

Data Sheet for Angle Sensors

Hall-Effect Multi-Turn Rotary Encoder

Series HSM2210M



- Measuring range 3600°, True-Power-On
- Housing: ø22mm
- Supply Voltage 5V
- Output 0,25..4,75V
- Signal Plateaus at both sides of measuring range avoid abrupt signal jumps
- No Endstop - no danger of mechanical damage
- Optional redundant output

The Series HSM2210M is a true-power-on contactless sensor that fits perfectly in the very common 22mm-multiturn-potentiometer applications. There are signal plateaus at both sides of the measuring range. This avoids signal jumps at critical mounting tolerances. If you even need more safety you can choose the redundant option.

| Electrical Data | Single Version | Redundant Version |
|---------------------------------|-------------------------|---------------------|
| Electrical angle | 3600°±5° | |
| Resolution | 12 bit (4096 steps) | |
| Tolerance independent linearity | ±0,5 % | |
| Hysteresis | < 10° | |
| Update rate | max. 0.8 ms | |
| Output signal | 5%..95% VSUP ±3%VSUP | |
| Supply voltage | 5 V ±10 % | |
| Current consumption (no load) | < 16 mA (single ended) | < 32 mA (redundant) |
| Output load | ≥ 10 kOhm | |
| Isolation resistance | 1 MOhm @ 500 VDC, 1 min | |
| Dielectric strength | 1000 VAC @ 50 Hz, 1 min | |

| Mechanical and Environmental Data | |
|--|--|
| Mechanical angle | Endless |
| Maximum rotational speed | 400 rpm |
| Bearing | Sleeve bearing |
| Life expectancy | > 10 x 10 ⁶ revolutions <small>Tested under room temperature +20 °C, with no radial load</small> |
| Starting torque | ≤ 5 mNm |
| Protection class electronics | IP65 |
| Protection class shaft and housing sealing | IP50 |
| Operating temperature | -40..+85 °C (fixed cable) |
| Storage temperature | -40..+85 °C |
| Mechanical vibration (MIL-STD-202F-204) | 20 g (±1,5 mm, 10..2000 Hz 12 cycles 3 axis, 3x4 h) |
| Mechanical shock (MIL-STD-202F-213) | 50 g (6 ms, 3 axis x 6 times) |
| Max. fastening torque of the mounting nut | 1 Nm (Panel thickness ≤ 3mm) |
| Mounting parts (included in delivery) | Hexagonal nut, teeth washer |
| Weight | Approx. 35 g |

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Series HSM2210M

Order code single electronic

Description

| | | | | |
|---|----------|----|------|---------|
| Series | HSM2210M | | | |
| Supply voltage / Output signal 5 V ± 10 % / 0,25..4,75 V ratiometric | | -- | 0525 | |
| Without mechanical stops; signal increases with clockwise rotation | | | | OCW3600 |

Order code redundant electronic

Description

| | | | | |
|---|----------|---|------|---------------------|
| Series | HSM2210M | | | |
| Redundant outputs | | X | | |
| Supply voltage / Output signal 5 V ± 10 % / 0,25..4,75 V ratiometric | | | 0525 | |
| Without mechanical stops; Signal A increases with clockwise rotation Signal B decreases with clockwise rotation | | | | OCW3600 CCW3600 (*) |

short-term stock types can be found on: <http://www.megatron.de/en/stocklists/angle-sensors/lagerliste.html>

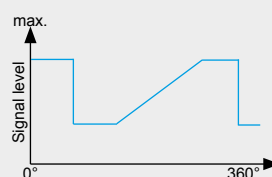
bold print = standard option

(*) = on request available for projects

For higher quantities or on-going demand, additional options are available as described below

For example:

- Customized signal characteristic
 - other minimum and maximum signal levels
 - signal plateau in the center
 - parallel redundant signal outputs
- Customized shaft design



For technical advice, projects, samples, questions about pricing, delivery times and availability please contact us

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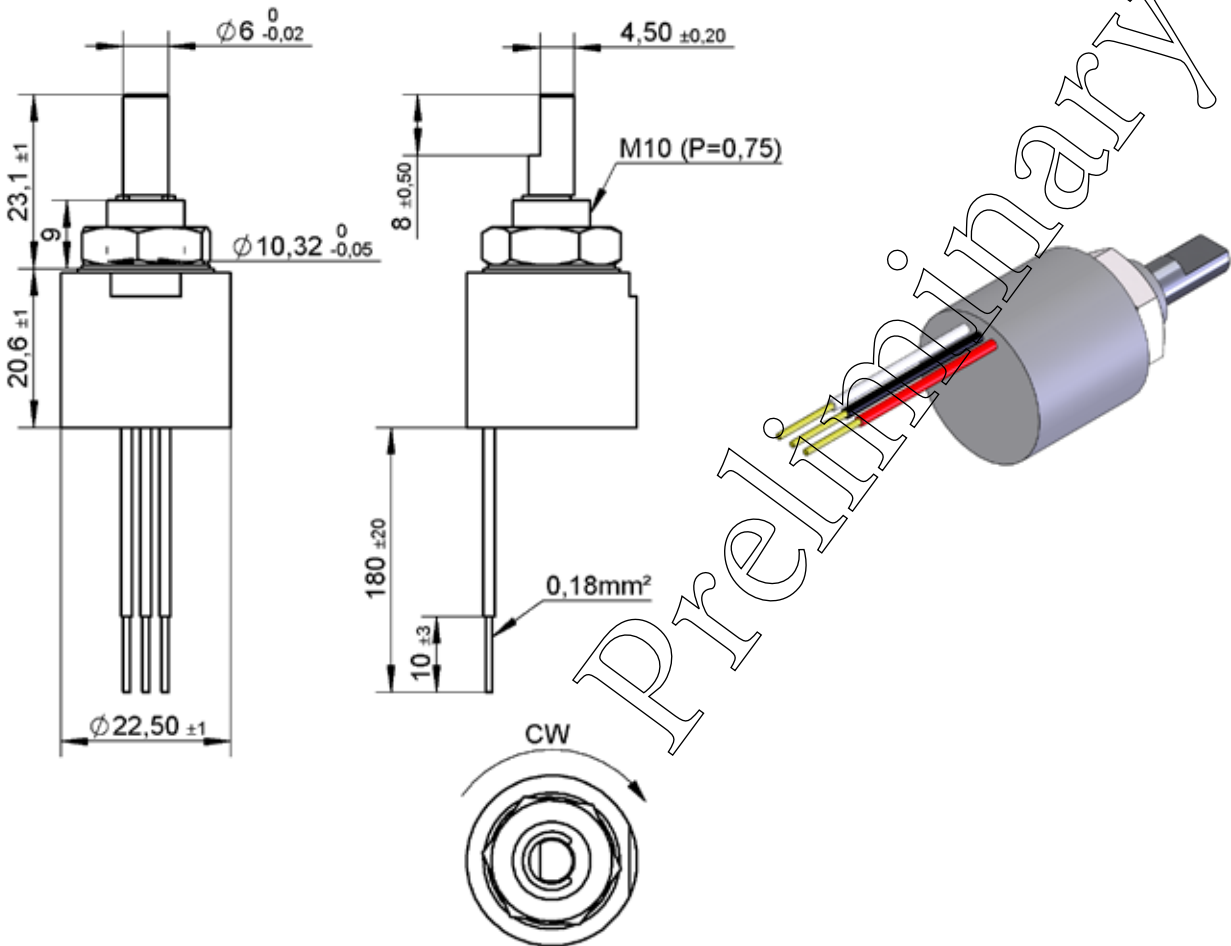
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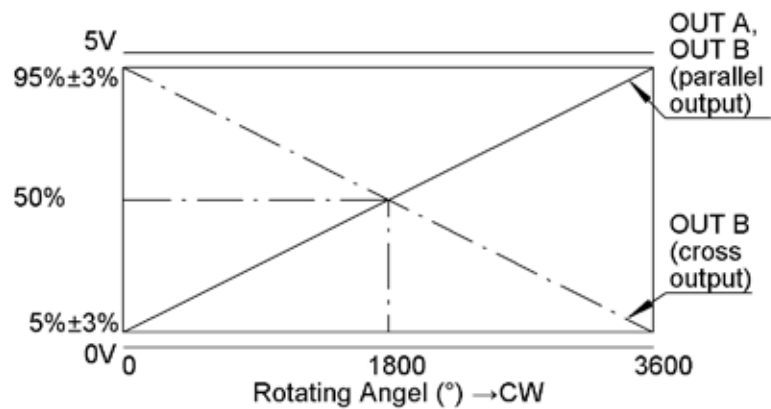
Series HSM2210M

Drawing

Single version



| Cable assignment | |
|------------------|---|
| VSUP 1 | 1 |
| OUT 1 | 2 |
| GND 1 | 3 |
| VSUP 2 | 4 |
| OUT 2 | 5 |
| GND 2 | 6 |



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