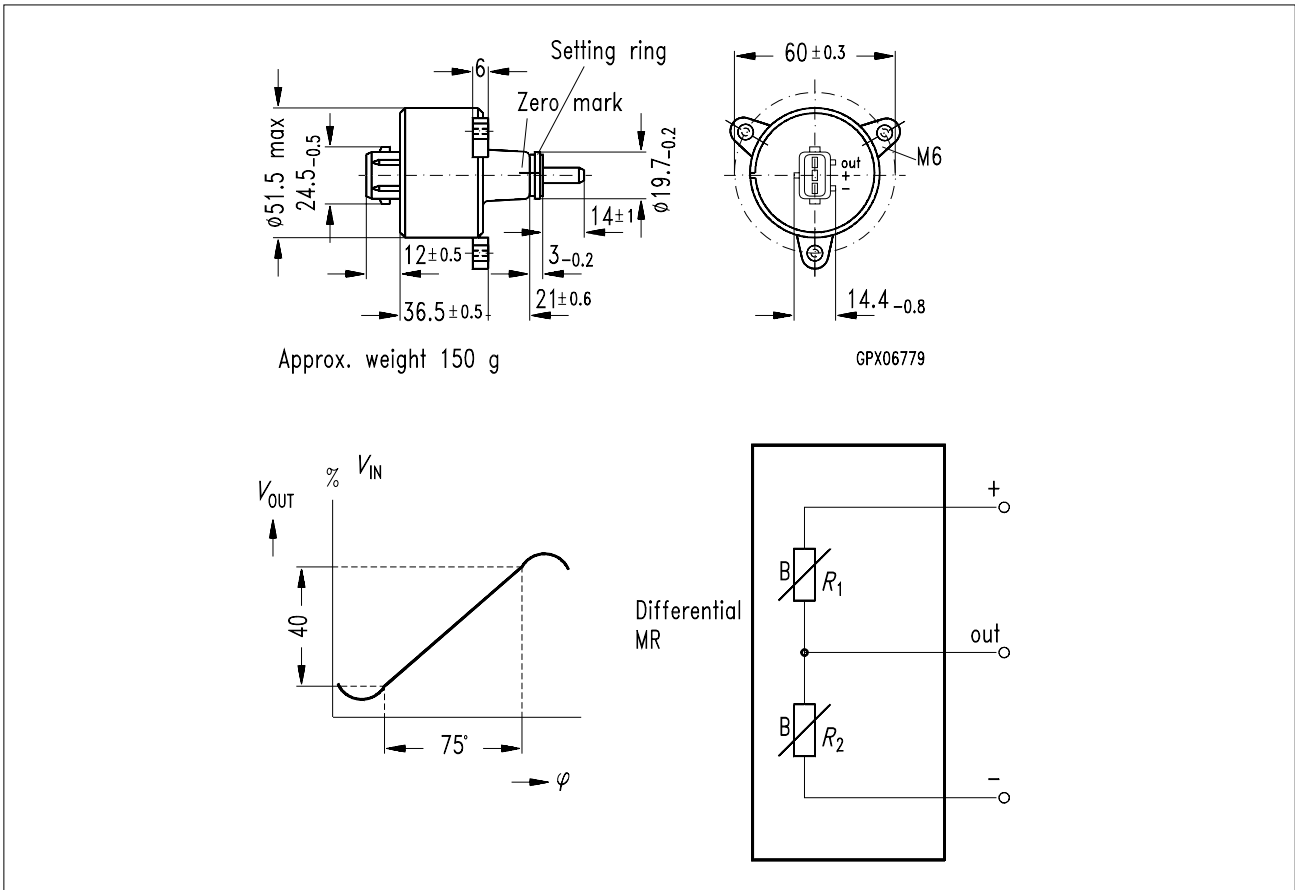


Contactless Potentiometer

Version 2.0

FP 312 L 100



Dimensions in mm

Features

- Devoid of friction and abrasion at contact point
- No electrical contact noise
- Insensitive to contamination, moisture ingress, corrosion and vibration
- Low operating torque
- Long lifetime

Typical Applications

- Angular encoder
- Electric vehicles

Type	Ordering Code
FP 312 L 100	Q65312-L100-U

This potentiometer comprises differential MR, driven by a magnet with no amplifier. At the output, the resistance change can be used as a signal. On applying the operating voltage a sinusoidal voltage results at the output, which is not temperature-compensated. With the aid of external circuitry this signal can be amplified, temperature-compensated and adapted for various applications.

Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Operating temperature	T_A	- 25 / + 70	°C
Supply voltage	V_{IN}	8	V
Supply current	I_{IN}	30	mA

Electrical Characteristics ($T_A = 25\text{ °C}$)

Linear angle of rotation	Φ	75	deg.
Output signal for corresponding angle of rotation	V_{OUT}	approx. 40	% of V_{IN}
Total resistance	R_{tot}	approx. 850	Ω
Load resistance	R_L	> 50	k Ω
Temperature error in range - 25 °C...+ 70 °C	-	non-compensated	-
Linearity	F_L	$\leq \pm 2.5$	% of V_{OUT}
Hysteresis	-	$\leq \pm 1$	% of V_{OUT}

Mechanical Ratings

Required torque	M_d	0.2 typ.	Ncm
Max. perm. compressive axial force	$F_{a\text{ compr.}}$	10	N
Max. perm. tensile axial force	$F_{a\text{ tens}}$	3	N
Max. perm. radial force	F_r	10	N
Max. perm. speed	n	3000	min ⁻¹
Cycles (life)	L	10 ⁸	-