

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 ± 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...2048 |
| 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 |

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 °C (only GI341)

Technical data - mechanical design

| | |
|-------------------------|--|
| Housing | $\varnothing 58$ mm |
| Protection DIN EN 60529 | IP 54 |
| Operating speed | ≤ 6000 rpm |
| Rotor moment of inertia | 60 gcm ² |
| Material | Housing: carbon-fibre reinforced polyamide |
| Operating temperature | -20...+80 °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 | ≤ 0.015 Nm |

GI342

| | |
|-----------------|--|
| Shaft | $\varnothing 10$...15 mm hollow shaft |
| Starting torque | ≤ 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

