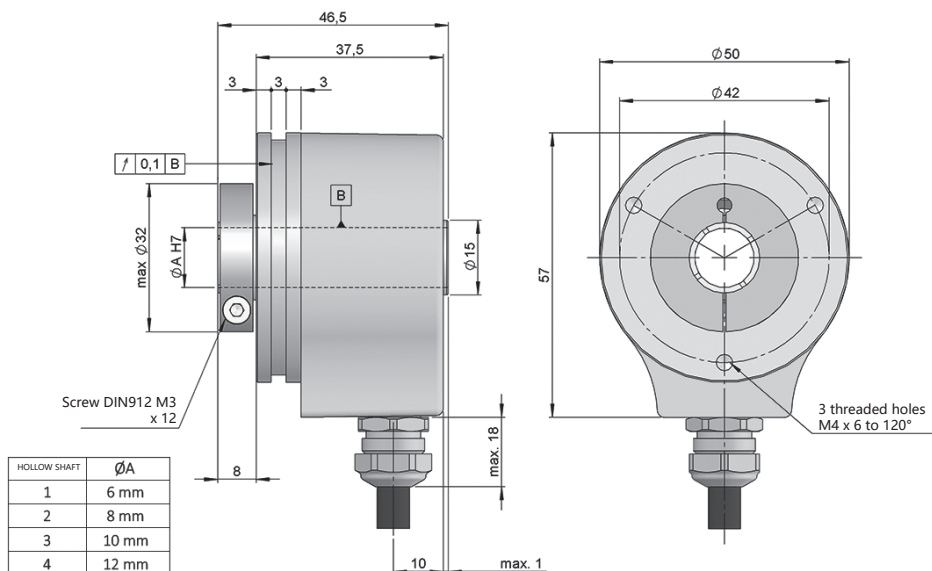
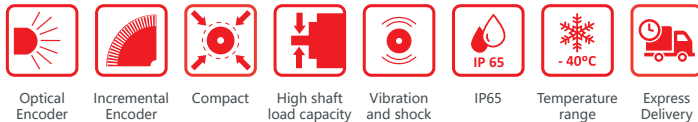




# SERIE 50H

## COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

- Resolution up to 5000 pulses per turn
- External diameter 50 mm
- Hollow shaft Ø 6, 8, 10 or 12 mm
- Protection class IP65 according to DIN EN 60529
- Anti-rotation system through flexible flange
- Connection by cable (other cable length available) or industrial connector M12 or M23



Drawing mechanical option type 1, hollow shaft type 4, connection type 1

### REFERENCE

Reference example: 50H-14111-1024

| Serie | Mechanical option                 | Hollow shaft                                       | Output signals                                     | Connection                                                      | Power Supply / Electronic output                                                                                                                              | Pulses number                                                                                                                                         | Special customer                                                                                                                                      |
|-------|-----------------------------------|----------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50H - | <input type="checkbox"/>          | <input type="checkbox"/>                           | <input type="checkbox"/>                           | <input type="checkbox"/>                                        | <input type="checkbox"/> -                                                                                                                                    | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
|       | 1. Frontal clamp for hollow shaft | 1. Ø 6 mm<br>2. Ø 8 mm<br>3. Ø 10 mm<br>4. Ø 12 mm | 1. ABZ, $\overline{ABZ}$<br>2. AB, $\overline{AB}$ | 1. Radial cable<br>2. Radial M12 8p CCW<br>3. Radial M23 12p CW | 0. 11...30 VDC / NPN Open collector 11...30 VDC<br>1. 11...30 VDC / Line driver differential Push-Pull 11...30 VDC<br>2. 5 VDC / RS422 5 VDC (compatible TTL) |                                                                                                                                                       | ET00. -40°C                                                                                                                                           |

Order your reference  
Step file 3D

info@encoderhohner.com  
service available in 24 h

The required anti-rotation system is not included in the reference. All systems available in the sections "MOUNTING ACCESSORIES".



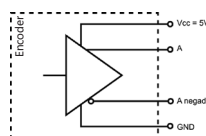
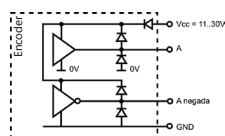
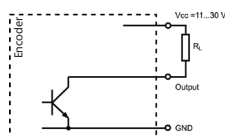
# SERIE 50H

## COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

### MECHANICAL SPECIFICATIONS

|                                                                |                                                                                                                                |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Materials                                                      | Cover: Aluminium<br>Housing: Aluminium<br>Shaft: Stainless Steel                                                               |
| Bearings                                                       | Ballraces                                                                                                                      |
| Bearings lifetime                                              | 1x10 <sup>10</sup> rev.                                                                                                        |
| Housing fixing                                                 | Flexible flange                                                                                                                |
| Shaft fixing                                                   | Clamp                                                                                                                          |
| Hollow shaft diameter                                          | 6, 8, 10 or 12 mm                                                                                                              |
| Maximum number of revolutions permitted mechanically           | 6000 rpm                                                                                                                       |
| Protection against dust and splashes according to DIN EN 60529 | IP65                                                                                                                           |
| Rotor inertia moment                                           | 30 gcm <sup>2</sup>                                                                                                            |
| Starting torque at 20°C (68°F)                                 | ≤ 0.02 Nm                                                                                                                      |
| Maximum load permitted on axial shaft                          | 40 N                                                                                                                           |
| Maximum load permitted on radial shaft                         | 80 N                                                                                                                           |
| Weight approx.                                                 | 0.5 Kg                                                                                                                         |
| Operating temperature range                                    | -20°C to +80°C - Standard<br>-40°C to +80°C - Special Customer ET00                                                            |
| Vibration according to DIN EN 60068-2-6                        | 100 m/s <sup>2</sup> (10Hz...2000Hz)                                                                                           |
| Shock according to DIN EN 60068-2-27                           | 2500 m/s <sup>2</sup> (6ms) [ ≤ 1024 ppr ]<br>1000 m/s <sup>2</sup> (6ms) [ > 1024 ppr ]                                       |
| Maximum pulses per turn                                        | 5000                                                                                                                           |
| Radial connection                                              | 2 meters cable or industrial connector M12 or M23<br>(other cable lengths available on order)<br>Female connector not included |

### OUTPUT SIGNALS



| OUTPUT CIRCUIT                 | NPN<br>Open Collector  | Push-Pull<br>Differential     | RS422<br>(TTL compatible)     |
|--------------------------------|------------------------|-------------------------------|-------------------------------|
| Reference code                 | 0                      | 1                             | 2                             |
| Power supply                   | 11...30 VDC            | 11...30 VDC                   | 5 VDC ±5%                     |
| Output voltage                 | 11...30 VDC            | 11...30 VDC                   | 5 VDC                         |
| Consumption                    | 40 mA                  | Typical: 45 mA<br>Max: 150 mA | Typical: 70 mA<br>Max: 150 mA |
| Max. load capability / channel | 40 mA                  | ±30 mA                        | ±20 mA                        |
| Length of cable allowed        | 50 m (24 VDC)          | 100 m                         | 1200 m                        |
| "Low" signal level             | VOL < 0.4 VDC (24 VDC) | VOL < 2.5 VDC                 | VOL < 0.5 VDC                 |
| "High" signal level            | VOH > 22 VDC (24 VDC)  | VOH > VCC - 3 VDC             | VOH > 2.5 VDC                 |
| Frequency                      | 100 kHz                | 200 kHz                       | 300 kHz                       |
| Short circuit protection       | Not permanent          | Yes                           | Yes                           |
| Protection polarity inversion  | Yes                    | Yes                           | No                            |

Channel B leads (90° electric) channel A, view from the shaft, shaft rotating clockwise

# SERIE 50H

## COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

### CONNECTION



|           | Cable<br>5x0.14<br>95.0008051 (*) | Cable<br>8x0.14<br>95.0008052 (*) | Connector<br>M12 8p<br>CCW | Connector<br>M23 12p<br>CW |
|-----------|-----------------------------------|-----------------------------------|----------------------------|----------------------------|
| GND       | White (WH)                        | White (WH)                        | 1                          | 1                          |
| +UB       | Brown (BN)                        | Brown (BN)                        | 2                          | 2                          |
| A         | Green (GN)                        | Green (GN)                        | 3                          | 3                          |
| B         | Yellow (YE)                       | Grey (GY)                         | 4                          | 4                          |
| $\bar{A}$ | -                                 | Yellow (YE)                       | 5                          | 5                          |
| $\bar{B}$ | -                                 | Pink (PK)                         | 6                          | 6                          |
| Z         | Grey (GY)                         | Blue (BU)                         | 7                          | 7                          |
| $\bar{Z}$ | Grey (GY)                         | Red (RD)                          | 8                          | 8                          |
| Case      | Shield                            | Shield                            | Case                       | Case                       |

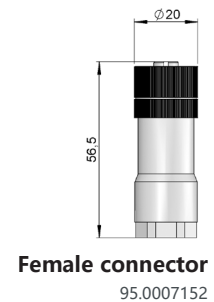
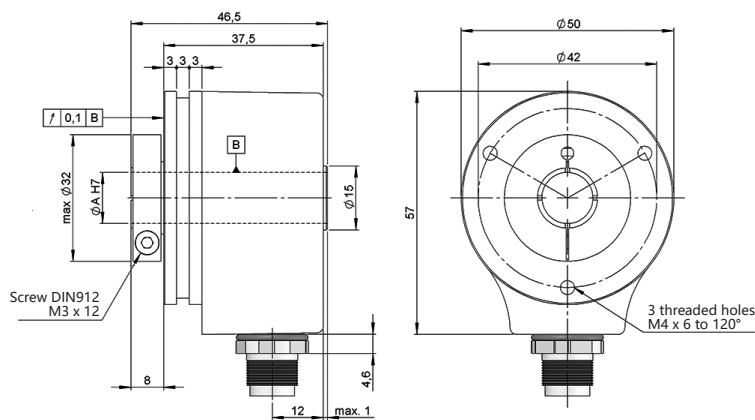
(\*) For lengths over 2 meters standard cable, we recommend the use of twisted pair cable 2x2x0.14+1x0.14 (95.0008002) or 3x2x0.14+2x0.34 (95.0008003). Request the final cable length required to avoid junctions.

### CONNECTION DIMENSIONS

Female connector not included

#### Connection 2 Radial

M12 8p  
male panel  
counter clockwise

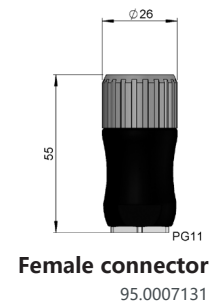
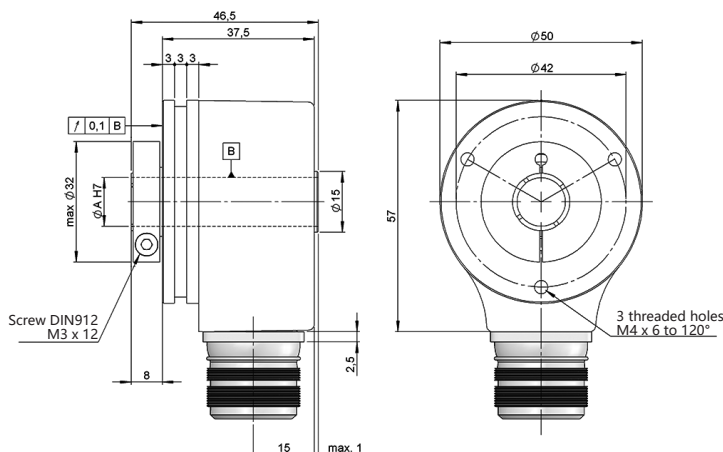


#### Pre-assembled cable

Without inverted signals: 89.003.01.000.XX  
With inverted signals: 89.003.02.000.XX  
Length in meters

#### Connection 3 Radial

M23 12p  
male panel  
clockwise



#### Pre-assembled cable

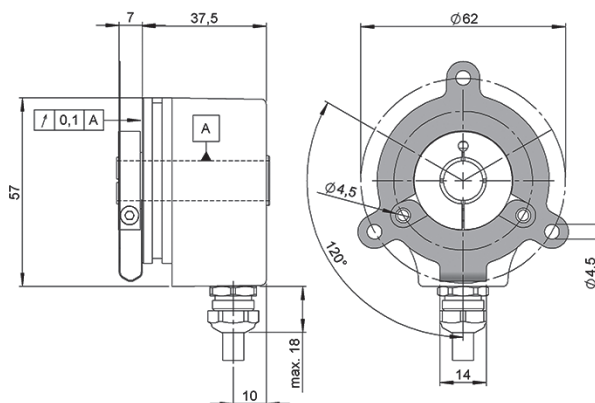
Without inverted signals: 89.005.01.019.XX  
With inverted signals: 89.005.02.000.XX  
Length in meters

# SERIE 50H

COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

## ANTI-ROTATION SYSTEMS DIMENSIONS

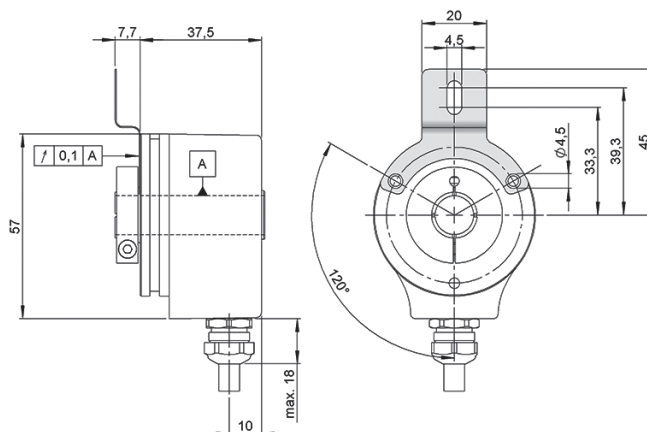
**Flexible flange**  
90.1014



90.1014



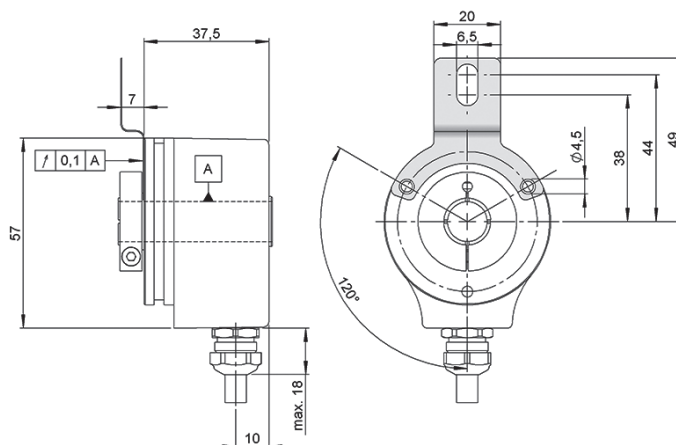
**Flexible flange**  
90.1018



90.1018



**Flexible flange**  
90.1020



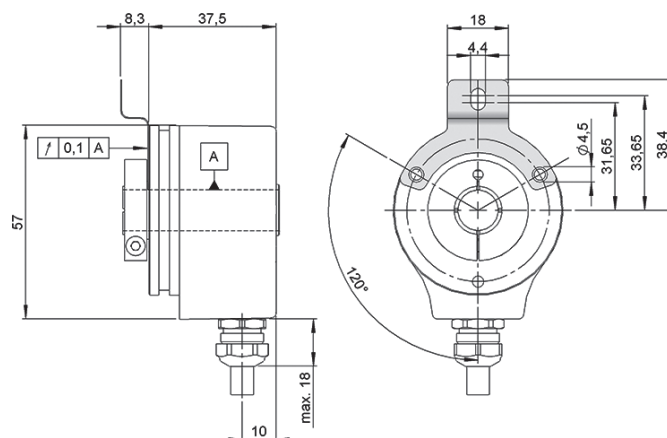
90.1020



# SERIE 50H

COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

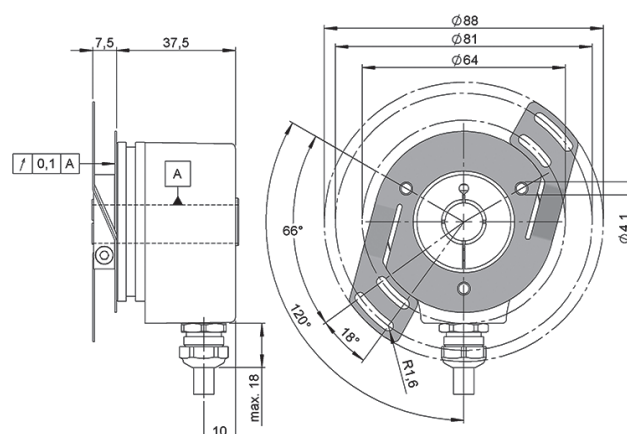
**Flexible flange**  
90.1024



90.1024



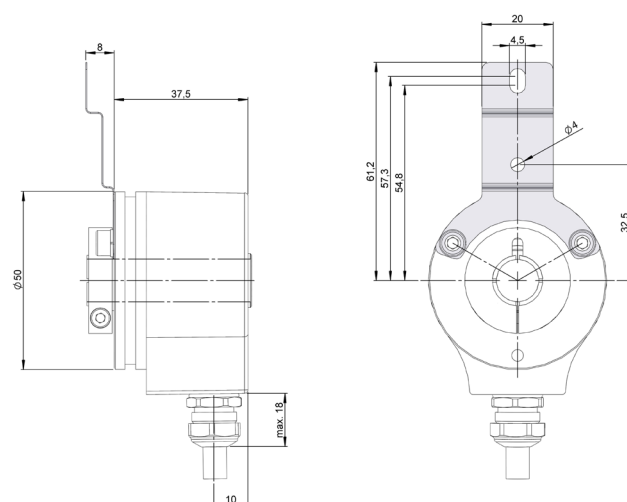
**Flexible flange**  
90.1075



90.1075



**Flexible flange**  
90.1076



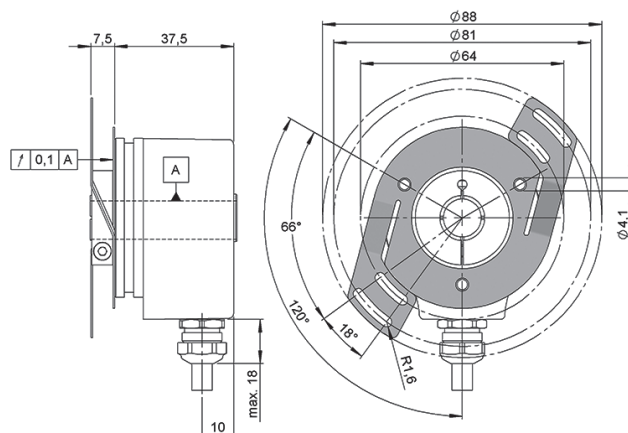
90.1076



# SERIE 50H

COMPACT INCREMENTAL HOLLOW SHAFT ENCODER FOR INDUSTRIAL APPLICATIONS

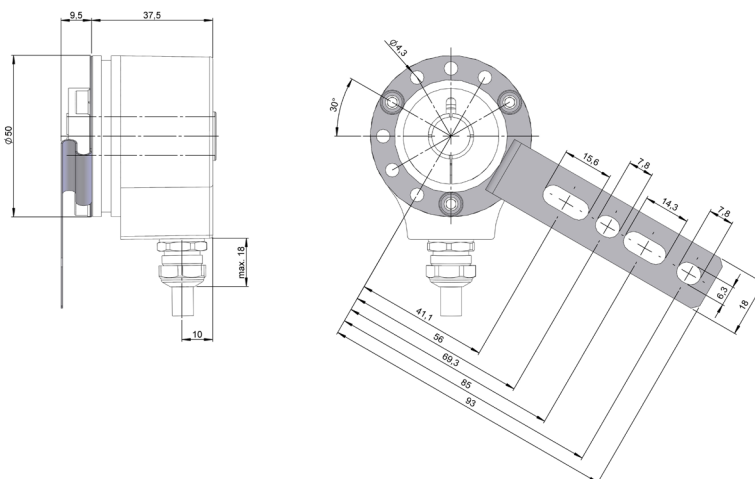
**Flexible flange**  
90.1075



90.1075



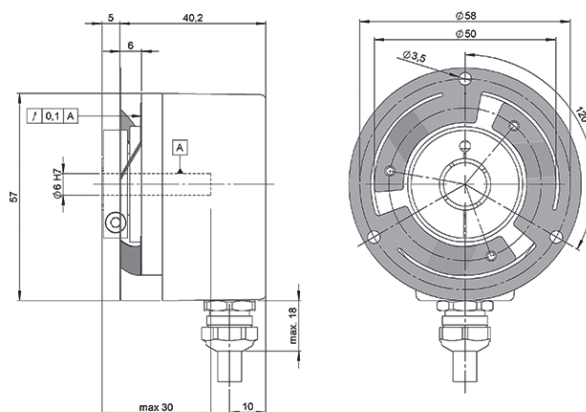
**Flexible flange**  
90.1095



90.1095



**Flexible flange**  
90.1110



90.1110

