



EA
PARALLEL-SSI-ICO
with PA 66 housing
SINGLETURN ABSOLUTE
ENCODER



Absolute singleturn PARALLEL encoder description

Resolutions available up to 13 bit and 8.192 ppr. Wide application range thanks to several models and different flange types. This series assures high reliability even in the most tough industrial applications. It is available with cable connector output and protection class up to IP66. Gray and binary code output with several electronics available: NPN, NPN OPEN COLLECTOR, PNP and PUSH PULL. Please refer to the absolute output section.

Absolute singleturn SSI encoder description

This series is designed to satisfy the new serial transmission philosophy of data output. A 13 bit word data is the standard output for these encoders. Meaningful bits are proportionally to the chosen encoder resolution. This type of transmission reduces wiring issues in order to maintain outstanding device performances. Only a four wire connection is needed: a pair for the position code and the other one for the clock signal, both transmitted with differential logic. In order to satisfy all dimensional requirements, a wide and complete range of mechanical parts is available.

Absolute singleturn ICO encoder description

The only encoder available on the market featuring an absolute output with the simplicity of the incremental one and adding an easy wiring system. Thanks to the integration of a micro-controller, it provides all the advantages of an absolute encoder transmitting the data as an incremental one (A, B) with a transmission frequency between 0 and 10 kHz. As for Parallel and SSI series, a broad selection of mechanical configuration is available in order to assure an easy mounting according to customer requirements.

PARALLEL encoder ordering code

Full stop to separate special versions

EA 63 A 512 G 8/28 N N L 10 X 6 MA R . XXX

Absolute encoder singleturn **EA**

Body dimension **58**
Body dimension **63**

Type of flange

- mod. EA63 **A**
- mod. EA58 **B**
- mod. EA58 **C**
- mod. EA63 **D**
- mod. EA63 **E**
- mod. EA58 / EA63 **F**
- mod. EA63 **G**

Resolution

2/4/8/16/32/64/128/256/512
1024/2048/4096/8192
90/180/360/720/1440/2880/225/
450/900/1800/3600
250/500/1000/2000/4000

Please directly contact our offices for pulses availability

Code type

- Binary **B**
- Gray (Standard) **G**

Please directly contact our offices for binary offset code (0-XXX).

Input voltage

5
8 ÷ 28

Output types

- NPN (negative logic standard) **N**
- NPN OPEN COLLECTOR (negative logic standard) **C**
- PNP (positive logic standard) **R**
- PNP OPEN COLLECTOR (positive logic standard) **U**
- PUSH PULL with short circuit protection (positive logic standard) **P**

For optional about output types please refer to the absolute output section

Special version code numbered from 001 to 999

- R** Radial
- A** Axial

PD 16 poles with 1,5 m standard output cable
PE 32 poles with 1,5 m standard output cable
MA 19 poles MS type connection

R.P.M.

- 3** 3000 with IP66
- 6** 6000

Enclosure rating

- X** IP54
- S** Optional IP66 (with the exception of EA63 F/G)

Shaft diameter

- 6** ø 6g6 mm - 58B
- 8** ø 8g6 mm - 58B - 63A/D/E
- 9** ø 9,52g6 mm - 63A/D/E
- 10** ø 10g6 mm - 58B/C - 63A/D/E

Bore diameter only for mod. 58F - 63F/G

- 8** ø 8H7 mm
- 9** ø 9,52H7 mm
- 10** ø 10H7mm
- 12** ø 12H7 mm
- 14** ø 14H7 mm
- 15** ø 15H7 mm

Options

- L** Latch
- S** Strobe (only for binary code)
- X** To be reported if not used

Logic

- N** Negative
- P** Positive

Singleturn ABSOLUTE ENCODERS

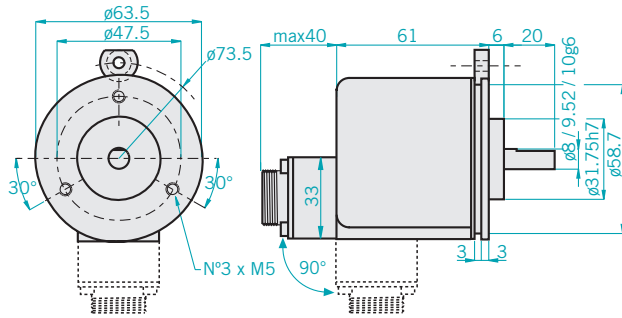
Output connections for absolute singleturn PARALLEL encoder

FUNCTION	B / G	16 WIRE CABLE COLOURS	32 WIRE CABLE COLOURS	PIN M19MP
bit 1 (LSB)	B ⁰ G ⁰	green	green	A
bit 2	B ¹ G ¹	yellow	yellow	B
bit 3	B ² G ²	blue	blue	C
bit 4	B ³ G ³	brown	brown	D
bit 5	B ⁴ G ⁴	pink	pink	E
bit 6	B ⁵ G ⁵	white	white	F
bit 7	B ⁶ G ⁶	gray	gray	G
bit 8	B ⁷ G ⁷	violet	violet	H
bit 9	B ⁸ G ⁸	gray/pink	gray/pink	J
bit 10	B ⁹ G ⁹	white/green	white/green	K
bit 11	B ¹⁰ G ¹⁰	brown/green	brown/green	L
bit 12	B ¹¹ G ¹¹	white/yellow	white/yellow	M
bit 13	B ¹² G ¹²	yellow/brown	yellow/brown	N
/	/	/	/	P
LATCH	/	/	yellow/gray	R
/	/	/	/	S
0 Volt	/	black	black	T
U / D	/	red/blue	red/blue	U
+ Vdc	/	red	red	V

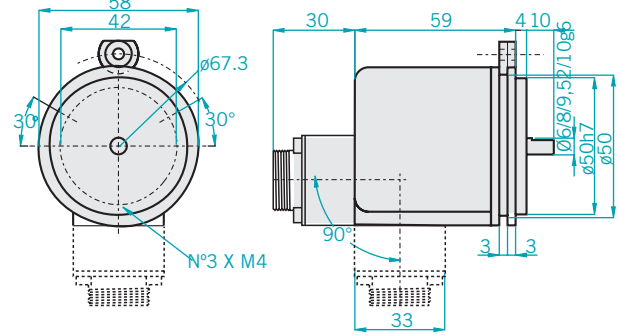
EA PARALLEL-SSI-ICO



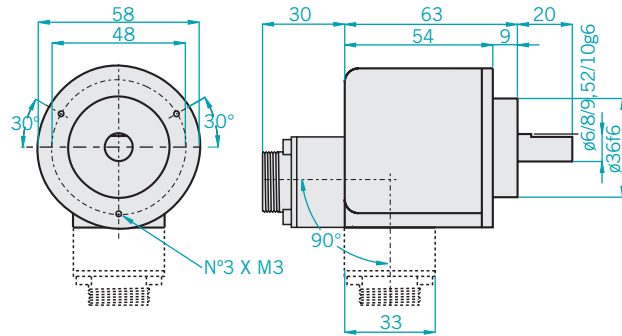
EA63 A



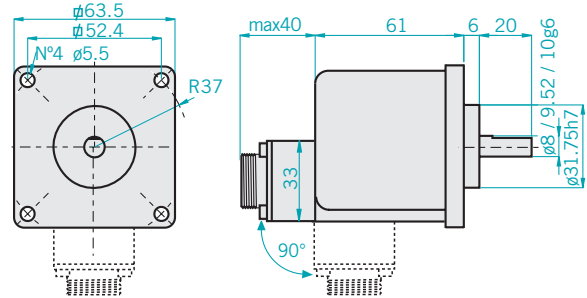
EA58 B



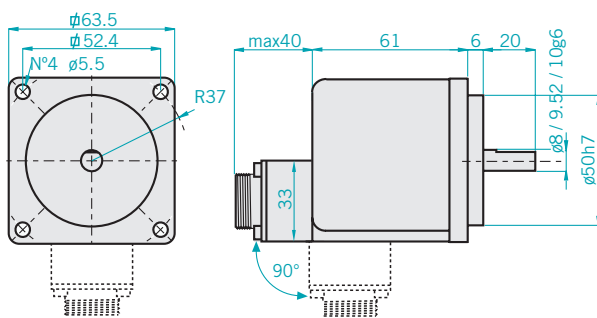
EA58 C



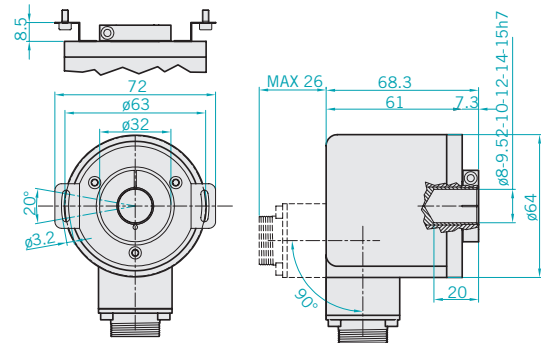
EA63 D



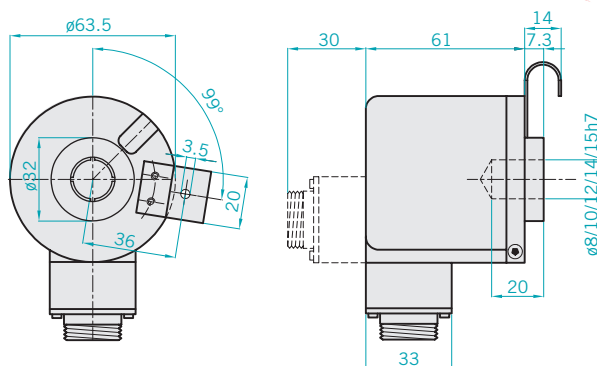
EA63 E



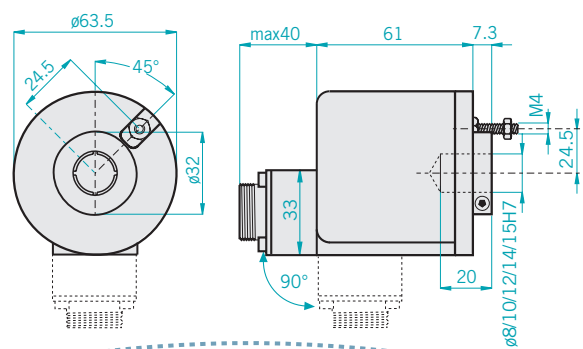
EA58 F

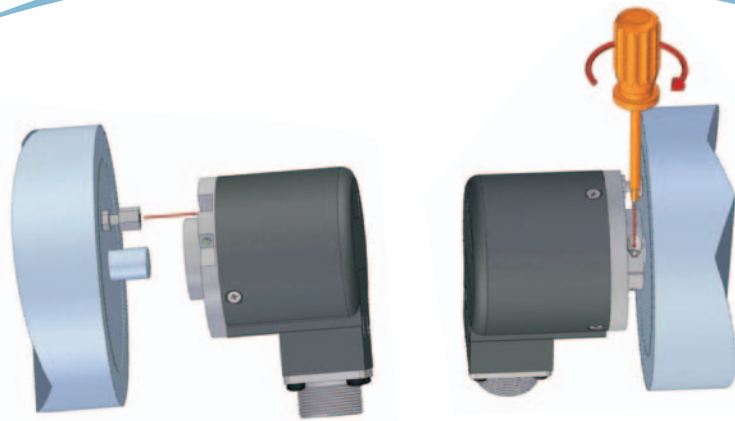


EA63 F



EA63 G



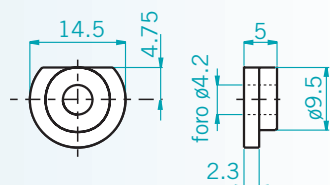


HOW TO MOUNT THE EA63G

- 1) Fix the antirotation pin on motor flange.
- 2) Couple the encoder shaft with the motor shaft, ensuring that the pin is inserted on the cave on the frontal part of the encoder (maintaining a minimum distance of 0,5 mm).
- 3) Fix the encoder shaft by the metal ring.

Mechanical specifications

Shaft diameter (mm)	<ul style="list-style-type: none"> ø6 g6 - 58B ø8 g6 - 58B - 63A/D/E ø9,52 g6 - 63A/D/E ø10 g6 - 58B - 63A/D/E
Bore diameter (mm)	<ul style="list-style-type: none"> ø8 H7- 58F - 63F/G ø9 H7- 58F - 63F/G ø10 H7- 58F - 63F/G ø12 H7- 58F - 63F/G ø14 H7- 58F - 63F/G ø15 H7- 58F - 63F/G
R.P.M. Max	<ul style="list-style-type: none"> 6000 continuous 3000 continuous for 63G 3000 with IP66
MAX shaft load	<ul style="list-style-type: none"> 10 N (1 Kp) axial with ø6 shaft 20 N (2 Kp) radial with ø6 shaft 100 N (10 Kp) axial 100 N (10 Kp) radial
Shock	50 G for 11 msec
Vibrations	10G 10 ÷ 2000 Hz
Bearings life	10 ⁹ revolutions
Bearings	n° 2 ball bearings
Shaft material	Stainless steel AISI303
Body material	Aluminium UNI 5076
Housing material	PA 66 reinforced with fiber glass
Enclosure rating	<ul style="list-style-type: none"> IP54 IP66 optional - 58B/C - 63A/D/E
Operating temperature	0° ÷ +60°C
Storage temperature	-15° ÷ +70°C
Weight	350 g
Accessories	<ul style="list-style-type: none"> set N° 3 fastners for models -63A/B/C Ord.Cod.: 94080001



PARALLEL electrical specifications

Resolution	<ul style="list-style-type: none"> 2 / 4 / 8 / 16 / 32 / 64 / 128 / 256 512 / 1024 / 2048 / 4096 / 8192 90 / 180 / 360 / 720 / 1440 / 2880 225 / 450 / 900 / 1800 / 3600 250 / 500 / 1000 / 2000 / 4000
Input voltage	5Vdc / 8 ÷ 28 Vdc
Input current with no output load	200 mA
Source and sink current	40 mA for channel
Output types	<ul style="list-style-type: none"> NPN (Negative logic) NPN Open Collector (Negative logic) PNP (Positive logic) PNP Open Collector (Positive logic) PUSH PULL (Positive logic)
Output frequency	<ul style="list-style-type: none"> 100 KHz output code $F = \frac{RPM \times Resolution}{60}$

SSI electrical specifications

Resolution	<ul style="list-style-type: none"> 2 / 4 / 8 / 16 / 32 / 64 / 128 / 256 512 / 1024 / 2048 / 4096 / 8192 90 / 180 / 360 / 720 / 1440 / 2880 225 / 450 / 900 / 1800 / 3600 250 / 500 / 1000 / 2000 / 4000
Input voltage	5Vdc / 8 ÷ 28 Vdc
Input current with no output load	200 mA
Source and sink current	40 mA for channel
Output types	SSI (Serial Synchronous Interface)
Monostable time	10 - 25 us
Time between two clock sequences	> 35 us
Frequency range	100 KHz - 1 MHz

ICO electrical specifications

Resolution	360 / 500 / 512 / 720 / 1000 / 1024
Input voltage	5Vdc / 8 ÷ 28 Vdc
Input current with no output load	200 mA
Source and sink current	<ul style="list-style-type: none"> 40 mA for channel con PUSH PULL 20 mA for channel con LINE DRIVER
Output types	LINE DRIVER - PUSH PULL
Output frequency	<ul style="list-style-type: none"> 100 KHz output code $F = \frac{RPM \times Resolution}{60}$
Transmission frequency	100 KHz - 1 MHz