

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

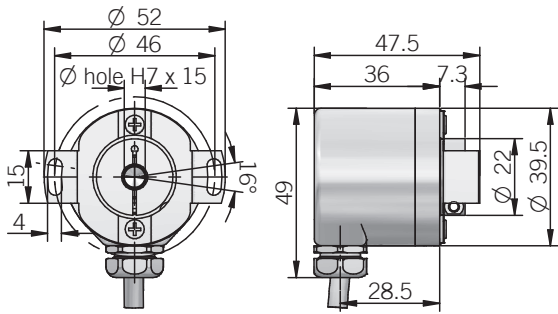


ORDERING CODE

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

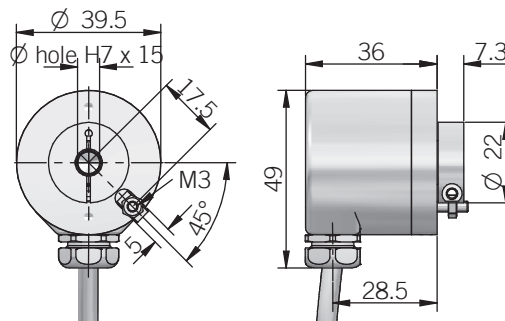
SERIES incremental encoder series EM incremental encoder series ER												
MODEL blind hollow shaft with stator coupling 38F blind hollow shaft with torque pin 38G												
RESOLUTION ppr from 1 ... 14400 see table for pulses availability												
ZERO PULSE without zero pulse S with zero pulse 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 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 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)												
VARIANT custom version XXX												

38 F



dimensions in mm

38 G



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 supply	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
Output type*	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 2011/65/EU directive
UL / CSA	certificate n. E212495

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

MECHANICAL SPECIFICATIONS

Bore diameter	Ø 6* / 8* / 10 mm * with supplied adapter shaft
Enclosure rating	IP 65 (IEC 60529)
Max rotation speed	6000 rpm
Max shaft load	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 lbf 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	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-25° ... +85°C (-13° ... +185°F)
Storage temperature	-25° ... +85°C (-13° ... +185°F)
Fixing torque for collar clamping	0,6 Nm (85 Ozin) recommended
Weight	150 g (5,29 oz)

CONNECTIONS

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

EM SERIES RESOLUTIONS

1 - 2 - 4 - 5 - 6 - 10 - 15 - 16 - 20 - 30 - 32 - 40 - 50 - 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