EAM 36 F / G
SSI
BLIND HOLLOW SHAFT MAGNETIC MULTITURN ABSOLUTE ENCODER

MAIN FEATURES

Miniaturized multiturn absolute encoder for limited size applications.

- Magnetic sensor technology without contact (Magnetic ASIC + Patented Energy Harvesting)
- Up to 55 bit as total resolution (15 bit single turn + 40 bit multiturn)
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available on cable end
- Blind hollow shaft up to 10 mm diameter
- Mounting by stator coupling or torque pin

ORDERING CODE	EAM	36F	12	/	13	G	8/30	S	P	X	10	X	8	PR	. XXX

SERIES
magnetic multiturn absolute encoder EAM

MODEL
blind hollow shaft with stator coupling 36F
blind hollow shaft with torque pin 36G

MULTITURN RESOLUTION
turns from 1 to 17 bit

SINGLETURN RESOLUTION
from 1 to 15 bit

CODE TYPE
binary B
gray G

POWER SUPPLY
5 V DC 5
8 ... 30 V DC 8/30

ELECTRICAL INTERFACE
Serial Synchronous Interface - SSI S

LOGIC
positive P

OPTIONS
to be reported if not used X
reset ZE

BORE DIAMETER
mm 6
(1/4") mm 6,35
mm 8
(3/8") mm 9,52
mm 10

ENCLOSURE RATING
IP 67 cover side / IP 65 shaft side X

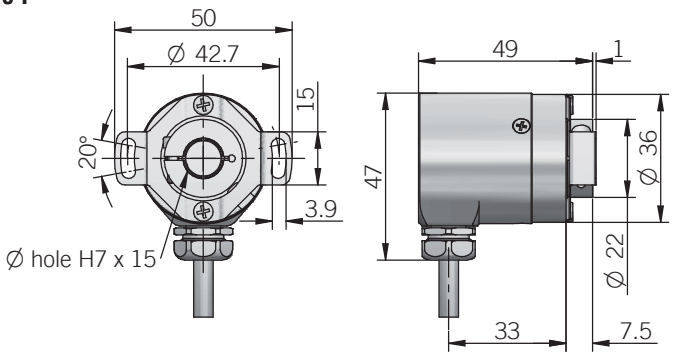
MAX ROTATION SPEED
8000 rpm 8

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
8 poles M12 radial connector M12R
female connector included, without female please add 162 as variant code

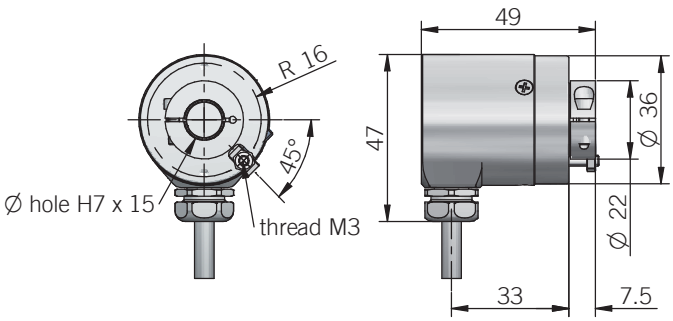
VARIANT
custom version XXX

30 1985 - 2015
eltra@eltra.it | www.eltra.it

36 F



36 G



dimensions in mm

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

ELECTRICAL SPECIFICATIONS

Multiturn resolution	1 to 17 bit for multiturn resolution > 17 bit please contact our offices
Singleturn resolution	1 to 15 bit
Power supply[1]	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 400 mW
Electrical interface[2]	RS-422 (SN65LBC179Q or equivalent)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 µs
SSI pause time (Tp)	> 35 µs
SSI frame	Tree format (MSB ... LSB) up to 12 bit multiturn = length 25 bit (12MT + 13ST) 13 to 14 bit multiturn = length 27 bit (14MT + 13ST) 15 to 17 bit multiturn = length 32 bit (17MT + 15ST)
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy	± 0,35° max
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

MECHANICAL SPECIFICATIONS

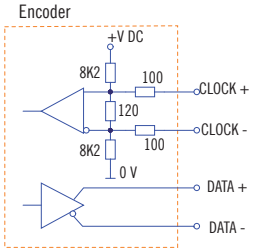
Bore diameter	ø 6* / 6,35 (1/4")* / 8* / 9,52 (3/8") / 10 mm * with supplied shaft adapter
Enclosure rating	IP 67 cover side / IP 65 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load[3]	20 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10^{-6} kgm^2 (0,02 x 10^{-6} lbft^2)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	EN-AW 2011 aluminium
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	1.0503 / AISI 1045 chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature[4, 5]	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature[5]	-25° ... +85°C (-13° ... +185°F)
Fixing torque for collar clamping	0,6 Nm (85 Ozin) recommended
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

CONNECTIONS

Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
⏚	shield	housing

SSI SCHEMATICS



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