

MAIN FEATURES

Miniaturized encoder series for general factory automation applications, small AC motors and gearmotors.

- 3 channel encoder (A / B / Z) up to 14400 ppr
- Power supply up to +30 V DC with several electrical interfaces available
- Up to 500 kHz output frequency
- Cable output, connector available on cable end
- Metal cover for high IP enclosure rating
- Blind hollow shaft diameter up to 10 mm
- Mounting by stator coupling or torque pin

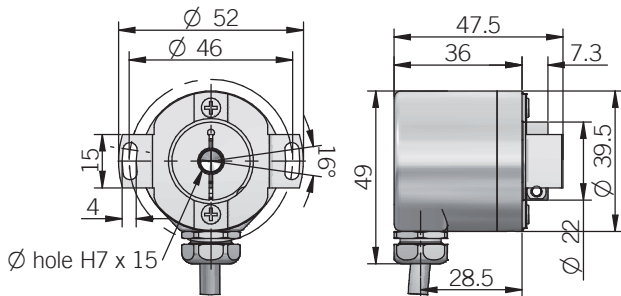


ORDERING CODE

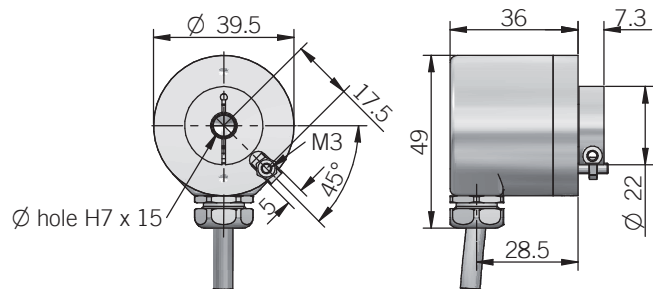
ER 38F 500 S 5/30 P 10 X X PR .XXX

SERIES incremental encoder series EM incremental encoder series ER												
MODEL blind hollow shaft with stator coupling 38F blind hollow shaft with torque pin 38G												
RESOLUTION ppr from 1 ... 14400 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 ... 30 V DC 5/30												
ELECTRICAL INTERFACE NPN open collector C push-pull P line driver L power supply 5/30V - output RS-422 RS												
BORE DIAMETER mm 6 (1/4") mm 6,35 mm 8 mm 10												
ENCLOSURE RATING IP 65 X												
OPTION to be reported X												
OUTPUT TYPE radial cable (standard length 0,5 m) PR preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)												
VARIANT custom version XXX												

38 F



38 G



dimensions in mm

torque pin is included, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

Sensing principle	magnetic Asic (EM) / reflective OptoAsic (ER)
Resolution	from 1 to 14400 ppr
Power supply¹	5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (reverse polarity protection)
Power draw without load	5 = 200 mW typical 5/30 = 800 mW typical
Max load current	C / P = 50 mA / channel L / RS = 20 mA / channel
Electrical interface²	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent)
Max output frequency	250 kHz up to 3600 ppr / 500 kHz from 4000 ppr
Counting direction	A leads B clockwise (shaft view)
Startup time	150 ms
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

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

MECHANICAL SPECIFICATIONS

Bore diameter	∅ 6* / 8* / 10 mm * with supplied shaft adapter
Enclosure rating	IP 65 (IEC 60529)
Max rotation speed	6000 rpm
Max shaft load³	5 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	0,8 x 10 ⁻⁶ kgm ² (19 x 10 ⁻⁶ lbft ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	painted aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4, 5}	-25° ... +85°C (-13° ... +185°F)
Storage temperature⁵	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

¹ as measured at the transducer without cable influences² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section³ maximum load for static usage⁴ measured on the transducer flange⁵ condensation not allowed

EM SERIES RESOLUTIONS

1 - 2 - 4 - 5 - 6 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 60 - 70 - 80 - 90

ER SERIES RESOLUTIONS

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

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