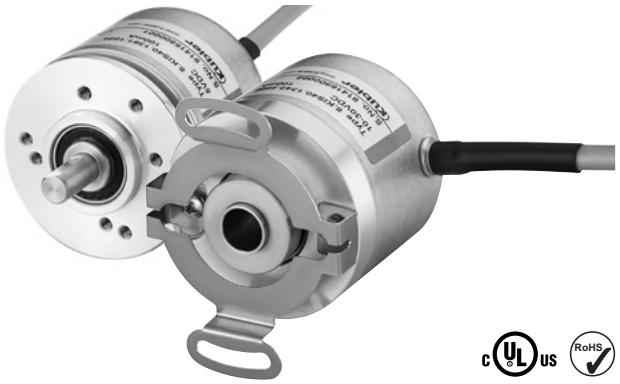
Compact optical | **Sendix Base KIS40 / KIH40 (shaft / hollow shaft)** | **Push-Pull / RS422 / open collector**



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 | 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 . 1 X X X . 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

Stock types
8.KIS40.1342.0360
8.KIS40.1342.0500
8.KIS40.1342.1000
8.KIS40.1342.1024
8.KIS40.1342.2048
8.KIS40.1342.2500
8.KIS40.1362.0500
8.KIS40.1362.1024
8.KIS40.1362.2048

Order code Hollow shaft

8.KIH40 . X X X X . 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

Stock types
8.KIH40.2442.1024
8.KIH40.2462.1000
8.KIH40.2462.1024
8.KIH40.5442.0360
8.KIH40.5442.0500
8.KIH40.5442.1024
8.KIH40.5442.2048
8.KIH40.5442.2500
8.KIH40.5462.0500
8.KIH40.5462.2048

Compact optical	Sendix Base KIS40 / KIH40 (shaft / hollow shaft)	Push-Pull / RS422 / open collector

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

Maximum speed		4500 min^{-1}
Mass moment of inertia		approx. 0.2 x 10^{-6} kgm^2
Starting torque – at 20°C [68°F]		< 0.05 Nm
Shaft load capacity	radial	40 N
	axial	20 N
Weight		ca. 0.17 kg [6.00 oz]
Protection acc. to EN 60529		IP64

Working temperature range		-20°C ... +70° [-4°F ... +158°F]
Materials	shaft	stainless steel
	flange	aluminium
	housing	aluminium
	cable	PVC
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	min. +V - 2.0 V	
	LOW	max. 0.5 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	$\overline{A}$	B	$\overline{B}$	0	$\overline{0}$
		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, $\overline{A}$: Incremental output channel A
B, $\overline{B}$: Incremental output channel B
0, $\overline{0}$: 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.

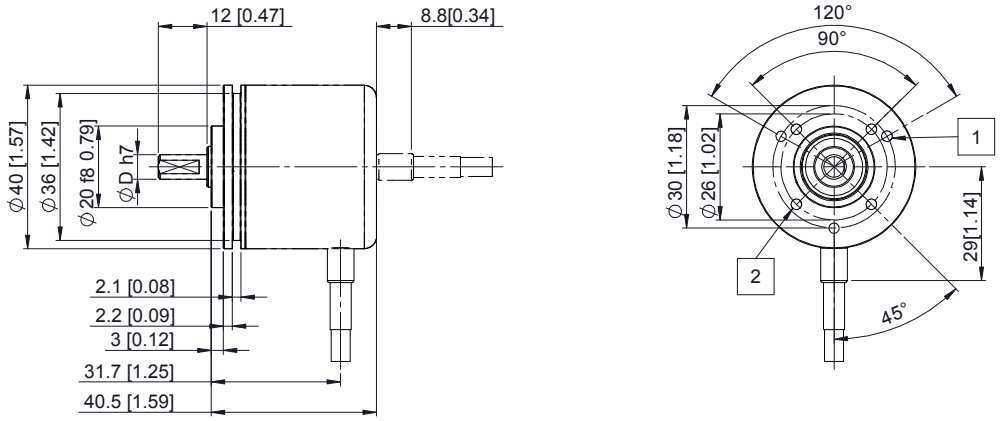
Compact optical | **Sendix Base KIS40 / KIH40 (shaft / hollow shaft)** | **Push-Pull / RS422 / open collector**

Dimensions shaft version

Dimensions in mm [inch]

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

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

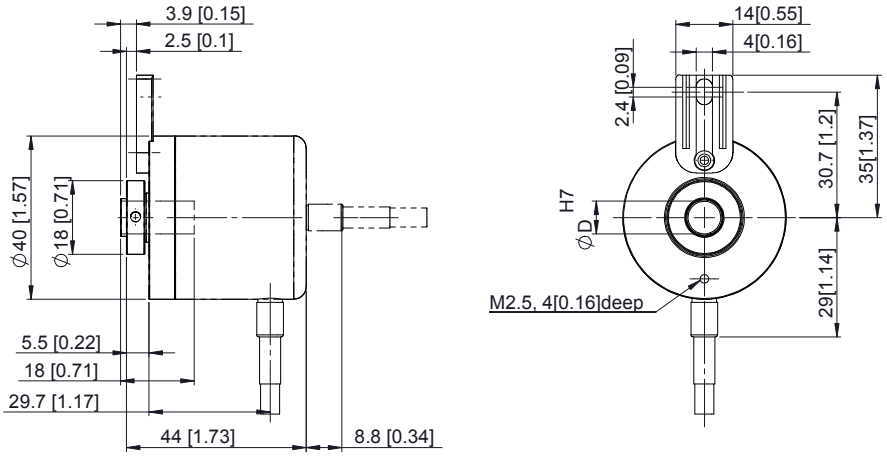


D = ø 6 [0.24]
ø 1/4"

Dimensions hollow shaft version

Dimensions in mm [inch]

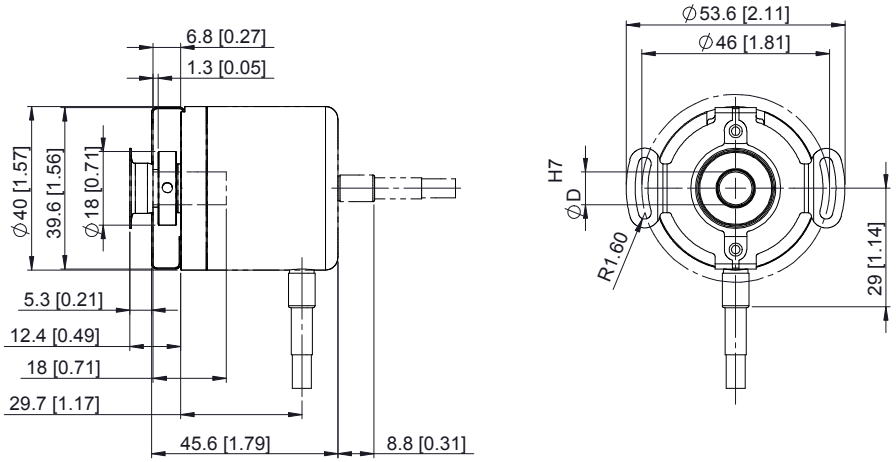
Flange with spring element, long
Flange type 2



D = ø 8 [0.31]
ø 1/4"

Flange with stator coupling, ø 46 [1.81]
Flange type 5

Shaft: minimum insertion depth 1.5 x D



D = ø 8 [0.31]
ø 1/4"