EL 63 FB / GB / PB / PBF / PC / PCF

BLIND / THROUGH HOLLOW SHAFT INCREMENTAL ENCODER

MAIN FEATURES

Series of hollow shaft encoders for small AC motors, thanks to their compact size (only 35 mm height).

- 3 channel encoder (A / B / Z) up to 2500 ppr
- Power supply up to +30 V DC with various electrical interfaces available
- Output frequency up to 300 kHz
- Cable output, connectors available on cable end
- Through or blind hollow shaft up to 15 mm diameter
- Shaft fixing by collar clamping

ORDERING CODE	EL	63GB	500	S	5/28	P	8	X	3	PR	. XXX

SERIES
incremental encoder EL

MODEL
blind hollow shaft with torque stop slot 63FB
blind hollow shaft with torque pin 63GB
through hollow shaft with torque pin 63PB
through hollow shaft with torque stop slot 63PBF
rear fixing shaft with torque pin 63PC
rear fixing shaft with torque stop slot 63PCF

RESOLUTION
ppr from 1 to 2500
refer to the available pulses list

ZERO PULSE
without zero pulse S
with zero pulse Z

POWER SUPPLY
(with L electrical interface) 5 V DC 5
5 ... 28 V DC 5/28

ELECTRICAL INTERFACE
NPN open collector C
push-pull P
line driver L
power supply 5/28 V DC - output RS-422 RS

BORE DIAMETER
mm 8
mm 10
mm 12
mm 14
mm 15

ENCLOSURE RATING
IP 54 X

MAX ROTATION SPEED
3600 rpm 3

OUTPUT TYPE
radial cable (standard length 1,5 m) PR
preferred cable lengths 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

VARIANT
custom version XXX

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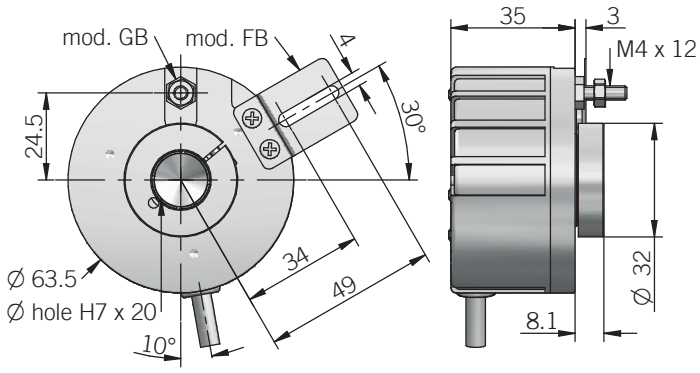
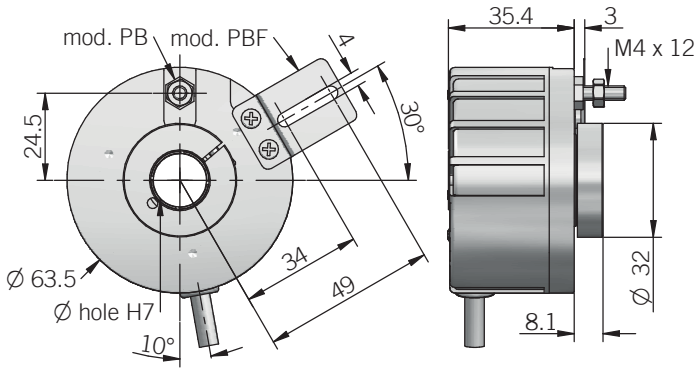
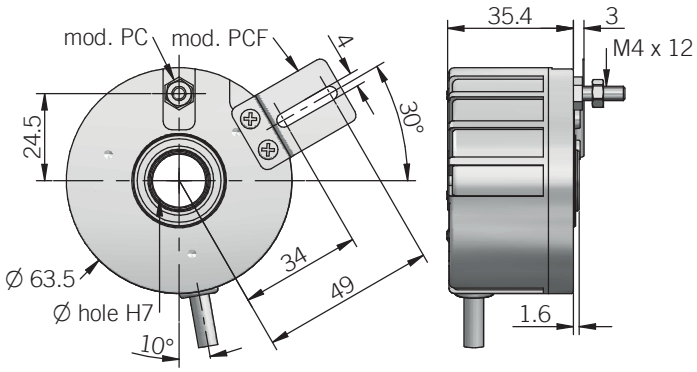
63FB / GB



63PB / PBF



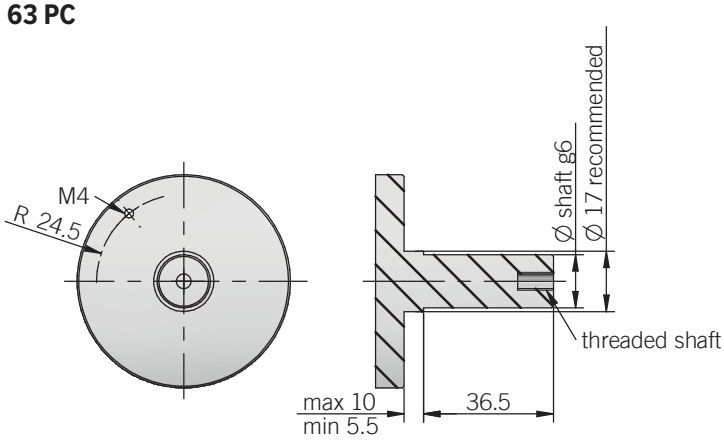
63PC / PCF



torque pin is included in model GB / PB / PC, for model FB / PBF / PCF please refer to Accessories

recommended mating shaft tolerance g6

RECOMMENDED INTERFACE FLANGE DESIGN 63 PC



dimensions in mm

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ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 2500 ppr
Power supply[1]	5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection)
Power draw without load	0,8 W max
Max load current	C / P = 50 mA / channel L / RS = 20 mA / channel
Electrical interface[2]	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar)
Max output frequency	300 kHz
Counting direction	A leads B clockwise (shaft view)
Index signal	180°e (gated A)
Mean time to dangerous failure ($MTTF_d$)[3] **according to EN ISO 13849-1**	200 years
Mission time (Tm)[3]	20 years
Diagnostic coverage (DC)[3]	0%
Cable type	shielded - fixed installation conductors section 0,22 mm^2 / AWG 24 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

RESOLUTIONS

1 - 2 - 5 - **20** - 25 - **32** - 50 - 60 - 100 - 128 - **200** - 250 - 256 - **360** - 400 - 500 - 512 - 600 - 720 - 1000 - **1024** - 1440 - 1800 - **2000** - 2048 - 2500

please directly contact our offices for other pulses, preferred resolutions in bold

MECHANICAL SPECIFICATIONS

Bore diameter	ø 8 / 10 / 12 / 14 / 15 mm
Enclosure rating	IP 54 (IEC 60529)
Max rotation speed	3600 rpm continuous / 4000 rpm peak
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	4 x 10^{-6} kgm^2 (95 x 10^{-6} $lbft^2$)
Starting torque (at +20°C / +68°F)	< 0,04 Nm (5,66 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	PA 66 glass fiber reinforced
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[4, 5]	-10° ... +60 °C (+14° ... +140°F)
Storage temperature[5]	-25° ... +70 °C (-13° ... +158°F)
Weight	350 g (12,35 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] this product is not a safety component, for further details refer to TECHNICAL BASICS section
[4] measured on the transducer flange
[5] condensation not allowed

CONNECTIONS

Function	Cable C / P	Cable L / RS
+V DC	red	red
0 V	black	black
A+	green	green
A-	/	brown or grey
B+	yellow	yellow
B-	/	orange
Z+	blue	blue
Z-	/	white
⏚	shield	shield

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