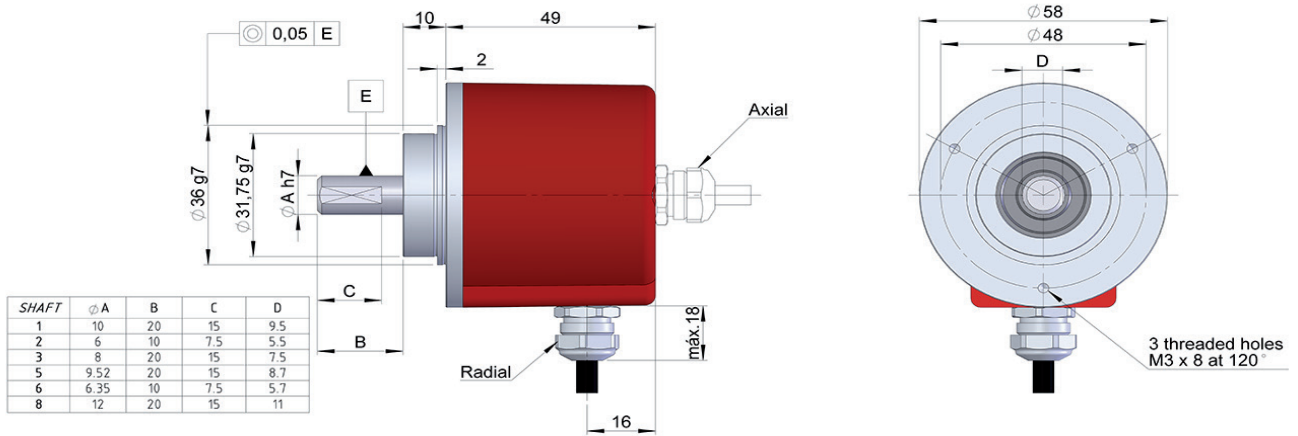




SERIE 10

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 length available) or industrial connector
- Female connector included



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

REFERENCE

Reference example: 10-11639-1024

| Serie | Shaft | Flange | Output signals | Connection | Power Supply / Electronic outp. | Pulses number | Special customer |
|---------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|
| 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+0 5. A \tilde{A} +B \tilde{B} 6. A \tilde{A} +B \tilde{B} +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. 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 |

Order your reference
Step file 3D

info@encoderhohner.com
service available in 24 h

(*) 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.



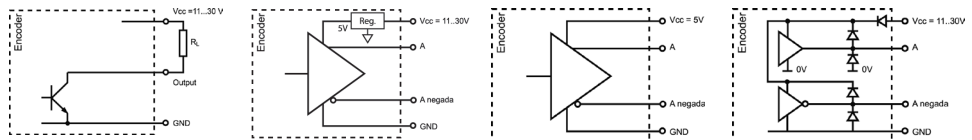
SERIE 10

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 to +80°C - Standard -40°C to +80°C - Special Customer AT00 |
| 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



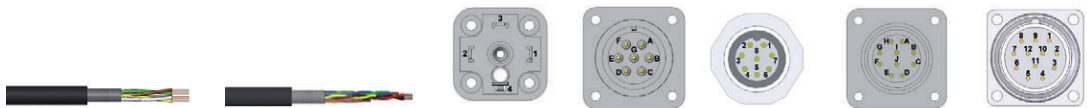
| OUTPUT CIRCUIT | NPN Open Collector | RS422 (TTL compatible) | RS422 (TTL compatible) | Push-Pull Differential |
|-------------------------------|----------------------|-------------------------------|-------------------------------|-------------------------------|
| Reference code | 0 | 6 | 7 | 9 |
| 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, view from the shaft, shaft rotating clockwise

SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

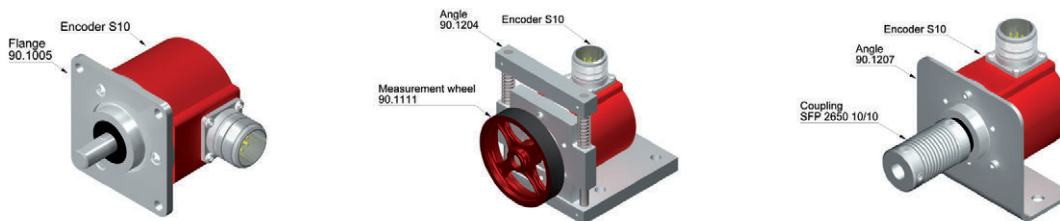
CONNECTION



| | 95.0008002 Cable 2x2x0,14+1x0,14 | 95.0008003 (* 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

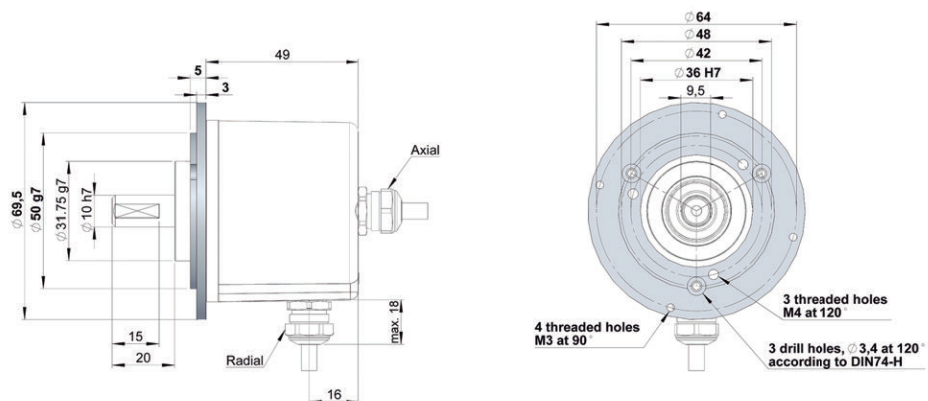


All the accessories available in the sections "ELECTRONIC MODULES AND COUNTERS" and "MOUNTING ACCESSORIES".

FLANGE DIMENSIONS

Flange mounting included

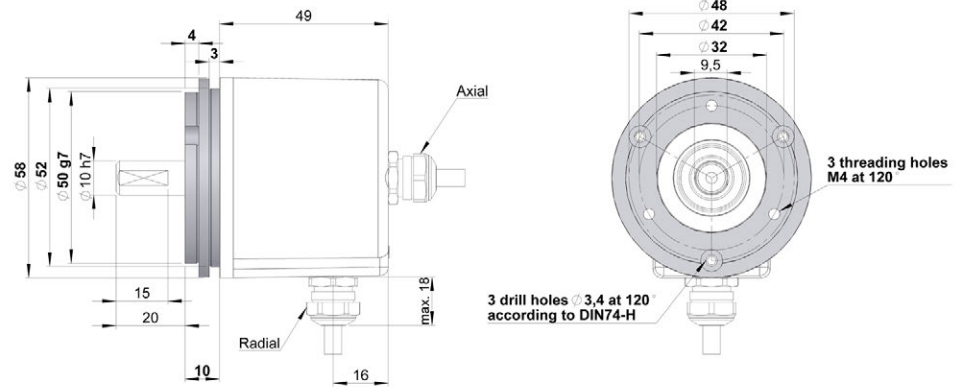
Flange 2
90.1002



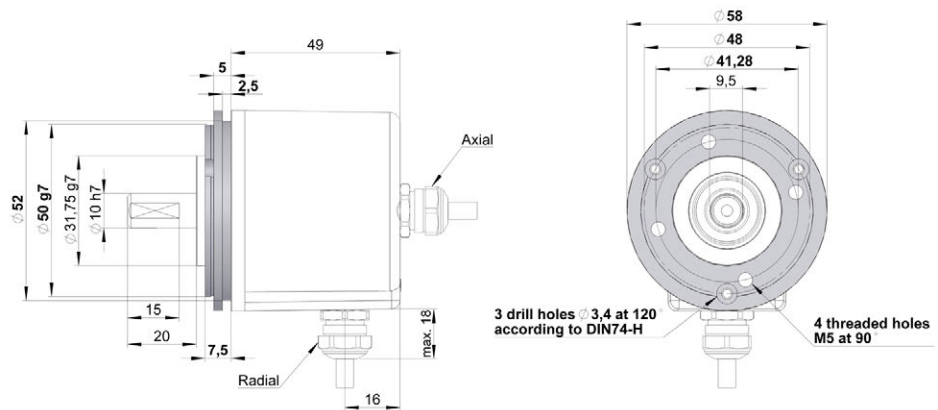
SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

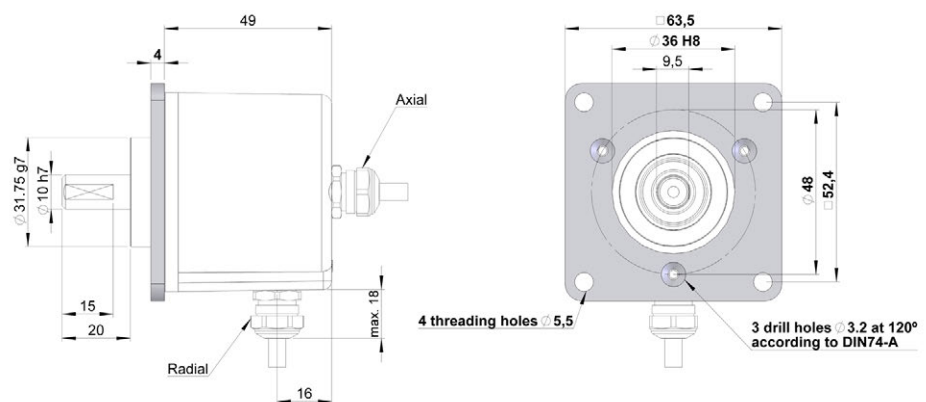
Flange 3
90.1003



Flange 4
90.1004



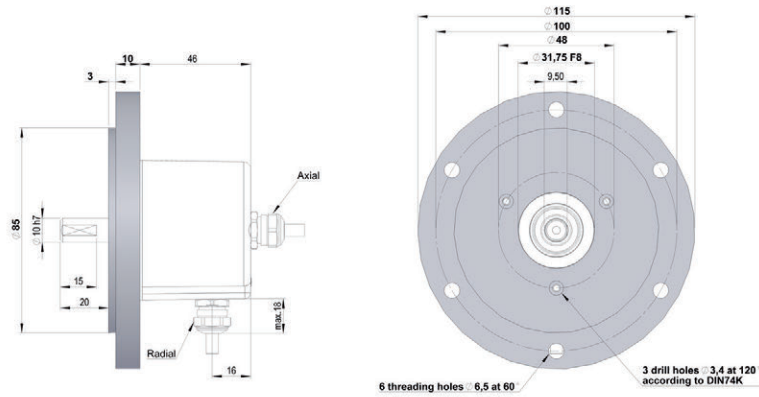
Flange 5
90.1005



SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

Flange 7
90.1006



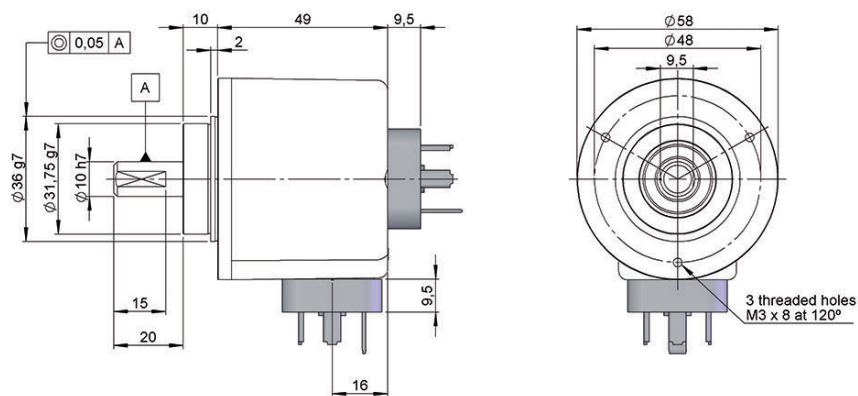
CONNECTION DIMENSIONS

Female connector included

Connection 1
Radial 90.9504

Connection 6
Axial 90.9504

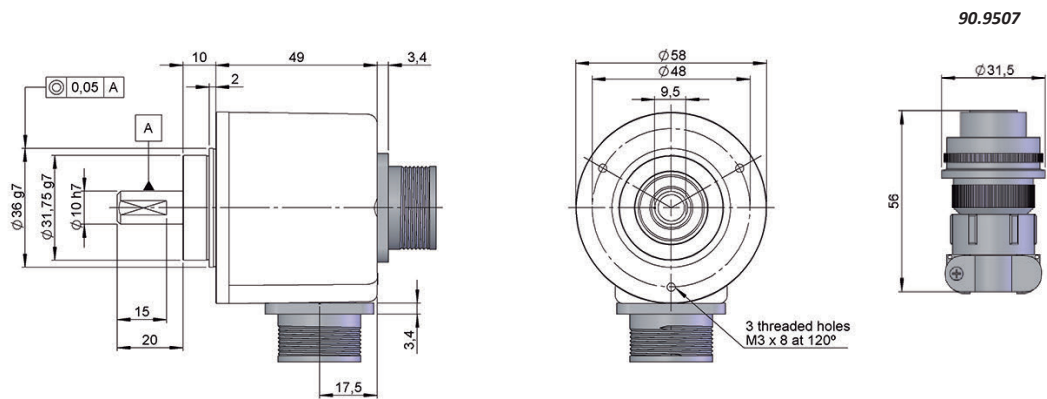
90.9504
DIN 43650 4p
male panel



Connection 4
Radial 90.9507

Connection 9
Axial 90.9507

90.9507
Mil 7p
male panel
clockwise



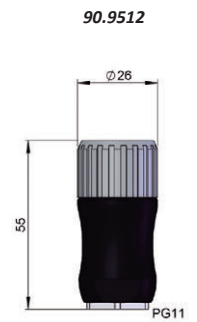
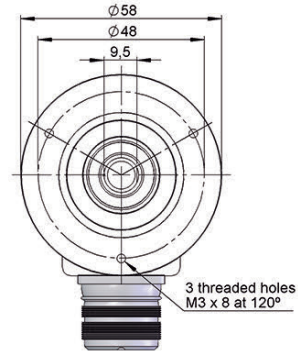
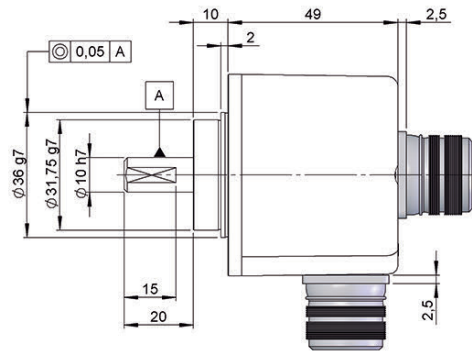
SERIE 10

HIGH RESOLUTION INCREMENTAL SOLID SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

Connection 5
Radial 90.9512

Connection 0
Axial 90.9512

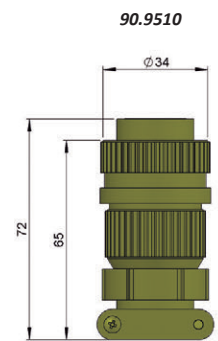
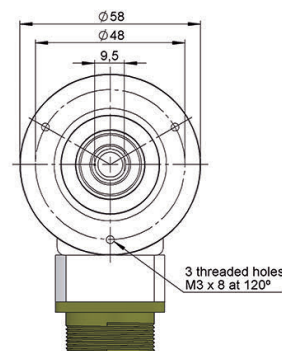
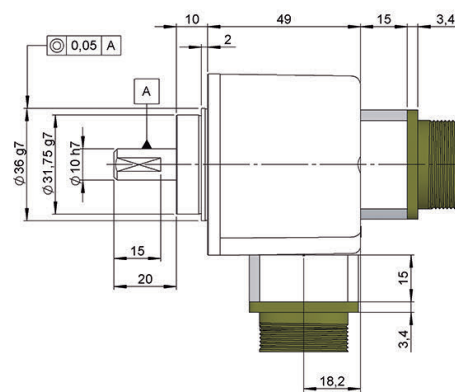
90.9512
M23 12p
male panel
clockwise



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

