Kübler

Rotary encoders for geared motors: 5820 M-Line

Complete Solutions from Specialists

Stable:
Even under the toughest of uses. Versatile mounting options with individual torque arm solutions.

Economic:
Can be installed quickly and efficiently.

Compact and versatile:
Top technology for limited installation space,
Comprehensive connection technology.

pulses for automation

Technical data

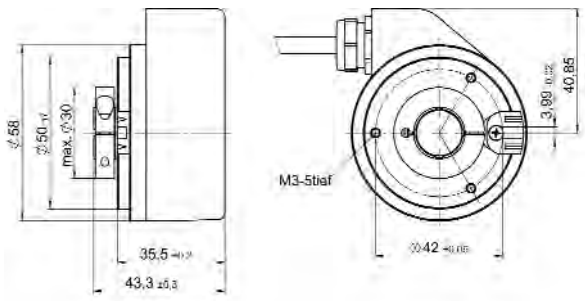
Mechanical characteristics:	
Speed (IP 66 version with sealing [1]):	max. 6000 min^{-1}
Rotor moment of inertia:	approx. 5 x 10-6 kgm^2
Starting torque with sealing:	< 0.05 Nm
Weight:	approx. 0.4 kg
Protection class according to EN 60 529 with sealing:	IP 66
Working temperature range with sealing:	-20° C up to +80 °C[2]
Operating temperature range with sealing:	-20° C up to +85 °C[2]
Shaft:	stainless steel, H7
Shock resistance according to DIN-IEC 68-2-27:	2500 m/s^2, 6 ms
Vibration resistance according to DIN-IEC 68-2-6:	100 m/s^2, 10 ... 2000 Hz
Housing: diecast (with blind hollow shaft closed)	

Pulse rates deliverable at short notice:
2, 5, 10, 13, 20, 25, 30, 35, 36, 40, 50, 60, 64, 87, 88, 90, 96, 100, 125, 180, 200, 250, 300, 360, 393, 400, 500, 512, 600, 720, 800, 900, 1000, 1024, 1200, 1250, 1270, 1500, 1800, 2000, 2048, 2500

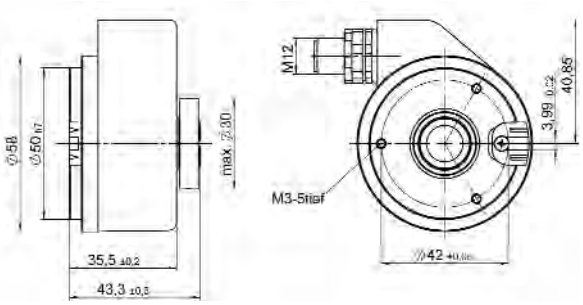
Other pulse rates or high resolution on request.

[1] In continuous operation max. 3000 min^{-1}, ventilated
[2] Non-condensing

Flange version 1
Clamping on the flange side



Flange version 1
Clamping on the cover side



Electrical characteristics:

Output circuit: Sinus output available on request	RS 422 (TTL compatible) Type 1	RS 422 (TTL compatible) Type 7	Push-pull (7272) Type 3	Push-pull Type C
Supply voltage:	5 V (±5%)	5 ... 30 V DC	10 ... 30 V DC	5 ... 30 V DC
Current consumption (without load): without inverting:	– max. 125 mA	– –	typ. 55 mA /	–
Current consumption (without load): with inverting:	typ. 40 mA / max. 90 mA	typ. 40 mA / max. 90 mA	typ. 80 mA/ max. 150 mA	typ. 50 mA max. 100 mA
Permissible load/channel:	max. ±20 mA	max. ±20 mA	max. ±30 mA	max. ±20 mA
Pulse frequency:	max. 300 kHz	max. 300 kHz	max. 300 kHz	max. 300 kHz[3]
Signal level high:	min. 2.5 V	min. 2.5 V min.	UB-2.5 V min.	UB-2.0 V
Signal level low:	max. 0.5 V	max. 0.5 V	max. 2.0 V	max. 0.5 V
Rise time t_r	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs
Fall time t_f	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs
Short-circuit proof outputs [1]:	yes[2]	yes[2]	yes	yes
reverse connection protection of the supply voltage:	no	yes	yes	no

Conforms to CE requirements in accordance with EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3

[1] With correctly applied supply voltage

[2] Only a maximum of one channel may be short-circuited:
(with UB = 5V, short-circuit towards another channel, 0 V, or +UB is permitted.)
(with UB = 10-30V, short-circuit towards another channel or 0 V is permitted.)

[3] up to 30 m cable length

Order code

8.5820M.XX.XX.XXXX

Model

Flange version
- **1** with torque stop short
- **2** with tether arm short (8.0010.4800.0000), hole 4 mm on pitch circle 45.5 mm ±6 mm
- **3** with tether arm short (8.0010.4800.0000), hole 4 mm on pitch circle 45.5 mm ±6 mm unit EzFan Clip (8.0000.40B0.0000)
- **5** with stator coupling, hole 4 mm on pitch circle 65 mm (8.0010.40A0.0000)
- **6** with tether arm, long version (8.0010.4800.0000),
- **7** with stator coupling, two wings, pitch circle 63 mm
- **8** with tether arm, pitch circle 64-65 mm, slot M3
- **B** with tether arm, pitch circle 78 ±7 mm, slot M4
- **C** with long spring element

Shaft version
- **3** Through hollow shaft, 10 mm, clamping on the flange side
- **4** Through hollow shaft, 12 mm, clamping on the flange side
- **5** Through hollow shaft, 14 mm, clamping on the flange side
- **6** Through hollow shaft, 15 mm, clamping on the flange side
- **F** Through hollow shaft, 10 mm, clamping on the cover side
- **G** Through hollow shaft, 12 mm, clamping on the cover side
- **H** Through hollow shaft, 14 mm, clamping on the cover side
- **K** Through hollow shaft, 15 mm, clamping on the cover side
- **R** Blind hollow shaft, 10 mm
- **S** Blind hollow shaft, 12 mm
- **T** Blind hollow shaft, 14 mm
- **U** Blind hollow shaft, 15 mm

Pulse rate
(e.g. 250 pulses = > 0250)

Connection type
- **1** Tangential cable outlet, PUR cable, UL, black, Length 1 m*
- **2** Right-angle connector, tangential cable outlet, PUR cable, UL, black, length 0.3m*
- **C** M12 connector, 8-pole, tangential

***Other cable lengths on request.**

Interface operating voltage**
- **1** RS 422/TTL; 5 VDC, with inverting
- **3** Push-pull/HTL; 10 … 30 VDC with inverting
- **7** RS 422/TTL; 5 … 30 VDC with inverting
- **C** 7272/HTL; 5 ... 30 VDC with inverting (without reverse connection protection)

****Other interface on request (e.g. sinus output)**

Please note: The M-Line rotary encoders are not standard in-stock products. Consequently, minimum order quantities and delivery times depend on the type and need to be discussed with your sales partner.

Rotary and Linear Encoders + Connection Technology

Counting Technology

Process Technology

Interested?
Give us a call
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send an e-mail to: sales@kuebler.com

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pulses for automation

Perfect rotary encoders –
perfect integration

The 5820 M-Line incremental rotary encoders have been specially developed for geared motors. They combine optimal product features with sophisticated integration solutions. This guarantees you cost-effective production, a long life cycle and prompt, efficient maintenance. The 5820 M-Line fulfils European and US industrial standards, meaning it can be deployed anywhere in the world.

Many variations – many solutions

One rotary encoder – for all geared motor applications

Flange 2
with M23 right-angle connector

Flange 6

Flange 5

3 steps to your perfect rotary encoder: use our remote design desk service

Analysis phase:
On the basis of your CAD data about motor, housing and fan cowl, we analyze which requirements your rotary encoder has to fulfill.

1.

Design phase:
We develop the most uniform fixing solution possible for you to cover the smallest up to the largest installation space.

2.

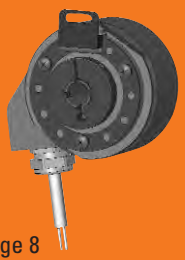
If the encoder is to be sited under the fan cowl, then it makes sense to use our particularly short right-angle connector for the fan housing. It is located directly at the motor housing.

Each tether arm undergoes endurance testing and have the aim of reducing the overall costs for the encoder installation.

Stable: even under the toughest of uses. This is ensured by the stable zinc diecast housing, the robust clamping, on the cover or flange side, high shock and vibration resistance, professional mounting with tether arm /stator coupling adapted to the respective use.

Economic: With the 5820 M-Line incremental encoder, you cover nearly all geared motor applications thanks to a great number of mounting options. With most suppliers, this means a more expensive special solution, yet with Kübler this is often an economical standard.

Compact and versatile: Thanks to a tangential outlet, special right-angle connector and compact construction also suitable for very limited installation space within the fan cowl.



Flange 8

Flange B

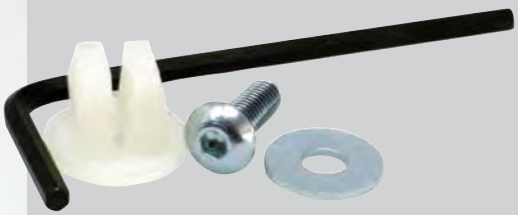
Flange B
clamping on the
cover side

Flange C
with M23 right-
angle connector

Realization:

- You will first receive a customer-specific datasheet.
- Based on this, we will then create a prototype for you.
- After approval, we will realize and supply you with your specific solution within a few days.
- Even special variants can be implemented in a short period of time.

Ingeniously simple: the EzFan Clip fixing solution



Simple, quick mounting solution for encoders with a tether arm on the outside of the fan housing. The housing of the motor does not have to be removed.

Optimal fixing solutions for all cases

from flange 5

from flange 7

from flange B

from flange 2+3
(3 with EzFan Clip)

from flange 6

from flange 8

Ingeniously space-saving and reliable

The integration of the rotary encoder within the fan cowl has many advantages. The space is ideally used and the rotary encoder is largely protected from external knocks.

The intelligent mounting technology and the right-angle connector from Kübler make it possible – from the smallest to the biggest size of motor.