

Super-mini Terminal Block Signal Conditioners *M5-UNIT*

RTD TRANSMITTER

MODEL M5RS

MODEL & SUFFIX CODE SELECTION

M5RS-□□-□□

MODEL _____

INPUT RTD (2- or 3-wire) _____

- 1 : JPt 100 (JIS '89)
- 3 : Pt 100 (JIS '89)
- 4 : Pt 100 (JIS '97, IEC)
- 5 : Pt 50Ω (JIS '81)
- 6 : Ni 508.4Ω
- 0 : Specify

OUTPUT _____

Current

Voltage

- | | |
|---------------------|---------------------|
| A : 4 – 20mA DC | 4 : 0 – 10V DC |
| Z : Specify current | 5 : 0 – 5V DC |
| | 6 : 1 – 5V DC |
| | 4W : -10 – +10V DC |
| | 5W : -5 – +5V DC |
| | 0 : Specify voltage |

POWER INPUT _____

M : 85 – 264V AC *1

R : 24V DC

*1: CE not available.

OPTIONS _____

/K : Fast response

/BL : Downscale burnout

ORDERING INFORMATION

Specify code number and variables.

- **Code number** (e.g. M5RS-4A-R/K/BL)
- **Temperature range** (e.g. 0 – 500°C)
- **Special output range** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: Terminal block

Connection: M3.5 screw terminals
(nickel-plated steel; torque 0.8 N·m)

Housing material: Flame-resistant resin (black)

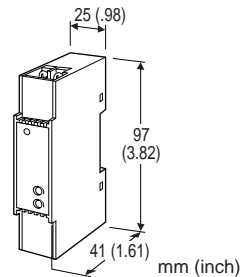
Isolation: Input to output to power

Front adjustments: ±2% for zero and span

Burnout protection: Upscale standard; downscale optional

Linearization: Standard

Power LED: Green light turns on when the power is supplied.



Functions & Features

- Accepting direct input from an RTD and providing a standard process signal
- Linearization
- Burnout protection
- Fast response type available
- High-density mounting
- Power LED
- CE marking for 24V power

INPUT & OUTPUT

■ **INPUT:** 2- or 3-wire RTDs

Maximum leadwire resistance: 200Ω per wire (3-wire)

Sensing current: 2mA (Pt); 1mA (Ni 508.4Ω)

Temperature range

RTD	USABLE RANGE		MIN. SPAN	
	°C	°F	°C	°F
JPt 100 (JIS '89)	-200 to +500	-328 to +932	50	90
Pt 100 (JIS '89)	-200 to +650	-328 to +1202	50	90
Pt 100 (JIS '97/IEC)	-200 to +850	-328 to +1562	50	90
Pt 50Ω (JIS '81)	-200 to +500	-328 to +932	100	180
Ni 508.4Ω	-50 to +200	-58 to +392	30	54

■ **OUTPUT**

• **DC Current:** 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 11V maximum

Output	Load Resistance
4 – 20mA	: 550 (Ω maximum)

• **DC Voltage:** 0 – 10V DC

Minimum span: 1V

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 10mA maximum; at ≥1V

Output	Load Resistance
0 – 10V	: 1000 (Ω minimum)
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 8000
-5 – +5V	: 4000

INSTALLATION

Power input

AC: Operational voltage range 85 – 264V;
47 – 66 Hz; approx. 2VA at 100V
approx. 3VA at 200V
approx. 3VA at 264V

DC: Operational voltage range 24V ±10%;
ripple 10% p-p max.; approx. 2W

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 0 to 90% RH (non-condensing)
Mounting: DIN rail
Dimensions: W25×H97×D41 mm (0.98"×3.82"×1.61")
See General Spec. Sheet Figure C-1.
Weight: 80 g (2.8 oz.)
Terminal assignment: See General Spec. Sheet Figure D-1.

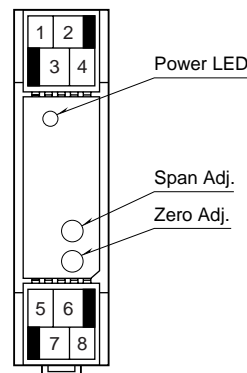
PERFORMANCE in percentage of span

Accuracy: ±0.2%
Temp. coefficient: ±0.015%/°C or ±0.008%/°F
(at 200°C or 360°F or greater spans)
±0.02%/°C or ±0.01%/°F
(at narrower than 200°C or 360°F spans)
Response time: ≤0.5 seconds (0 – 90%)
approx. 25 milliseconds with option /K
Burnout response: ≤10 seconds
Line voltage effect: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength
DC powered: 2000V AC @1 minute
(input to output to power to ground)
AC powered: 1500V AC @1 minute
(input to output to power to ground)

STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2

FRONT PANEL CONFIGURATION



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

