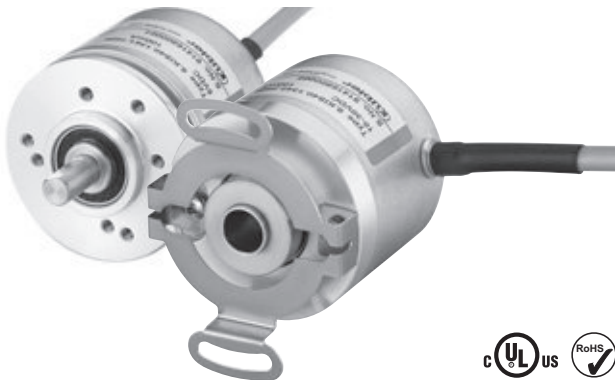


Incremental encoders

Compact optical

Sendix Base KIS40 / KIH40 (shaft / hollow shaft)

Push-Pull / RS422 / open collector



The incremental encoders type Sendix Base KIS40 / KIH40 with optical sensor technology have been designed for highest cost-effectiveness. They are available with a resolution of up to 2500 pulses per revolution.

They are particularly suitable for tight mounting spaces and small machines and appliances.



Safety-Lock™



High rotational speed



Temperature range
-20°...+70°C



Shock / vibration resistant



Short-circuit proof



Reverse polarity protection



Magnetic field proof



Optical sensor

Compact and robust

- Only 40 mm outer diameter.
- Ideally suited for use where space is tight.
- Sturdy bearing construction in Safety Lock™ design.
- Safe commissioning: reverse polarity protection and short-circuit proof.

Flexible

- Maximum resolution of 2500 pulses per revolution.
- Power supply 5 V DC or 10 ... 30 V DC.
- Push-Pull, RS422 or open collector
- Radial or axial cable.

Order code

Shaft version

8.KIS40 . **1XXXX** . **XXXX**
Type a b c d e

a Flange
1 = clamping-synchro flange, ø 40 mm [1.57"]

b Shaft (ø x L)
3 = ø 6 x 12.5 mm [0.24 x 0.49"], with flat
5 = ø 1/4" x 12.5 mm [1/4" x 0.49"], with flat

c Output circuit / power supply
4 = Push-Pull (with inverted signal) / 10 ... 30 V DC
3 = open collector (with inverted signal) / 10 ... 30 V DC
6 = RS422 (with inverted signal) / 5 V DC

d Type of connection
1 = axial cable, 2 m [6.56'] PVC
2 = radial cable, 2 m [6.56'] PVC

e Pulse rate
25, 100, 200, 360, 500, 512, 600, 1000, 1024, 2000, 2048, 2500
(e.g. 500 pulses => 0500)

Optional on request
- other pulse rates

Order code

Hollow shaft

8.KIH40 . **XXXX** . **XXXX**
Type a b c d e

a Flange
2 = with spring element, long
5 = with stator coupling, ø 46 mm [1.81"]

b Blind hollow shaft
4 = ø 8 mm [0.32"]
3 = ø 1/4"

c Output circuit / power supply
4 = Push-Pull (with inverted signal) / 10 ... 30 V DC
3 = open collector (with inverted signal) / 10 ... 30 V DC
6 = RS422 (with inverted signal) / 5 V DC

d Type of connection
1 = axial cable, 2 m [6.56'] PVC
2 = radial cable, 2 m [6.56'] PVC

e Pulse rate
25, 100, 200, 360, 500, 512, 600, 1000, 1024, 2000, 2048, 2500
(e.g. 500 pulses => 0500)

Optional on request
- other pulse rates

Incremental encoders

Compact optical	Sendix Base KIS40 / KIH40 (shaft / hollow shaft)	Push-Pull / RS422 / open collector
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Mounting accessory for shaft encoders		Order no.
Coupling	bellows coupling ø 15 mm [0.59"] for shaft 6 mm [0.24"]	8.0000.1202.0606
Connection technology		Order no.
Connector, self-assembly (straight)	M12 female connector with coupling nut	05.CMBS 8181-0

Further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories.
 Additional connectors can be found in the connection technology section or in the connection technology area of our website at: www.kuebler.com/connection_technology.

Technical data

Mechanical characteristics		Working temperature range	
Maximum speed	4500 min ⁻¹	-20°C ... +70° [-4°F ... +158°F]	
Mass moment of inertia	approx. 0.2 x 10 ⁻⁶ kgm ²	Materials	
Starting torque – at 20°C [68°F]	< 0.05 Nm	shaft	stainless steel
Shaft load capacity	radial	flange	aluminium
	axial	housing	aluminium
Weight	ca. 0.17 kg [6.00 oz]	cable	PVC
Protection acc. to EN 60529	IP64	Shock resistance acc. to EN 60068-2-27	1000 m/s ² , 6 ms
		Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 55 ... 2000 Hz

Electrical characteristics			
Output circuit	RS422 (TTL comp.)	Push-Pull ¹⁾ (7272 comp.)	Open collector (7273)
Power supply	5 V DC (±5 %)	10 ... 30 V DC	10 ... 30 V DC
Power consumption with inverted signal (no load)	typ. 40 mA max. 90 mA	typ. 50 mA max. 100 mA	100 mA
Permissible load / channel	max. +/- 20 mA	max. +/- 20 mA	+/- 20 mA sink at 30 V DC
Pulse frequency	max. 250 kHz	max. 250 kHz	max. 250 kHz
Signal level	HIGH min. 2.5 V LOW max. 0.5 V	min. +V - 2.0 V max. 0.5 V	
Rising edge time t_r	max. 200 ns	max. 1 µs	
Falling edge time t_f	max. 200 ns	max. 1 µs	
Short circuit proof outputs ²⁾	yes ³⁾	yes	yes
Reverse polarity protection of the power supply	no	yes	yes
UL approval	file 224618		
CE compliant acc. to	EMC guideline 2004/108/EC RoHS guideline 2011/65/EU		

Terminal assignment

Output circuit	Type of connection	Cable (isolate unused wires individually before initial start-up)									
3, 4, 6 with inv. signal	1, 2	Signal:	0 V	+V	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	
		Cable colour:	WH	BN	GN	YE	GY	PK	BU	RD	

- +V: Encoder power supply +V DC
- 0 V: Encoder power supply ground GND (0 V)
- A, \bar{A} : Incremental output channel A
- B, \bar{B} : Incremental output channel B
- 0, $\bar{0}$: Reference signal

1) Max. recommended cable length 30 m [98.43'].
 2) If power supply correctly applied.
 4) Only one channel allowed to be shorted-out:
 at +V= 5 V DC, short-circuit to channel, 0 V, or +V is permitted.
 at +V= 5 ... 30 V DC, short-circuit to channel or 0 V is permitted.

Incremental encoders

Compact optical

Sendix Base KIS40 / KIH40 (shaft / hollow shaft)

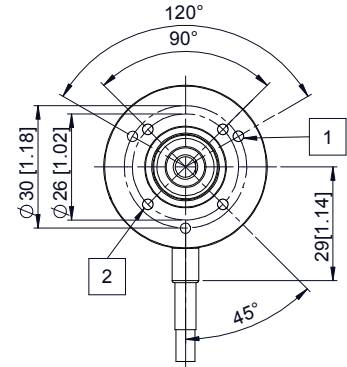
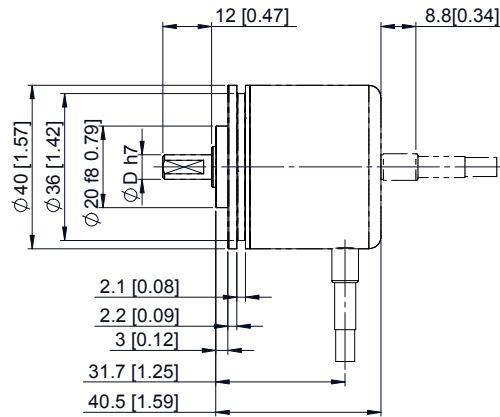
Push-Pull / RS422 / open collector

Dimensions shaft version

Dimensions in mm [inch]

Clamping-synchro flange, \varnothing 40 [1.57] Flange type 1

- 1 3 x M3, 4 [0.16] deep
- 2 4 x M3, 4 [0.16] deep

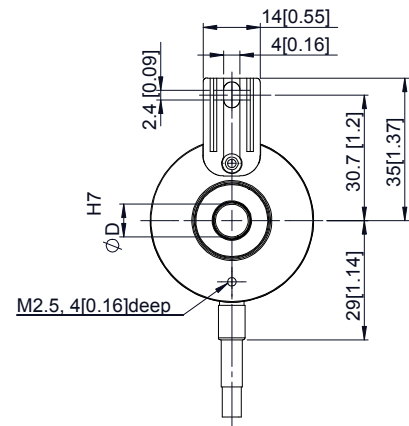
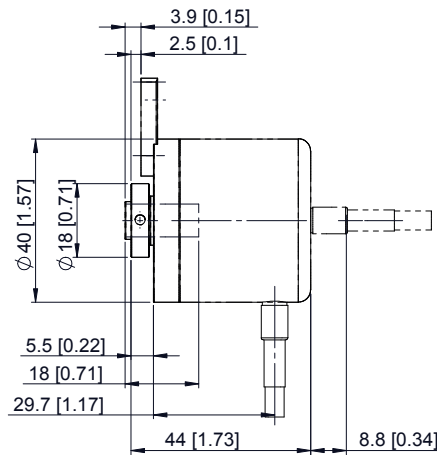


D = \varnothing 6 [0.24]
 \varnothing 1/4"

Dimensions hollow shaft version

Dimensions in mm [inch]

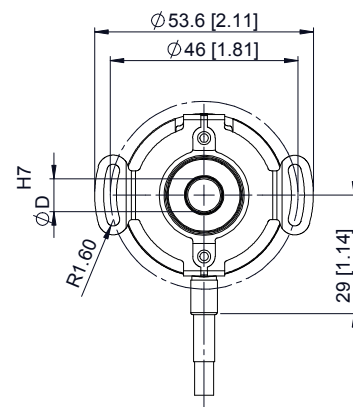
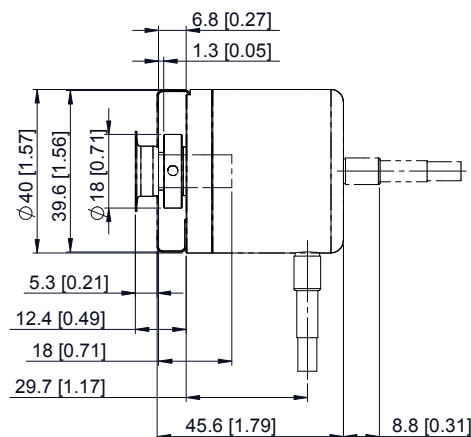
Flange with spring element, long Flange type 2



D = \varnothing 8 [0.31]
 \varnothing 1/4"

Flange with stator coupling, \varnothing 46 [1.81] Flange type 5

Shaft: minimum insertion
depth 1.5 x D



D = \varnothing 8 [0.31]
 \varnothing 1/4"