Standard
large hollow shaft, optical | **5821 (hollow shaft)** | **Push-Pull / RS422**

Optimised proportions, optimised costs:

With an overall diameter of just 58 millimetres the series 5821 boasts a hollow shaft of up to 28 millimetres diameter.

Temperature range | Shock / vibration resistant | Magnetic field proof | Short-circuit proof | Reverse polarity protection

Adaptable

- Through hollow shaft from 16 mm up to 28 mm.
- With cable connection or M12 connector.
- High resolution up to 5000 pulses per revolution.

Order code Hollow shaft

8.5821	.	1	X	X	X	.	XXXX
Type		a	b	c	d		e

a *Flange*
1 = with spring element, ø 58 mm [2.28“]

b *Hollow shaft*
K = ø 16 mm [0.63“]
C = ø 20 mm [0.79“]
6 = ø 24 mm [0.94“]
5 = ø 25 mm [0.98“]
3 = ø 28 mm [1.10“]

c *Output circuit / power supply*
1 = RS422 (with inverted signal) / 5 V DC
4 = RS422 (with inverted signal) / 8 ... 30 V DC
3 = Push-pull (with inverted signal) / 8 ... 30 V DC

d *Type of connection*
1 = radial cable, 1 m [3.28‘] PVC
E = radial M12 connector, 8-pin

e *Pulse rate*
50, 60, 100, 125, 250, 400, 500, 512, 960, 1000, 1024, 2000, 2048, 5000
(e.g. 100 pulses => 0100)

Optional on request
- other pulse rates
- other hollow shaft diameters

Connection technology		Order no.
Connector, self-assembly (straight)	M12 female connector with coupling nut	**05.CMB 8181-0**
Cordset, pre-assembled	M12 female connector with coupling nut, 2 m [6.56‘] PVC cable	**05.00.6041.8211.002M**

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.

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Technical data

Mechanical characteristics

Maximum speed	2500 min^{-1}
Mass moment of inertia	approx. 3.5 x 10^{-6} kgm^2
Starting torque – at 20°C [68°F]	< 0.1 Nm
Weight	approx. 0.4 kg [14.11 oz]
Protection acc. to EN 60529	IP64
Working temperature range	
at max. speed 2000 min^{-1}	-20°C ... +70°C [-4°F ... +158°F]
at max. speed 2500 min^{-1}	-20°C ... +60°C [-4°F ... +140°F]
Material hollow shaft	steel
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, 35 ... 2000 Hz

Electrical characteristics

Output circuit		**RS422**	**Push-Pull** (7272 compatible)
Power supply		5 V DC (±5 %) or 8 ... 30 V DC	8 ... 30 V DC
Power consumption with inverted signal (no load)		typ. 40 mA max. 90 mA	typ. 40 mA max. 100 mA
Permissible load / channel		max. +/- 20 mA	max. +/- 40 mA
Pulse frequency		max. 300 kHz	max. 200 kHz
Signal level	HIGH LOW	min. 2.5 V max. 0.5 V	min. +V - 3.0 V max. 2.5 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 [1]		yes	yes
Reverse polarity protection of the power supply		yes	yes
CE compliant acc. to		EMC guideline 2014/30/EU RoHS guideline 2011/65/EU	

Terminal assignment

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

Output circuit	Type of connection	M12 connector, 8-pin									
1, 3, 4	E	Signal:	0 V	+V	A	$\overline{A}$	B	$\overline{B}$	0	$\overline{0}$	⏚
		Pin:	1	2	3	4	5	6	7	8	PH [2]

+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
PH ⏚: Plug connector housing (shield)

Top view of mating side, male contact base

M12 connector, 8-pin

1) If power supply correctly applied.
2) PH = shield is attached to connector housing.

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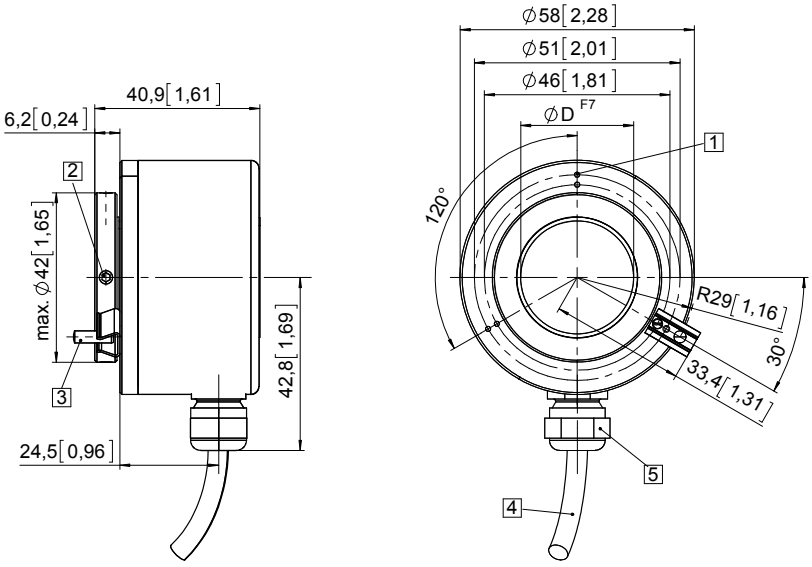
Dimensions

Dimensions in mm [inch]

Flange with spring element, ø 58 [2.28]
Cable version, connection type 1

1 M1.6 / 5 [0.2] deep
2 4 x socket set screw M4x6 DIN 913
3 Cylindrical pin 3m6x12 DIN 6325 included
4 Cable length 1 m [3.28']
5 Cable gland PG7



Flange with spring element, ø 58 [2.28]
M12 connector version, connection type E

1 M1.6 / 5 [0.2] deep
2 Cylindrical pin 3m6x12 DIN 6325 included
3 4 x socket set screw M4x6 DIN 913
4 Connector M12