# *REMOTE RESISTANCE*


## SELECTION GUIDE

*M100-RPN  Resistance measurement*

## TYPICAL APPLICATIONS

*The M100-RPN is designed to measure the resistance of 3 wire potentiometers, where the resistance value is proportional to the position of the wiper of the potentiometer. The output value from the M100-RPN is directly proportional to the resistance value at the wiper.*
*A typical application is monitoring remote resistance of potentiometer used in manual valve control.*

## TECHNICAL SPECIFICATION

| | |
|---|---|
| *INPUT* | |
| *Rated range* | *min. 100 ohms.... max. 50 kOhms* |
| *Sensor current* | *min. 20uA.... max. 10mA* |
| *Sensor voltage* | *1 Volt* |
| *Working range* | *0-100% $R_N$* |
| *OUTPUT* | |
| *Rated value mA* | *1/5/10/20 & 4-20mA* |
| *Rated value volts* | *0-5 / 10 & 1-5 V* |
| *ADJUSTMENT* | |
| *Zero* | *0-35%* |
| *Span* | *65-100%* |
| *AUXILIARY* | |
| *A.C. Voltage* | *115 / 230 / 400 V (± 25% / 45-65 Hz / < 2VA)* |
| *D.C. Voltage* | *24 / 48 / 110 V (± 20% / galvanically isolated / <3W)* |
| *WEIGHT & CASE SIZE* | *Approx. 0.4 kg. 55mm case* |

*NOTE*
*No isolation is provided between input and output*

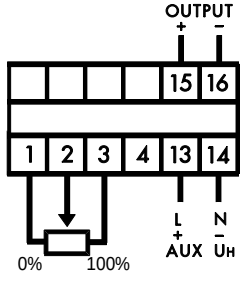
## ORDERING INFORMATION

| *Product Code* | *Input* | *Output* | *Aux.* | *Freq.* | *Options* |
|---|---|---|---|---|---|
| *M100-RPN* | *2 kOhm* | *0-20mA* | *230V* | *50Hz* | |

## OPTIONS

1. *Non standard inputs / outputs only as far as technically acceptable.*
2. *A.C. Auxiliary in range 57.7 to 450 volts*
3. *Calibration at temperature other than 23°C*

## CONNECTION DIAGRAM




**M100-RPN**

# GENERAL SPECIFICATIONS

## ENVIRONMENTAL

| | |
|---|---|
| *Working temperature* | *0 to +60 deg C* |
| *Functional temperature* | *-25 to +70 deg C* |
| *Storage temperature* | *-55 to +85 deg C* |
| *Temperature coefficient* | *0.02% per deg C (100 ppm / °C)* |
| *Relative humidity* | *95% non condensing* |
| *Class of climate* | *HSE complying with DIN 40040 -3 complying with VDE/VDI 3540* |

## INSULATION

| | |
|---|---|
| *Test voltage* | *4kV RMS 50Hz 1min. between Input / Case / Auxiliary / Output* |
| *Impulse test* | *EMC 5kV transient complying with IEC 801 / EN55020* |
| *HF interference test* | *EHF 2.5kV 1MHz complying with IEC 255-4* |
| *Protection class* | *II complying with IEC 348 BS 4753 / DIN 57411 / VDE 0411* |

## APPLIED STANDARDS

| | |
|---|---|
| *General* | *IEC 688 / BS 6253 / VDE/ VDI 2192* |
| *Safety* | *BS EN61010 DIN 57411 / VDE 0411 ANSI C37* |
| *Surge withstand* | *IEC 801 / EN 55020 ANSI C37-90a* |
| *Radio screening* | *RFI degree N complies with VDE 0875* |
| *EMC* | *Emissions EN50081-2 Immunity EN50082-1* |

## ACCURACY

| | |
|---|---|
| *Class* | *±0.2 % complying with IEC 688* |
| *Calibration temperature* | *23°C* |
| *Temperature coefficient* | *0.01% / °C (100 ppm / °C)* |
| *Stability* | *0.05 % per annum non cumulative* |
| *Warm up time* | *<15 min* |

## OUTPUT

| | | |
|---|---|---|
| *Rated value* | *See individual product pages* | |
| *Load resistance mA* | *1mA* | *<15 kOhm* |
| *(Unless otherwise* | *5mA* | *<3 kOhm* |
| *stated)* | *10mA* | *<1.5 kOhm* |
| | *20mA* | *< 0.75kOhm* |
| | *4-20mA* | *< 0.75kOhm* |
| *Load resistance volts* | *1, 5 & 10 volts >1 kOhm* | |
| *(M100-VA1,VA3 only)* | *1, 5 & 10 volts > 50kOhm* | |
| *Load influence* | *<0.1 %* | |
| *Ripple* | *<0.5% peak-peak at full load* | |
| *Response time* | *<200 msec for 0-99 % at full load* | |
| *Overload* | *<2 x rated value at full load* | |
| *No load voltage* | *<27 V* | |

## ENCLOSURE

| | |
|---|---|
| *Fixing* | *Snap on to DIN rail 35 x 7.5 mm complies with DIN-EN 50022 BS 5584* |
| *Mounting* | *Any position* |
| *Enclosure Code* | *Case IP 50 / terminals IP 30 Complies with IEC 529 BS 5490 DIN 40050* |

## APPROVALS

| | |
|---|---|
| *cU.L. Approval* | *File No E157034* |

## CASE DIMENSIONS

*All Dimensions in mm*