

Rotary Measuring Technology

Absolute singleturn encoder hollow shaft version

Standard Type 5872



- Parallel interface
- Highest shock resistance on the market (>2500 m/s², 6 ms acc. to DIN IEC 68-2-27)
- Improved EMC characteristics
- Very easy mounting. The encoder is mounted directly on the drive shaft without couplings. This saves up to 30 % cost and 60 % clearance compared to shaft versions
- Divisions: up to 2000 Gray-Excess or up to 16384 (14 bits) Gray, singleturn
- IP 66
- Count direction reversible
- Temperature and ageing compensation
- Short-circuit proof outputs
- Integrativ Technology®
Patented new type of construction integrates all components; use of an opto-asic and 6-layer multilayer technology now on just a single PCB
- resolution of up to 14 bits
- available as explosion proof zone 2 and 22

Mechanical characteristics:

Speed without sealing:	max. 12000 min ⁻¹
Speed with sealing ¹⁾ :	max. 6000 min ⁻¹
Rotor moment of inertia:	appr. 6 x 10 ⁻⁶ kgm ²
Starting torque with sealing:	< 0,05 Nm
Weight:	appr. 0,4 kg
Protection acc. to EN 60 529 with sealing:	IP 66
Working temperature without sealing:	-20 °C ... +85 °C ²⁾³⁾
Working temperature with sealing:	-20 °C ... +80 °C ²⁾³⁾
Operating temperature without sealing:	-20 °C ... +90 °C ²⁾
Operating temperature with sealing:	-20 °C ... +85 °C ²⁾
Shaft:	stainless steel
Shock resistance acc. to DIN-IEC 68-2-27	2500 m/s ² , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s ² , 10...2000 Hz

¹⁾ for continuous operation max. 1500 min⁻¹

²⁾ non-condensing

³⁾ 70 °C at 14 bits version

Divisions and code types available at short notice

- 360 Gray-Excess
- 1000 Gray-Excess
- 1440 Gray-Excess
- 2000 Gray-Excess
- 1024 (10 Bit) Gray
- 4096 (12 Bit) Gray
- 8192 (13 Bit) Gray
- 16384 (14 Bit) Gray

Other divisions and code types on request

Electrical characteristics:

Interface type:	Parallel	Parallel
Supply voltage (U _B):	5 V DC (± 5 %)	10 ... 30 V DC
Output driver:	CMOS-TTL	Push-pull
Current consumption type.:	40 mA	100 mA
(no load) max.:	75 mA	159 mA
Permissible load/channel:	max. +0,5 mA/-2,0 mA	max. +/-10 mA
Word change frequency	40.000/s	40.000/s
Signal level high:	min. 3,4 V	min. U _B - 2,8 V
Signal level low	max. 0,3 V	max. 1,8 V
Rise time t _r (without cable):	max. 0,2 μs	max. 1μs
Fall time t _f (without cable):	max. 0,2 μs	max. 1μs
Short circuit proof outputs: ¹⁾	yes	yes
Reverse connection protection at U _B :	no	yes
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3		

¹⁾ When supply voltage correctly applied U_B

Reverse count direction:

(only at output type 3 and up to 13 bits available)

Normal operation:

Rising code values when shaft turning clockwise (cw). Falling code values when shaft turning counterclockwise (ccw)

Reverse operation:

Output MSB inverted (pin 16) instead of output MSB (pin 3) connected.

Falling code values when shaft turning clockwise (cw).

Rising code values when shaft turning counterclockwise (ccw), top view of shaft

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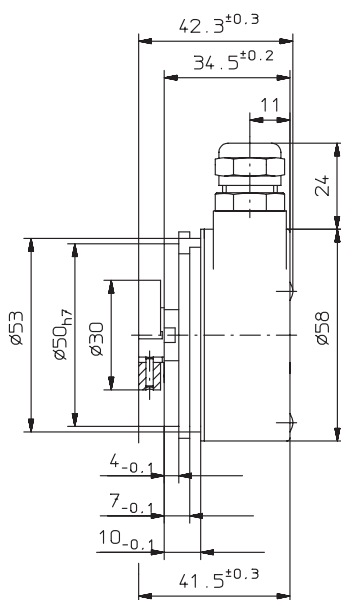
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Terminal assignment

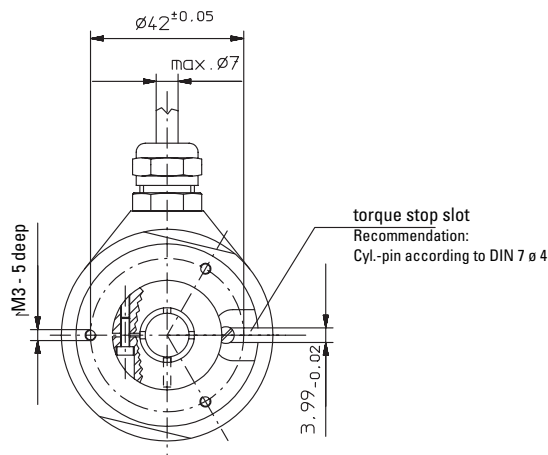
Sig.:	0V	+U _B	1	2	3	4	5	6	7	8	9	10	11	12	13	14/1		⏏	
Col.:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY	RD	WH	BN	WH	YE			
Pin:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	PH	

- Signal: 1 = MSB; 2 = MSB-1; 3 = MSB-2 etc.
- T: Only at output type 3 up to 13 bits. MSB to reverse the count direction
- PH: Plug housing
- Insulate unused outputs before initial start-up

Dimensions

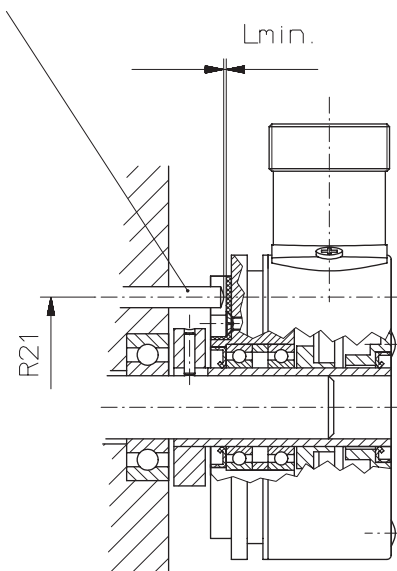
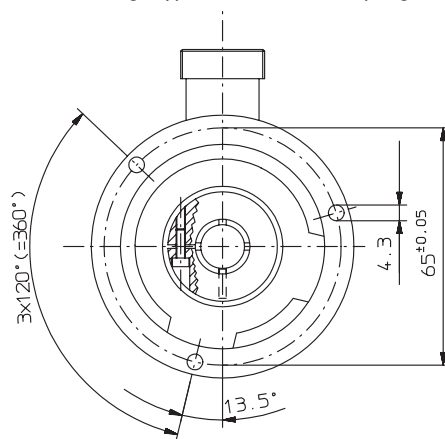
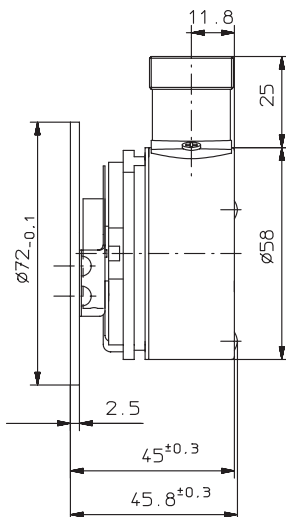


Flange type 1



Cyl. pin acc. to DIN 7 8 4

Flange type 3 with stator coupling



Mounting advice:

1) Do not connect encoder and drive rigidly to one another at shafts and flanges!

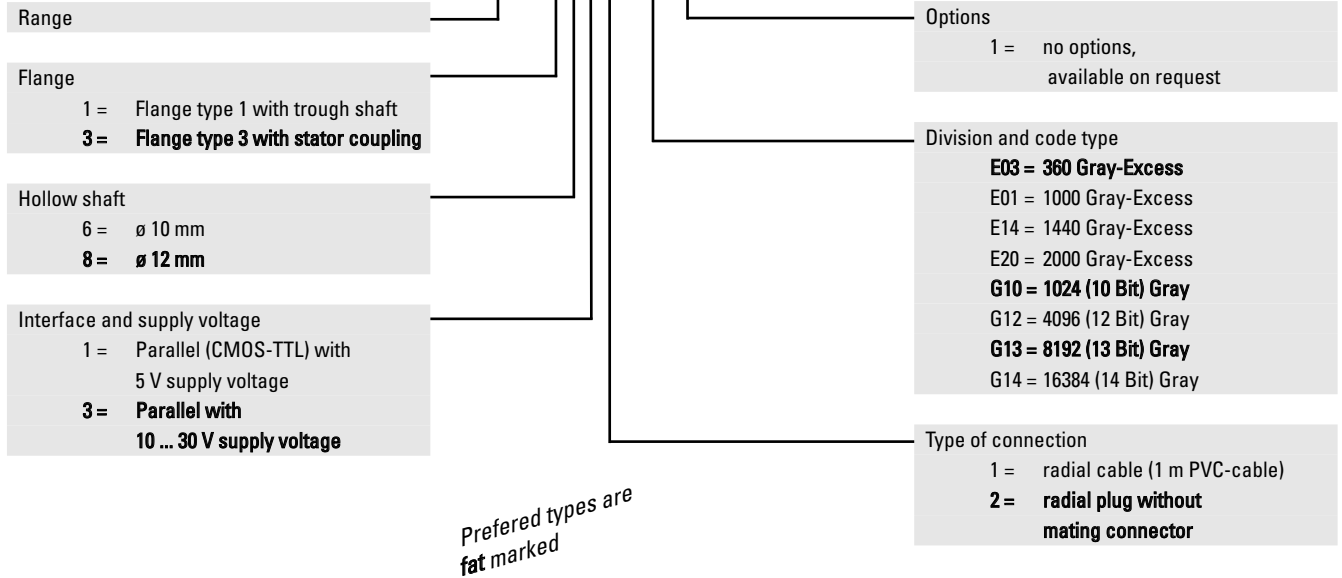
2) To mount a hollow shaft encoder, we recommend to use a torque stop pin that fits into the torque stop slot or a stator coupling.

3) When mounting the encoder ensure that Lmin. is larger than the axial play of the drive.

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Order code:

8.5872.XXXX.XXXX



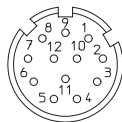
Accessories

Corresponding mating connector to Type of connection 3 or 5, 12 pin: Art.-No.. 8.0000.5012.0000
pin assignment ccw

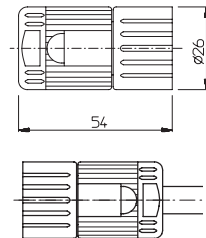
Corresponding mating connector with cable pre-assembled: Art.- No. 8.0000.6101.XXXX (XXXX = length [m])

Set includes Connector typ 8.0000.5012.0000 and cable typ 8.0000.6100.XXXX (Cable PUR 10 x 0,14 mm² + 2 x 0,5 mm²)

PIN allocation:



Dimensions:



Mounting kit for hollow shaft encoder ø 58 mm:

Various mounting variations can be supplied

Delivery includes:

- 1 x cylindric pin with thread
Ord.-No. 8.0010.4700.0000
- 1 x mounting bracket
Art.-no. T.035.009
- Screw M3x5
Ord.-No. N.630.305
- 1 x long torque support slot
Ord.-No. T.051.672

Complete set:
Ord.-No. 8.0010.4600.0000

Stator coupling two wings

– for high dynamic application

Includes:

- 1x coupling two wings
- 2x 2 screws

Complete as set:
Order-No.: 8.0010.4D00.0000
(see page 235)

Tether arm short

Order-No.: 8.0010.4R00.0000
(see page 238)