

Incremental encoders

Through hollow shaft up to $\varnothing 12$ mm, stainless steel housing

5...6000 pulses per revolution

GE333



GE333 with through hollow shaft

Features

- Encoder with through hollow shaft $\varnothing 12$ mm
- Stainless steel design
- Optical sensing method
- Max. 6000 pulses per revolution
- Clamping ring on housing
- Operating temperature $-25\dots+100$ °C (5 VDC)

Optional

- >6000 pulses per revolution on request

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	5...6000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 150 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 65
Operating speed	≤ 6000 rpm
Starting torque	≤ 0.03 Nm ($+25$ °C)
Rotor moment of inertia	14.5 gcm ²
Materials	Housing: stainless steel 1.4305 Flange: stainless steel 1.4305
Operating temperature	$-25\dots+100$ °C (5 VDC) $-25\dots+85$ °C (24 VDC)
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	Cable 1 m
Weight approx.	500 g

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Part number

GE333. **41**

|
Pulse number - see table

|
Connection

41 Cable 1 m, radial

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Voltage supply / signals

22 5 VDC / linedriver RS422

70 4.75...30 VDC / push-pull

72 10...30 VDC / linedriver
RS422 (5 VDC)

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Through hollow shaft / torque pin

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

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

Accessories

Mounting accessories

10157338 Spring coupling for encoders with $\varnothing 58$ mm housing (Z 119.023)

10139345 Torque support by rubber buffer for encoders with 15 mm pin (Z 119.041)

Part number (pulse number)

49 (5)	57 (128)	22 (1000)	31 (3600)
36 (10)	06 (200)	23 (1024)	34 (4096)
50 (25)	09 (250)	24 (1250)	35 (5000)
39 (50)	13 (360)	26 (1500)	48 (6000)
40 (60)	14 (400)	28 (2000)	
41 (100)	15 (500)	30 (2500)	

Other pulse numbers on request.

Example: part number 23 = 1024 pulses.

Incremental encoders

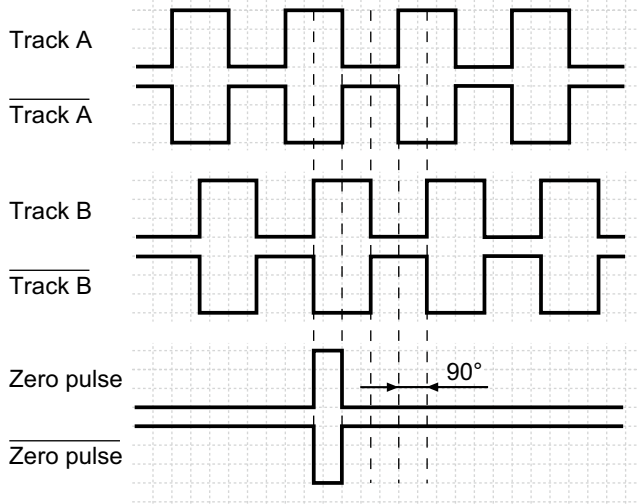
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Output signals

Clockwise rotating direction when looking at flange.



Terminal assignment

Core colour	Assignment
pink	Track B inv.
blue	UB-Sense
red	Track N (zero pulse)
black	Track N inv. (zero pulse inv.)
brown	Track A
green	Track A inv.
grey	Track B
white/green	GND
white	GND-Sense
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 / 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 / Low	<20 mA

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Dimensions

