

Incremental encoders

Stainless steel housing, hollow shaft max. $\varnothing 12$ mm

Resolution 5...6000 pulses

GE333



GE333 with hollow shaft

Features

- Encoder with hollow shaft $\varnothing 12$ mm
- Stainless steel design
- Optical sensing
- Resolution max. 6000 ppr
- Clamping ring on housing
- Temperature range $-25...+100^{\circ}\text{C}$ (5 VDC)

Technical data - electrical ratings

Voltage supply	5 VDC ± 10 % 4.75...30 VDC
Reverse polarity protection	Yes (4.75...30 VDC)
Consumption w/o load	≤ 30 mA (24 VDC) ≤ 60 mA (5 VDC)
Resolution (steps/turn)	5...6000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 150 kHz
Output signals	A 90° B, N + inverted
Output circuit	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

Housing	$\varnothing 58$ mm
Shaft	$\varnothing 12$ mm hollow shaft
Protection DIN EN 60529	IP 64
Operating speed	≤ 6000 rpm
Starting torque	≤ 0.03 Nm
Rotor moment of inertia	14.5 gcm ²
Materials	Housing: stainless steel 1.4305 Flange: stainless steel 1.4305
Operating temperature	$-25...+100^{\circ}\text{C}$ (5 VDC) $-25...+85^{\circ}\text{C}$ (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
Weight approx.	500 g
Connection	Cable 1 m

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Part number

GE333. **41**

See part number (pulses)

Connection

41 Cable 1 m, radial

Voltage supply / signals

22 5 VDC / linedriver RS422

70 4.75...30 VDC / push-pull

72 4.75...30 VDC / linedriver RS422 (5 VDC)

Hollow shaft / torque pin

0 Hollow shaft \varnothing 12 mm clamping ring on housing with pin 15 mm

A Hollow shaft \varnothing 12 mm clamping ring on housing without pin

Accessories

Mounting accessories

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

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

Part number (pulses)

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 upon request.

Example: order key 23 = 1024 pulses

Incremental encoders

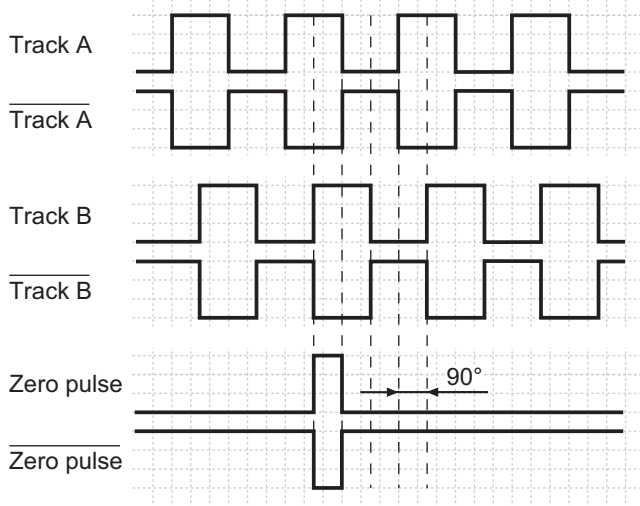
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Output signals

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	<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

