

# Tachogenerators

Shaft  $\varnothing 12$  to  $\varnothing 14$  mm with flange

With own bearings

## GMP 1,0



GMP 1,0

### Features

- High response speed
- Open circuit voltage 40...175 mV per rpm
- Shaft  $\varnothing 12$ -14 mm
- Top signal quality over the total rotational speed range by patented Longlife technique
- With own bearings
- Recognition of sense of rotation

### Optional

- Two separate tacho voltages (GMPZ 1,0)
- Second shaft end

### Technical data - electrical ratings

Reversal tolerance	$\leq 0.1$ %
Linearity tolerance	$\leq 0.5$ %
Temperature coefficient	$\pm 0.05$ %/K (open-circuit)
Isolation class	B
Calibration tolerance	$\pm 3$ %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)
Performance	30 W (speed $> 3000$ rpm)
Armature-circuit time-constant	$< 0.55$ $\mu$ s
Open-circuit voltage	40...175 mV per rpm

### Technical data - mechanical design

Dimensions (flange)	$\varnothing 110$ mm
Shaft	$\varnothing 12$ ...14 mm
Protection DIN EN 60529	IP 55
Torque	2...0 Ncm
Rotor moment of inertia	4.5 kgcm <sup>2</sup>
Shaft loading	$\leq 80$ N axial $\leq 100$ N radial
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-30...+130 °C
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz DIN EN 60068-2-27 Shock 100 g, 6 ms
Weight approx.	4.5 kg
Connection	Terminal box

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## Part number

GMP 1,0 LT -

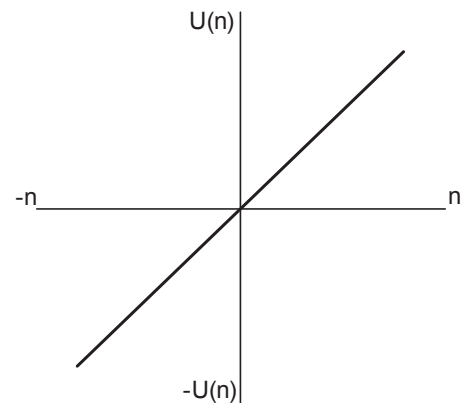
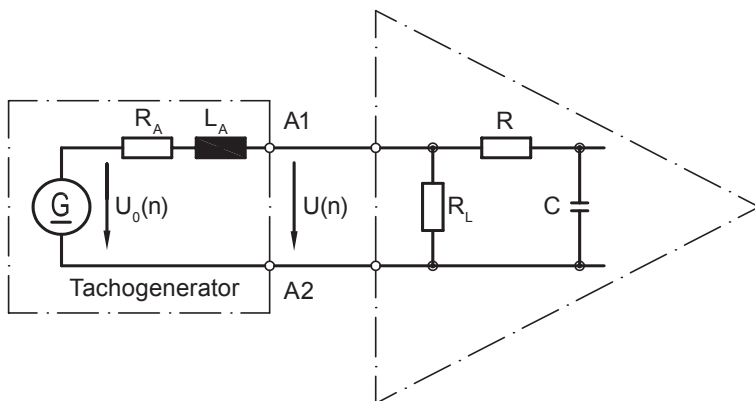
- Open-circuit voltage
- 10 40 mV per rpm
  - 7 65 mV per rpm
  - 4 100 mV per rpm
  - 1 175 mV per rpm

## Data according to type

Type	Off-load voltage $U_0$ [mV/rpm]	Minimum load required depending on speed range [rpm]			Maximum operating speed $n_{max}$ [rpm]	Armature resistance $R_A(20^\circ C)$ [ $\Omega$ ]	Armature inductance $L_A$ [mH]
		0 - 1,000	0 - 3,000	0 - $n_{max}$			
		$R_L$ [k $\Omega$ ]	$R_L$ [k $\Omega$ ]	$R_L$ [k $\Omega$ ]			
GMP 1,0 LT - 10	40	$\geq 0.15$	$\geq 0.5$	$\geq 2$	6,000	12	90
GMP 1,0 LT - 7	65	$\geq 0.4$	$\geq 1.3$	$\geq 5$	6,000	33	225
GMP 1,0 LT - 4	100	$\geq 1$	$\geq 3$	$\geq 12$	6,000	81	550
GMP 1,0 LT - 1	175	$\geq 3$	$\geq 10$	$\geq 12$	3,400	275	1,650

Superimposed ripple (for  $\tau_{RC} = 1$  ms):  $\leq 1.0$  % (peak-peak)  $\leq 0.5$  % (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: A1: + A2: - (VDE)



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