



## Brushless – DC Motors

### 5612R100X-P

- Peak torque..... 0.9 up to 1.2 Nm
- Max. Current..... 60 A
- Weight..... 340 g
- Dimensions..... Ø 42.2 mm  
H 62 mm

Compact, and high torque density are the main features of this BLDC motor. It is suitable for high T°C and high vibration applications (automotive heavy duty harsh environments) and could be fitted with position sensors

#### ► Technical data

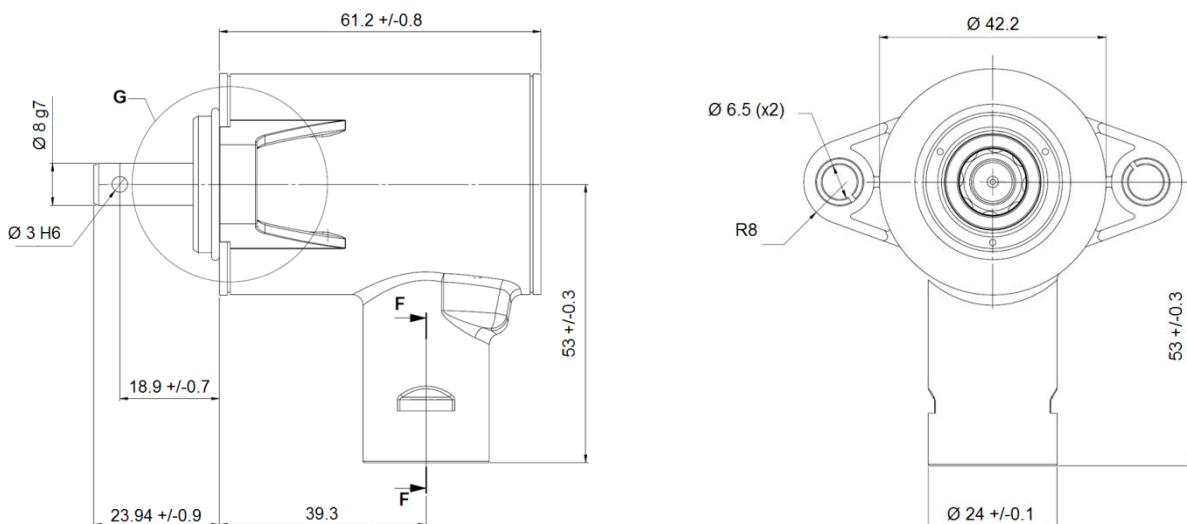
Mass	0.340	kg	Detent torque	0-60	mNm
Phase Number	3-Δ	-	Motor constant	60	mNm/W <sup>1/2</sup>
Nominal Voltage	12	V	Torque constant peak*	17.2*	mNm/A
Phase Resistance	90	m Ω	Continuous stall torque	320	mNm
Phase Inductance	50	μH	Max static torque	900	mNm
Steps per revolution	30	-	No load speed	6500	rpm
Tightness	IP67 IP6K9K	-	Rotor Inertia	9.5	kg.mm <sup>2</sup>

Nota: values at ambient temperature

\* On demand: Torque constant peak up to 23 mNm/A

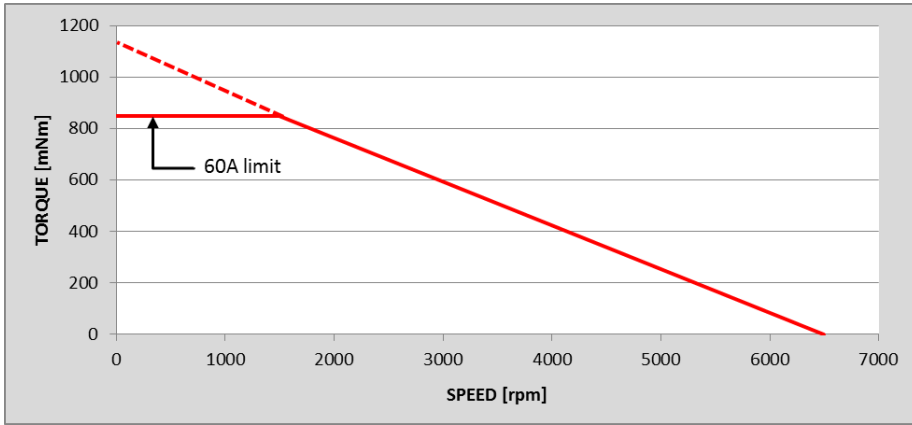
#### ► Dimensions

Drawing not to scale. All dimensions in mm.

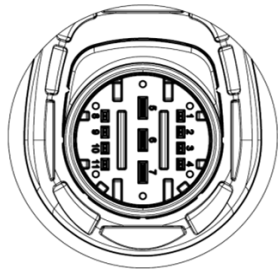


On demand, evolutive design is possible: Output shaft / application interface

► Dynamic characteristics



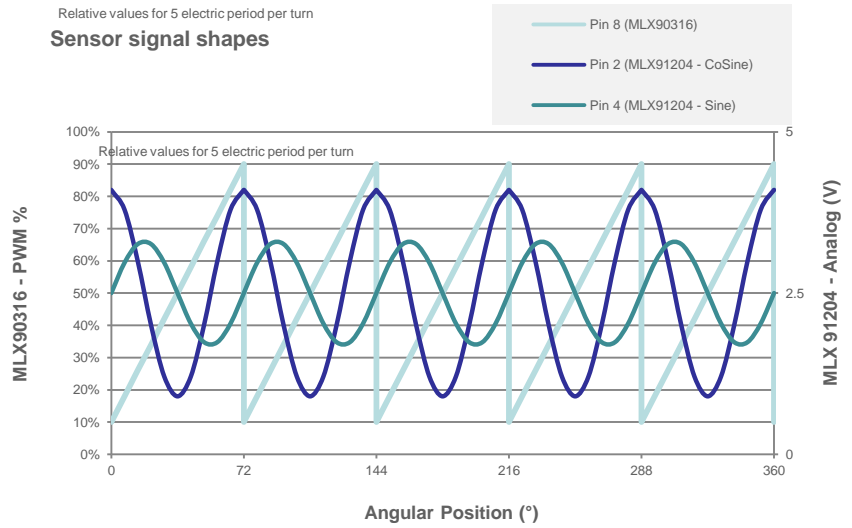
► Electrical Interface and step sequence



PIN Out - To be defined	
PIN	Config.
1	-
2	Y out (sine)
3	C out (~Vsupp/2)
4	X out (cosine)
5	W
6	V
7	U
8	Ang. Vout (PWM)
9	Supply 5V 91204
10	GND
11	Supply 5V 90316

Relative values for 5 electric period per turn

Sensor signal shapes



	Resolution	Accuracy	Supply Voltage/Current	Output signal
Unit	°mech	°mech	V/A	-
Sensor#1 [MLX90316]	Speed dependant [12bits max] Probe high speed mode (sampling rate 200µs)	±1.13	5V±0.5V / 13.5...16mA	PWM [From 100Hz to 1000Hz possible] [Push-Pull or Nmos]
Sensor#2 [MLX91204]	Returns a sine and a cosine analog. The signal treatment by the customer will define the resolution of the sensor.		5V±0.5V / 16.5...19mA	Analog Voltage Range 0.5 ... 4.5V

► Operating Conditions

Temperature range .....

-40°C/130°C

Vibration level .....

Up to 15g – bandwidth 0-1600Hz

Nota: Overall specifications depend on sensor options and driving duty cycles.

Special requirements upon customer specifications. Right to change without notifications reserved

<1.0>

SONCEBOZ SA

2605 Sonceboz – Switzerland

Tel. +41(0) 32 488 11 11

Fax +41(0) 32 488 11 00

info@sonceboz.com - www.sonceboz.com

