

# Rotary Measuring Technology

## Incremental encoders



### Compact Type 3610 (shaft) / 3620 (hollow shaft)



- Chromated housing resistant to cooling lubricants and other environmental influences
- Hollow shaft version: Fits directly onto drive shaft - no couplings needed - saves up to 30% on cost and 60% on installation space and time
- Universal application in mechanical engineering, vehicles, conveyors and elevators
- Wide temperature range (-30 ... +90 °C)
- Temperature and ageing compensation
- Low current consumption despite high scanning rate
- IP 65 from housing side
- Sturdy cable entry thanks to multiple clamping
- Highly flexible cable (withstands constant flexing at 0 °C ... 70 °C)
- Short circuit proof
- Broad input voltage range (5 ... 18 V or 8 ... 30 V)

#### Mechanical characteristics:

Speed:	Shaft version: max. 12000 min <sup>-1</sup> Hollow shaft version: max. 6000 min <sup>-1</sup>
Rotor moment of inertia:	approx. 0.2 x 10 <sup>-6</sup> kgm <sup>2</sup>
Starting torque:	< 0.05 Nm
Radial load capacity of the shaft:	40 N
Axial load capacity of the shaft:	20 N
Weight:	approx. 0.08 kg
Protection acc. to EN 60 529:	IP 65, housing side, IP64 shaft side on request
Working temperature:	-20° C ... +85 °C <sup>2)</sup>
Materials:	Shaft: stainless steel; Hollow shaft: brass Housing: chromated Aluminium Cable: PVC
Shock resistance acc. to DIN-IEC 68-2-27:	1000 m/s <sup>2</sup> , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s <sup>2</sup> , 55 ... 2000 Hz

<sup>2)</sup> Non-condensing

#### Electrical characteristics:

Output circuit:	Push-pull (7272) <sup>1)</sup>	Push-pull (7272) <sup>1)</sup>
Supply voltage:	5 ... 18 V DC	8 ... 30 V DC
Power consumption (no load)	< 40 mA	< 40 mA
with inverted signal:		
Permissible load/channel:	max. ±50 mA	max. ±50 mA
Pulse frequency:	max. 200 kHz	max. 200 kHz
Signal level high:	min. U <sub>B</sub> - 2.5 V	min. U <sub>B</sub> - 3 V
Signal level low:	max. 0.5 V	max. 0.5 V
Rise time tr	max. 1 µs	max. 1 µs
Fall time tf	max. 1 µs	max. 1 µs
Short circuit proof outputs <sup>1)</sup> :	yes <sup>2)</sup>	yes <sup>2)</sup>
Reverse connection protection at U <sub>B</sub> :	yes	yes
UL certified	File 224618	
Conforms to CE requirements acc. to EN 61000-6-2, EN 61000-6-4 and EN 61000-6-3		
RoHS compliant acc. to EU guideline 2002/95/EG		

<sup>1)</sup> Max. recommended cable length 30 m

<sup>2)</sup> If supply voltage correctly applied

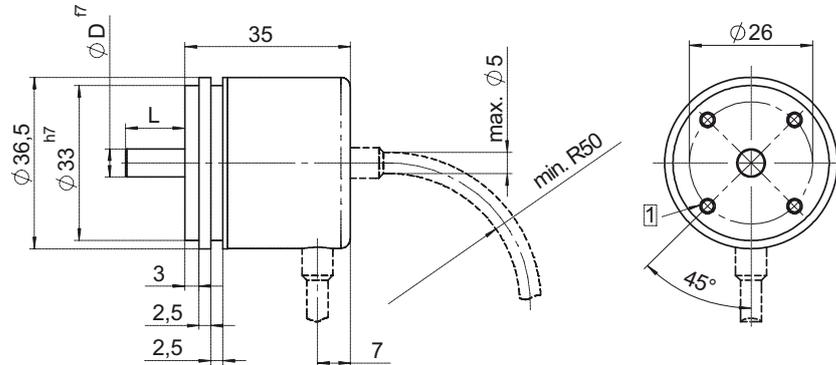
#### Terminal assignment

Signal:	0V	+U <sub>B</sub>	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$
Colour:	WH	BN	GN	YE	GY	PK	BU	RD
without inverted signal:	WH	BN	GN	YE	GY	PK	BU	RD
M12 eurofast, 8 pin connector, Pin	1	2	3	4	5	6	7	8

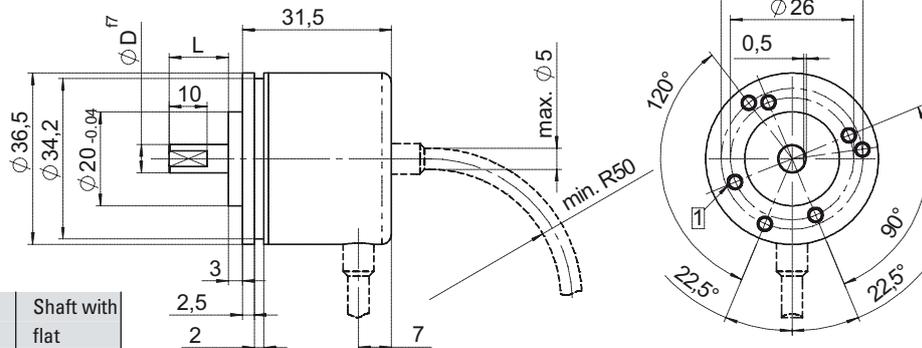
Isolate unused outputs before initial start-up

### Compact Type 3610 (shaft) / 3620 (hollow shaft)

Dimensions shaft version:  
Synchronous flange



Clamping flange



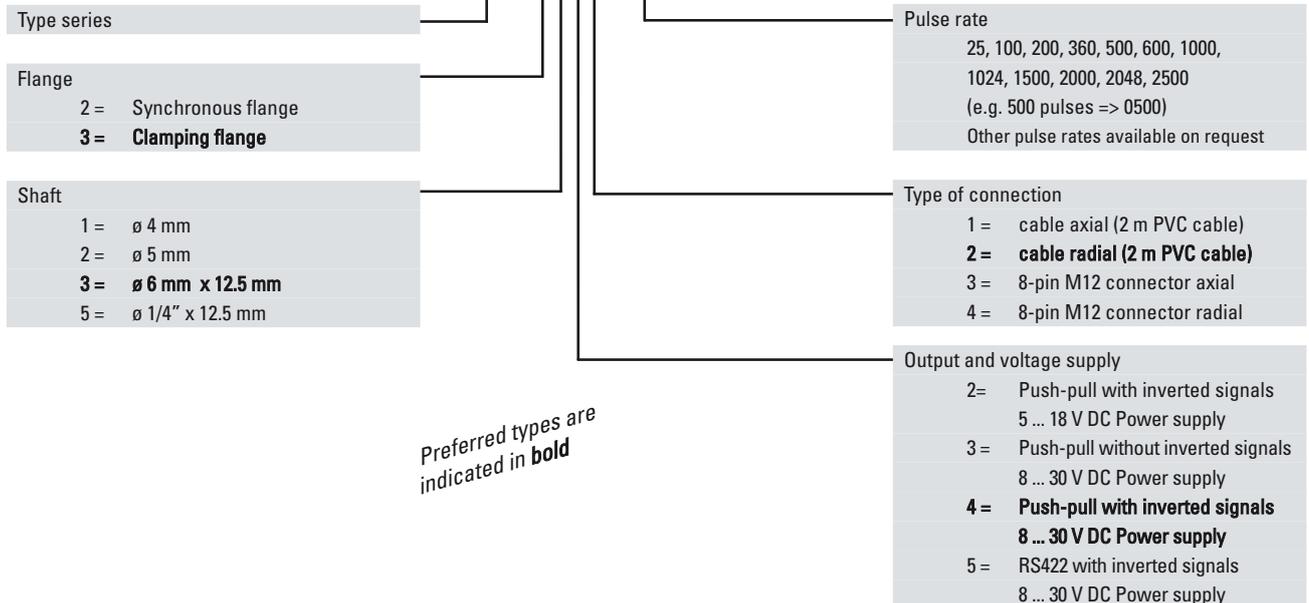
1 M3, 5 deep

Order-Code Shaft	D	L	Shaft with flat
1	ø 4	10	no
2	ø 5	10	no
3	ø 6	12.5	yes
5	ø 1/4"	12.5	yes

Order code shaft version:

**8.3610.XXXX.XXXX**

10 by 10

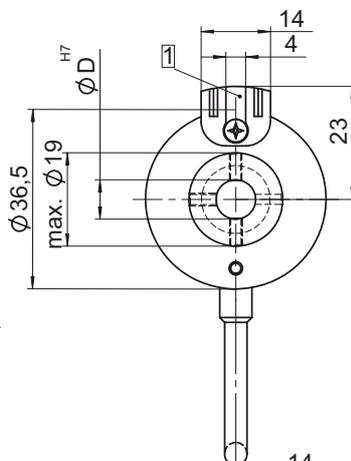
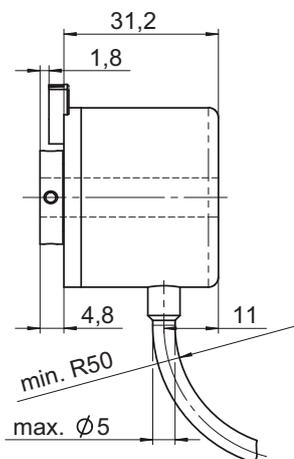


*Preferred types are indicated in bold*

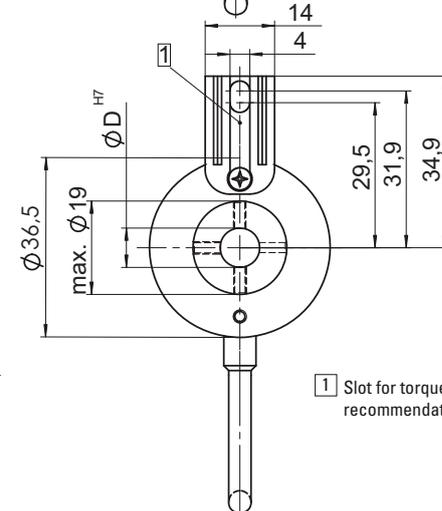
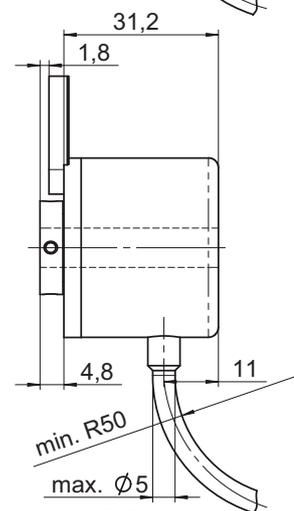
### Compact Type 3610 (shaft) / 3620 (hollow shaft)

#### Dimensions hollow shaft version:

Flange with torque stop short (1)

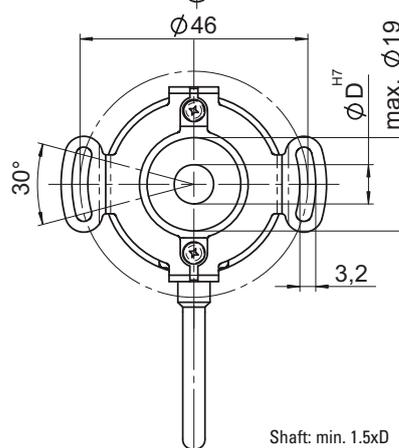
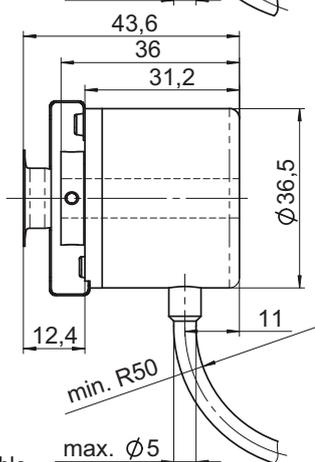


Flange with torque stop long (2)



1 Slot for torque stop, recommendation: Pin DIN 7 ̕ 4

Flange with stator coupling (5)



Shaft: min. 1.5xD

The industry standard M12 is now also available for our compact encoders.



Incremental Encoders

### Compact Type 3610 (shaft) / 3620 (hollow shaft)

Order code hollow shaft version:

8.3620.XXXX.XXXX



Type series

Flange

- 1 = Hollow shaft with short torque stop
- 2 = Hollow shaft with long torque stop**
- 5 = Hollow shaft with stator coupling

Hollow shaft

- 2 = ø 6 mm through hollow shaft**
- 3 = ø 6.35 mm (1/4" through hollow shaft)
- 4 = ø 8 mm through hollow shaft

Pulse rate

- 25, 100, 200, 360, 500, 600, 1000, 1024, 1500, 2000, 2048, 2500
- (e.g. 500 pulses => 0500)
- Other pulse rates available on request

Type of connection

- E = Cable radial (2 m PVC cable)**
- 4 = 8-pin M12 connector radial

Output circuit and voltage display

- 2 = Push-pull with inverted signal  
Power supply 5 ... 18 V DC
- 3 = Push-pull without inverted signals  
8 ... 30 V DC Power supply
- 4 = Push-pull with inverted signal  
Power supply 8 ... 30 V DC**
- 5 = RS422 with inverted signals  
8 ... 30 V DC Power supply
- 6 = RS422 with inverted signals

*Preferred types are indicated in **bold***

Cyl. pin acc. to DIN 7,  
ø 4 mm x 12 included in delivery

#### Accessories:

- Cables and connectors, also pre-assembled, can be found in the chapter Counting Technology
- Mounting attachments and couplings can be found in the Chapter Accessories