

# Incremental encoders

## Solid shaft and flange in inch dimensions

### 5...6000 pulses per revolution

#### GI352



GI352 with square flange

#### Features

- Encoder with inch dimensions
- Max. 6000 pulses per revolution
- Optical sensing
- Solid shaft  $\varnothing 9.52$  mm
- Square flange 63.5 x 63.5 mm
- MIL connector 7-pin and 10-pin
- High rotation speed max. 10000 rpm
- High resistance to shock and vibrations

#### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 10$ % 4.75...30 VDC
Reverse polarity protection	Yes (4.75...30 VDC)
Consumption w/o load	$\leq 30$ mA (24 VDC) $\leq 60$ mA (5 VDC)
Pulses per revolution	5...6000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	$\leq 150$ kHz
Output signals	A 90° B, N + inverted
Output stage	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)	63.5 x 63.5 mm
Shaft type	$\varnothing 9.52$ mm solid shaft
Shaft loading	$\leq 20$ N axial $\leq 40$ N radial
Flange	Clamping flange square 63.5 x 63.5 mm
Protection DIN EN 60529	IP 54 (without shaft seal), IP 65 (with shaft seal)
Operating speed	$\leq 10000$ rpm
Starting torque	$\leq 0.015$ Nm (IP 54) $\leq 0.03$ Nm (IP 65)
Rotor moment of inertia	14.5 gcm <sup>2</sup>
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-25...+100 °C (5 VDC) -25...+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	MIL-connector, 7-pin MIL-connector, 10-pin
Weight approx.	280 g

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#### Part number

GI352.

Pulse number - see table

Connection

- A0 MIL connector MS3102 R18-1P  
10-pin, axial
- A1 MIL connector MS3102 R18-1P  
10-pin, radial
- B0 MIL connector MS3102 R16S-1P  
7-pin, axial
- B1 MIL connector MS3102 R16S-1P  
7-pin, radial

Voltage supply / signals

- 21 5 VDC / linedriver RS422 / 7-pin
- 22 5 VDC / linedriver RS422 / 10-pin
- 70 4.75...30 VDC / push-pull / 10-pin
- 71 4.75...30 VDC / push-pull / 7-pin

Flange / Solid shaft

- 1 Front panel 63.5 x 63.5 mm / 9.52 mm, IP 54
- B Front panel 63.5 x 63.5 mm / 9.52 mm, IP 65

#### Accessories

##### Connectors and cables

Z 172.005 MIL connector, 10-pin, 5 m cable

#### Part number (pulse number)

49 (5)	57 (128)	22 (1000)	30 (2500)
36 (10)	06 (200)	23 (1024)	31 (3600)
50 (25)	09 (250)	24 (1250)	34 (4096)
39 (50)	13 (360)	26 (1500)	35 (5000)
40 (60)	14 (400)	28 (2000)	48 (6000)
41 (100)	15 (500)	29 (2048)	

Other pulse numbers on request.

Example: part number 23 = 1024 pulses.

# Incremental encoders

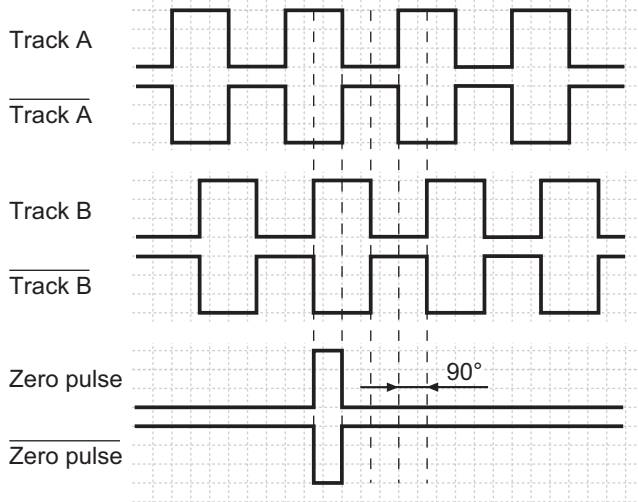
## Solid shaft and flange in inch dimensions

### 5...6000 pulses per revolution

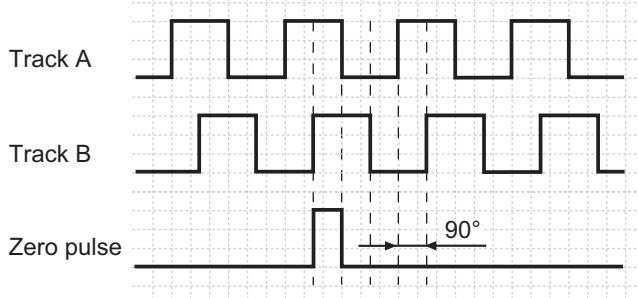
#### GI352

##### Output signals

Clockwise rotating direction when looking at flange.  
Track A, B, N and inv.

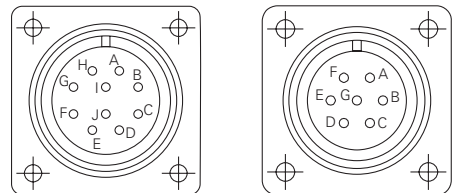


Track A, B, N



##### Terminal assignment

Connector	Assignment	10-pol. connector	7-pol. connector
Pin A	Track A	Track A	Track A
Pin B	Track B	Track B	Track B
Pin C	Track N (zero pulse)	Track N (zero pulse)	Track N (zero pulse)
Pin D	UB	UB	UB
Pin E	N.C.	N.C.	N.C.
Pin F	GND	GND	GND
Pin G	Shield	Shield	Shield
Pin H	Track A inv.	-	-
Pin I	Track B inv.	-	-
Pin J	Track N inv.	-	-



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

