



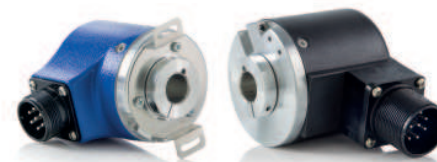
EL - ER 58 F / G
EL - ER 63 F / G

BLIND HOLLOW SHAFT INCREMENTAL ENCODER

MAIN FEATURES

Hollow shaft encoder series for industrial applications with high mechanical resistance requirements. These encoders are designed to withstand high radial and axial shaft loads.

- 3 channel encoder (A / B / Z) up to 24000 ppr
- Power supply up to +28 VDC with several electronic interfaces available
- Up to 500 kHz output frequency
- Cable or connector output
- Available with metal cover for heavy duty applications
- Blind hollow shaft diameter up to 15 mm
- Mounting by stator coupling, spring or anti-rotation pin



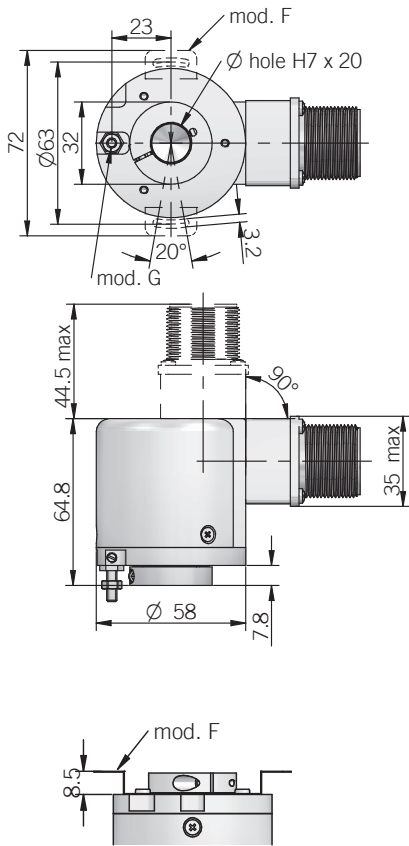
ORDERING CODE	ER	58G	M*	500	S	5/28	N	8	X	3	P	R	.XXX
SERIES incremental encoder series EL incremental encoder series ER													
MODEL blind hollow shaft with stator coupling 58F blind hollow shaft with anti-rotation pin 58G blind hollow shaft with spring 63F blind hollow shaft with anti-rotation pin 63G													
METAL COVER * add for metal cover M													
RESOLUTION ppr from 1 to 24000 see table for pulses availability													
ZERO PULSE without zero pulse S with zero pulse Z													
POWER SUPPLY (with L electronic interface) 5 V DC 5 (with L or PC electronic interface) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28													
ELECTRONIC INTERFACE NPN N NPN open collector C push-pull P push-pull protected (AEIC-7272) PC line driver L power supply 5/28V - output RS-422 RS													
BORE DIAMETER mm 8 mm 10 mm 12 mm 14 mm 15													
ENCLOSURE RATING IP 54 X IP 66 S													
MAX ROTATION SPEED 3000 rpm 3													
OUTPUT TYPE cable (standard length 1,5 m)) P MIL connector M JIS-C-5432 connector J M12 connector M12 M23 connector H IP40 IEC 60130-9 connector C <i>female connector included, without female please add 162 as variant code</i>													
DIRECTION TYPE axial A radial R													
VARIANT custom version XXX													



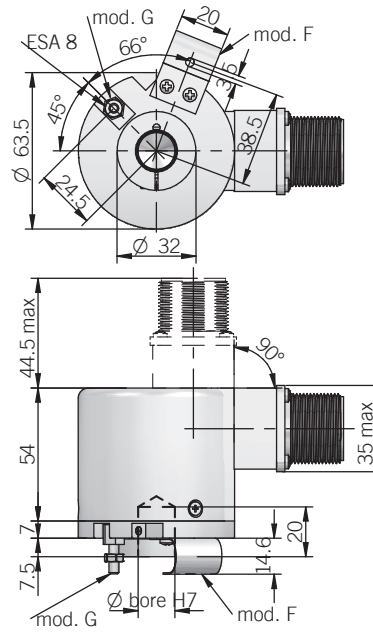
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OPTICAL HOLLOW SHAFT INCREMENTAL ENCODERS | EL - ER 58 F / G - EL - ER 63 F / G

EL - ER 58 F / G

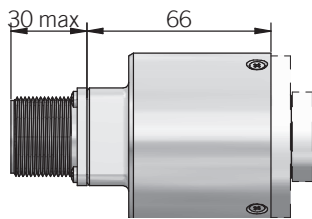


EL - ER 63 F / G

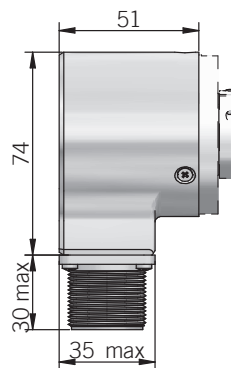


anti-rotation pin is included in model G, for mounting instruction please refer to product installation notes

Dimensions with metal cover axial output



Dimensions with metal cover radial output



dimensions in mm



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OPTICAL HOLLOW SHAFT INCREMENTAL ENCODERS | EL - ER 58 F / G - EL - ER 63 F / G

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 2500 ppr (58 G) from 1 to 24000 ppr (58 F - 63 F / G)
Power supply	5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection)
Power draw without load	800 mW
Max load current	N / C / P / PC = 50 mA / channel L / RS = 20 mA / channel
Output type*	NPN / NPN open collector / push-pull / line driver
Max output frequency	250 kHz up to 6000 ppr 500 kHz from 7200 ppr
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

*output levels according to power supply, for further details please see under Technical basics section

EL SERIES RESOLUTIONS

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 25 - 30 - 32 - 40 - 50 - 60 - 70 - 80 - 90 - 160 - 180 - 350 - 450 - 660 - 700

ER SERIES RESOLUTIONS

100 - 120 - 128 - 150 - 200 - 240 - 250 - 256 - 300 - **360** - 400 - 480 - **500** - 512 - 600 - 625 - **720** - 750 - 800 - 900 - **1000** - **1024** - 1200 - 1250 - 1440 - 1500 - 1600 - 1800 - **2000** - **2048** - **2500** - 3000 - **3600** - 4000 - 4096 - **5000** - 6000 - **7200** - 8000 - 8192 - 9000 - **10000** - 10240 - 12000 - **14400** - 16000 - 16384 - 18000 - **20000** - 20480 - 24000

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

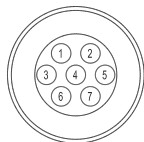
MECHANICAL SPECIFICATIONS

Bore diameter	ø 8 / 10 / 12 / 14 / 15 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 64 (IEC 60529)
Max rotation speed	3000 rpm
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
Starting torque (at +20°C / +68°F)	< 0,02 Nm (IP 54) < 0,06 Nm (IP 66)
Body material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	PA66 glass fiber reinforced / painted aluminum
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-10° ... +60°C (+14° ... +140°F) EL series -20° ... +70°C (-4° ... +158°F) ER series
Storage temperature	-25° ... +70°C (-13° ... +158°F)
Fixing torque for collar clamping	1,5 Nm recommended
Weight	350 g (12,35 oz)

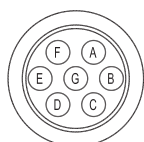
CONNECTIONS

Function	Cable output	Cable output	7 pin J output	7 pin J output	7 pin M output	7 pin M output	10 pin J output	10 pin M output	5 pin M12 output	8 pin M12 output	12 pin H output	5 pin C output	8 pin C output
	N / C / P / PC	Line driver	N / C / P / PC	Line Driver no Zero	N / C / P / PC	Line Driver no Zero	Line Driver with Zero	Line Driver with Zero	N / C / P / PC	Line Driver	CCW	N / C / P / PC	Line Driver
+V DC	red	red	6	4	F	D	4 - 5	D - E	2	7	12	5	7
0 V	black	black	1	6	A	F	6	F	4	1	10	1	8
Ch. A	green	green	3	1	C	A	1	A	3	6	5	2	1
Ch. A-	/	brown	/	3	/	C	7	G	/	5	6	/	2
Ch. B	yellow	yellow	5	2	E	B	2	B	1	4	8	4	3
Ch. B-	/	orange	/	5	/	E	8	H	/	3	1	/	4
Ch. Z	blue	blue	4	/	D	/	3	C	5	2	3	3	5
Ch. Z-	/	white	/	/	/	/	9	I	/	8	4	/	6
⊥	shield	shield	7	7	G	G	10	J	housing	housing	9	/	/

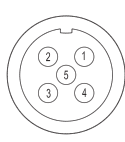
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



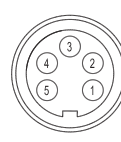
M connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



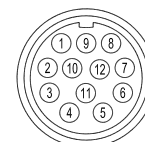
M12 connector (5 pin)
M12 A coded
solder side view FV



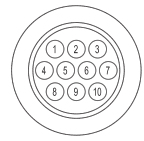
C connector (5 pin)
IEC 60130-9
solder side view FV



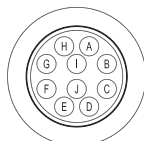
H connector (12 pin) - M23 CCW
Hummel 7.410.000000 -
7.002.912.603
solder side view FV



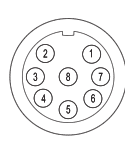
J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



M connector (10 pin)
Amphenol MS3102-E-18-1
solder side view FV



M12 connector (8 pin)
M12 A coded
solder side view FV



C connector (8 pin)
IEC 60130-9
solder side view FV



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