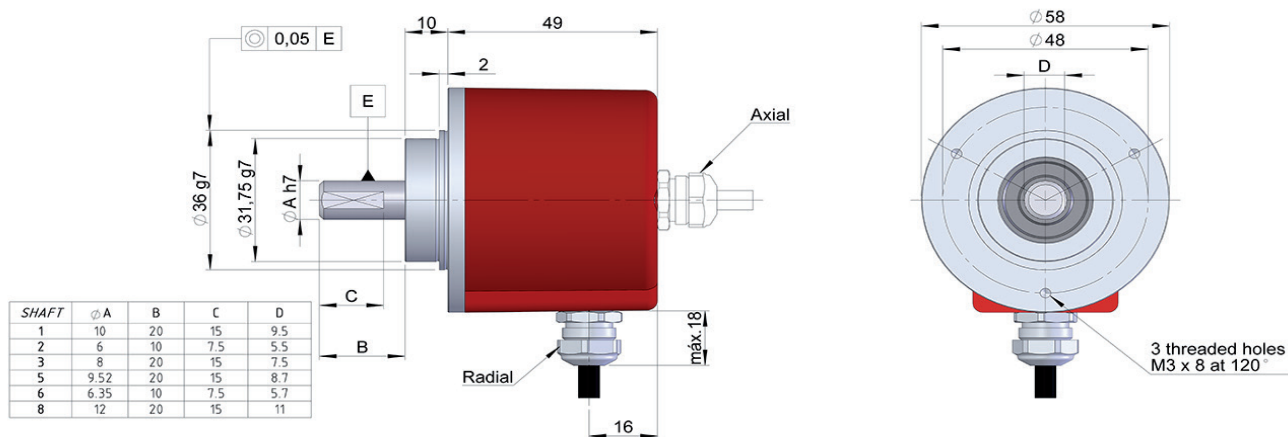




HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

- Any number of pulses available from 1 to 50.000 pulses
- External diameter 58 mm
- Shaft from 6 to 12 mm
- Protection class IP67 according to DIN EN 60529
- Highly flexible flanges and different configurations
- Executions mechanical, electronic and special optics forms available on request
- Connection by cable (any cable lenght available) or industrial connector
- Female connector included



Drawing shaft type 1, connection type 3/8, without flange

Reference example: 10-11639-1024

Serie	Shaft	Flange	Output signals	Connection	Power Supply / Electronic outp.	Pulses number	Special customer
10/10A-					 -	     	   
10A. IP 67 (**)	1. Ø10x20mm 2. Ø6x10mm 3. Ø8x20mm 5. Ø9,52x20mm 6. Ø6,35x10mm 8. Ø12x20mm	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+Œ 5. AŒ+BŒ 6. AŒ+BŒ+0Œ 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. 11...30V / NPN Open collector 11..30V 6. 11...30V / RS422 5V (compatible TTL) 7. 5V / RS422 5V (compatible TTL) 9. 11...30V / Line driver differential Push-Pull 11..30V	(*)	AT00. -40°C

(*) 10.000 to 50.000 pulses with interpolation. Available 10.000 direct optical pulses without interpolating upon request.

(**) The option 10A is only available with shaft type 1, and cable connection output (3/8) or connection 90.9508 (L/K).

(***) Flange mounting included in delivery of the encoder.

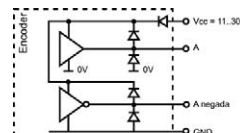
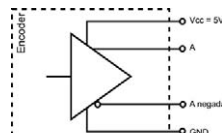
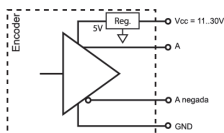
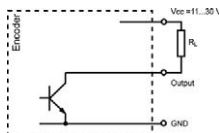
SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

MECHANICAL SPECIFICATIONS

Materials	Cover: Aluminium Housing: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 ¹⁰ rev.
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP65 - Standard IP67 - Option 10A
Rotor inertia moment	30 gcm ²
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	80 N
Weight aprox.	0,5 Kg
Operating temperature range	-20°C a +80°C - Standard -40°C a +80°C - Special Customer AT
Vibration according to DIN EN 60068-2-6	100 m/s ² (10Hz...2000Hz)
Shock according to DIN EN 60068-2-27	1000 m/s ² (6ms)
Maximum pulses per turn	50.000
Axial or radial connection	2 meters cable or industrial connector (different models available, other cable lenghts available on order) Female connector included

OUTPUT SIGNALS



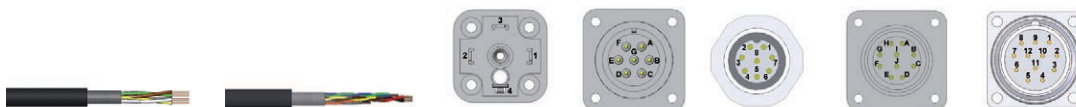
OUTPUT CIRCUIT	NPN Open Collector	RS422 (TTL compatible)	RS422 (TTL compatible)	Push-Pull Differential
Reference code	0	6	7	9
Power supply	11...30 V	11...30 V	5 V ±5%	11...30 V
Output voltage	11...30 V	5 V	5 V	11...30 V
Consumption	40 mA	Typical: 80 mA Max: 160 mA	Typical: 70 mA Max: 150 mA	Typical: 45 mA Max: 150 mA
Max. load capability	40 mA	±20 mA	±20 mA	±30 mA
Lenght of cable allowed	50 m (a 24 V)	1200 m	1200 m	100 m
"Low" signal level	VOL < 0,4 V (a 24 V)	VOL < 0,5 V	VOL < 0,5 V	VOL < 2.5 V
"High" signal level	VOH > 22 V (a 24 V)	VOH > 2.5 V	VOH > 2.5 V	VOH > Vcc - 3 V
Frequency	100 kHz	300 kHz	300 kHz	200 kHz
Short circuit protection	Not permanent	Yes	Yes	Yes
Protection polarity inversion	Yes	Yes	No	Yes

Channel B leads (90° electric) channel A

SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

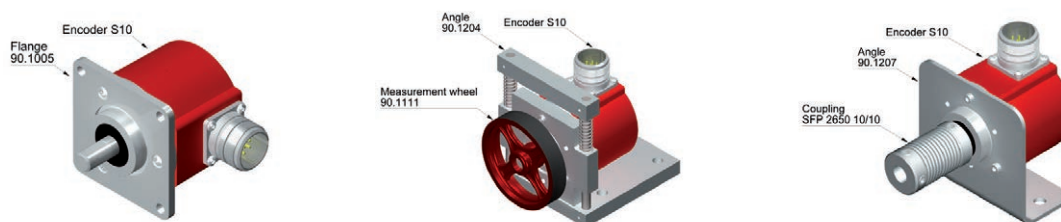
CONNECTION



	Cable 2x2x0,14+1x0,14	(*) Cable 3x2x0,14+2x0,34	90.9504 DIN 43650 4p	90.9507 Mil 7p cw	90.9508 M12 8p ccw	90.95010 Mil 10p cw	90.9512 M23 12p cw
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

(*) Cable 3x2x0,14+2x0,34 only for encoders with inverted signals.

ACCESSORIES EXAMPLES

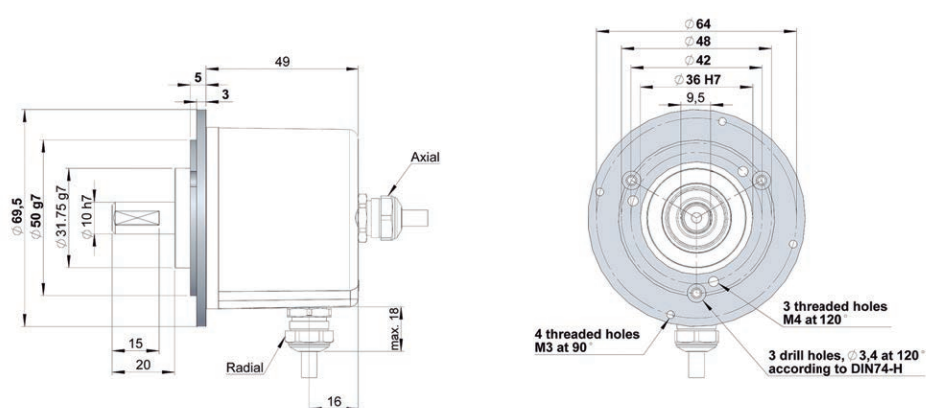


All the accessories available in the sections "ELECTRONIC MODULES AND COUNTERS" and "MOUNTING ACCESSORIES".

FLANGE DIMENSIONS

Flange mounting included

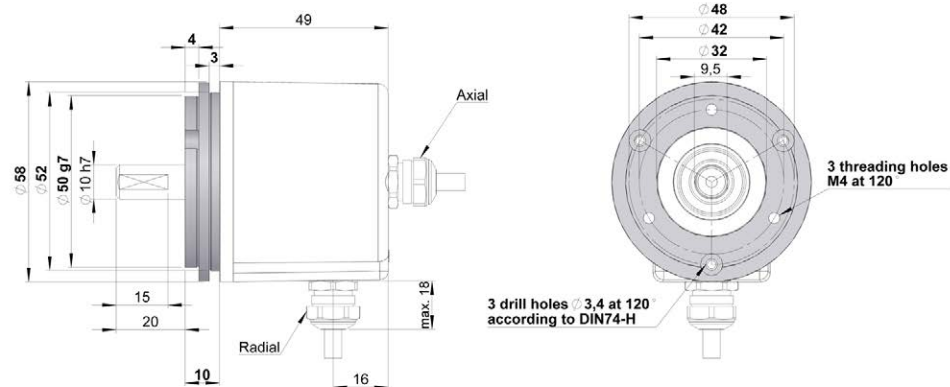
Flange 2
90.1002



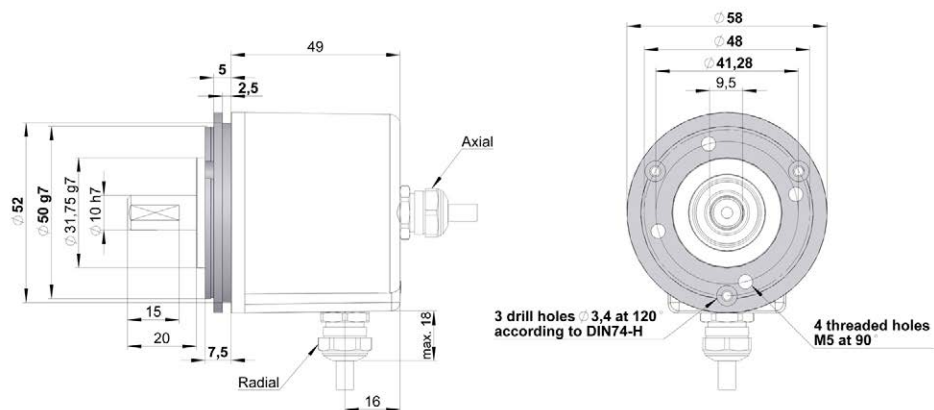
SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

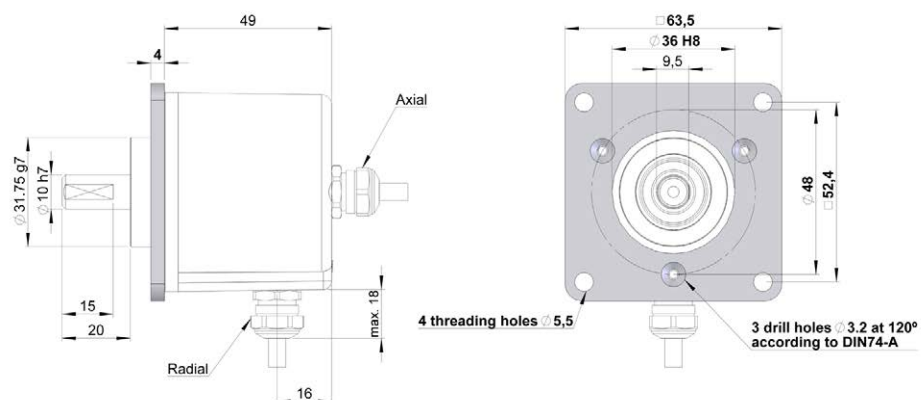
Flange 3
90.1003



Flange 4
90.1004



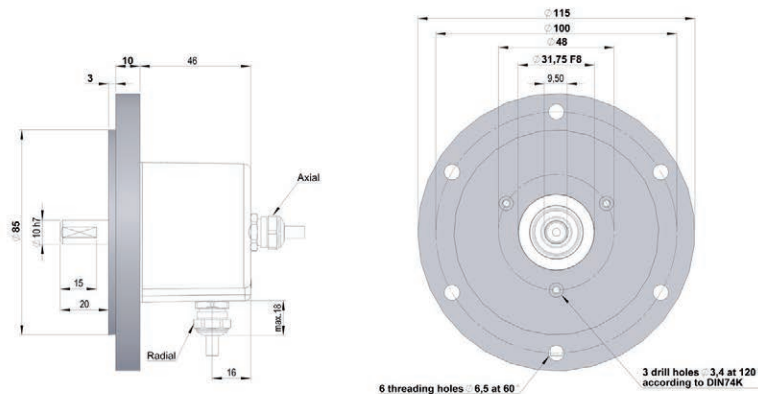
Flange 5
90.1005



SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

Flange 7
90.1006



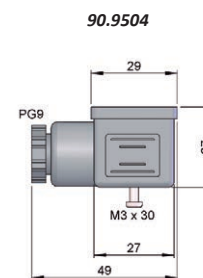
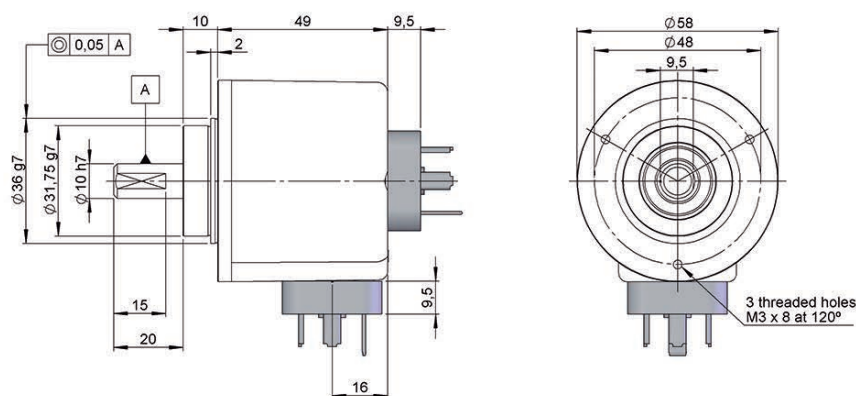
CONNECTION DIMENSIONS

Female connector included

Connection 1
Radial 90.9504

Connection 6
Axial 90.9504

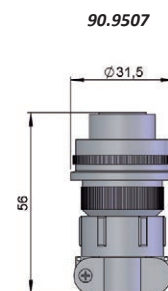
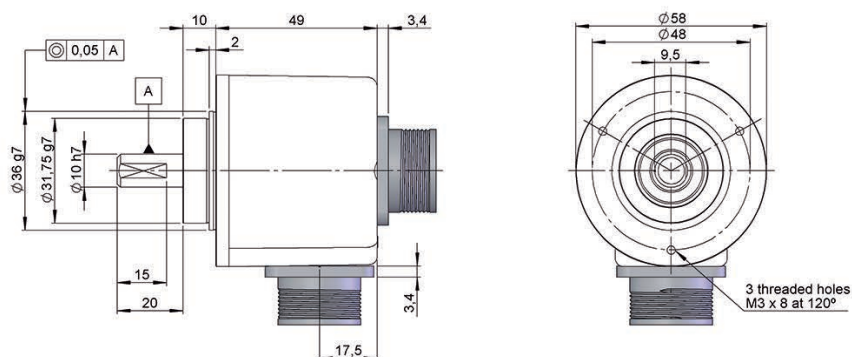
90.9504
DIN 43650 4p
male panel



Connection 4
Radial 90.9507

Connection 9
Axial 90.9507

90.9507
Mil 7p
male panel
clockwise



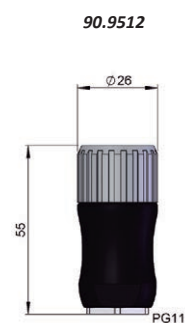
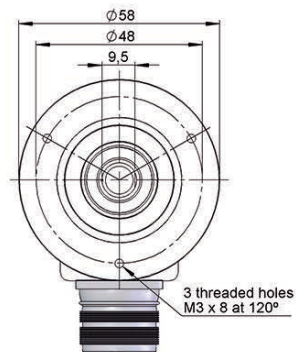
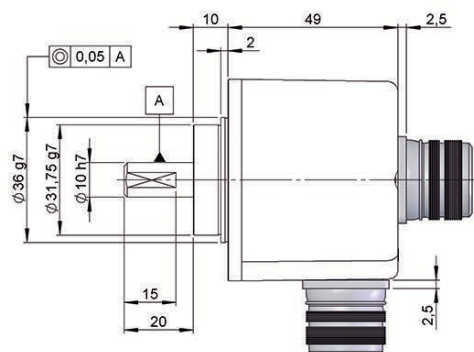
SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

Connection 5
Radial 90.9512

Connection 0
Axial 90.9512

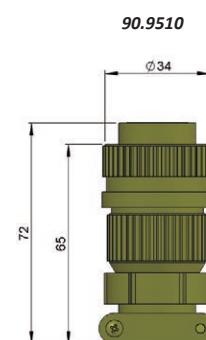
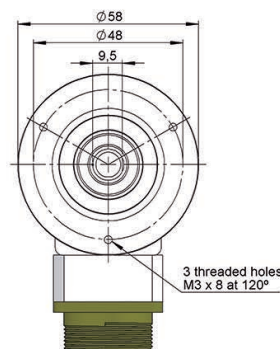
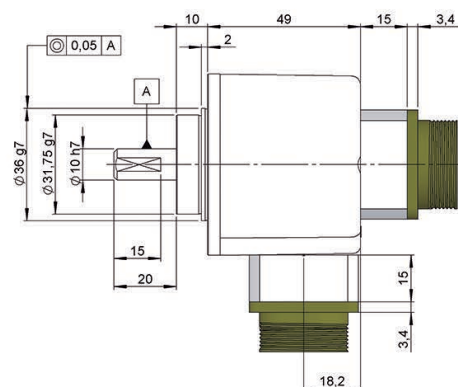
90.9512
M23 12p
male panel
clockwise



Connection M
Radial 90.9510

Connection N
Axial 90.9510

90.9510
Mil 10p
male panel
clockwise



Connection L
Radial 90.9508

Connection K
Axial 90.9508

90.9508
M12 8p
male panel
counter clockwise

