



# SERIE 22H

## MINIATURE HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

- Resolution up to 10.000 pulses per turn
- External diameter 36,5 mm
- Hollow shaft  $\varnothing 6$  or 8 mm
- Protection class IP50 according to DIN EN 60529
- Shaft fixing through setscrew
- Anti-rotation system through flexible flange or pin torque support
- Connection by cable (other cable length available) or industrial connector M12



Optical Encoder



Incremental Encoder



Miniature Encoder



Vibration and shock resistant



IP 50

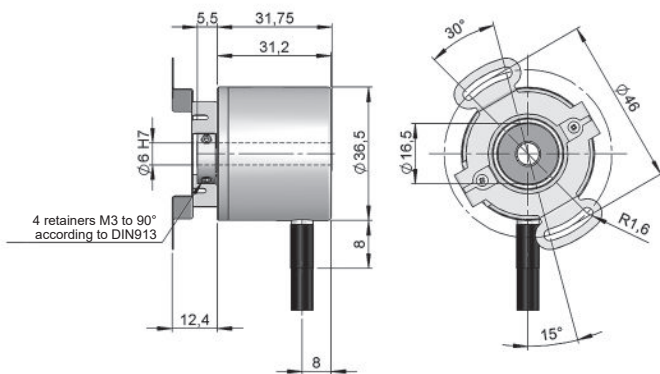


Temperature range -40°C



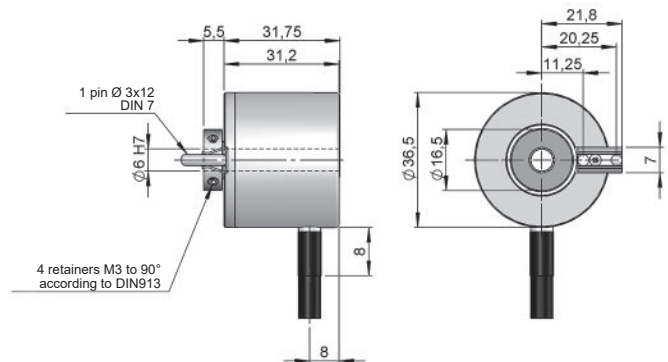
Express Delivery

### Flexible flange (90.1037)



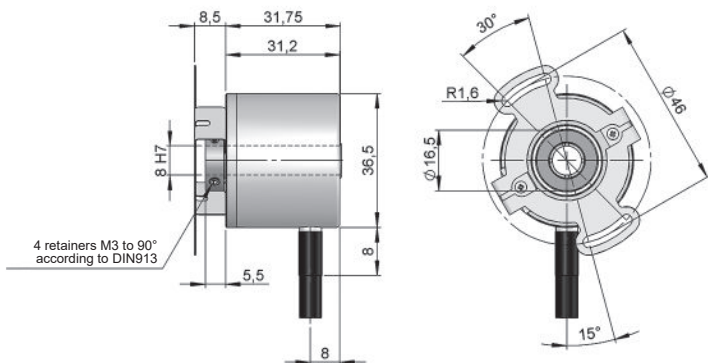
Drawing connection type 2, hollow shaft type 1, anti-rotation system type 1

### Anti-rotation pin (93.0108204)



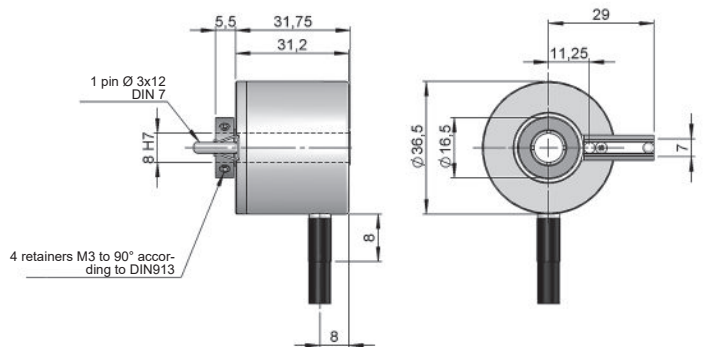
Drawing connection type 2, hollow shaft type 1, anti-rotation system type 2

### Flexible flange (90.1111)



Drawing connection type 2, hollow shaft type 2, anti-rotation system type 3

### Anti-rotation pin (93.0108208)



Drawing connection type 2, hollow shaft type 2, anti-rotation system type 4



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REFERENCE							Reference example: 22H-11721-500
Serie	Anti-rotation system	Hollow shaft	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
22H -	<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. Flexible flange (90.1037) 2. Anti-rotation pin (93.0108204) 3. Flexible flange (90.1111) 4. Anti-rotation pin (93.0108208)	1. $\varnothing$ 6 mm 2. $\varnothing$ 8 mm	2. A+B 3. A+B+0 7. $\tilde{A}\tilde{A}+\tilde{B}\tilde{B}+0\tilde{0}$ 8. $\tilde{A}\tilde{A}+\tilde{B}\tilde{B}$	2. Radial cable 3. Radial M12 8p CCW	0. 11...30 VDC / NPN Open collector 11..30 VDC 1. 11..30 VDC / Line driver differential Push-Pull 11..30 VDC 2. 5 VDC / RS422 5 VDC (compatible TTL)		PT00. -40°C  <b>Order your reference Step file 3D</b> <a href="mailto:info@encoderhohner.com">info@encoderhohner.com</a> <i>service available in 24 h</i>

(\*) Anti-rotation system type 1 (Flexible flange 90.1037), 2 (Anti-rotation pin 93.0108204), 3 (Flexible flange 90.1111) and 4 (Anti-rotation pin 93.0108208) supplied assembled.

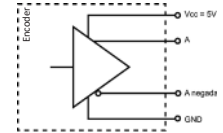
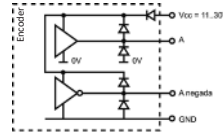
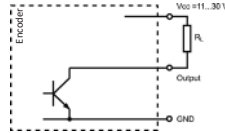
### MECHANICAL SPECIFICATIONS

Materials	Cover: Aluminium Housing: Aluminium Shaft: Brass
Bearings	Ballraces
Bearings lifetime	1x10 <sup>10</sup> rev.
Housing fixing	Anti-rotation pin or flexible flange (included)
Permitted misalignment	±0.3 mm axial, ±0.1 mm radial (93.0108204, 93.0108208) ±0.3 mm axial, ±0.2 mm radial (90.1037) ±0.2 mm axial, ±0.1 mm radial (90.1111)
Shaft fixing	Setscrew
Hollow shaft diameter	6 or 8 mm
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP50
Rotor inertia moment	12 gcm <sup>2</sup>
Starting torque at 20°C (68°F)	≤ 0,01 Nm
Maximum load permitted on axial shaft	20 N
Maximum load permitted on radial shaft	40 N
Weight aprox.	0,1 Kg
Operating temperature range	-20°C to +80°C - Standard -40°C to +80°C - Special Customer PT00
Vibration according to DIN EN 60068-2-6	100 m/s <sup>2</sup> (10Hz...2000Hz)
Shock according to DIN EN 60068-2-27	1000 m/s <sup>2</sup> (6ms)
Maximum pulses per turn	10.000
Radial connection	2 meters cable or industrial connector M12 (other cable lengths available on order) Female connector not included

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### OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull Differential	RS422 (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 Max: 150 mA	Typical: 70 mA 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 A leads (90° electric) channel B, view from the shaft, shaft rotating clockwise

### CONNECTION



	Cable 5x0,14 95.0008051 (*)	Cable 8x0,14 95.0008052 (*)	Connector M12 8p CCW
GND	White	White	1
VCC	Brown	Brown	2
A	Green	Green	3
B	Yellow	Grey	4
~A		Yellow	5
~B		Pink	6
0 (reference)	Grey	Blue	7
~0	Grey	Red	8

(\*) 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.

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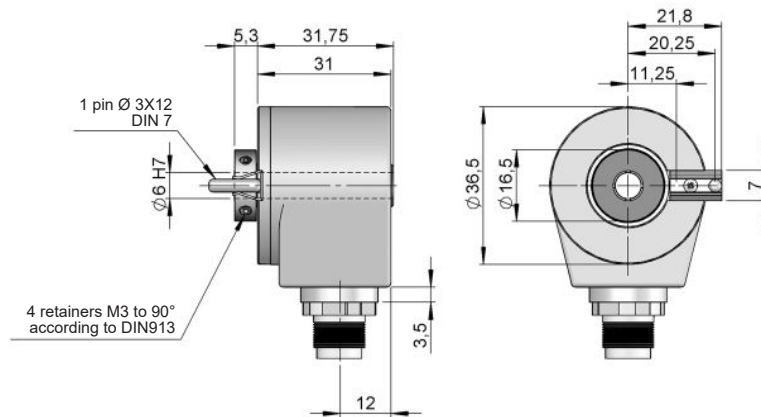
## MINIATURE HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

### CONNECTION DIMENSIONS

Female connector not included

#### Connection 3

Radial  
M12 8p  
male panel  
counter clockwise



#### Female connector 95.0007152

