

# Incremental encoders

Hollow or end shaft max.  $\varnothing 15$  mm  
Resolution 5...2048 pulses

## GI341, GI342 - *incretivo*



GI342 with hollow shaft

### 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)
Resolution (steps/turn)	5...2048
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 150$ kHz
Output signals	A $90^\circ$ 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

### Features

- Encoder with end or hollow shaft  $\varnothing 10$ -15 mm
- Resolution max. 2048 ppr
- Optical sensing
- Flange and housing made of high-tech plastics
- Tangential cable output
- Available with commutation signals
- Mounting depth 40 mm

### Optional

- Commutation tracks UVW
- High temperature max.  $120^\circ\text{C}$  (only GI341)

### Technical data - mechanical design

Housing	$\varnothing 58$ mm
Protection DIN EN 60529	IP 54
Operating speed	$\leq 6000$ rpm
Rotor moment of inertia	60 gcm <sup>2</sup>
Material	Housing: carbon-fibre reinforced polyamide
Operating temperature	$-20...+80^\circ\text{C}$
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.	150 g
E-connection	Cable 1 m

### GI341

Shaft	$\varnothing 10...15$ mm end shaft
Starting torque	$\leq 0.015$ Nm

### GI342

Shaft	$\varnothing 10...15$ mm hollow shaft
Starting torque	$\leq 0.05$ Nm

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## Part number

### End shaft

GI341.   **71**

See part number (pulses)

E-connection

71 Cable 1 m, tangential

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

- A End shaft  $\varnothing 12$  mm center mounting
- B End shaft  $\varnothing 10$  mm center mounting
- C End shaft  $\varnothing 14$  mm center mounting
- G End shaft  $\varnothing 15$  mm center mounting

### Hollow shaft

GI342.   **71**

See part number (pulses)

E-connection

71 Cable 1 m, tangential

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

- A Hollow shaft  $\varnothing 12$  mm clamping ring on flange
- B Hollow shaft  $\varnothing 10$  mm clamping ring on flange
- C Hollow shaft  $\varnothing 14$  mm clamping ring on flange
- G Hollow shaft  $\varnothing 15$  mm clamping ring on flange

## Part number (pulses)

49 (5)	41 (100)	14 (400)	26 (1500)
36 (10)	57 (128)	15 (500)	29 (2048)
50 (25)	06 (200)	22 (1000)	
39 (50)	09 (250)	23 (1024)	
40 (60)	13 (360)	24 (1250)	

Other pulse numbers upon request.

Example: ordering key 23 = 1024 pulses

Configurations with commutation tracks on request

## Accessories

### Mounting accessories (page %S)

Z 119.023	Spring coupling for encoders with $\varnothing 58$ mm housing
Z 119.036	Rubber buffer element 7.5 mm long, as torque support
Z 119.040	Shoulder screw M5 as torque support
Z 119.068	Spring coupling

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### Output signals

Clockwise rotating when looking at flange.  
Incremental signals



Commutation signals (optional)



### Terminal assignment

#### Without commutating tracks

Core colour	Assignment
grey	Track B
pink	Track B inv.
red	Track N (zero pulse)
black	Track N inv. (zero pulse inv.)
brown	Track A
green	Track A inv.
white/green	GND
brown/green	UB

#### With commutating tracks

Core colour	Assignment
brown/green	UB
red	Zero setting
black	Zero setting inv.
brown	Track A
green	Track A inv.
pink	Track B inv.
grey	Track B
white/green	GND
white	Track W inv.
yellow	Track W
blue	Track V
violet	Track V inv.
grey/pink	Track U inv.
red/blue	Track U

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

### GI341 end shaft



### GI342 hollow shaft

