

EL - ER 58 B / C / H / T

SOLID SHAFT INCREMENTAL ENCODER



Specifications

Standard \varnothing 58 mm encoder series for industrial applications with high mechanical resistance requirements. These encoders are designed to support high radial and axial shaft load and they can be mounted by means of flanges or fixing clamps.

- 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
- Solid shaft diameter up to 12 mm
- Mounting by synchronous, clamping or coupling flange

ORDERING CODE ER 58C M* 500 S 5/28 N 8 X 6 P R .XXX

SERIES
 incremental encoder series [EL](#)
 incremental encoder series [ER](#)

MODEL
 synchronous flange \varnothing 50 mm [58B](#)
 clamping flange \varnothing 36 mm [58C](#)
 clamping flange \varnothing 50 mm [58H](#)
 coupling flange \varnothing 40 mm [58T](#)

METAL COVER
 * add for the 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](#)

SHAFT DIAMETER
 (mod. B) mm [6](#)
 (mod. C) mm [8](#)
 (mod. B / C / H) 9,52 (3/8") mm [9](#)
 mm [10](#)
 (mod. T) mm [12](#)

ENCLOSURE RATING
 IP 54 [X](#)
 IP 66 [S](#)

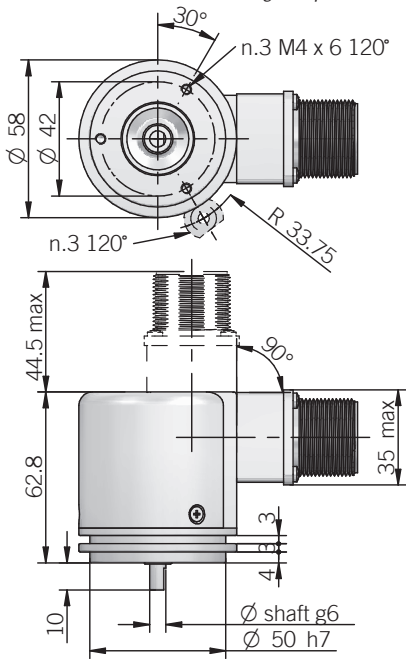
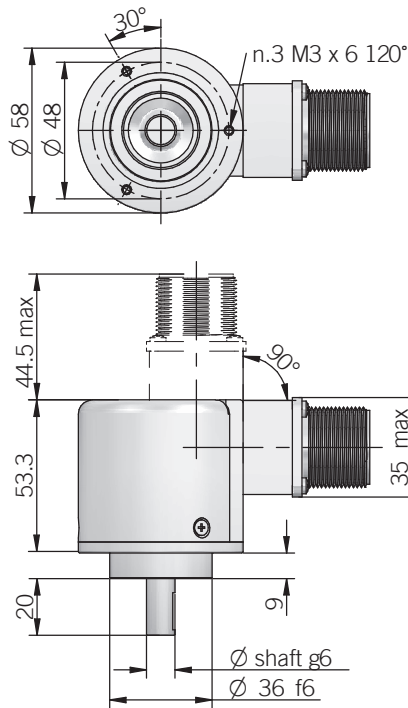
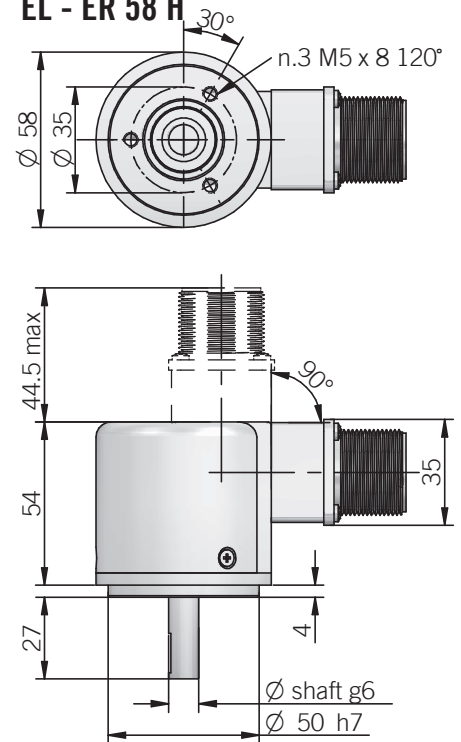
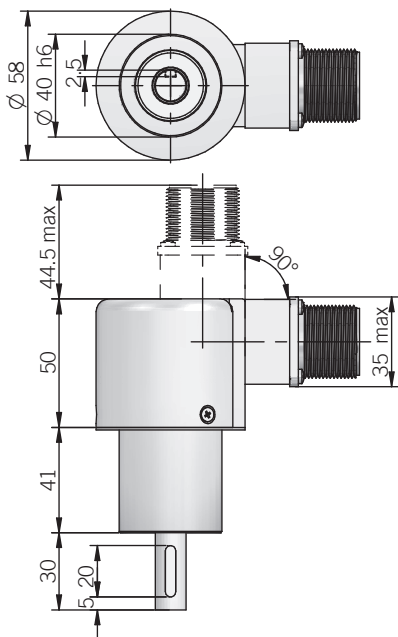
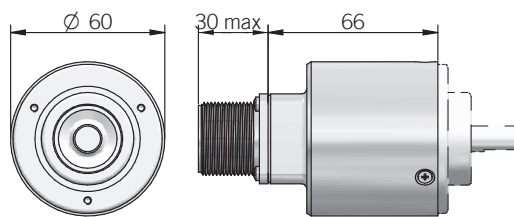
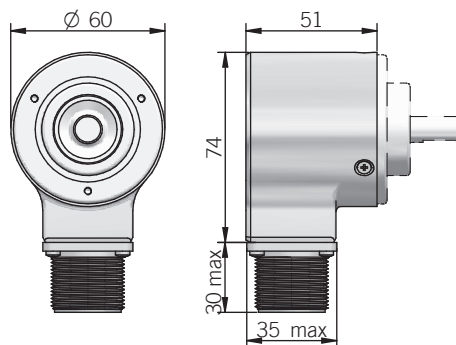
MAX ROTATION SPEED
 (IP 66) 3000 rpm [3](#)
 (IP 54) 6000 rpm [6](#)

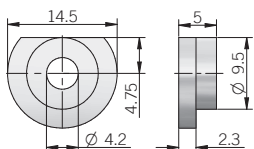
OUTPUT TYPE
 cable (standard length 1,5 m) [P](#)
 MIL connector [M](#)
 JIS-C-5432 connector [J](#)
 M12 connector [M12](#)
 M23 connector [H](#)
 IP40 IEC 60130-9 connector [C](#)

female connector included, without female please add 162 as variant code

DIRECTION TYPE
 axial [A](#)
 radial [R](#)

VARIANT
 custom version [XXX](#)

EL - ER 58 B
fixing clamps not included

EL - ER 58 C

EL - ER 58 H

EL - ER 58 T

Dimension with metal cover axi-

Dimension with metal cover radial output

dimensions in mm
ACCESSORIES

 set n.3 fixing clamps for model 58 B
 P/N 94080001


ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 24000 ppr
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

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

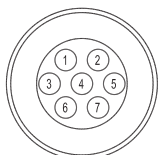
MECHANICAL SPECIFICATIONS

Shaft diameter	ø 6 / 8 / 9,52 (3/8") / 10 / 12 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	X = 6000 rpm S = EL 3000 rpm / 60° C ER 3000 rpm / 70° C - 2000 rpm / 85° C
Max shaft load	10 N axial / 20 N radial with ø6 mm shaft 200 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	1,5 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 -25° ... +85°C (-13° ... +185°F) ER series
Storage temperature	-25° ... +70°C (-13° ... +158°F)
Weight	350 g (12,35 oz) 450 g (15,87 oz) with metal cover

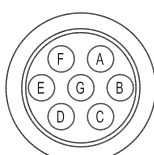
CONNECTIONS

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	/	/

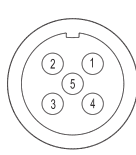
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



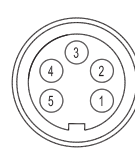
M connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



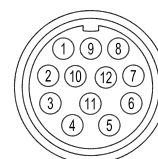
M12 connector (5 pin)
M12 A coded
solder side view FV



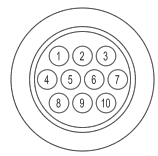
C connector (5 pin)
IEC 60130-9
solder side view FV



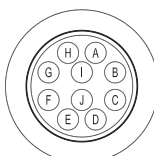
H connector (12 pin) - M23 CCW
Hummel 7.410.000000 -
7.002.912.603
solder side view FV



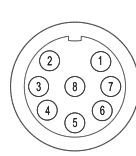
J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



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

