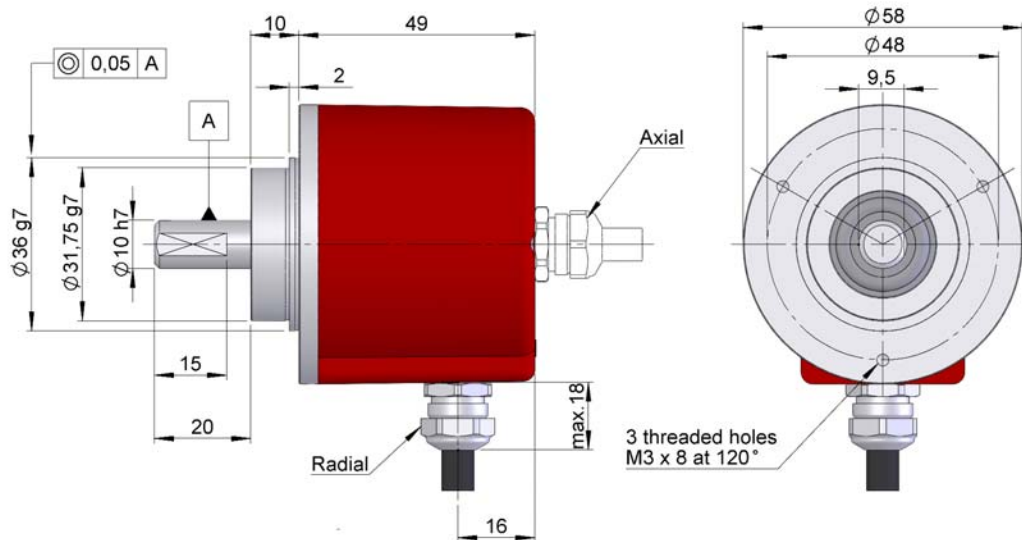
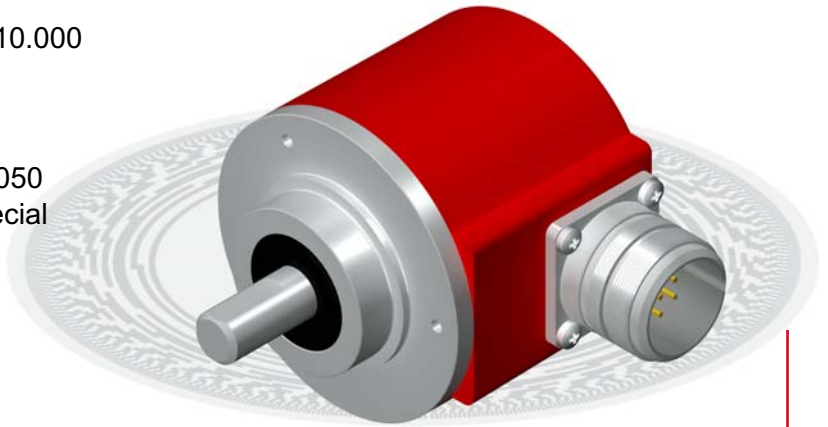


# SERIE 10

## INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

- Any number of pulses available from 1 to 10.000 pulses
- External diameter 58 mm
- Shaft from 6 to 12 mm
- Protection class IP65 according to DIN 40050
- Executions mechanical, electronic and special optics forms available on request
- Connection by cable (any cable lenght available) or industrial connector



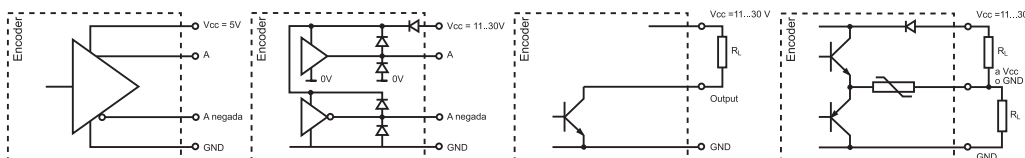
Previous mounting and installation of the encoder is recommended to read the section "TECHNICAL CONSIDERATIONS".

### MECHANICAL SPECIFICATIONS

Housing	Aluminium.
Shaft	Stainless Steel.
Bearings	Ballraces.
Bearings lifetime	$1 \times 10^{10}$ rev.
Maximum number of revolutions permitted mechanically	6000 rpm.
Protection against dust and splashes according to DIN 40050	IP65.
Rotor inertia moment	30 gcm <sup>2</sup> .
Starting torque at 20°C (68°F) ,	Max. / 2,0 Ncm.
Maximum load permitted on axial shaft	40 N.
Maximum load permitted on radial shaft	60 N.
Weight aprox.	0,5 Kg.
Operating temperature range	-20°C to +80°C.
Vibration	100 m/s <sup>2</sup> (10Hz...2000Hz).
Shock	1000 m/s <sup>2</sup> (6ms).
Maximum pulses per turn	10.000.
Axial or radial connection	Cable 2 metres or industrial connector (other cable lenghts available on order).

## ELECTRICAL SPECIFICATIONS

### OUTPUT SIGNALS



	RS422 (TTL compatible)	Push-Pull Differential	NPN Open Collector	Push-Pull without inverted
Power supply	5 V ±5%	11...30 V	11...30 V	11...30V
Consumption	Typical: 70 mA Max: 150 mA	Typical: 45 mA Max: 150 mA	40 mA	Typical: 45 mA Max: 150 mA
Max.load capability	±20 mA	±30 mA	40 mA	±30 mA
Length of cable allowed	1200 m	100 m	50 m (a 24 V)	50 m
"Low" signal level	$V_{OL} < 0,5 V$	$V_{OL} < 2.5 V$	$V_{OL} < 0,4 V$ (a 24 V)	$V_{OL} < 2.5 V$
"High" signal level	$V_{OH} > 2.5 V$	$V_{OH} > V_{CC} - 3 V$	$V_{OH} > 22 V$ (a 24 V)	$V_{OH} > V_{CC} - 3 V$
Frequency	300 kHz	200 kHz	100 kHz	200 kHz
Short circuit protection	Yes	Yes	Not permanent	Yes
Protection against polarity inversion	No	Yes	Yes	Yes
Channel B leads (90° electric) channel A				

### CONNECTION

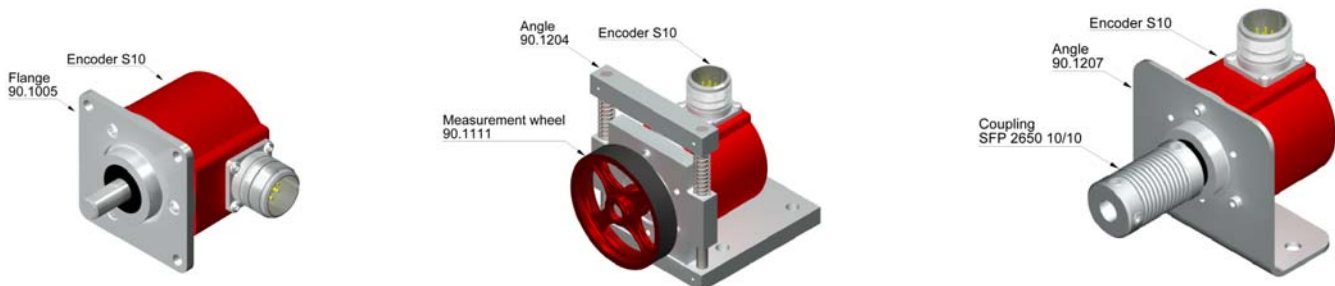


	Cable 5x0.14	Cable 3x2x0,14+2x0,34	90.9504 DIN 43650	90.9507 Mil 7p	90.9508 M12 8p	90.9510 Mil 10p	90.9512 M23 12p
GND	Yellow	Black	1	A	1	A	1
Vcc	White	Red	2	B	2	B	2
A	Brown	Yellow	3	C	3	C	3
B	Green	Green	4	D	4	D	4
A inverted		Brown		E	5	E	5
B inverted		Blue		F	6	F	6
0 (reference)	Grey	Grey		G	7	G	7
0 inverted	Grey	Orange		G	8	H	8

## ORDERING CODE

SERIE	SHAFT	FLANGE	OUTPUT SIGNALS	CONNECTION	ELECTRONIC OUTPUT	PULSES NUMBER	SPECIAL CUSTOMER
10	●	●	●	●	●	●●●●●●●●	●●●●●●●●
	1- Ø10 x 20 mm 2- Ø6 x 10 mm 3- Ø8 x 20 mm 5- Ø9,52 x 20 mm 6- Ø6,35 x 10 mm 8- Ø12 x 20 mm	1- None 2- 90.1002 3- 90.1003 4- 90.1004 5- 90.1005 7- 90.1006	1- A 2- A + B 3- A + B + $\tilde{0}$ 5- $\overline{AA} + \overline{BB}$ 6- $\overline{AA} + \overline{BB} + 0\tilde{0}$ 9- A + B + 0	1- Radial 90.9504 3- Radial cable 4- Radial 90.9507 5- Radial 90.9512 6- Axial 90.9504 8- Axial cable 9- Axial 90.9507 0- Axial 90.9512 M- Radial 90.9510 N- Axial 90.9510 L- Radial 90.9508 K- Axial 90.9508	0- Open collector NPN 11..30V 1- Push-Pull 11..30V (without inverted) 7- Standard RS422. 5V. Compatible TTL 9- Differential line driver. Push-Pull 11..30V		

## ACCESSORIES



All the accessories available in the sections "SIGNAL CONDITIONERS" and "MOUNTING ACCESSORIES".