

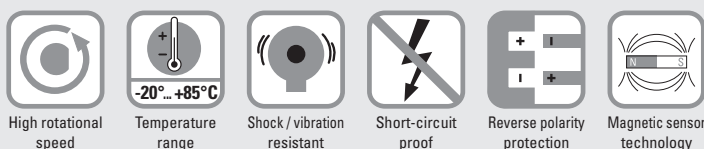
Incremental encoders

Miniature magnetic	2430 / 2440 (shaft / hollow shaft)	RS422
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Thanks to their non-contact magnetic scanning technology the miniature-format encoders 2430 and 2440 guarantee exceptional ruggedness – and this with a resolution of up to 256 pulses per revolution.

As a result of their compact outer diameter of only 24 mm, they are ideal for use where installation space is restricted.



Magnetically robust

- The non-contact magnetic technology prevents wear and guarantees a long service life.
- Multiple clamping affords high strain relief to the cable outlet, ensuring longer life.
- Wide temperature range from -20 °C up to +85 °C.
- Flexible connection possibilities: can be supplied with radial or axial cable outlet.

Compact power

- Resolution up to 256 pulses per revolution.
- Shaft and hollow shaft version.

Order code	8.2430	. XX6X . XXXX
Shaft version	Type	a b c d e

- | | | |
|--|---|--|
| <p>a Flange
1 = ø 24 mm [0.94"]
3 = ø 28 mm [1.10"]
2 = ø 30 mm [1.18"]</p> <p>b Shaft (ø x L)
1 = ø 4 x 10 mm [0.16 x 0.39"]
3 = ø 5 x 10 mm [0.20 x 0.39"], with flat
2 = ø 6 x 10 mm [0.24 x 0.39"]</p> <p>c Output circuit / supply voltage
6 = RS422 (with inverted signal) / 5 V DC</p> | <p>d Type of connection
1 = axial cable, 2 m [5.56'] PVC
A = axial cable, special length PVC *)
2 = radial cable, 2 m [5.56'] PVC
B = radial cable, special length PVC *)</p> <p>*) Available special lengths (connection types A, B):
3, 5, 8, 10, 15 m [9.84, 16.40, 26.25, 32.80, 49.21']
order code expansion .XXXX = length in dm
ex.: 8.2430.126A.0256.0030 (for cable length 3 m)</p> | <p>e Pulse rate
1 ... 128 (factory programmable)
256
(e.g. 128 pulses => 0128)</p> <p><i>Optional on request</i>
- other pulse rates</p> |
|--|---|--|

Order code	8.2440	. 1X6X . XXXX
Hollow shaft	Type	a b c d e

- | | | |
|--|---|--|
| <p>a Flange
1 = ø 24 mm [0.94"]</p> <p>b Blind hollow shaft
(insertion depth max. 14 mm [0.55"])
1 = ø 4 mm [0.16"]
2 = ø 6 mm [0.24"]</p> <p>c Output circuit / supply voltage
6 = RS422 (with inverted signal) / 5 V DC</p> | <p>d Type of connection
1 = axial cable, 2 m [5.56'] PVC
A = axial cable, special length PVC *)
2 = radial cable, 2 m [5.56'] PVC
B = radial cable, special length PVC *)</p> <p>*) Available special lengths (connection types A, B):
3, 5, 8, 10, 15 m [9.84, 16.40, 26.25, 32.80, 49.21']
order code expansion .XXXX = length in dm
ex.: 8.2440.126A.0256.0030 (for cable length 3 m)</p> | <p>e Pulse rate
1 ... 128 (factory programmable)
256
(e.g. 128 pulses => 0128)</p> <p><i>Optional on request</i>
- other pulse rates</p> |
|--|---|--|

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Mounting accessory for shaft encoders	Order no.
Coupling	bellows coupling ø 15 mm [0.59"] for shaft 4 mm [0.16"]
	8.0000.1202.0404

Further Kübler accessories can be found at: kuebler.com/accessories
 Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

Technical data

Mechanical characteristics		Electrical characteristics	
Maximum speed	12000 min ⁻¹	Output circuit	RS422 (TTL compatible)
Mass moment of inertia	approx. 0.1 x 10 ⁻⁶ kgm ²	Supply voltage	5 V DC (±5 %)
Starting torque - at 20 °C [68 °F]	< 0.01 Nm	Power consumption with inverted signal (no load)	typ. 40 mA max. 90 mA
Shaft load capacity	radial 20 N axial 10 N	Permissible load / channel	max. +/- 20 mA
Weight	approx. 0.06 kg [2.11 oz]	Pulse frequency	max. 300 kHz
Protection acc. to EN 60529	housing side IP65 flange side IP50 (IP64 on request)	Signal level	HIGH min. 2.5 V LOW max. 0.5 V
Working temperature range	-20 °C ... +85 °C [-4 °F ... +185 °F]	Rising edge time t_r	max. 200 ns
Materials	shaft / hollow shaft stainless steel clamping flange MS58	Falling edge time t_f	max. 200 ns
Shock resistance acc. to EN 60068-2-27	1000 m/s ² , 6 ms	Min. pulse edge interval	0.5 µs ¹⁾
Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 55 ... 2000 Hz	Short circuit proof outputs²⁾	yes ³⁾
		Reverse polarity protection of the supply voltage	no

Approvals	
UKCA compliant in accordance with	
EMC Regulations	S.I. 2016/1091
RoHS Regulations	S.I. 2012/3032

Terminal assignment

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

+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

1) For max. speed use a counter with input frequency of min. 500 kHz.
 2) If supply voltage correctly applied.
 3) Only one channel allowed to be shorted-out:
 If +V = 5 V DC short circuit to channel, 0 V, or +V is permitted.

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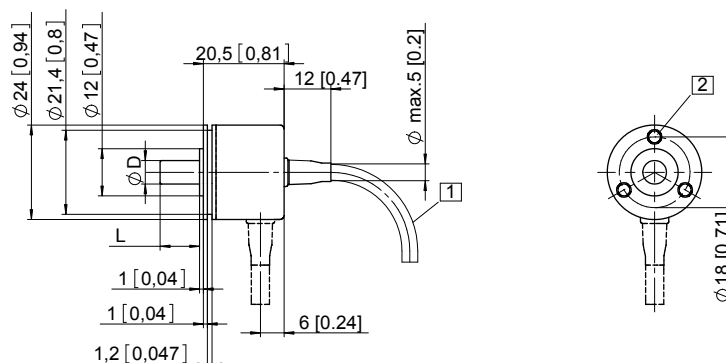
Dimensions shaft version

Dimensions in mm [inch]

Flange type 1, $\varnothing 24$ [0.94]

- 1 min R50 [1.97]
- 2 3 x M3, 4 [0.16] deep

D	Fit	L
4 [0.16]	f7	10 [0.39]
5 [0.20]	f7	10 [0.39]
6 [0.24]	f7	10 [0.39]

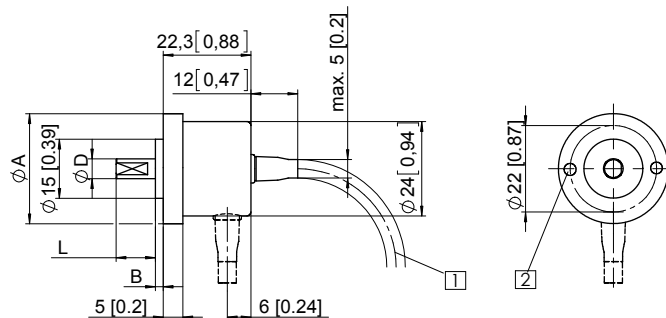


Flange type 2, $\varnothing 30$ [1.18]

Flange type 3, $\varnothing 28$ [1.10]

- 1 min R50 [1.97]
- 2 2 x M3, 4 [0.16] deep

D	Fit	L
4 [0.16]	f7	10 [0.39]
5 [0.20]	f7	10 [0.39]
6 [0.24]	f7	10 [0.39]



Flange type	A	B
2	$\varnothing 30$ [1.18]	3 [0.12]
3	$\varnothing 28$ [1.10]	2 [0.08]

Dimensions hollow shaft version

Dimensions in mm [inch]

Flange type 1, $\varnothing 24$ [0.94]

- 1 4 x M3 DIN 915 - SW1.5

Recommended torque for the set screw in the clamping ring 0.1 Nm.
To ensure optimal clamping by the clamping ring, the customer shaft should be without flat surface.

D	Fit	L
4 [0.16]	H7	14 [0.55]
6 [0.24]	H7	14 [0.55]
1/4"	H7	14 [0.55]

L = insertion depth max. blind hollow shaft

