

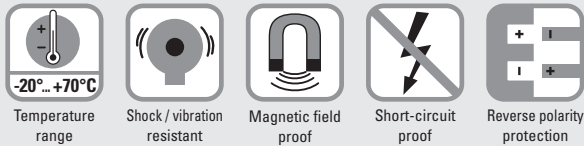
Incremental encoders

Large hollow shaft optical	5821 (hollow shaft)	Push-pull / RS422
---------------------------------------	----------------------------	--------------------------



Optimized proportions, optimized costs:

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



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	8.5821	. XXXXX . XXXX	
Hollow shaft	Type	a b c d e	e
a Flange		c Output circuit / supply voltage	e Pulse rate
1 = with spring element		1 = RS422 (with inverted signal) / 5 V DC	50, 60, 100, 125, 250, 400, 500, 512,
6 = with torque stop		4 = RS422 (with inverted signal) / 8 ... 30 V DC	960, 1000, 1024, 2000, 2048, 4096, 5000
		3 = Push-pull (with inverted signal) / 8 ... 30 V DC	(e.g. 100 pulses => 0100)
b Through hollow shaft		d Type of connection	Optional on request
K = ø 16 mm [0.63"]		1 = radial cable, 1 m [3.28'] PVC	- other pulse rates
C = ø 20 mm [0.79"]		A = radial cable, special length PVC *)	- other hollow shaft diameters
8 = ø 22 mm [0.87"]		E = radial M12 connector, 8-pin	
6 = ø 24 mm [0.94"]			
5 = ø 25 mm [0.98"]			
3 = ø 28 mm [1.10"]			
		*) Available special lengths (connection types A):	
		2, 3, 5, 8, 10, 15 m [5.56, 9.84, 16.40, 26.25, 32.80, 49.21']	
		order code expansion .XXXX = length in dm	
		ex.: 8.5821.1K1A.0100.0030 (for cable length 3 m)	

Connection technology		Order no.
Cordset, pre-assembled	M12 female connector with coupling nut, 8-pin, A coded, straight single ended 2 m [6.56'] PVC cable	05.00.6041.8211.002M
Connector, self-assembly	M12 female connector with coupling nut, 8-pin, A coded, straight (metal)	05.CMB 8181-0

Weiteres Kübler Zubehör finden Sie unter: kuebler.com/zubehoer
Weitere Kübler Kabel und Steckverbinder finden Sie unter: kuebler.com/anschlusstechnik

Incremental encoders

Large hollow shaft optical	5821 (hollow shaft)	Push-pull / RS422
-----------------------------------	----------------------------	--------------------------

Technical data

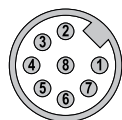
Mechanical characteristics		Electrical characteristics	
Maximum speed	2500 min ⁻¹	Output circuit	RS422 Push-pull (7272 compatible)
Mass moment of inertia	approx. 3.5 x 10 ⁻⁶ kgm ²	Supply voltage	5 V DC (±5 %) or 8 ... 30 V DC
Starting torque – at 20 °C [68 °F]	< 0.1 Nm	Power consumption with inverted signal (no load)	typ. 40 mA max. 90 mA
Weight	approx. 0.4 kg [14.11 oz]	Permissible load / channel	max. +/- 20 mA
Protection acc. to EN 60529	IP64	Pulse frequency	max. 300 kHz
Working temperature range		Signal level	HIGH min. 2.5 V LOW max. 0.5 V
at max. speed 2000 min ⁻¹	-20 °C ... +70 °C [-4 °F ... +158 °F]	Rising edge time t_r	max. 200 ns
at max. speed 2500 min ⁻¹	-20 °C ... +60 °C [-4 °F ... +140 °F]	Falling edge time t_f	max. 200 ns
Material	hollow shaft steel	Short circuit proof outputs ¹⁾	yes
Shock resistance acc. to EN 60068-2-27	1000 m/s ² , 6 ms	Reverse polarity protection of the supply voltage	yes
Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 35 ... 2000 Hz	CE compliant acc. to	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

Terminal assignment

Output circuit	Type of connection	Cable (isolate unused cores individually before initial start-up)										
1, 3, 4	1, A	Signal:	0 V	+V	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$	
		Core color:	WH	BN	GN	YE	GY	PK	BU	RD	Schirm	
Output circuit	Type of connection	M12 connector, 8-pin										
1, 3, 4	E	Signal:	0 V	+V	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$	
		Pin:	1	2	3	4	5	6	7	8	PH ²⁾	

- +V: Supply voltage encoder +V DC
 0 V: Supply voltage encoder ground GND (0 V)
 A, $\bar{A}$: Incremental output channel A
 B, $\bar{B}$: Incremental output channel B
 0, $\bar{0}$: Reference signal
 PH $\perp$: Plug connector housing (shield)

Top view of mating side, male contact base



M12 connector, 8-pin

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

Incremental encoders

Large hollow shaft optical	5821 (hollow shaft)	Push-pull / RS422
---------------------------------------	----------------------------	--------------------------

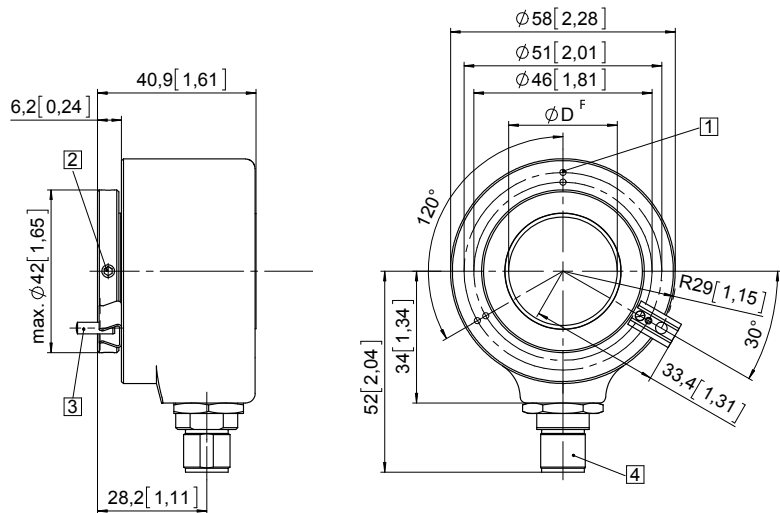
Dimensions

Dimensions in mm [inch]

Flange with spring element M12 connector, connection type E

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

D	Fit
16 [0.63]	F7
20 [0.79]	F7
24 [0.94]	F7
25 [0.98]	F7
28 [1.10]	F7



Flange with torque stop Cable radial, connection type 1

- 1 Torque stop positionable in 30° steps
- 2 4 x socket set screw M4x6 DIN 913
- 3 Cable gland PG7
- 4 Cable 1 m

D	Fit
16 [0.63]	F7
20 [0.79]	F7
24 [0.94]	F7
25 [0.98]	F7
28 [1.10]	F7

