

# SERIE 21

## LOW COST SOLID SHAFT INCREMENTAL ENCODER FOR SIMPLE INDUSTRIAL APPLICATIONS

- Any number of pulses available from 1 to 500 pulses
- External diameter 40 mm
- Shaft 6 mm
- Protection class IP41 according to DIN EN 60529
- Connection by cable (any cable length available)



Optical Encoder



Incremental Encoder



Vibration and shock resistant

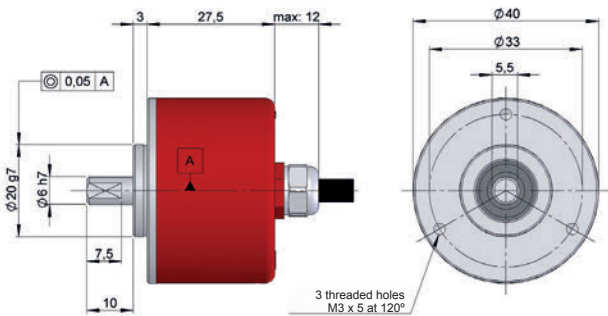


IP 41

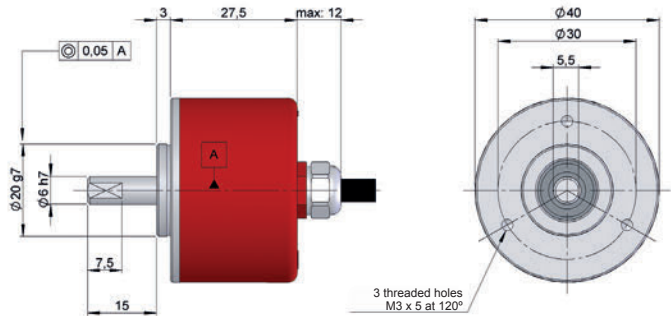


Fast delivery

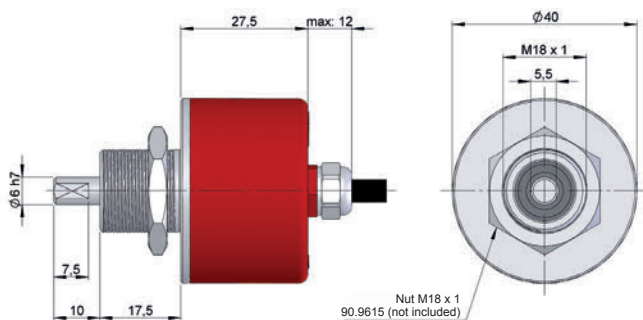
### Option A



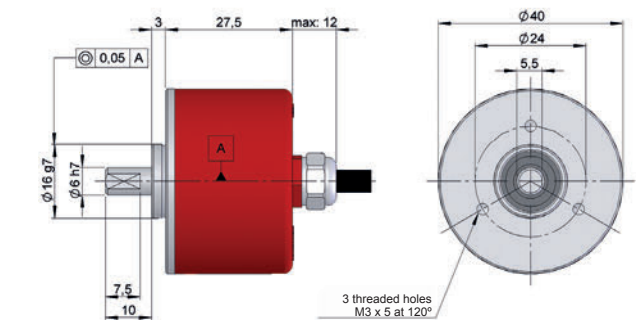
### Option B



### Option C



### Option D



## REFERENCE

Reference example: 21-111-500

Serie	Mechanical option	Output signals	Power Supply / Electronic output	Pulses number	Special customer
21 -	<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. Option A 2. Option B 3. Option C 4. Option D	1. A 2. A+B 3. A+B+0 4. A+B+0̄ 7. AĀ+BĪ+0̄ 8. AĀ+BĪ	0. 11...30V / NPN Open Collector 11...30V 1. 11...30V / Push-Pull 11...30V 7. 5V / RS422 5V (compatible TTL) 9. 11...30V / Line driver differential Push-Pull 11...30V		

Order your reference  
Step file 3D

info@encoderhohner.com  
service available in 24 h



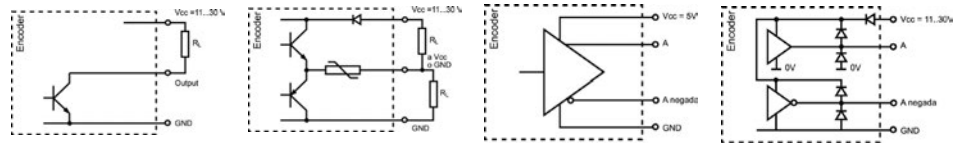
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### MECHANICAL SPECIFICATIONS

Materials	Cover: Plastic Housing: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 <sup>10</sup> rev.
Maximum number of revolutions permitted mechanically	5000 rpm
Protection against dust and splashes according to DIN EN 60529	IP41
Rotor inertia moment	10 gcm <sup>2</sup>
Starting torque at 20°C (68°F)	Max. 0,4 Ncm
Maximum load permitted on axial shaft	5 N
Maximum load permitted on radial shaft	5 N
Weight aprox.	0,2 Kg
Operating temperature range	-20°C a +60°C
Vibration	100 m/s <sup>2</sup> (10Hz...2000Hz)
Shock	1000 m/s <sup>2</sup> (6ms)
Maximum pulses per turn	500
Axial connection	Cable 1 meter (other cable lengths or connector mounted available on order)

### OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull	RS422 (TTL compatible)	Push-Pull Diferencial
Reference code	0	1	7	9
Power supply	11...30 V	11...30 V	5 V $\pm$ 5%	11...30 V
Output voltage	11...30 V	11...30 V	5 V	11...30 V
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 70 mA Max: 150 mA	Typical: 45 mA Max: 150 mA
Max. load capability	40 mA	$\pm$ 30 mA	$\pm$ 20 mA	$\pm$ 30 mA
Lenght of cable allowed	50 m (a 24 V)	50 m	1200 m	100 m
"Low" signal level	VOL < 0,4 V (a 24 V)	VOL < 2.5 V	VOL < 0,5 V	VOL < 2.5 V
"High" signal level	VOH > 22 V (a 24 V)	VOH > Vcc - 3 V	VOH > 2.5 V	VOH > Vcc - 3 V
Frequency	100 kHz	200 kHz	300 kHz	200 kHz
Short circuit protection	Not permanent	Si	Si	Si
Protection polarity inversion	Si	Si	No	Si

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

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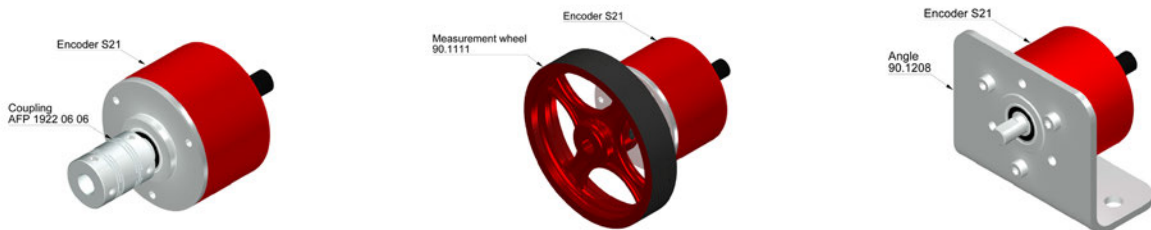
## CONNECTION



	95.0008002 Cable 2x2x0,14+1x0,14	95.0008003 (* Cable 3x2x0,14+2x0,34
GND	Yellow	Black
Vcc	White	Red
A	Brown	Yellow
B	Green	Green
A inverted		Brown
B inverted		Blue
0 (reference)	Grey	Grey
0 inverted	Grey	Orange

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

## ACCESSORIES EXAMPLES



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