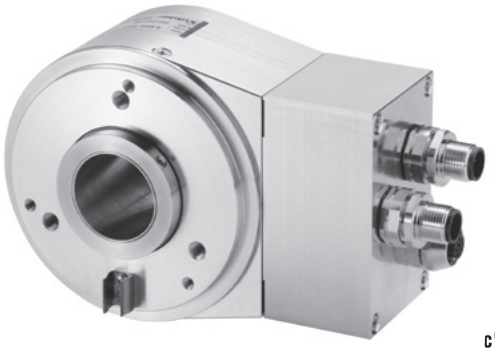
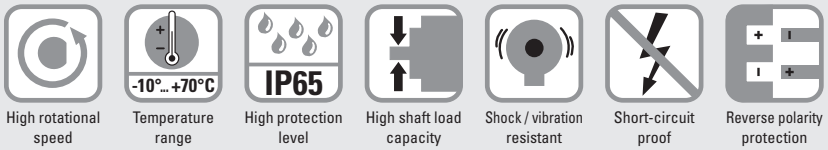
Large hollow shaft optical / magnetic | 9080 (hollow shaft) | PROFIBUS DP



The multiturn encoder 9080 with Profibus interface and combined optical / magnetic sensor technology is perfect for Profibus applications, where a large hollow shaft is required.

This through hollow shaft is available with a diameter up to 28 mm. The maximum resolution of the 9080 is 25 bits.



High rotational speed | Temperature range | High protection level | High shaft load capacity | Shock / vibration resistant | Short-circuit proof | Reverse polarity protection

Adaptable

- With cable gland or M12 connector.
- Hollow shaft of 12 up to 28 mm.
- Programmable over the bus.

User-friendly

- All relevant parameters programmable.
- Wide selection of shafts and fixing options.

Order code Hollow shaft

8.9080	.	X	X	3	X	.	3001
Type		a	b	c	d		e

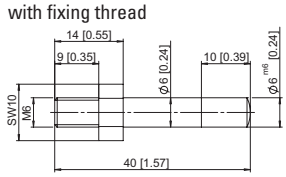
a *Flange*
1 = without mounting aid
2 = with spring element, short
3 = with spring element, long
4 = with mounting flange
5 = with tether arm, long

b *Through hollow shaft*
1 = ø 12 mm [0.47"]
2 = ø 15 mm [0.59"]
9 = ø 16 mm [0.63"]
3 = ø 20 mm [0.79"]
4 = ø 24 mm [0.94"]
C = ø 25 mm [0.98"]
5 = ø 28 mm [1.10"]
6 = ø 5/8"
7 = ø 1"

c *Interface / power supply*
3 = PROFIBUS DP / 10 ... 30 V DC

d *Type of connection, removable bus terminal cover*
1 = with cable gland M16
2 = with 3 x M12 connector

e *Fieldbus profile*
3001 = Profibus class 2

Mounting accessory for hollow shaft encoders	Dimensions in mm [inch]	Order no.
Cylindrical pin, long for flange with spring element (flange type 2 + 3)	with fixing thread 	**8.0010.4700.0003**

Connection technology		Order no.
Cordset, pre-assembled	M12 female connector with coupling nut for bus in, 5-pin 5 m [16.40'] PUR cable	**05.00.6011.3211.005M**
	M12 male connector with external thread for bus out , 5-pin 5 m [16.40'] PUR cable	**05.00.6011.3411.005M**
	M12 female connector with coupling nut for power supply, 4-pin 2 m [5.56'] PUR cable	**05.00.6061.6211.002M**
Connector, self-assembly (straight))	M12 female connector with coupling nut for bus in, 5-pin	**05.BMWS 8151-8.5**
	M12 male connector with external thread for bus out , 5-pin	**05.BMSWS 8151-8.5**
	M12 female connector with coupling nut for power supply, 4-pin	**05.B8141-0**

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.

Absolute encoders – multiturn

Large hollow shaft optical / magnetic | **9080 (hollow shaft)** | **PROFIBUS DP**

Technical data

Mechanical characteristics

Maximum speed	6000 min^{-1}, 3000 min^{-1} (continuous)
Mass moment of inertia	approx. 72 x 10^{-6} kgm^2
Starting torque	< 0.2 Nm
Weight	approx. 0.9 kg [31.74 oz]
Protection acc. to EN 60529	IP65
Working temperature range	-10°C ... +70°C [+14°F ... +158°F]
Material hollow shaft	stainless steel H7
Shock resistance acc. to EN 60068-2-27	2500 m/s^2, 6 ms
Vibration resistance acc. to EN 60068-2-6	100 m/s^2, 10 ... 2000 Hz

Electrical characteristics

Power supply	10 ... 30 V DC
Power consumption	290 mA
Recommended fuse	T 0.315 A
Performance against magnetic influence acc. to	EN 61000-4-8, Severity level 5
UL approval	file 224618
CE compliant acc. to	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

Interface characteristics PROFIBUS DP

Resolution singleturn	1 ... 8192 (13 bit) scalable
Number of revolutions (multiturn)	1 ... 4096 (12 bit) scalable
Code	binary
Interface	RS485
Protocol	PROFIBUS DP, encoder profile class 2
Baud rate	max. 12 Mbit/s
Device address	adjustable with DIP-switches

Profibus Encoder-Profile V1.1

The PROFIBUS-DP device profile describes the functionality of the communication and the user-specific component within the PROFIBUS field bus system. For encoders, the encoder profile is definitive. Here the individual objects are defined independent of the manufacturer.

Furthermore, the profiles offer space for additional manufacturer-specific functions; this means that PROFIBUS-compliant device systems can be used now with the guarantee that they are ready for the future too.

The following parameters can be programmed:

- Direction of rotation.
- Scaling factor
  – number of pulse/rotation.
  – total resolution.
- Preset value.
- Diagnostics mode.

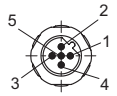
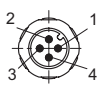
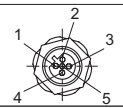
The following functionality is integrated:

- Galvanic isolation of the fieldbus stage with DC/DC converter.
- Line driver according to RS485 max. 12 MB.
- Addressing by means of rotary switches.
- Diagnostics LED.
- Full class 1 and class 2 functionality.

Terminal assignment terminal box

Interface	Type of connection		Terminal box												
3	1		Signal:	ENC.		BUS IN			BUS OUT			ENC.		Shield	
				+V DC	0 V	0 V	B	A	A	B	0 V	0 V	+V DC	⏚	
			Terminal:	1	2	3	4	5	6	7	8	9	10	11	12

Terminal assignment M12 connector

Interface	Type of connection	Function	M12 connector						
3	2	Bus in	Signal:	–	PB_A	–	PB_B	–	
			Pin:	1	2	3	4	5	
		Power supply	Signal:	+V	–	0 V	–		
			Pin:	1	2	3	4		
		Bus out	Signal:	BUS_VDC	PB_A	PB_GND	PB_B	⏚	
			Pin:	1	2	3	4	5	

Large hollow shaft optical / magnetic | **9080 (hollow shaft)** | **PROFIBUS DP**

Dimensions

Dimensions in mm [inch]

Flange with spring element

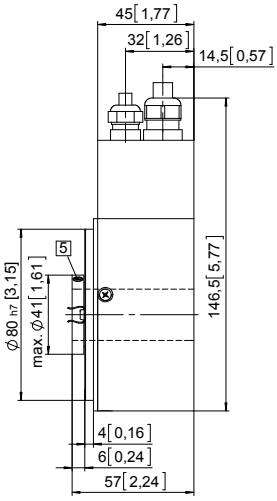
1 Spring element, short (flange no. 2) cylindrical pin DIN 6325, ø 6 [0.24]

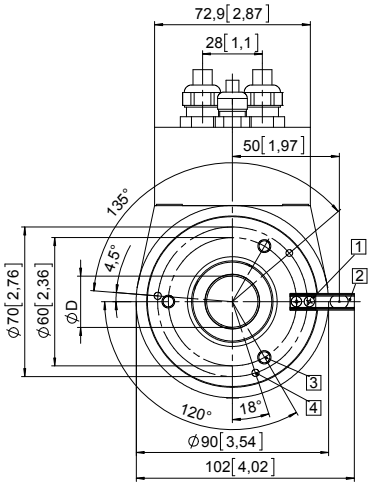
2 Spring element, long (flange no. 3) cylindrical pin DIN 6325, ø 6 [0.24]

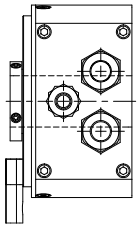
3 3 x M6, 10 [0.39] deep

4 3 x M4, 7 [0.28] deep

5 Recommended torque for the clamping ring 1.0 Nm



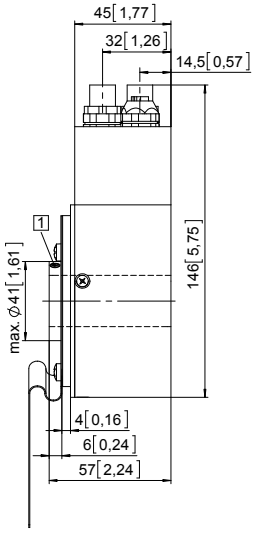


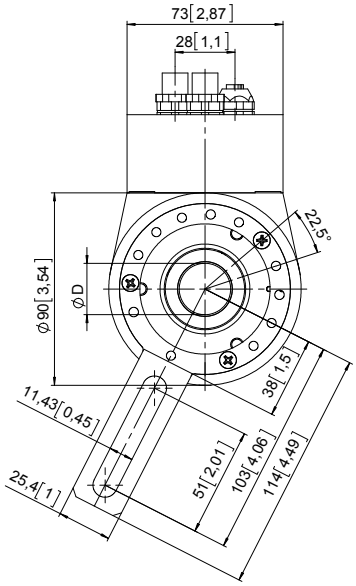


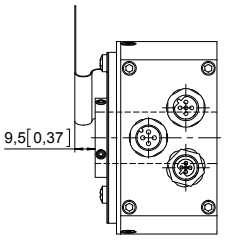
D	Fit
12 [0.47]	H7
15 [0.59]	H7
16 [0.63]	H7
20 [0.79]	H7
24 [0.94]	H7
25 [0.98]	H7
28 [1.10]	H7

Flange with tether arm, long

1 Recommended torque for the clamping ring 1.0 Nm







D	Fit
12 [0.47]	H7
15 [0.59]	H7
16 [0.63]	H7
20 [0.79]	H7
24 [0.94]	H7
25 [0.98]	H7
28 [1.10]	H7