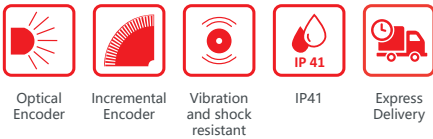


SERIE 21

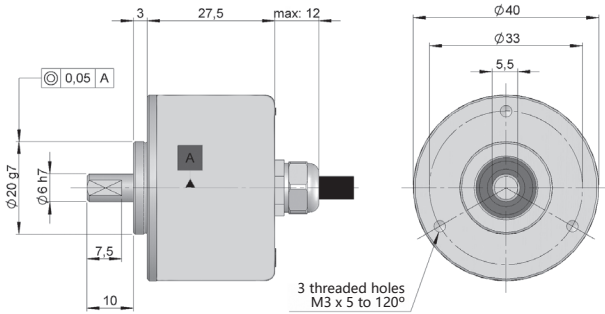
INCREMENTAL SOLID SHAFT ENCODER COST OPTIMIZED FOR INDUSTRIAL APPLICATIONS



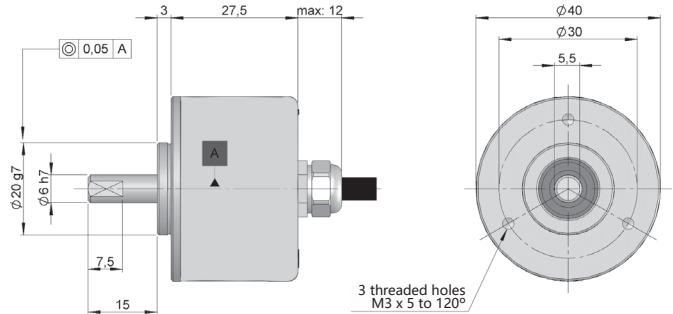
- Resolution up to 500 pulses per turn
- External diameter 40 mm
- Shaft \varnothing 6 mm
- Protection class IP41 according to DIN EN 60529
- Connection by cable (other cable length available)



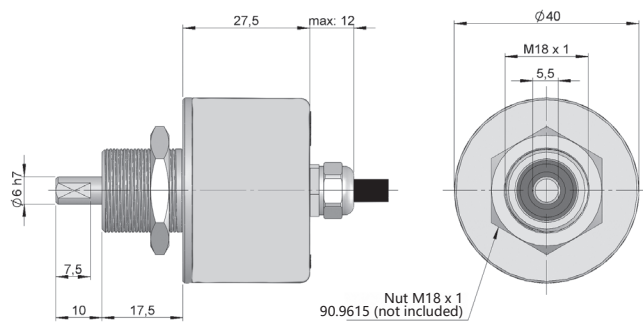
Option A



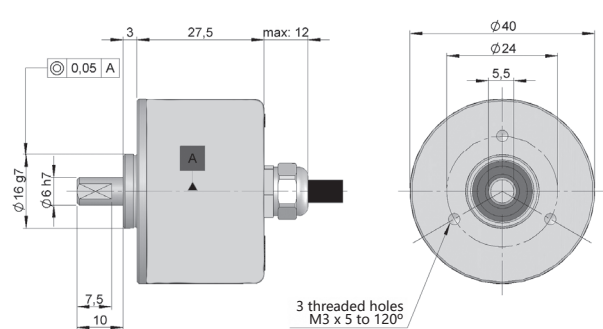
Option B



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. AB 3. ABZ 4. AB, \bar{Z} 7. ABZ, \overline{ABZ} 8. AB, \overline{AB}	0. 11...30 VDC / NPN Open collector 11...30 VDC 1. 11...30 VDC / Push-Pull 11...30 VDC 7. 5 VDC / RS422 5 VDC (compatible TTL) 9. 11...30 VDC / Line driver differential Push-Pull 11...30 VDC		

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Step file 3D

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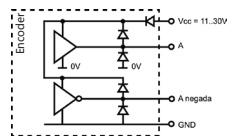
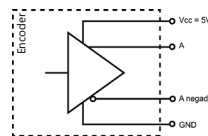
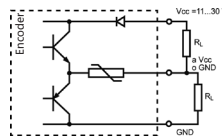
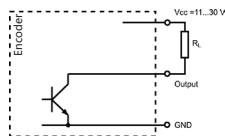
SERIE 21

INCREMENTAL SOLID SHAFT ENCODER COST OPTIMIZED 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	5000 rpm
Protection against dust and splashes according to DIN EN 60529	IP41
Rotor inertia moment	10 gcm ²
Starting torque at 20°C (68°F)	≤ 0.004 Nm
Maximum load permitted on axial shaft	5 N
Maximum load permitted on radial shaft	5 N
Weight approx.	0.2 Kg
Operating temperature range	-20°C to +60°C
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	500
Axial connection	1 meter cable (other cable lengths available or connector mounted at the end of the cable, upon request)

OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull	RS422 (TTL compatible)	Push-Pull Differential
Reference code	0	1	7	9
Power supply	11...30 VDC	11...30 VDC	5 VDC ±10%	11...30 VDC
Output voltage	11...30 VDC	11...30 VDC	5 VDC	11...30 VDC
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 70 mA Max: 150 mA	Typical: 45 mA Max: 150 mA
Max. load capability / channel	40 mA	±30 mA	±20 mA	±30 mA
Length of cable allowed	50 m (24 VDC)	50 m	1200 m	100 m
“Low” signal level	VOL < 0.4 VDC (24 VDC)	VOL < 2.5 VDC	VOL < 0.5 VDC	VOL < 2.5 VDC
“High” signal level	VOH > 22 VDC (24 VDC)	VOH > Vcc – 3 VDC	VOH > 2.5 VDC	VOH > VCC – 3 VDC
Frequency	100 kHz	200 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 21

INCREMENTAL SOLID SHAFT ENCODER COST OPTIMIZED FOR INDUSTRIAL APPLICATIONS

CONNECTION



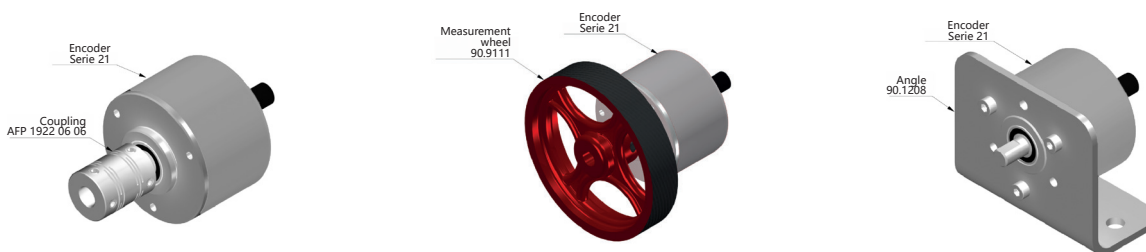
	Cable 2x2x0.14+1x0.14 95.0008002	Cable 3x2x0.14+2x0.34 95.0008003 (*)
GND	Yellow (YE)	Black (BK)
+UB	White (WH)	Red (RD)
A	Brown (BN)	Yellow (YE)
B	Green (GN)	Green (GN)
\bar{A}	-	Brown (BN)
\bar{B}	-	Blue (BU)
Z	Grey (GY) (**)	Grey (GY)
\bar{Z}	Grey (GY) (***)	Orange (OG)

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

(**) Only available for Output signals option 9 (ABZ).

(***) Only available for Output signals option 3 (AB, \bar{Z}).

ACCESSORIES EXAMPLES



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