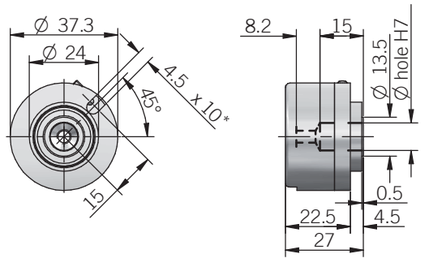
36 K



* ø 4 mm torque pin min 0.5mm from bottom end

for size 15 Resolver flange please refer to Accessories

recommended mating shaft tolerance g6
dimensions in mm

ELECTRICAL SPECIFICATIONS

Incremental resolution	from 500 to 1024 ppr
Power supply[1]	4,5 ... 5,5 V DC
Current consumption without load	150 mA max
Max load current	20 mA / channel (line driver RS-422) 30 mA / channel (NPN open collector)
Electrical interface for incremental signals[2]	line driver RS-422 (AELT-5000 or equivalent)
Electrical interface for Hall phases[2]	NPN open collector (pull-up max +30V DC) line driver RS-422 (AELT-5000 or equivalent)
Max output frequency	150 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU (01/09/2020) directive
UL / CSA	certificate n. E212495

CONNECTIONS

Function	Cable
+V DC	red
0 V	black
A+	green
B+	yellow
Z+	blue
A-	brown
B-	orange or pink
Z-	white
U+	grey
V+	violet
W+	grey-pink
U-	red-blue
V-	white-green
W-	brown-green
⏚	shield

MECHANICAL SPECIFICATIONS

Bore diameter	ø 8 / 9,52 (3/8") / 10 mm
Enclosure rating	IP 40 (IEC 60529)
Max rotation speed	6000 rpm
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	5 G, 10 ... 500 Hz (IEC 60068-2-6)
Moment of inertia	0,5 x 10^{-6} kgm^2 (12 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	EN-AW 2011 aluminum
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[3, 4]	-10° ... +85°C (+14° ... +185°F)
Storage temperature[4]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] measured on the transducer flange
[4] condensation not allowed

RESOLUTIONS

500 4 / 6 poles
512 4 / 6 poles
1000 6 / 8 poles
1024 4 / 6 / 8 poles

please directly contact our offices for other pulses

© Copyright 2021 Eltra S.p.a. Unipersonale. All rights reserved. All informations in this catalog are subject to change without notice.
Eltra takes no responsibility for typographic errors. For the terms of sales please check the website. REV. 201201

EM - ER 38 F / G

BLIND HOLLOW SHAFT INCREMENTAL ENCODER

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, connectors 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

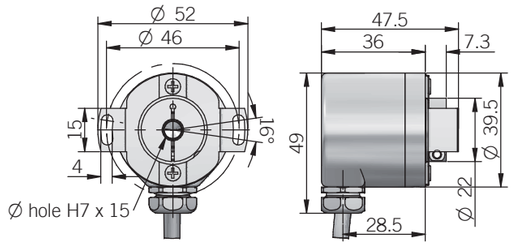
OPTION
to be reported X

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)

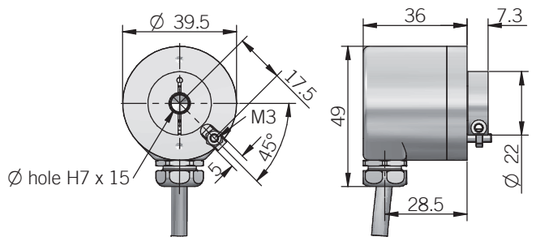
VARIANT
custom version XXX

© Copyright 2021 Eltra S.p.a. Unipersonale. All rights reserved. All informations in this catalog are subject to change without notice.
Eltra takes no responsibility for typographic errors. For the terms of sales please check the website. REV. 201201

38 F



38 G



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

recommended mating shaft tolerance g6
dimensions in mm

ELECTRICAL SPECIFICATIONS

Sensing principle	magnetic Asic (EM) / reflective OptoAsic (ER)
Resolution	from 1 to 14400 ppr
Power supply[1]	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 interface[2]	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 (01/09/2020) 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	ø 6* / 6,35 (1/4") / 8* / 10 mm * with supplied shaft adapter
Enclosure rating	IP 65 (IEC 60529)
Max rotation speed	6000 rpm
Max shaft load[3]	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
Shaft adapter material	CuSn12 / CC483K bronze
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 temperature[5]	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

[1] as measured at the transducer without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] maximum load for static usage
[4] measured on the transducer flange
[5] 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

© Copyright 2021 Eltra S.p.a. Unipersonale. All rights reserved. All informations in this catalog are subject to change without notice.
Eltra takes no responsibility for typographic errors. For the terms of sales please check the website. REV. 201201

EL 48 C / P

THROUGH HOLLOW SHAFT INCREMENTAL ENCODER

MAIN FEATURES

Hollow shaft ø 48 mm encoder series recommended for motor feedback.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +24 V DC with several electrical interfaces available
- Up to 150 kHz output frequency
- Cable output, connectors available on cable end
- Through hollow shaft diameter up to 8 mm
- Mounting by stator coupling

ORDERING CODE

EL | 48C | 500 | S | 5 | L | 8 | X | 6 | PR | .XXX

SERIES
incremental encoder series EL

MODEL
blind hollow shaft 48C
through hollow shaft 48P

RESOLUTION
ppr from 100 to 2048
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
8 ... 24 V DC 8/24

ELECTRICAL INTERFACE
NPN open collector C
push-pull P
line driver L

BORE DIAMETER
mm 6
mm 8

ENCLOSURE RATING
IP 40 X

MAX ROTATION SPEED
6000 rpm 6

OUTPUT TYPE
radial cable (standard length 0,3 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

VARIANT
custom version XXX

© Copyright 2021 Eltra S.p.a. Unipersonale. All rights reserved. All informations in this catalog are subject to change without notice.
Eltra takes no responsibility for typographic errors. For the terms of sales please check the website. REV. 201201