2 or 3 wires		
Pt100	-200°C	850°C
Pt1000	-200°C	200°C
Ni100	-60°C	180°C
Ni1000	-60°C	150°C
Resistance 2 or 3 wires		
Low	0 Ω	500 Ω
High	0 Ω	2000 Ω
POT. (nom. value)		
Low	20 Ω	500 Ω
High	20 Ω	2000 Ω

Input Calibration (1)	
RTD	±0.05 % f.s.
Res.	±0.05 % f.s..
Pot.	±0.05 % f.s..
Linearity (1)	
RTD	± 0.1 % f.s.
Lead wire res. influence (1)	
RTD/res.3 wires	0.05 %/Ω (50 Ω max balanced)
RTD excitation current	
Typical	0.350 mA
Thermal drift (1)	
Full scale	± 0.01 % / °C
Sample time	0.5 ÷ 1 sec.
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Warm-up time	3 min.

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 4 CHANNELS +/-20mA INPUT ON RS-485 NETWORK

DAT 3015-I

GENERAL DESCRIPTION

The device DAT 3015I is able to acquire on input up to 4 analog current signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect up to ± 20mA current signals.
By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to ± 20mA input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	**Min**	**Max**
Current		
20 mA	-20 mA	+20 mA
Input Calibration (1)		± 20 uA
Linearity (1)		± 0.1% f.s.
Input Impedance		</= 50 Ω
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time	
0.5 ÷ 1 sec.	
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 4 CHANNELS +/-10V INPUT ON RS-485 NETWORK

DAT 3015-V

GENERAL DESCRIPTION

The device DAT 3015V is able to acquire on input up to 4 analog voltage signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect up to ± 10V voltage signals.
By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to ± 10V input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Type input	**Min**	**Max**
Voltage		
10 V	-10 V	+10 V
Input Calibration (1)		± 10 mV
Linearity (1)		± 0.1% f.s.
Input Impedance		> 100 KΩ
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time	
0.5 ÷ 1 sec.	
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 4 CHANNEL mV / TC INPUT ON RS-485 NETWORK

DAT 3016

GENERAL DESCRIPTION

The DAT 3016 device is able to acquire up to 4 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available). It is possible to connect Thermocouples or up to +/- 1V voltage signals.
The Cold Junction compensation for thermocouples is performed internally. By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions. The DAT 3016 is in compliance with the Directive 2004/108/EC on the electromagnetic compatibility. The device is housed in a rough self-extinguishing plastic container which, thanks to its thin profile of 17.5mm only, allows a high density mounting on EN-50022 standard DIN rail.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to +/- 1V and TC configurable input
  Type J,K,R,S,B,E,T,N
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
25 mV	-25 mV	+25 mV
100 mV	-100 mV	+100 mV
250 mV	-250 mV	+250 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
B	+400 °C	+1825 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C

Input Calibration (1)
the higher of ± 0.05% or 5 uV (1)

Linearity (1)	
mV	± 0.1% f.s.
TC	± 0.2% f.s.
CJC Comp.	± 0.5 °C
Input Impedance	
mV, TC	>=1 MΩ
Thermal drift (1)	
Full scale	± 0.005 % / °C
CJC Thermal drift	
Full scale	± 0.02 °C / °C
Lead wire res. influence (1)	
mV, Tc	< 0.8 uV/Ohm
Response time	0.5 ÷ 1 sec.
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Warm-up time	3 min.

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 8 CHANNELS ± 20mA INPUT ON RS-485 NETWORK

DAT 3017-I

GENERAL DESCRIPTION

The device DAT 3017I is able to acquire on input up to 8 analog current signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect up to ± 20mA current signals.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to ± 20mA input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Type input	**Min**	**Max**
Current		
20 mA	-20 mA	+20 mA
Input Calibration (1)		± 20 uA
Linearity (1)		± 0.1% f.s.
Input Impedance		<=50 Ω
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time	
0.5 ÷ 2 sec.	
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 8 CHANNELS ±10V INPUT ON RS-485 NETWORK

DAT 3017-V

GENERAL DESCRIPTION

The devices DAT 3017V is able to acquire on input up to 8 analog voltage signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect up to ± 10V voltage signals.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to ± 10V input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Type input	**Min**	**Max**
Voltage		
10 V	-10 V	+10 V
Input Calibration (1)		± 10 mV
Linearity (1)		± 0.1% f.s.
Input Impedance		> 100 KΩ
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time	
0.5 ÷ 2 sec.	
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 8 CHANNELS mV / TC INPUT ON RS-485 NETWORK

DAT 3018

GENERAL DESCRIPTION

The device DAT 3018 is able to acquire up to 8 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect Thermocouples or up to +/- 1V voltage signals. The Cold Junction compensation for thermocouples is performed internally. By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided. The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to +/- 1V and TC configurable input ± 1V and TC Type J,K, R,S,B,E,T,N
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas: Industries, Board maching, Energy, Food business, Water treatment

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
25 mV	-25 mV	+25 mV
100 mV	-100 mV	+100 mV
250 mV	-250 mV	+250 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
B	+400 °C	+1825 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C
Input Calibration (1)		
The higher of ± 0.05% or 5 uV (1)		

Linearity (1)	
mV	± 0.1% f.s.
TC	± 0.2% f.s.
CJC Comp.	± 0.5 °C
Input Impedance	
mV, TC	>/=1 MΩ
Thermal drift (1)	
Full scale	± 0.005 % / °C
Thermal drift CJC	
Full scale	± 0.02 % / °C
Lead wire res. influence (1)	
mV, TC	< 0.8 uV/Ohm
Sample time	0.5 ÷ 2 sec.
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Warm-up time	3 min

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 8 CHANNELS RTD INPUT ON RS-485 NETWORK

DAT 3019

GENERAL DESCRIPTION

The device DAT 3019 is able to acquire up to 8 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to connect 2-wires RTD sensors or up to 2 KΩ resistance signals.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel 2 wires input
- Pt100, Pt1K, Ni100, Ni1K and resistance up to 2 KΩ configurable input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas: Industries, Board maching, Energy, Food business, Water treatment

POWER SUPPLY	
Supply Voltage	10 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Inputs – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Input	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	**Min**	**Max**
RTD 2 wires		
Pt100	-200°C	850°C
Pt1000	-200°C	200°C
Ni100	-60°C	180°C
Ni1000	-60°C	150°C
Resistance 2 or 3 wires		
Low	0 Ω	500 Ω
High	0 Ω	2000 Ω

Input Calibration (1)	
RTD	±0.2 % f.s.
Res.	±0.2 % f.s..
Linearity (1)	
RTD	± 0.2 % f.s.
Excitation current RTD	
Typical	0.450 mA
Thermal drift (1)	
Full scale	± 150 ppm/ °C
Sample time	0.5 ÷ 2 sec.
Data Transmission (asynchronous serial)	
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Warm-up time	3 min.

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 2 CHANNEL V / mA OUTPUT ON RS-485 NETWORK

DAT 3022

GENERAL DESCRIPTION

The DAT 3022 device generates up to 2 output analog signals from digital commands. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to generate voltage signals up to 10V and current signals up to 20mA, both active or passive loops.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 2 channel output
- Voltage or Current configurable outputs
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Supply Voltage	18 .. 30 Vdc
Current consumption	typ. 35 mA @ 24 Vdc 60 mA max
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Output – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Output	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

OUTPUT		
Output type	**Min**	**Max**
Voltage		
V	0 V	+10 V
Current		
mA	0 mA	+20 mA
Output calibration		
Voltage		±10 mV
Current		±20 mA
Load Resistance		
Voltage	> 5 KΩ	
Current	< 500 Ω	

Thermal drift	
Full scale	100 ppm /°C
Auxiliary Voltage	> 12V @ 20mA (2 channels)

Rise time
Analog output Slew-rate (independent programmation for each channel)

Voltage V/s	Current mA/s
0.125	0.250
0.250	0.500
0.500	1.000
1.000	2.000
2.000	4.000
4.000	8.000
Immediate	Immediate

Data Transmission (asynchronous serial)	
Baud rate	115.2 Kbps
Max. Distance	1.2 Km - 4000ft

REMOTE I/O MODULE 4 CHANNELS V / mA OUTPUT ON RS-485 NETWORK

DAT 3024

GENERAL DESCRIPTION

The device DAT 3024 generates up to 4 output analog signals from digital commands. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to generate voltage signals up to 10V and current signals up to 20mA, both active or passive loops.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel output
- Voltage or Current configurable outputs
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Supply Voltage	18 .. 30 Vdc
Current consumption	typ. 35 mA @ 24 Vdc 100 mA max
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Output – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Output	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)
DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

OUTPUT		
Output type	**Min**	**Max**
Voltage		
V	0 V	+10 V
Current		
mA	0 mA	+20 mA
Output calibration		
Voltage		±10 mV
Current		±20 mA
Load Resistance		
Voltage	> 5 KΩ	
Current	< 500 Ω	

Thermal drift	
Full scale	100 ppm /°C
Auxiliary Voltage	> 12V @ 20mA (4 channels)

Rise time
Analog output Slew-rate (independent programmation for each channel)

Voltage V/s	Current mA/s
0.125	0.250
0.250	0.500
0.500	1.000
1.000	2.000
2.000	4.000
4.000	8.000
Immediate	Immediate

Data Transmission (asynchronous serial)	
Baud rate	115.2 Kbps
Max. Distance	1.2 Km - 4000ft

REMOTE I/O MODULE 8 CHANNELS VOLTAGE OUTPUT ON RS-485 NETWORK

DAT 3028

GENERAL DESCRIPTION

The device DAT 3028 generates up to 8 output analog signals from digital commands. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).
It is possible to generate voltage signals up to 10V.
By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.
To ensure the plant safety, two Watch-Dog timer alarms are provided.
The 2000 Vac isolation between input, power supply and serial line RS-485 (o RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.r

FEATURES

Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel 0-10 V output
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance – CE mark
- DIN rail suitable mounting - EN-50022 compliance

Application areas

Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Supply Voltage	18 .. 30 Vdc
Current consumption	typ. 35 mA @ 24 Vdc 100 mA max
Rever. Polarity protection	60 Vdc max

ISOLATIONS	
Output – RS485	2000 Vac 50 Hz, 1 min.
Power Supply– Output	
Power Supply– RS-485	

TEMPERATURE & HUMIDITY	
Operating Temperature	-10°C .. +60°C
Storage Temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments) **DIRECTIVE 2004 / 108 / EC**	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

OUTPUT		
Output type	**Min**	**Max**
Voltage		
V	0 V	+10 V
Output calibration		±10 mV
Load Resistance		> 5 KΩ
Thermal drift		
Full scale	100 ppm /°C	

Rise time
Analog output Slew-rate (independent programmation for each channel)

Voltage V/s
0.125
0.250
0.500
1.000
2.000
4.000
Immediate

Data Transmission (asynchronous serial)	
Baud rate	115.2 Kbps
Max. Distance	1.2 Km - 4000ft

ELECTRONIC AND CONTROL PROCESS DEVICES

"DAT9000 SERIES" Intelligent units

The DAT9000 Series intelligent units were designed by DATEXEL to offer its customers products that, thanks to their capabilities, allow them to manage various architectures in the area of small to medium size automation systems and process control through the connection of a network of MODBUS RTU Master/Slave devices connected by way of RS-485.

The DAT9000 units read and write the parameters of the field devices to which they are connected, processing functions of the logical/mathematical type, including complex ones, such as for example: alarms, linearization, means, square roots, etc..

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DAT9000 SERIES

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DATEXEL

DAT9000 SERIES Intelligent units

INTELLIGENT UNIT WITH ETHERNET INTERFACE

DAT 9000

GENERAL DESCRIPTION

The device DAT9000 is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value.
Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to:
- Programming of the Control Logic
- Monitor, request of data, programming in real time the Intelligent Unit
- Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY
10 ÷ 30 Vdc

CURRENT CONSUMPTION
45 mA typ.@24Vdc (standby)
80 mA max

ISOLATIONS	
Power supply / Ethernet	1500 Vac, 50 Hz, 1 min.
Power supply / RS485	
Ethernet / RS485	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Relative humidity (not cond.)	0 ÷ 90 %

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 160 g.

Network interface	
Ethernet	10 Base-T
Protocol	Modbus TCP
RS-485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH DATA-LOGGER AND ETHERNET INTERFACE

DAT 9000-DL

GENERAL DESCRIPTION

The device DAT9000 DL is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working, managing up to 8 task of recording memorized on files saved on the microSD card. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. By Ethernet it is possible to get access to the files saved on the microSD card when the Data-Logger function is active.
Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to: Programming of the Control Logic; Monitor, request of data, programming in real time the Intelligent Unit; Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- N.1 slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY
10 ÷ 30 Vdc

CURRENT CONSUMPTION
45 mA typ.@24Vdc (standby)
100 mA max

ISOLATIONS	
Power supply / Ethernet	1500 Vac, 50 Hz, 1 min.
Power supply / RS485	
Ethernet / RS485	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Relative humidity (not cond.)	0 ÷ 90 %

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 160 g.

Network interface	
Ethernet	10 Base-T
Protocol	Modbus TCP
RS-485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)
Compatible SD card	
Type	microSD
Memory size	Up to 8 GB
Format	FAT16 or FAT32

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH ETHERNET INTERFACE AND DIGITAL I/O

DAT 9000IO

GENERAL DESCRIPTION

The device DAT9000IO is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. Moreover, the device is equipped with 4 digital inputs channels and 2 relay outputs. On digital inputs are available 32-bit counters and the measure of the frequency up to 300Hz.
By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to:
- Programming of the Control Logic
- Monitor, request of data, programming in real time the Intelligent Unit.
- Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- N.4 Digital Inputs
- N.2 SPDT Relay Outputs
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY
18 ÷ 30 Vdc
CURRENT CONSUMPTION
45 mA typ.@24Vdc (standby)
100 mA max

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

ISOLATIONS	
Power supply / Ethernet	1500 Vac, 50 Hz, 1 min.
Power supply / RS-485	
Ethernet / RS-485	
Inputs / RS-485	2000 Vac, 50 Hz, 1 min.
Inputs / Power supply	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Relative humidity (not cond.)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 190 g.

DIGITAL INPUTS	
Channels	4
Input voltage (bipolar)	
OFF state	0 ÷ 3 V
ON state	10 ÷ 30 V
Impedance	4.7 KΩ
Frequency	up to 300 Hz
Network interface	
Ethernet	10Base-T
Protocol	Modbus TCP
RS-485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

DIGITAL OUTPUTS	
Channels	2
Type	SPDT Relays
Switching Power (max.)	
2 A @ 250 Vac (resistive load) per contact	
2 A @ 30 Vdc (resistive load) per contact	
Minimum load	5Vdc , 10mA
Max. voltage	
250Vac (50 / 60 Hz) , 30Vdc	
Dielectric strength between contacts	
1000 Vac, 50 Hz, 1 min.	
Dielectric strength between coil and contacts	
4000 Vac, 50 Hz, 1 min.	

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH DATA-LOGGER, ETHERNET INTERFACE AND DIGITAL I/O

DAT 9000-DL-IO

GENERAL DESCRIPTION

The device DAT9000-DL-IO is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working, managing up to 8 task of recording memorized on files saved on the microSD card. The device is equipped with 4 digital inputs channels and 2 relay outputs. For the digital inputs, are also available 32 bit counters and the measure of the frequency up to 300 Hz. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. By Ethernet it is possible to get access to the files saved on the microSD card when the Data-Logger function is active. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to: Programming of the Control Logic; Monitor, request of data, programming in real time the Intelligent Unit; Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- N.1 slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- N.4 Digital Inputs + N.2 SPDT Relays
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital input and output state
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY
18 ÷ 30 Vdc
CURRENT CONSUMPTION
45 mA typ.@24Vdc (standby)
100 mA max

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

ISOLATIONS	
Power supply / Ethernet	1500 Vac, 50 Hz, 1 min.
Power supply / RS485	
Ethernet / RS485	
Inputs / RS485	2000 Vac, 50 Hz, 1 min.
Inputs / Power supply	

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Relative humidity (not cond.)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 160 g.

DIGITAL INPUTS	
Channels	4
Input voltage (bipolar)	
OFF state	0 ÷ 3 V
ON state	10 ÷ 30 V
Impedance	4.7 KΩ
Network interface	
Ethernet	10Base-T
Protocol	Modbus TCP
RS485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)
Compatible SD card	
Type	microSD
Memory size	Up to 8 GB
Format	FAT16 or FAT32

DIGITAL OUTPUTS	
Channels	2
Type	SPDT Relays
Switching Power (max.)	
2 A @ 250 Vac (resistive load) per contact	
2 A @ 30 Vdc (resistive load) per contact	
Minimum load	5Vdc, 10mA
Max. voltage	
250Vac (50 / 60 Hz), 30Vdc	
Dielectric strength between contacts	
1000 Vac, 50 Hz, 1 min.	
Dielectric strength between coil and contacts	
4000 Vac, 50 Hz, 1 min.	

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH ETHERNET INTERFACE AND DIGITAL AND ANALOGUE I/O

DAT 9011

GENERAL DESCRIPTION

The device DAT9011 is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. The device is equipped with one universal analogue input channel, one channel for Volt and mA input, two digital inputs and 2 relay outputs. On input an Auxiliary source is available to supply passive sensors on the field.
By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to program the Control Logic, to monitor, to request data and programming in real time the Intelligent Unit, to program directly the Slave devices connected on the RS-485 Master and to request data from them.

FEATURES

- N°1 serial interface RS-485 Modbus RTU Master
- N°1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- N°1 universal analogue input + N°1 current and voltage analogue input
- N°2 digital Inputs
- Auxiliary supply to power sensors on field
- N°2 passive 4-20 mA analogue outputs
- N°2 SPDT Relay Outputs
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY	
Power supply Voltage	9 ÷ 30 Vdc
Current consumption @ 24 Vdc	60 mA (170 mA max)
Current consumption @ 10 Vdc	147 mA (300 mA max)
Reverse polarity protection	60 Vdc max

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Screw terminals pitch 5.08mm
Outputs Relay	
Supply/Inputs/ Analogue outputs	Screw terminals pitch 3.81mm

ISOLATIONS	
Isolations voltage (50 Hz, 1 min.)	1500 Vac (on all the ways)

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Relative humidity (not cond.)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 190 g.

ANALOGUE INPUTS				
Type	**Range**	**Calibration**	**Linearity**	**Thermal Drift**
100 mV	-100 ÷ +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
10 V	-10 ÷ +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
20 mA	-20 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt100	-200 ÷ +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt1K	-200 ÷ +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni100	-60 ÷ +180 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni1K	-60 ÷ +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Res	0 ÷ 2000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pot	20 ÷ 50000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc J	-210 ÷ +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc K	-210 ÷ +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc R	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C
Tc S	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C
Tc B	+400 ÷ +1825 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc E	-210 ÷ +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc T	-210 ÷ +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc N	-210 ÷ +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C

Input impedance	Tc, mV >= 10 MΩ
	Volt >= 1 MΩ
	Current ~ 22 Ω
Auxiliary voltage	>14 V @ 20 mA
Line resistance influence	
RTD 3 wires	0.05 %/Ω (50 Ω max)
mV, Tc	< 0.8 uV/Ohm

Sensor excitation current	
RTD, Res, Pot	~ 400 uA
CJC comp.	± 1 °C
Sample time	1 sec.
Warm-up time (TC,RTD)	3 min.

DIGITAL INPUTS	
Channels	2
Input voltage (bipolar)	OFF state : 0÷3 V
	ON state : 10÷30 V
Input impedance	4.7 KOhm
N°2 Digital counter	32 bit (up to 300 Hz)

ANALOGUE OUTPUTS (2 CHANNELS)				
Type	**Range**	**Calibration**	**Linearity**	**Thermal Drift**
20 mA	4 ÷ +20 mA	±0.05 % f.s.	±0.05 % f.s.	100 ppm/°C

DIGITAL OUTPUTS	
N.2 SPDT Relays	
Switching Power (resistive load)	2 A @ 250 Vac (per contact)
	2 A @ 30 Vdc (per contact)
Minimum load	5Vdc , 10mA
Max. voltage	250Vac (50 / 60 Hz) ,110Vdc
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.

Serial Ports RS-485 (Master & Slave)	
Protocol	Modbus RTU
Baud Rate	up to 115.2 Kbps
Max. recommended distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH DATA-LOGGER FUNCTION, ETHERNET INTERFACE AND DIGITAL AND ANALOGUE I/O

DAT 9011-DL

GENERAL DESCRIPTION

The device DAT9011-DL is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working and managing up to 8 tasks of storage data. The data are saved on microSD card; it is possible to get access to the saved files by means of the Ethernet connection. The device is equipped with one universal analogue input channel, one channel for Volt and mA input, two digital inputs and 2 relay outputs. On input an Auxiliary source is available to supply passive sensors on the field. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to program the Control Logic,to monitor, to request data and programming in real time the Intelligent Unit,to program directly the Slave devices connected on the RS-485 Master and to request data from them.

FEATURES

- N°1 serial interface RS-485 Modbus RTU Master
- N°1 serial interface RS-485/232 Modbus RTU Slave
- N°1 Slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- N°1 universal analogue input + N°1 current and voltage analogue input
- N°2 digital Inputs
- Auxiliary supply to power sensors on field
- N°2 passive 4-20 mA analogue outputs
- N°2 SPDT Relay Outputs
- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard

Application areas

POWER SUPPLY	
Power supply Voltage	9 ÷ 30 Vdc
Current consumption @ 24 Vdc	60 mA (170 mA max)
Current consumption @ 10 Vdc	147 mA (300 mA max)
Reverse polarity protection	60 Vdc max

EMC (for industrial environments)	
DIRECTIVE 2004 / 108 / EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	
Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Screw terminals pitch 5.08mm
Outputs Relay	
Supply/Inputs/ Analogue outputs	Screw terminals pitch 3.81mm

ISOLATIONS	
Isolations voltage (50 Hz, 1 min.)	1500 Vac (on all the ways)

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +60°C
Relative humidity (not cond.)	0 .. 90 %

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 190 g.

ANALOGUE INPUTS				
Type	**Range**	**Calibration**	**Linearity**	**Thermal Drift**
100 mV	-100 ÷ +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
10 V	-10 ÷ +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
20 mA	-20 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt100	-200 ÷ +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt1K	-200 ÷ +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni100	-60 ÷ +180 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni1K	-60 ÷ +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Res	0 ÷ 2000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pot	20 ÷ 50000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc J	-210 ÷ +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc K	-210 ÷ +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc R	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C
Tc S	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C
Tc B	+400 ÷ +1825 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc E	-210 ÷ +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc T	-210 ÷ +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc N	-210 ÷ +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C

Input impedance	Tc, mV > = 10 MΩ
	Volt > = 1 MΩ
	Current ~ 22 Ω
Auxiliary voltage	>14 V @ 20 mA
Line resistance influence	
RTD 3 wires	0.05 %/Ω (50 Ω max)
mV, Tc	< 0.8 uV/Ohm

Sensor excitation current	
RTD, Res, Pot	~ 400 uA
CJC comp.	± 1 °C
Sample time	1 sec.
Warm-up time (TC,RTD)	3 min.

DIGITAL INPUTS	
Channels	2
Input voltage (bipolar)	OFF state : 0÷3 V
	ON state : 10÷30 V
Input impedance	4.7 KOhm
N°2 Digital counter	32 bit (up to 300 Hz)

ANALOGUE OUTPUTS (2 CHANNELS)				
Type	**Range**	**Calibration**	**Linearity**	**Thermal Drift**
20 mA	4 ÷ +20 mA	±0.05 % f.s.	±0.05 % f.s.	100 ppm/°C

DIGITAL OUTPUTS	
N.2 SPDT Relays	
Switching Power (resistive load)	2 A @ 250 Vac (per contact)
	2 A @ 30 Vdc (per contact)
Minimum load	5Vdc , 10mA
Max. voltage	250Vac (50 / 60 Hz) ,110Vdc
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.

Serial Ports RS-485 (Master & Slave)	
Protocol	Modbus RTU
Baud Rate	up to 115.2 bps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

Compatible SD card	
Type	microSD
Memory size	Up to 8 GB
Format	FAT16 or FAT32

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXEL

"DAT9000 SERIES" intelligent units

www.datexel.it

Industries | Board machine | Energy | Food business | Water treatment

Application areas

ELECTRONIC AND CONTROL PROCESS DEVICES

"DAT6000 SERIES": A/D interface modules for PLC

The DAT6000 series devices are an evolution in the connection techniques of the analog signals to the PLC.
Each device amplify, linearise, filter and isolate the analog signal coming from the sensors on field and convert it in an high resolution 16 bits length "word" digital signal that is transferred to the PLC by the data line of the controller.
The data transfer is controlled by the PLC trough a clock signal generated on its digital port; at each pulse of clock is transferred a bit of the data.

By few and simple instructions the PLC is able to acquire more analog signals on a single digital input. Moreover each module has an Enable signal, that allows the controller to multiplexing more devices to one data line and one clock signal.

INDEX

DAT6000 SERIES

09

DATEXEL

DAT6000 SERIES A/D interface modules for PLC

A/D INTERFACE FOR PLC 2 INPUT CHANNELS FOR mV OR Tc

DAT 6011

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution.
The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analogue signals on PLC's digital I/O
- Analogue input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for voltage up to ± 1V or Tc type J,K, R,S,B,E,T,N
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
50 mV	-50 mV	+50 mV
100 mV	-100 mV	+100 mV
500 mV	-500 mV	+500 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
B	+400 °C	+1825 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C
INPUT CHANNELS		2
Input calibration (1)		±0.05% f.s.
Linearity (1)		
mV	± 0.1 % f.s.	
Tc	± 0.2 % f.s.	
Cold junction compensation		± 0.5 °C

Input impedance	
mV, Tc	> = 1 MΩ
Thermal drift (1)	
Full Scale	± 0.005 % / °C
Thermal drift CJC	
Full Scale	± 0.02 %/ °C
Line resistance influence	
mV, Tc	< 0.8 uV/Ohm

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal.

A/D INTERFACE FOR PLC 2 INPUT CHANNELS FOR RTD, Res

DAT 6012

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.
The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for Pt100, Pt1000, Ni100, Ni1000, Resistance and Potentiometers up to 2 Kohm
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
RTD		
Pt100	-200 °C	+850 °C
Pt1000	-200 °C	+200 °C
Ni100	-80 °C	+180 °C
Ni1000	-60 °C	+150 °C
Resistance		
500 Ω	0 Ω	500 Ω
2 KΩ	0 Ω	2000 Ω
Potentiometer		
< 500 Ω*	0 %	100 %
< 2 KΩ*	0 %	100 %
Input channels		2
Input calibration (1)		±0.1 % f.s.
Linearity (1)		
Res, Pot.	± 0.1 % f.s.	
RDT	± 0.2 % f.s.	
RTD / Res. excitation current		0.350 mA typ.

* nominal value

Thermal drift (1)	
Full Scale	± 0.005 % / °C
Line resistance influence	
RTD, Res	< 0.05%/Ohm
(50 Ω max , 3 wires connection)	

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 2 INPUT CHANNELS FOR V, mA

DAT 6013

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution.
The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for ± 10 V and ± 20 mA
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
10 V	-10 V	+10 V
Current		
20 mA	-20 mA	+20 mA
Input channels		2
Input calibration (1)		±0.1 % f.s.
Linearity (1)		±0.1 % f.s.
Input impedance		
V		>= 100 KΩ
mA		<= 50 Ω
Thermal drift (1)		
Full Scale		± 0.005 % / °C

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 4 INPUT CHANNELS FOR mV, TC

DAT 6021

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution.
The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analogue signals on PLC's digital I/O
- Analogue input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 1 V or Tc type J,K, R,S,B,E,T,N
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas: Industries, Board machine, Energy, Food business, Water treatment

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
50 mV	-50 mV	+50 mV
100 mV	-100 mV	+100 mV
500 mV	-500 mV	+500 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
B	+400 °C	+1825 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C
Input channels		4
Input calibration (1)		±0.05 % f.s.
Linearity (1)		
mV	± 0.1 % f.s.	
Tc	± 0.2 % f.s.	
Cold junction compensation		± 0.5 °C

Input impedance	
mV, Tc	>= 1 MΩ
Thermal drift (1)	
Full Scale	± 0.005 % / °C
Thermal drift CJC	
Full Scale	± 0.02 %/ °C
Line resistance influence	
mV, Tc	< 0.8 uV/Ohm

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 4 INPUT CHANNELS FOR +/- 20 mA

DAT 6023-I

GENERAL DESCRIPTION
The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.
The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution.
The digital signal can be connected to any input of the PLC.

FEATURES
- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 20 mA
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Current		
20 mA	-20 mA	+20 mA
Input channels		4
Input calibration (1)		±0.1 % f.s.
Linearity (1)		±0.1 % f.s.

Input impedance	
mA	<= 50 Ω
Thermal drift (1)	
Full Scale	± 0.005 % / °C

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 4 INPUT CHANNELS FOR +/- 10V

DAT 6023-V

GENERAL DESCRIPTION
The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.
The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution.
The digital signal can be connected to any input of the PLC.

FEATURES
- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 10 V
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

Application areas

POWER SUPPLY	
Power supply voltage	18 .. 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	2000 Vac 50 Hz, 1 min.
Power supply– INPUT	
Power supply– PLC	
TEMPERATURE AND HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not cond)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	**Min**	**Max**
Voltage		
10V	-10 V	+10 V
Input channels		4
Input calibration (1)		±0.1% f.s.
Linearity (1)		±0.1% f.s.

Input impedance	
Volt	>/= 100 KΩ
Thermal drift (1)	
Full Scale	± 0.005 % / °C

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values)
(2) The load on the output DATA is controlled with the current taken from the ENABLE signal

ELECTRONIC AND CONTROL PROCESS DEVICES

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DATEXEL

"DAT6000 SERIES"
A/D interface modules for PLC

ELECTRONIC AND CONTROL PROCESS DEVICES

"DAT1000 SERIES": temperature transmitters for DIN B in-head mounting

The transmitters of the DAT1000 series can accept at their input signals coming from 2,3 or 4 wires Pt100, thermocouple and potentiometer sensors or voltage signals (mV).The devices provide a 4÷20 mA two wire current loop output signal.

The series is composed of devices with input configurable by PC with or without galvanic isolation. Moreover it is available a version of the transmitters of the DAT1000 series developed for the use in potentially explosive atmospheres certified in according to the DIRECTIVE ATEX 94/9/EC. (see p. 24 to 26).

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DAT1000 SERIES Temperature transmitters for DIN B in-head mounting

DAT 1010

GENERAL DESCRIPTION

The transmitter DAT 1010 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
The measured values are converted in a 4÷20 mA current signal .
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- 4 ÷ 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy
- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KIT DIN RAIL" Option)

CE RoHS 2002/95/EC Pb lead-free

Application areas Industries · Board maching · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	10 .. 32Vdc
Reverse polarity protection	60 Vdc max

TEMPERATURE & HUMIDITY	
Operative temperature	-40°C .. +85°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100mV	+700mV	2 mV
Potentiometer			
Nominal value	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input calibration(1)	
RTD	the higher of ±0.1 % f.s. or ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. or ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. or ±1 Ω
mV	the higher of ±0.1 % f.s. or ±18 uV
Input impedance	
mV	>= 10 MΩ
Linearity (1)	
RTD	± 0.1 % f.s

INPUT	
Line resistance influence(1)	
mV	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
Thermal drift (1)	
Full scale	± 0.01 % / °C
Burn-out values	
Max. value output	about 21.6 mA
Min. value output	about 3.5 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

TWO WIRE UNIVERSAL TRANSMITTER PROGRAMMABLE BY PC

DAT 1015

GENERAL DESCRIPTION

The transmitter DAT 1015 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 1015 is able to measure and linearise the standard thermocouples with internal cold junction compensation.
The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, Resistance and Potentiometer
- 4 ÷ 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy
- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KITDIN RAIL" Option)

CE RoHS 2002/95/EC Pb lead-free

Application areas Industries · Board machine · Energy · Food business · Water treatment

POWER SUPPLY	
Power supply voltage	10 .. 32Vdc
Reverse polarity protection	60 Vdc max

TEMPERATURE & HUMIDITY	
Operative temperature	-40°C .. +85°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

INPUT			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	2 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Input calibration(1)			
RTD	the higher of ±0.1 % f.s. or ±0.2 °C		
Res. Low	the higher of ±0.1 % f.s. or ±0.15 Ω		
Res. High	the higher of ±0.2 % f.s. or ±1 Ω		
mV, TC	the higher of ±0.1 % f.s. or ±18 uV		

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence(1)	
TC, mV	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 21.6 mA
Min. value output	about 3.5 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

DAT 1061

GENERAL DESCRIPTION

The isolated transmitter DAT 1061 is able to execute many functions such as : measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. The measured values are converted in a 4÷20 mA current signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- Galvanic isolation at 1500 Vac
- 4 ÷ 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy
- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("DIN RAIL" Option)

Application areas

POWER SUPPLY	
Power supply voltage	07 .. 32Vdc
Reverse polarity protection	60 Vdc max
ISOLATION VOLTAGE	
Input- output/Power supply	1500 Vac, 50 Hz,1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-40°C .. +85°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

Input			
Input type	**Min**	**Max**	**Span min**
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100mV	+700mV	2 mV
Potentiometer			
Nominal value	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	50 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input calibration(1)	
RTD	the higher of ±0.1 % f.s. or ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. or ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. or ±1 Ω
mV	the higher of ±0.1 % f.s. or ±10 uV
Input impedance	
mV	>= 10 MΩ
Linearity (1)	
RTD	± 0.1 % f.s

Input	
Line resistance influence(1)	
mV	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
Thermal drift (1)	
Full scale	± 0.01 % / °C
Burn-out values	
Max. value output	about 20.5 mA
Min. value output	about 3.8 mA
Value max. fault	about 21.6 mA
Value min. fault	about 3.5 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

ISOLATED TWO WIRE UNIVERSAL TRANSMITTER PROGRAMMABLE BY PC

DAT 1066

GENERAL DESCRIPTION

The isolated transmitter DAT 1066 is able to execute many functions such as : measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.
Moreover the DAT 1066 is able to measure and linearise the standard thermocouples with internal cold junction compensation.
The measured values are converted in a 4÷20 mA current signal.
The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, Resistance and Potentiometer
- Galvanic isolation at 1500 Vac
- 4 ÷ 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy
- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant – CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KITDIN RAIL" Option)

Application areas

POWER SUPPLY	
Power supply voltage	07 .. 32Vdc
Reverse polarity protection	60 Vdc max
ISOLATION VOLTAGE	
Input- output/Power supply	1500 Vac, 50 Hz,1 min.

TEMPERATURE & HUMIDITY	
Operative temperature	-40°C .. +85°C
Storage temperature	-40°C .. +85°C
Humidity (not condensed)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

Input			
Input type	**Min**	**Max**	**Span min**
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
B	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
T	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
Potentiometer (Nominal value)	0 Ω	200 Ω	10%
	200 Ω	500 Ω	10%
	0.5 KΩ	50 KΩ	10%
Resistance 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω

Input	
Input calibration(1)	
RTD	the higher of ±0.1 % f.s. or ±0.2 °C
Res. Low	the higher of ±0.1 % f.s. or ±0.15 Ω
Res. High	the higher of ±0.2 % f.s. or ±1 Ω
mV, TC	the higher of ±0.1 % f.s. or ±10 uV
Input impedance	
TC, mV	>= 10 MΩ
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence(1)	
TC, mV	<=0.8 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 20.5 mA
Min. value output	about 3.8 mA
Value max. fault	about 21.6 mA
Value min. fault	about 3.5 mA
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	**Min**	**Max**	**Span min**
Direct current	4 mA	20 mA	4 mA
Reverse current	20 mA	4 mA	4 mA
Output calibration			
Current	± 7 uA		

ELECTRONIC AND CONTROL PROCESS DEVICES

Digital indicators for panel mounting DAT9550, DAT8050 and "DAT700 SERIES"

The series is composed of devices dedicated to process and temperature measurement.

*The **DAT9550** is graphic display size 48 x 96 mm communicating on RS-485 with MODBUS RTU protocol.*

*The **DAT8050** is a programmable digital indicator for current loop size 48x96 mm with 4 digit LED visualization.*

*The **DAT700** series is composed of devices size 36x72 mm (**DAT701**, **DAT702**, **DAT733**. **DAT734**, **DAT735**).*

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DAT9550
DAT8050 Digital indicators for
DAT700 SERIES panel mounting

REMOTE GRAPHIC DISPLAY ON RS-485 WITH MODBUS RTU PROTOCOL

DAT 9550

GENERAL DESCRIPTION

The device DAT 9550 is a graphic display designed for panel mounting and communicating with Modbus RTU protocol on RS-485 and RS-232 serial Slave port. Moreover on the device there is a RS-485 Master port by means of which it is possible to communicate with the eventual Modbus Slave devices connected. It can be used as Slave peripheral for the visualization of the data coming from the Intelligent Units of the DAT9000 series or from a PC, PLC or panel operator.

FEATURES

- Graphic display 132x32 pixels
- RS-485/RS-232 Modbus-RTU Slave Interface
- RS-485 Modbus-RTU Master Interface
- Remotely programmable
- Connection by removable screw-terminals (power supply & RS-485) and RJ45 (RS-232)
- Compact enclosure dimensions (DIN 48 x 96 mm)
- Galvanic Isolation on all the ways
- EMC compliance – CE mark
- Suitable for panel mounting in compliance with DIN-43700

Application areas

POWER SUPPLY	
Power supply voltage	10 ÷ 30 Vdc
Current consumption	45 mA typ. @ 24Vdc (standby,max. brightness)
	80 mA max
ISOLATIONS	
Power supply/ RS485	1500 Vac, 50 Hz, 1 min.
TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-30°C .. +80°C
Humidity (not condensing)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	
RS-232D	RJ-45
RS-485/Supply	Removable screw terminal blocks
HOUSING	
Material	Noryl self-extinguishing plastic (UL94-V0)
Mounting	Panel mounting
Dim. (mm)	W x L x T : 96 x 48 x 74
Weight	about 160 g.

In compliance with IEE 802.3 EIA RS-485 and RS-232	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Internal termination resistance	120 Ohm (optional)
Display	
Graphic Area	132x32 pixel 13.2 * 48.1 mm

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

LOOP POWERED 4 DIGIT LED PROGRAMMABLE DIGITAL INDICATOR

DAT 8050

GENERAL DESCRIPTION

The digital panel indicator DAT 8050 accept on the input a 4 - 20 mA current loop signal.
The input current signal is used to supply the device introducing a 5 Vdc voltage drop-out on the current loop, so is not required any external supply source. The user can program the visualisation of the measure in the range from -1999 up to 9999 points in order to set the values of the physical or electrical parameter transmitted on the current loop in the desired format.
The programming of the visualization is made by the buttons "SET" and "ENTER" located on the front side of the instrument.

FEATURES

- 4÷20 mA loop powered
- Voltage Drop-out < 5V
- High accuracy and linearity
- 0.52" LED display
- Visualization configurable on the front side
- Connections on removable screw terminals
- Compact case size (DIN 48 x 96 mm)
- EMC compliance - CE mark

Application areas

TEMPERATURE & HUMIDITY	
Operative temperature	-20°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Noryl self-extinguishing plastic (UL94-V0)
Dim. (mm)	W x H x T : 48 x 96 x 74
Weight	about 150 g.

INPUT	
Input signal	4 ÷ 20 mA
Voltage drop-out	< 5 V
Limitation current	< 50 mA

DISPLAY	
Type of visualization	4 digits LED
Digit height	0.52"
Range of visualization (*)	Programmable on the front side, from "-1999" up to "9999", with High: 1(on left side). Low: -1(on left side)
Minimum measurable current	3.8 mA (visualization "Lo" in case of lower measure)
Maximum measurable current	20.2 mA (visualization "Hi" in case of higher measure)

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	the better than ± 0.05 % of f.s. or ± 1 digit.
Resolution	4 uA
Response time	< 0.5 sec.
Thermal drift	± 0.01 % of f.s. / °C

(*)= default visualization : 4.00 ÷ 20.00

3.5 DIGIT LED DIGITAL INDICATOR

DAT 701

GENERAL DESCRIPTION

The DAT 701 is a 3.5 digit LED digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input .

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 701 V - A: measure of voltage signal with amplitude from ± 200 mV up to ± 20 V ;
- DAT 701 V - B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 701 I - A: measure of current signal with amplitude from ± 200 mA up to ± 2 mA;
- DAT 701 I - B: measure of current signal with amplitude from ± 2 mA up to ± 200 mA.

FEATURES

- Voltage or current inputs
- Programmable decimal point and Attenuation ratio
- High accuracy and linearity
- Auto-zero
- Measuring freeze by command
- Options for low consumption or high brightness
- EMC compliant – CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard

Application areas

Industries · Board machine · Energy · Food business · Water treatment

TEMPERATURE & HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 15
Weight	about 50 g.

INPUT	
Configuration	Bipolar, true differential
Input impedance	
Voltage	basic scale: 10 MΩ
	attenuated scale: 1 MΩ
Current	From 1 Ω up to 1KΩ
Maximum input signal	2.5 full scale
Common mode voltage	± 2 V referred to the power supply ground
Common mode rejection ratio	86 dB
Normal mode rejection ratio	50 dB @ 50 Hz
Decimal point programming	From front side, on three decades

VISUALISATION	
Scale of visualisation	2000 points (from 0 up to 1999 or from -1999 up to 0)
Out of range visualisation	High = 1; Low = -1
Type of visualization Display LED	3.5 digit standard LED display (version S)
	3.5 digit high efficiency LED display (version H)
Digit height	0.52 "

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	± 0.1 % of f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply voltage	5 Vdc ± 5 %
Current consumption	Version S: 90 mA
	Version H: 180 mA

3.5 DIGIT LCD DIGITAL INDICATOR

DAT 702

GENERAL DESCRIPTION

The DAT 702 is a 3.5 digit LCD digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input .

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 702 V - A: measure of voltage signal with amplitude from ± 200 mV up to ± 20 V ;
- DAT 702 V - B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 702 I - A: measure of current signal with amplitude from ± 200 µA up to ± 2 mA;
- DAT 702 I - B: measure of current signal with amplitude from ± 2 mA up to ± 200 mA.

FEATURES

- Voltage or current inputs
- Programmable decimal point and Attenuation ratio
- High accuracy and linearity
- Auto-zero
- Measuring freeze by command
- Single power supply voltage (5 Vdc or 9 Vdc)
- EMC compliant – CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard

Application areas

Industries · Board machine · Energy · Food business · Water treatment

TEMPERATURE & HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +85°C
Humidity (not condensing)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 15
Weight	about 50 g.

INPUT	
Configuration	Bipolar, true differential
Input impedance	
Voltage	basic scale: 10 MΩ
	attenuated scale: 1 MΩ
Current	From 1 Ω up to 1KΩ
Maximum input signal	2.5 full scale
Common mode voltage	± 2 V referred to the power supply ground
Common mode rejection ratio	86 dB
Normal mode rejection ratio	50 dB @ 50 Hz
Decimal point programming	From rear side, on three decades

VISUALISATION	
Type of visualization	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	± 0.1 % of f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply voltage	Version 5 : 5 Vdc ± 5 %
	Version 9 : 9 Vdc ± 10 %
Current consumption	Version 5 : 3 mA
	Version 9 : 0.5 mA

3.5 DIGIT LCD DIGITAL INDICATOR

DAT 733

GENERAL DESCRIPTION

The DAT 733 is a current loop, 3.5 digit LCD digital indicator with high accuracy and reliability.
By dip-switches and potentiometers, it is possible to set the visualisation of the input measure in engineering units in a range included between 100 and 2000 points, to set the zero point between -1999 and 1999 and the position of the decimal point.

FEATURES

- 4 ÷ 20 mA current loop self-powered
- Visualisation configurable in engineering units
- High accuracy and linearity
- Measure freezing by command
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard

Application areas

Industries, Board machine, Energy, Food business, Water treatment

TEMPERATURE & HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT	
Signal type	4÷20 mA from current loop
Voltage drop	2.5 V
Maximum input signal	50 mA
Visualisation settings	By dip switch and regulation by potentiometers
Zero value visualisation range	From -1999 up to 1999
Scales of visualisation	Scale 1 from 100 up to 700 points Scale 2 from 700 up to 1400 points Scale 3 from 1400 up to 2000 points
Decimal point setting	
From rear side, on three decades by dip-switch	
Out of scale visualisation	
High: 1(on left side). Low: -1(on left side)	

VISUALISATION	
Type of visualization	Static polarised Liquid Crystal Display for wide angle of visualisation
Digit height	0.35''

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	±0.1 % del f.s.
Thermal drift	0.005 % of f.s./°C
Reading rate	3 read/second
Power supply	Self-powered from the input signal

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR PT100

DAT 734

GENERAL DESCRIPTION

The DAT 734 is a 3.5 digit LCD or LED display, digital thermometer for Pt100 2 or 3 wires sensor with high accuracy and reliability.
The range of measure must be chosen in phase of order between the two options : -50 ÷ 200 °C or 0 ÷ 600 °C.

FEATURES

- Input for Pt100 2 or 3 wires sensors
- Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command
- Low current consumption
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard

Application areas

Industries, Board machine, Energy, Food business, Water treatment

TEMPERATURE & HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Relative Humidity (not condensing)	0 .. 90 %

EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT	
Signal type	2 or 3 wires Pt100 sensor
Input range	-50 ÷ 200 °C / 0 ÷ 600 °C
Out of scale visualisation	High: 1 (on left side). Low: -1 (on left side)

VISUALISATION	
Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35''
Type of visualization (LED - Version D)	High efficiency LED display or standard LED display
Digit height	0.52''

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	± 0.25 % of f.s.
Response time	800 ms
Power supply voltage	5 Vdc ± 5 %
Thermal drift	0.02 % of f.s./°C
Current consumption	
Version D	180 mA (high efficiency), 90 mA (standard)
Version C	10 mA

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR THERMOCOUPLE

DAT 735

GENERAL DESCRIPTION

The DAT 735 is a 3.5 digit LCD or LED display, digital thermometer for Thermocouple sensor type E, K, J, N, S and T with high accuracy and reliability.

FEATURES

- Input for Thermocouple sensors type E, K, J, N, S and T
- Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command
- Low current consumption
- EMC compliant – CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard

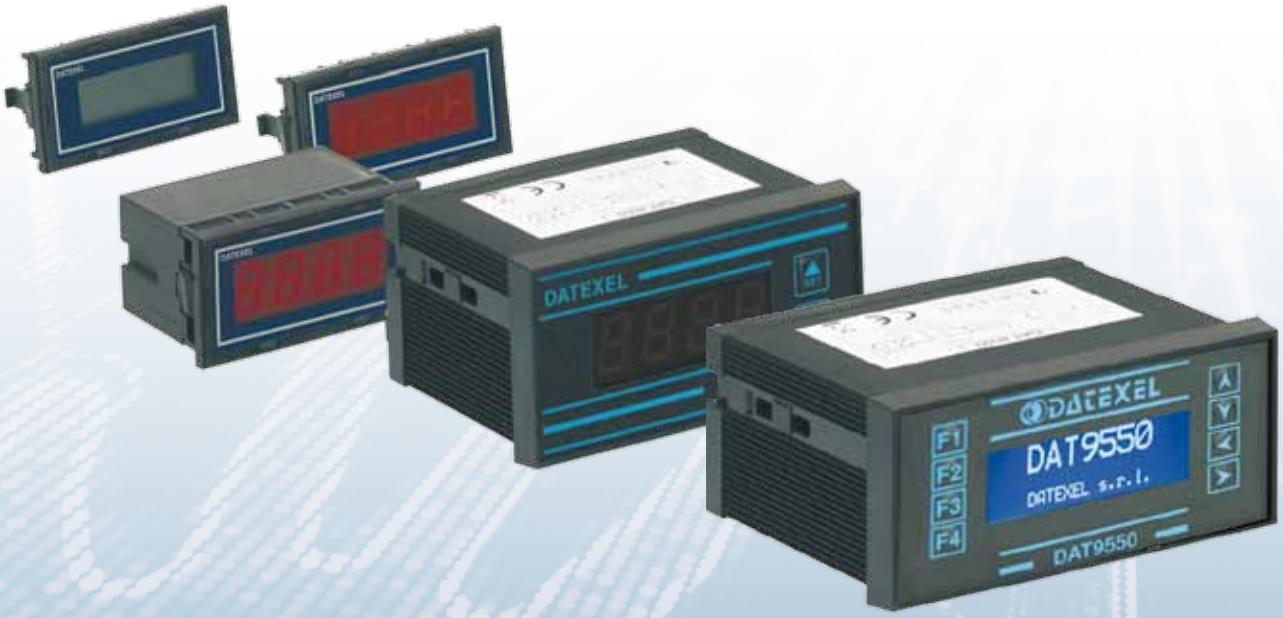
Application areas: Industries, Board machine, Energy, Food business, Water treatment

TEMPERATURE & HUMIDITY	
Operative temperature	-10°C .. +60°C
Storage temperature	-40°C .. +80°C
Humidity (not condensing)	0 .. 90 %
EMC (for industrial environments)	
DIRECTIVE 2004/108/EC	
Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT	
Signal type	Thermocouple type E, K, J, N, S and T
Ranges of measure	
Thermocouple type E	0 ÷ 900 °C
Thermocouple type K	0 ÷ 1200 °C
Thermocouple type J	0 ÷ 600 °C
Thermocouple type N	0 ÷ 1200 °C
Thermocouple type S	0 ÷ 1600 °C
Thermocouple type T	0 ÷ 300 °C
Out of scale visualisation	High: 1 (On the left side); Low -1 (On the left side)

VISUALISATION	
Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35''
Type of visualization (LED - Version D)	High efficiency LED display or standard LED display
Digit height	0.52''

CHARACTERISTICS AND PERFORMANCES	
Reading accuracy	±0.25 % of f.s.
Cold Junction Compensation	±0.5 °C
Thermal drift	0.02 % of f.s./°C
Response time	800 ms
Power supply voltage	5 Vdc ± 5 %
Current consumption	Version D: 180 mA (high efficiency), 90 mA (standard)



DATEXEL

ELECTRONIC AND CONTROL PROCESS DEVICES

ELECTRONIC AND CONTROL PROCESS DEVICES

ACCESSORIES AND SOFTWARE

Power Supply:
• Power Supply MEANWELL MDR-series

Accessories / Software:
All of the DATEXEL devices configurable by PC need, for their configuraton, special software combined with communication interface between device and PC.

*Configuration interface with USB INPUT (**PRODAT USB**)*

The software available to configure the DATEXEL devices are the following:

*• PROSOFT: configuration software for **SMART + SMART IS** series devices*

*• DATESOFT: configuration software for **SLIM series** devices*

*• DEV 9K: configuration software for intelligent unit **DAT9000 series***

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ACCESSORIES AND SOFTWARE

Power Supply MEANWELL. Devices and software with interface between devices and PC.

DIN RAIL POWER SUPPLY

MDR-60-12

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	12 VDC @ 5 A

MDR-20-12

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	12 VDC @ 1.67 A

MDR-100-12

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	12 VDC @ 7.5 A

MDR-40-12

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	12 VDC @ 3.33 A

Application areas Industries · Board machine · Energy · Food business · Water treatment

Other devices are available on request. For more technical information log on to the website: www.meanwell.com

DIN RAIL POWER SUPPLY

MDR-60-24

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	24 VDC @ 2.5 A

MDR-20-24

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	24 VDC @ 1 A

MDR-100-24

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	24 VDC @ 4 A

MDR-40-24

INPUT	85....264 VAC
	120....370 VDC
OUTPUT	24 VDC @ 1.7 A

Application areas Industries · Board machine · Energy · Food business · Water treatment

Other devices are available on request. For more technical information log on to the website: www.meanwell.com

CONFIGURATION INTERFACE FOR USB PORT

PRODAT-USB

GENERAL DESCRIPTION
The program interface PRODAT USB is suitable to program, by proper software, all the DATEXEL devices of SMART and SLIM series using any Personal Computer, both desktop and laptop type with USB serial port.

Application areas

CONFIGURATION SOFTWARE FOR SMART SERIES DEVICES

PROSOFT

GENERAL DESCRIPTION
PROSOFT is a software developed by Datexel srl, running under the operative system Windows® and designed to program and visualize the measure of the converters and transmitters programmable by PC.

To operate with PROSOFT it is necessary to use the programming interface (PRODAT) between the P.C. and the device; refer to prosoft user guide to use the right interface and device.

SYSTEM REQUIREMENTS

Operative System.....Windows® 98 / 2000 / NT / ME / XP / Vista / Win 7
Available Hard Disk space.....2 MB

Application areas

CONFIGURATION SOFTWARE FOR SLIM SERIES DEVICES

DATESOFT

GENERAL DESCRIPTION
DATESOFT is a software developed by Datexel srl, running under the operative system Windows® designed to program and visualize the measure of the converters programmable by PC.

To operate with DATESOFT it is necessary to use the programming interface (PRODAT) between the P.C. and the device on programming.

SYSTEM REQUIREMENTS

Operative System.....Windows® 98 / 2000 / NT / ME / XP / Vista / Win 7
Available Hard Disk space.....2 MB

Application areas

CONFIGURATION SOFTWARE FOR INTELLIGENT UNITS DAT9000 SERIES

Dev 9K

GENERAL DESCRIPTION
Dev9K is an Integrated Development Environment running under the Windows® Operative System that allows to design and debug the applications based on the DAT9000 series intelligent units.

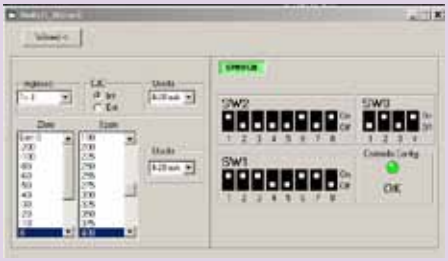
With Dev9K it is possible to set the DAT9000 series devices to execute I/O read and write operations (DAT3000 series), mathematical and logic operations and timers.
Moreover it is possible to read and write in real time the Internal Registers of the Controller or connect it directly to the slave devices connected to its Modbus Master Port.

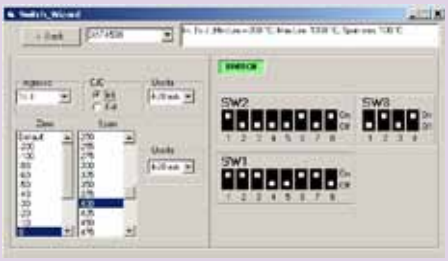
SYSTEM REQUIREMENTS

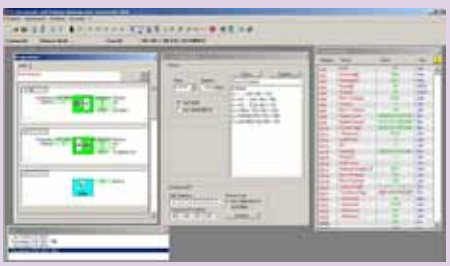
Operative System.....Windows 2000 / NT / ME / XP / Vista / Win 7
Available Hard Disk space.....2 MB

Application areas

DATEXEL: CONFIGURATION SOFTWARE



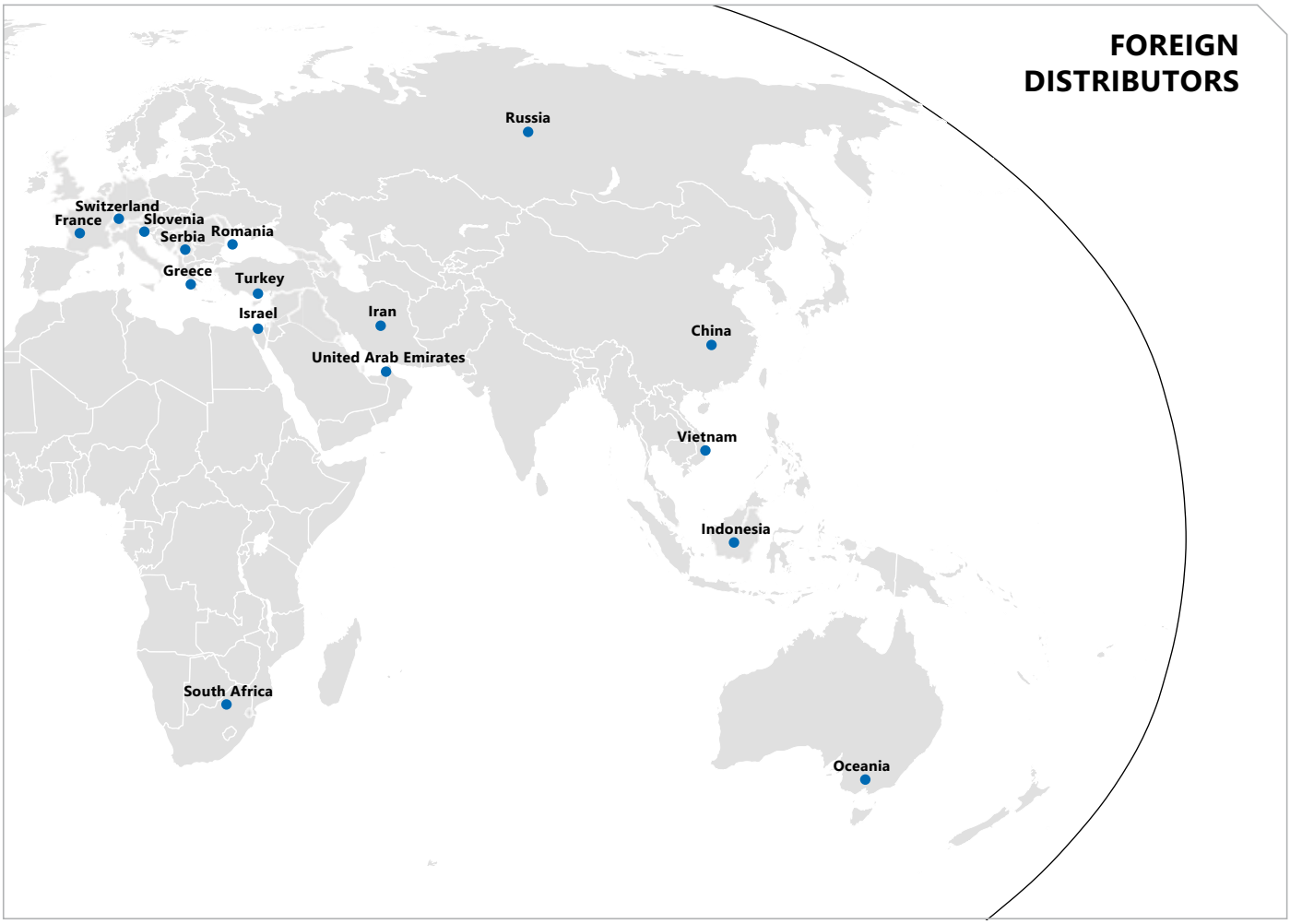




PRODUCTION SITE

DISTRIBUTORS IN ITALY

FOREIGN DISTRIBUTORS



General conditions

The sale of the products described, in this catalog, is in compliance with the requirements listed below that are considered in force after formal order will be accepted only if received by us in writing. These terms and conditions of sale (including any type of written specification, quotation and / or additional terms and conditions) will determine only the sale of all goods and services (including, without limitation, hardware, software and accessories in the Catalog and described in the proper price list). The receipt or acceptance of delivery by the buyer of any product ordered or purchased will constitute your acceptance of these terms and conditions.

Minimum billable amount

The minimum billable amount for each order is € 150.00. For orders less than this amount, for orders more than one device for which the total amount does not exceed the minimum billable (€ 150.00) will be required to pay on delivery or bank transfer at ready goods.

Payment terms

All payments must be made with a bank document. At the first delivery cash payment or bank transfer is required. Unless otherwise agreed, payment standards are provided within 30 calendar days from date of invoice. In case of late or missed payment, the company DATEXEL act in accordance with the provisions of Legislative Decree n. 231 October 9, 2002 as required by Directive 2000/35/EC.

Prices

All prices quoted in the catalog list are exclusive of VAT Ex-works our factory Work Tradate (VA).

Guarantee

All products are guaranteed against defects and manufacturing faults under current law. We don't accept returns for repair or replacement under warranty even if not previously authorized. The transportation costs of any product returned for repair or replacement even if under warranty are responsibility of the buyer. Will not be accepted unless agreed in advance, collect shipments (if received materials c / repair or replace, under warranty, shipped freight collect, the same will be rejected). The guarantee of all material we produce is valid for a period of 24 months from date of shipment. All work done under warranty will be ex works DATEXEL (VA). All repaired or replaced products are covered for the remaining period by the remaining term of the original warranty. Are not covered, by warranty products or components subject to wear.

Repairs

Unless otherwise specified, the return devices shall be subject to repair. In advance DATEXEL will provide, to the customer, by fax or e-mail, a document that will be described the type of fault / anomaly. This document, once completed, will be returned to DATEXEL that examined the content, will grant the authorization to return by providing all necessary information regarding the individual appearing on the shipping document and the method of delivery. It will care by DATEXEL, than, to inform the internal staff responsible for return acceptance. Upon receipt of the goods, authorized personnel will verify that the same is accompanied by the documents agreed during a return authorization and will repair or replace the defective product. If the goods were not accompanied by the documents mentioned above can be made to the sender rejected. Will not be repaired under warranty all products received outside the period of 24 months from the delivery date and all products that are damaged due to misuse or failure to comply with the conditions of use indicated on identification labels and related technical data sheets.

Order cancellation

Any cancellation of an order, by the customer, before the shipment must be notified in writing, by fax or e-mail. It will be discretion of the DATEXEL staff whether to accept or reject such request. DATEXEL also has the right to cancel an order for right cause at any time upon written notice.

Claims and liability limitation

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The technical data in this catalog are provided only as a guideline for compatibility verification with the application of the product's user and does not constitute a functional guarantee or performance of any kind.

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