


5-Turn Analog Displacement Sensor P22 Redundant



FEATURES

- Dual conductive plastic potentiometer technology 
- Infinite resolution
- Molded metal housing
- Stainless steel shaft
- Precious metal contacts
- Soldering terminal contacts
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

QUICK REFERENCE DATA

| | |
|------------------|--|
| Sensor type | ROTATIONAL, multi turns conductive plastic |
| Output type | Output by turrets, wires, or connector |
| Market appliance | Transportation |
| Dimensions | 51.1 mm x 30 mm |

ELECTRICAL SPECIFICATIONS

| PARAMETER | |
|------------------------------------|-------------------------------------|
| Theoretical electrical travel | 1700° ± 15° |
| Independent linearity | ± 1 % |
| Inter-linearity | ± 2.5 % |
| Total resistance (R _n) | 2 x 2.2 kΩ |
| Tolerance on R _n | ± 20 % |
| Output smoothness | ≤ 0.1 % |
| Power rating at 70 °C | 1 W |
| Temperature coefficient | -300 ± 300 ppm/°C |
| Wiper current | ≤ 1 mA |
| Recommended load impedance | ≥ 100 R _n |
| Insulation resistance | ≥ 1 GΩ at 500 V _{DC} |
| Dielectric strength | 750 V _{RMS} , 50 Hz, 1 min |

MECHANICAL SPECIFICATIONS

| PARAMETER | |
|-----------------------------|-----------------------------|
| Mechanical rotation | Continuous |
| Running and starting torque | ≤ 2 N cm |
| Panel tightening torque | ≤ 250 N cm |
| Weight | 100 g |
| Protection class | IP 50 to IP 66 (front face) |
| Backlash | < 14° |

PERFORMANCE

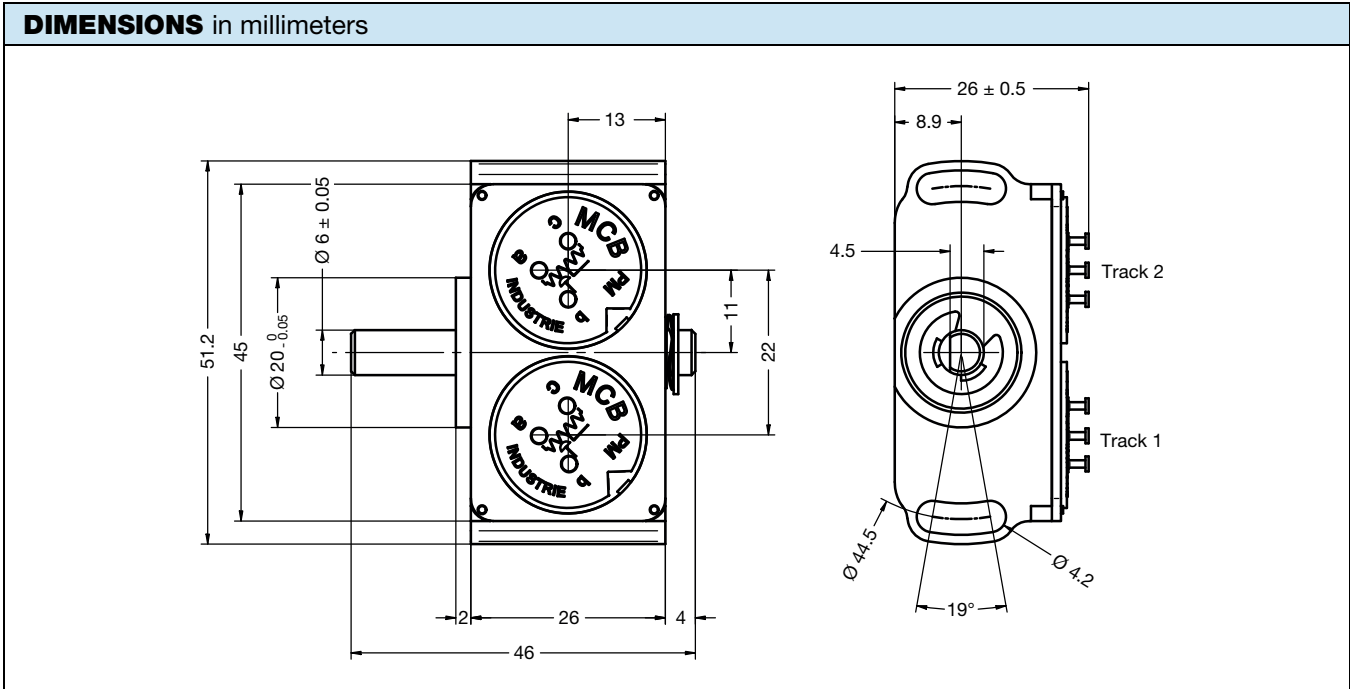
| PARAMETER | |
|-----------------------------|------------------|
| Operating temperature range | -30 °C to +70 °C |
| Life | 100M cycles |
| Rotation speed (max.) | 150 rpm |

Note

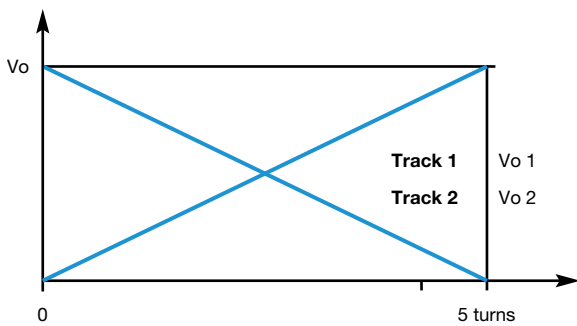
- Nothing stated herein shall be construed as a guarantee of quality or durability



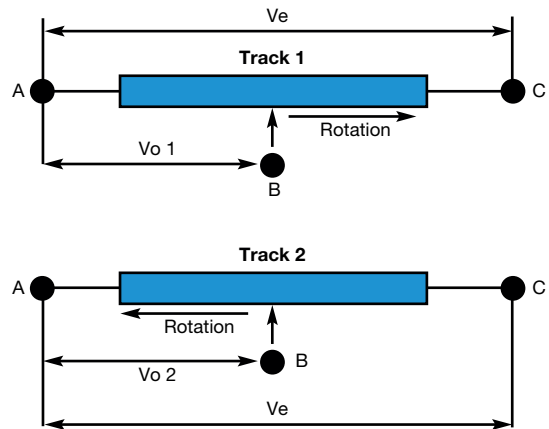
| SAP PART NUMBERING GUIDELINES | | | | | | | |
|-------------------------------|---------------|-----------|------------------|-----------|-----------|-------------------|-----------|
| MODEL | FUNCTION | MOUNTING | TYPE | VALUE | LINEARITY | ANGLE | PACKAGING |
| P22 | R = redundant | S = servo | R = ball bearing | 222 = 2K2 | A = 1 % | 1700 # 5 turns | B = box |



ELECTRICAL DIAGRAM



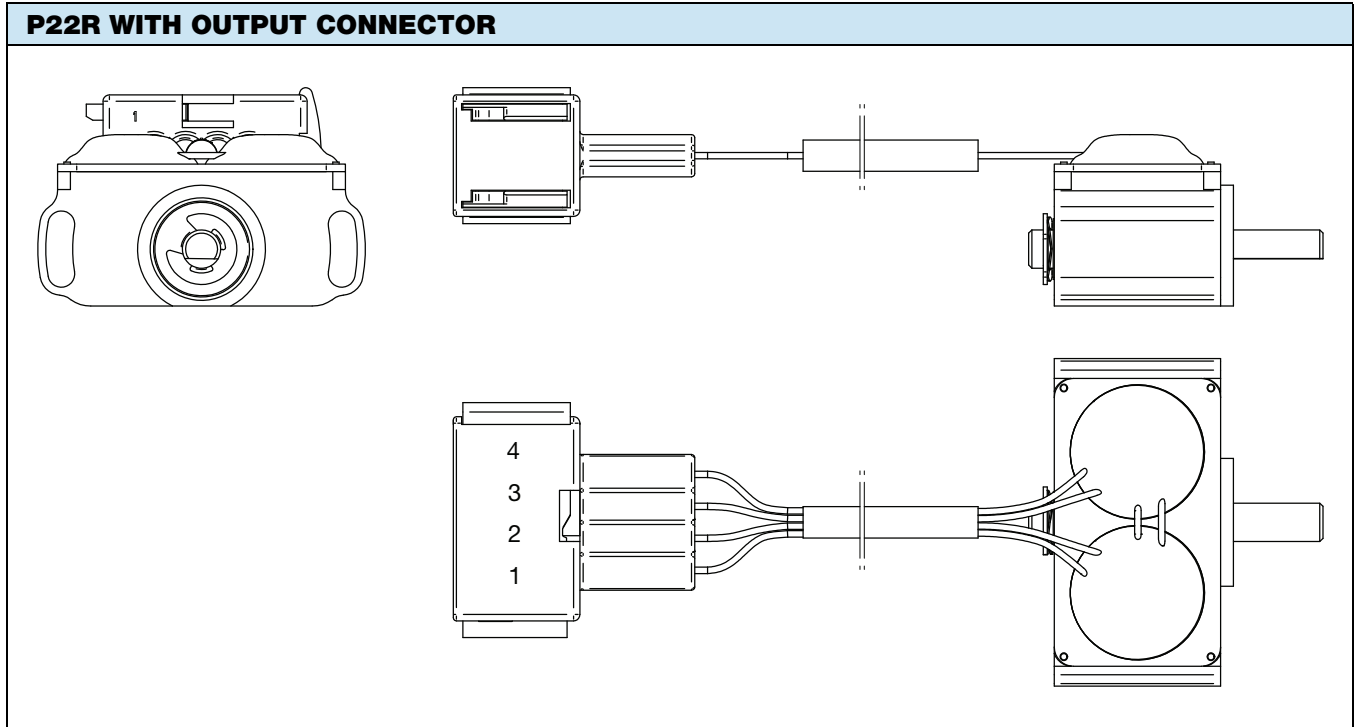
Clockwise rotation viewed from shaft side with identical wiring on both tracks





OPTIONS (on request)

- Other total resistance (R_n)
- Other versions: 2.5 turns and 8 turns
- Option wire outputs or connector: in such case, between wires and turrets of sensor P22R, to protect against moisture and risk of short circuit, a potting is added on turrets to provide insulating function (to not confuse with mechanical stress / efforts applied on potting, to avoid such mechanical stress on potting / turrets)





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