

# SERIE 20

## INCREMENTAL SOLID SHAFT ENCODER LOW COST FOR INDUSTRIAL APPLICATIONS

- Resolution up to 1.024 pulses per turn
- External diameter 58 mm
- Shaft  $\varnothing$  6 mm
- Protection class IP54 according to DIN EN 60529
- Different flanges available
- Connection by cable (other cable length available) or industrial connector
- Female connector included



Optical Encoder



Incremental Encoder



Vibration and shock resistant

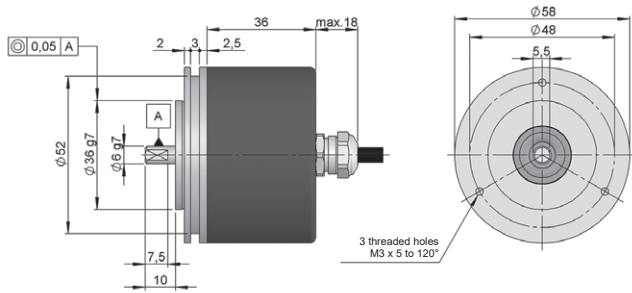


IP 54



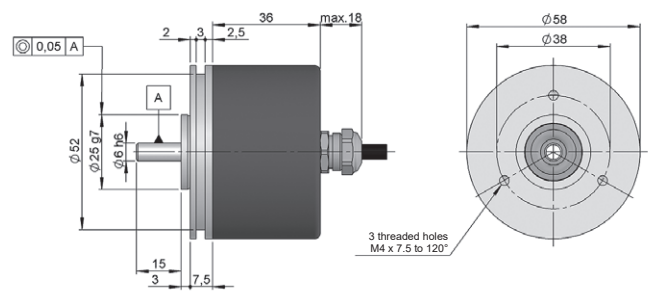
Express Delivery

### Option A



Drawing mechanical option type 1, connection type 2, without flange

### Option B



Drawing mechanical option type 2, connection type 2, without flange

### REFERENCE

Reference example: 20-11621-1024

Serie	Mechanical option	Flange	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
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	1. Option A $\varnothing$ 6x10 mm 2. Option B $\varnothing$ 6x15 mm	1. None 2. 90.1002 3. 90.1004 4. 90.1005 (*)	1. A 2. A+B 3. A+B+ $\tilde{O}$ 5. $\tilde{A}\tilde{A}+\tilde{B}\tilde{B}$ 6. $\tilde{A}\tilde{A}+\tilde{B}\tilde{B}+\tilde{O}\tilde{O}$ 9. A+B+O	1. Axial 90.9504 DIN 43650 4p 2. Axial cable	0. 11...30 VDC / NPN Open collector 11...30 VDC 1. 11...30 VDC / Push-Pull 11...30 VDC 2. 5 VDC / Line driver differential (compatible TTL) 5 VDC		

Order your reference  
Step file 3D

info@encoderhohner.com  
service available in 24 h

(\*) Flange options 90.1002, 90.1004, 90.1005 (2/3/4) only available for the mechanical option A  $\varnothing$ 6x10 mm (1).  
Flange mounting included in delivery of the encoder.



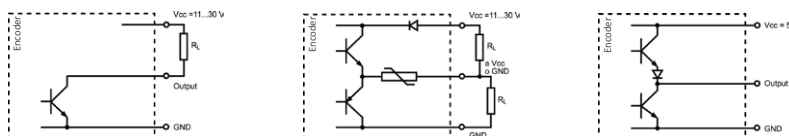
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## INCREMENTAL SOLID SHAFT ENCODER LOW COST FOR INDUSTRIAL APPLICATIONS

### MECHANICAL SPECIFICATIONS

Materials	Cover: Plastic Housing: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 <sup>10</sup> rev.
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP54
Rotor inertia moment	10 gcm <sup>2</sup>
Starting torque at 20°C (68°F)	≤ 0,005 Nm
Maximum load permitted on axial shaft	20 N
Maximum load permitted on radial shaft	30 N
Weight aprox.	0,3 Kg
Operating temperature range	-20°C to +60°C
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	1.024
Axial connection	2 meters cable or industrial connector (other cable lengths available on order) <b>Female connector included</b>

### OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull	Line Driver (TTL compatible)
Reference	0	1	2
Power supply	11...30 VDC	11...30 VDC	5 VDC ±10%
Output voltage	11...30 VDC	11...30 VDC	5 VDC
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 120 mA Max: 150 mA
Max. load capability / channel	40 mA	±30 mA	±40 mA
Length of cable allowed	50 m (24 VDC)	50 m	100 m
"Low" signal level	VOL < 0,4 VDC (24 VDC)	VOL < 2.5 VDC	VOL < 0.2 VDC
"High" signal level	VOH > 22 VDC (24 VDC)	VOH > VCC - 3 VDC	VOH > 2.4 VDC
Frequency	100 kHz	200 kHz	100 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

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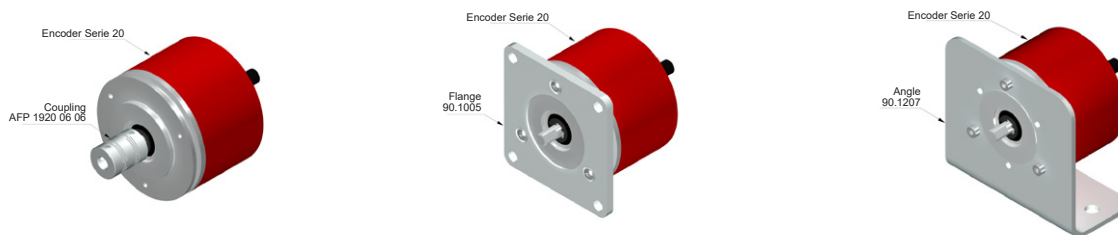
### CONNECTION



	95.0008002 Cable 2x2x0,14+1x0,14	95.0008003 (* ) Cable 3x2x0,14+2x0,34	90.9504 DIN 43650 4p
GND	Yellow	Black	1
VCC	White	Red	2
A	Brown	Yellow	3
B	Green	Green	4
$\tilde{A}$		Brown	
$\tilde{B}$		Blue	
0 (reference)	Grey	Grey	
$\tilde{0}$	Grey	Orange	

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

### ACCESSORIES EXAMPLES

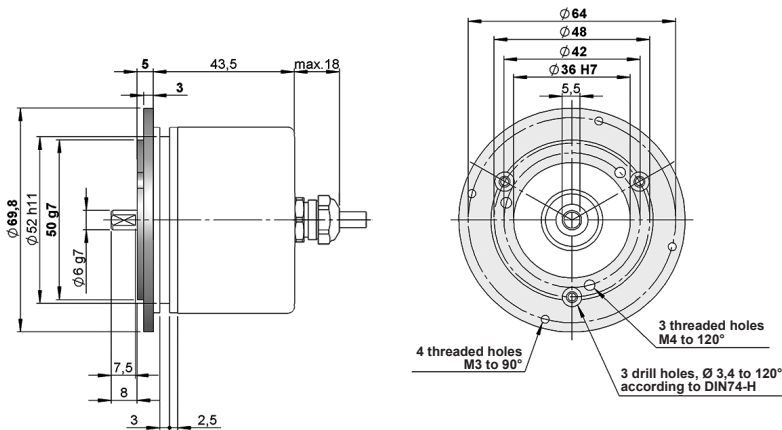


All the accessories available in the section "MOUNTING ACCESSORIES".

### FLANGE DIMENSIONS

Flange mounting included

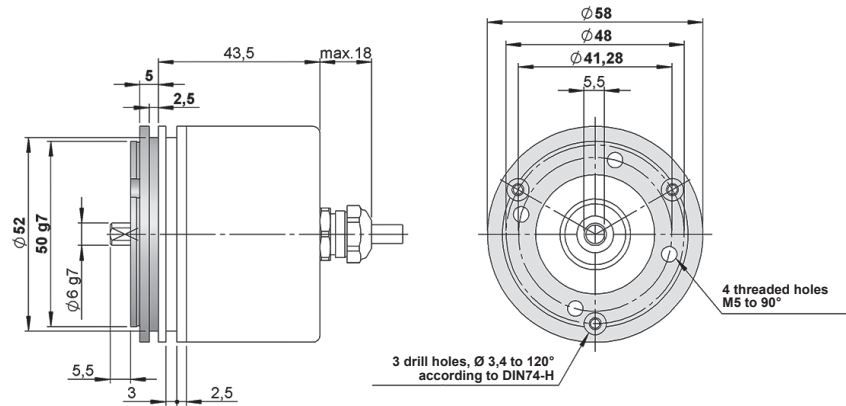
Flange 2  
90.1002



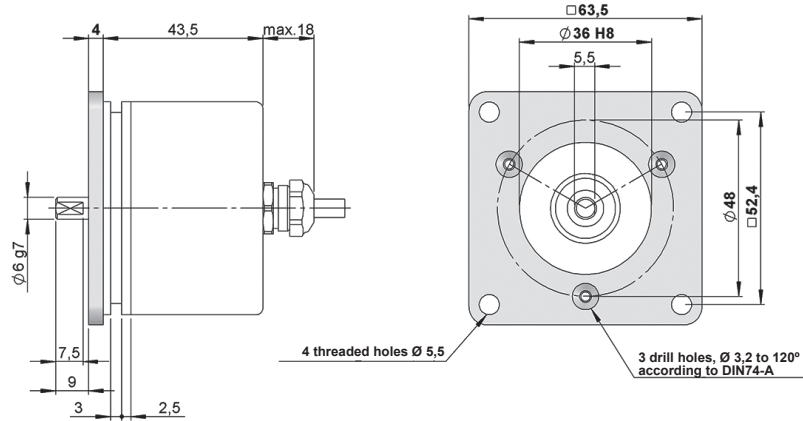
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## INCREMENTAL SOLID SHAFT ENCODER LOW COST FOR INDUSTRIAL APPLICATIONS

**Flange 3**  
90.1004



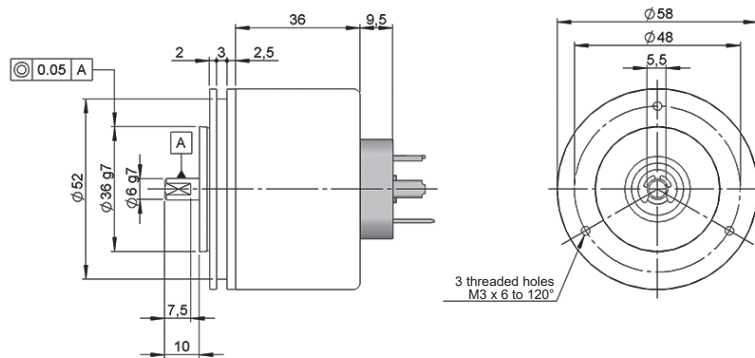
**Flange 4**  
90.1005



### CONNECTION DIMENSIONS

Female connector included

**Connection 1**  
Axial 90.9504



**90.9504**  
DIN 43650 4p  
male panel

