

# Tachogenerators

Blind hollow shaft  $\varnothing 12...16$  mm

Housing  $\varnothing 85$  mm, bearingless configuration

## GT 7



GT 7

### Technical data - electrical ratings

|                                |  |
|--------------------------------|--|
| Reversal tolerance             | $\leq 0.1$ %   |
| Linearity tolerance            | $\leq 0.15$ %  |
| Temperature coefficient        | $\pm 0.05$ %/K (open-circuit)  |
| Isolation class                | B  |
| Calibration tolerance          | $\pm 5$ %  |
| Climatic test                  | Humid heat, constant<br>(IEC 60068-2-3, Ca)                                      |
| Performance                    | GT 7.08: 0.3 W (speed $\geq 5000$ rpm)<br>GT 7.16: 0.6 W (speed $\geq 5000$ rpm) |
| Armature-circuit time-constant | $< 4$ $\mu$ s  |
| Open-circuit voltage           | 10...60 mV per rpm   |
| Interference immunity          | EN 61000-6-2   |
| Emitted interference           | EN 61000-6-3   |
| Approval                       | CE   |

### Features

- Temperature compensation of tacho voltage as standard
- Open circuit voltage 10...60 mV per rpm
- Blind hollow shaft  $\varnothing 12...16$  mm
- High signal quality due to patented LongLife technology
- Low moment of inertia
- No auxiliary energy source required

### Technical data - mechanical design

|                         |  |
|-------------------------|--|
| Size (flange)           | $\varnothing 85$ mm  |
| Shaft type              | $\varnothing 12...16$ mm (blind hollow shaft)                                      |
| Protection DIN EN 60529 | IP 55  |
| Torque                  | 1.5 Ncm  |
| Rotor moment of inertia | 0.4 kgcm <sup>2</sup> (GT 7.08)<br>0.55 kgcm <sup>2</sup> (GT 7.16)                |
| Materials               | Housing: stainless steel / plastic<br>Shaft: stainless steel                       |
| Operating temperature   | -30...+130 °C  |
| Resistance              | IEC 60068-2-6<br>Vibration 10 g, 10-2000 Hz<br>IEC 60068-2-27<br>Shock 100 g, 6 ms |
| Weight approx.          | 110 g (GT 7.08), 180 g (GT 7.16)   |
| Connection              | Screw terminal connector<br>Cable 0.6 m  |

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## Part number

GT7

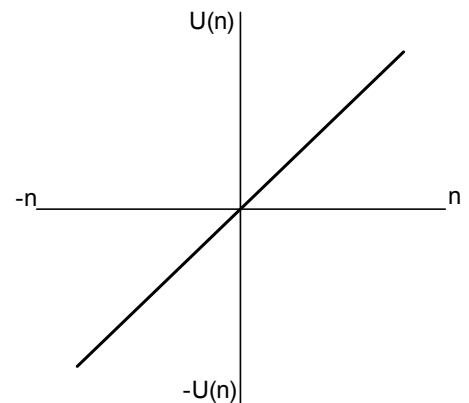
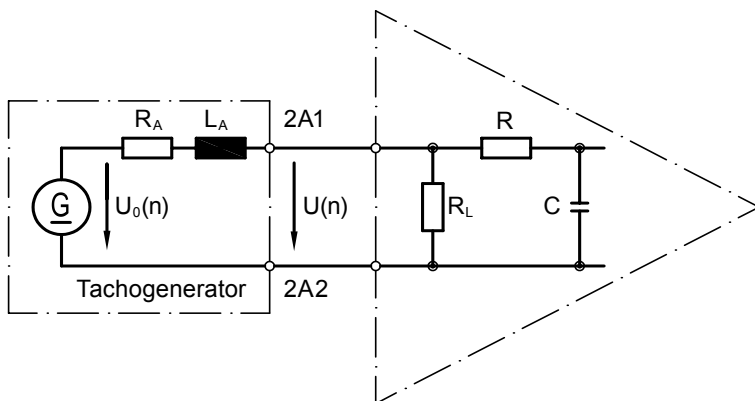
|          | Open-circuit voltage |
|----------|----------------------|
| .08L/410 | 10 mV per rpm        |
| .08L/420 | 20 mV per rpm        |
| .08L/430 | 30 mV per rpm        |
| .16L/440 | 40 mV per rpm        |
| .16L/460 | 60 mV per rpm        |

## Data according to type

| Type        | Off-load voltage<br>$U_0$<br>[mV/rpm] | Minimum load required depending<br>on speed range [rpm] |            |              | Maximum<br>operating speed<br>$n_{max}$<br>[rpm] | Armature<br>resistance<br>$R_A(20^\circ C)$<br>[ $\Omega$ ] | Armature<br>inductance<br>$L_A$<br>[mH] |
|-------------|---------------------------------------|---|------------|--------------|--|---|---|
|             |                                       | 0-3000  | 0-6000     | 0- $n_{max}$ |  |   |   |
| GT7.08L/410 | 10                                    | $\geq 5$  | $\geq 12$  | $\geq 27$    | 9000   | 60  | 20                                      |
| GT7.08L/420 | 20                                    | $\geq 20$   | $\geq 48$  | $\geq 108$   | 9000   | 230   | 80                                      |
| GT7.08L/430 | 30                                    | $\geq 45$   | $\geq 108$ | $\geq 243$   | 9000   | 550   | 180                                     |
| GT7.16L/440 | 40                                    | $\geq 40$   | $\geq 96$  | $\geq 216$   | 9000   | 410   | 160                                     |
| GT7.16L/460 | 60                                    | $\geq 90$   | $\geq 215$ | $\geq 223$   | 6100   | 760   | 360                                     |

Superimposed ripple (for  $\tau_{RC} = 0.3$  ms):  $\leq 0.6\%$  (peak-peak)  $\leq 0.25\%$  (rms)

## Replacement switching diagram



$$\tau_{RC} \approx R \cdot C \quad \tau_A \approx \frac{L_A}{R_L}$$

$$U(n) = U_0(n) \frac{R_L}{R_A + R_L} \approx U_0(n) \text{ for } R > R_L \gg R_A$$

Polarity for positive rotating direction: 2A1: + 2A2: - (VDE)

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Blind hollow shaft  $\varnothing 12 \dots 16$  mm

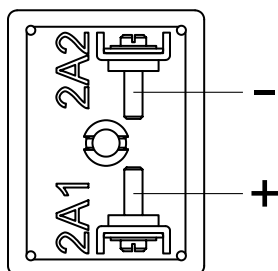
Housing  $\varnothing 85$  mm, bearingless configuration

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### Terminal assignment

View A - Connecting terminal

Polarity for positive direction of rotation



### Accessories

Mounting cone

Carbon brushes

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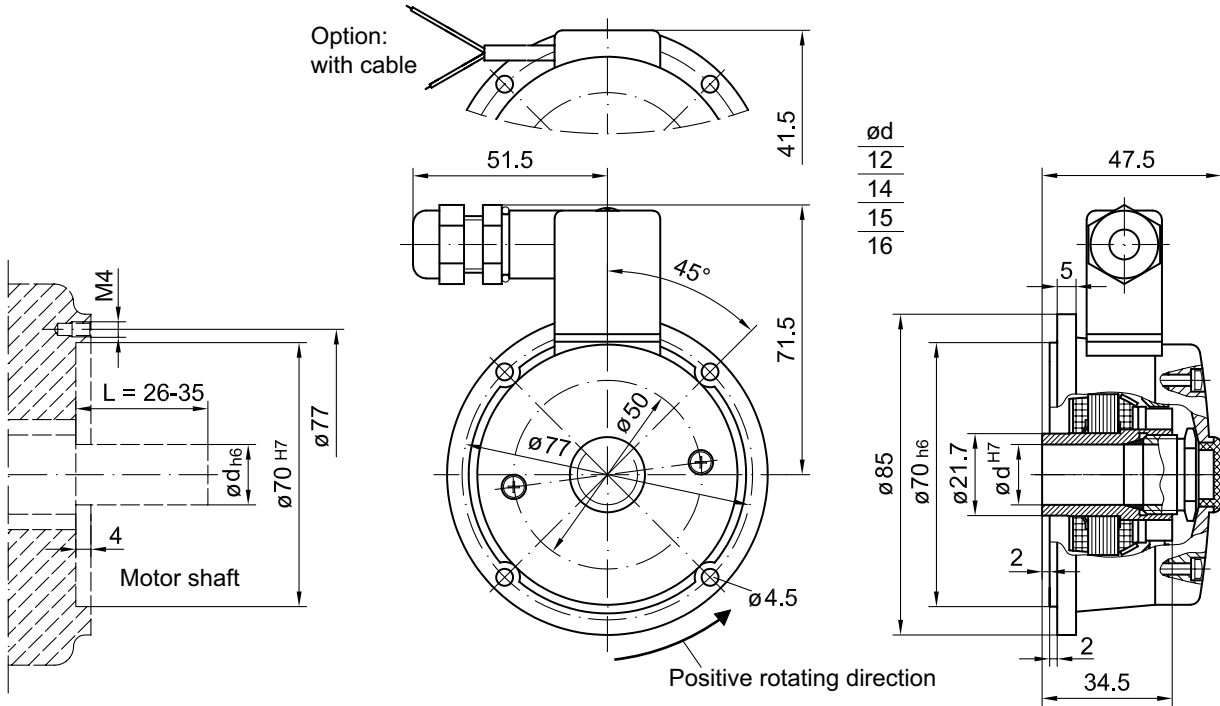
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## Dimensions

GT 7.08 - Open-circuit voltage 10...30 mV per rpm



GT 7.16 - Open-circuit voltage 40...60 mV per rpm

