

Incremental encoders

Through hollow shaft up to $\varnothing 12$ mm
6000...80000 pulses per revolution

G0333



G0333 with through hollow shaft

Features

- Encoder with through hollow shaft $\varnothing 12$ mm
- Optical sensing method
- Max. 80000 pulses per revolution
- Clamping ring on housing

Technical data - electrical ratings

Voltage supply	5 VDC ± 10 % 4.75...30 VDC 10...30 VDC
Reverse polarity protection	Yes (4.75...30 VDC)
Consumption w/o load	≤ 30 mA (24 VDC) ≤ 60 mA (5 VDC)
Pulses per revolution	6000...80000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 300 kHz
Output signals	A 90° B, N + inverted
Output stages	Linedriver/RS422 Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	UL approval / E63076

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 12$ mm (through hollow shaft)
Protection DIN EN 60529	IP 54
Operating speed	≤ 6000 rpm
Starting torque	≤ 0.03 Nm (+25 °C, IP 54)
Rotor moment of inertia	14.5 gcm ²
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-25...+85 °C -40...+85 °C (optional)
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 16-2000 Hz DIN EN 60068-2-27 Shock 200 g, 6 ms
Connection	Connector M23, 12-pin
Weight approx.	250 g

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Part number

Hollow shaft with clamping ring

G0333. **C3**

Pulse number - see table

Connection

C3 Connector M23, 12-pin, radial

Voltage supply / signals

25 5 VDC / linedriver RS422

75 4.75...30 VDC / push-pull

77 10...30 VDC / linedriver
RS422 (5 VDC)

Through hollow shaft / torque pin

0 $\varnothing 12$ mm, clamping ring on housing, pin
15 mm, IP 54

1 $\varnothing 12$ mm, clamping ring on housing, pin
9.5 mm, IP 54

A $\varnothing 12$ mm, clamping ring on housing, without
pin, IP 54

Part number (pulse number)

70 (8192)	73 (10000)	72 (20000)	75 (48000)
74 (9000)	71 (16384)	77 (36000)	76 (80000)

Other pulse numbers on request.

Example: part number 70 = 8192 pulses.

Accessories

Connectors and cables

Z 141.001 Female connector M23, 12-pin, without cable

Z 141.003 Female connector M23, 12-pin, 2 m cable

Z 141.005 Female connector M23, 12-pin, 5 m cable

Z 141.007 Female connector M23, 12-pin, 10 m cable

Mounting accessories

Z 119.023 Spring coupling for encoders with $\varnothing 58$ mm
housing

Z 119.024 Torque support and spring washer for
encoders with 9.5 mm pin

Z 119.041 Torque support by rubber buffer for encoders
with 15 mm pin

Incremental encoders

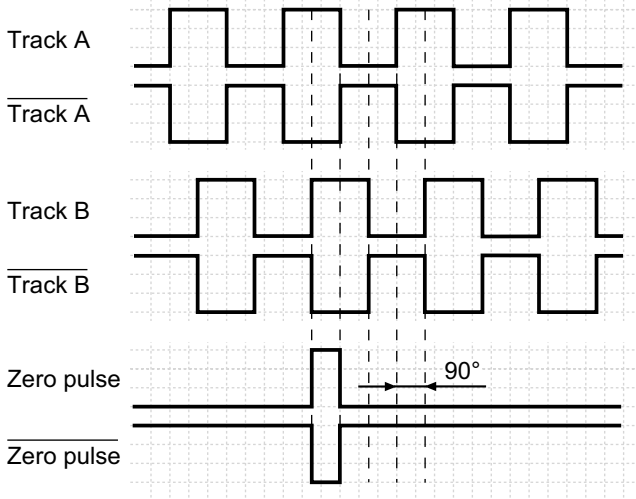
Through hollow shaft up to $\varnothing 12$ mm

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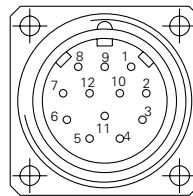
Output signals

Clockwise rotating direction when looking at flange.



Terminal assignment

Connector	Core colour	Assignment
Pin 1	pink	Track B inv.
Pin 2	blue	UB-Sense
Pin 3	red	Track N (zero pulse)
Pin 4	black	Track N inv. (zero pulse inv.)
Pin 5	brown	Track A
Pin 6	green	Track A inv.
Pin 7	–	–
Pin 8	grey	Track B
Pin 9	–	–
Pin 10	white/green	GND
Pin 11	white	GND-Sense
Pin 12	brown/green	UB



UB-Sense and GND-Sense are directly connected to UB resp. GND. Please use cores twisted in pairs (for example track A / track A inv.) for extension cables of more than 10 m length.

Trigger level

Outputs	Linedriver RS422
Output level High	>2.5 V (I = -20 mA)
Output level Low	<0.5 V (I = 20 mA)
Load High	<20 mA
Load Low	<20 mA

Outputs	Push-pull short-circuit proof
Output level High	>UB -3 V (I = -20 mA)
Output level Low	<0.5 V (I = 20 mA)
Load High	<20 mA
Load Low	<20 mA

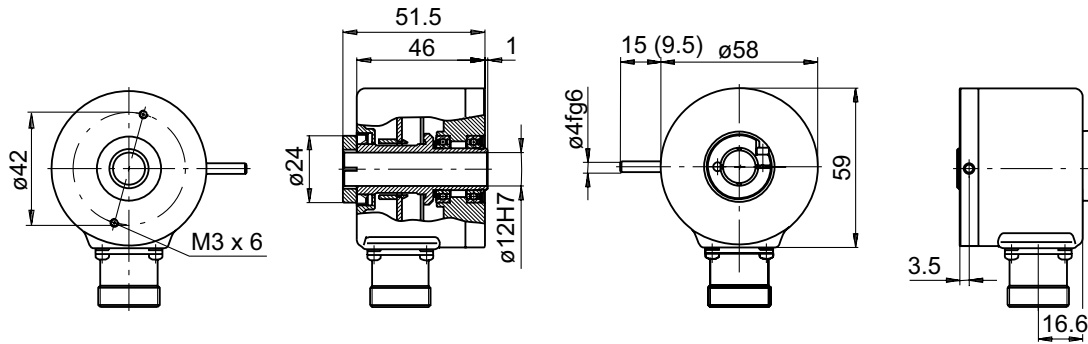
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Dimensions

G0333 - through hollow shaft and clamping ring



Connector dimensions

