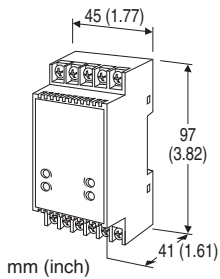


Terminal Block Dual Output Signal Conditioners W5-UNIT

RTD TRANSMITTER

Functions & Features

- Accepts direct input from a RTD
- Two independent output ranges
- Four-way isolation (input to output 1 to output 2 to power)
- Linearization and burnout
- Fast response type available
- High-density mounting



MODEL: W5RS-[1][2][3]-[4][5]

ORDERING INFORMATION

- Code number: W5RS-[1][2][3]-[4][5]
Specify a code from below for each [1] through [5].
(e.g. W5RS-4A6-R/K/BL/Q)
- Temperature range (e.g. 0 – 500°C)
- Special output ranges (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/V01/S01)

[1] INPUT RTD (2- or 3-wire)

1: JPt 100 (JIS'89)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 50°C, 90°F)

3: Pt 100 (JIS'89)

(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 50°C, 90°F)

4: Pt 100 (JIS'97, IEC)

(Usable range: -200 to +850°C, -328 to +1562°F; min.span: 50°C, 90°F)

5: Pt 50 Ω (JIS'81)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 100°C, 180°F)

6: Ni 508.4 Ω

(Usable range: -50 to +200°C, -58 to +392°F; min.span: 30°C, 54°F)

0: Specify

Note: Consult M-System for 2-wire RTD

[2] OUTPUT 1

Current

A: 4 – 20 mA DC (Load resistance 550 Ω max.)

B: 2 – 10 mA DC (Load resistance 1100 Ω max.)

C: 1 – 5 mA DC (Load resistance 2200 Ω max.)

D: 0 – 20 mA DC (Load resistance 550 Ω max.)

E: 0 – 16 mA DC (Load resistance 685 Ω max.)

F: 0 – 10 mA DC (Load resistance 1100 Ω max.)

G: 0 – 1 mA DC (Load resistance 11 kΩ max.)

Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

1: 0 – 10 mV DC (Load resistance 10 kΩ min.)

2: 0 – 100 mV DC (Load resistance 100 kΩ min.)

3: 0 – 1 V DC (Load resistance 100 Ω min.)

4: 0 – 10 V DC (Load resistance 1000 Ω min.)

5: 0 – 5 V DC (Load resistance 500 Ω min.)

6: 1 – 5 V DC (Load resistance 500 Ω min.)

4W: -10 – +10 V DC (Load resistance 2000 Ω min.)

5W: -5 – +5 V DC (Load resistance 1000 Ω min.)

0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] OUTPUT 2

Same range availability as Output 1

Y: None

[4] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)

(CE not available)

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

R2: 11 – 27 V DC

(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)

(CE not available)

P: 110 V DC

(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)

(CE not available)

[5] OPTIONS (multiple selections)

Response Time (0 – 90 %)

blank: Standard (≤ 0.5 sec.)

/K: Fast Response (Approx. 25 msec.)

Burnout

blank: Upscale burnout

/BL: Downscale burnout

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

ADJUSTMENT

/V01: Multi-turn fine adjustment

/VN: Sealed adjustment holes

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Terminal block

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)

Output & power: M3 screw terminals (torque 0.8 N·m)

Screw terminal: Nickel-plated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 - 5 V

Zero adjustment: -2 to +2 % (front)

Span adjustment: 98 to 102 % (front)

At burnout: Downscale ≤ -10 %, Upscale ≥ 110 %, For output code 4W, Downscale ≤ -3%, Upscale ≥ 103%

Linearization: Standard

INPUT SPECIFICATIONS

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

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

OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 11 V max.

■ **DC Voltage:** -10 - +12 V DC

Spans: Min. 5 mV, max. 20 V

Offset: Max. 1.5 times span

Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

Power Consumption

• **AC:**

Approx. 4 VA at 100 V

Approx. 5 VA at 200 V

Approx. 6 VA at 264 V

• **DC:** Approx. 3 W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 0 to 90 %RH (non-condensing)

Mounting: DIN rail

Weight: 130 g (0.29 lb)

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)

Burnout response: ≤ 10 sec.

Line voltage effect: ±0.1 % over voltage range

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength:

2000 V AC @1 minute (input to output 1 or output 2 to power to ground)

1000 V AC @1 minute (output 1 to output 2)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

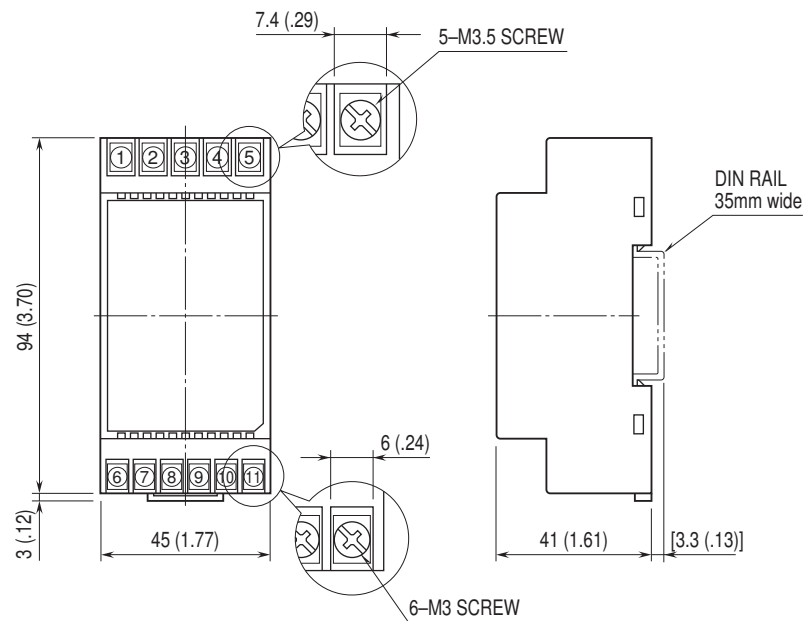
EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

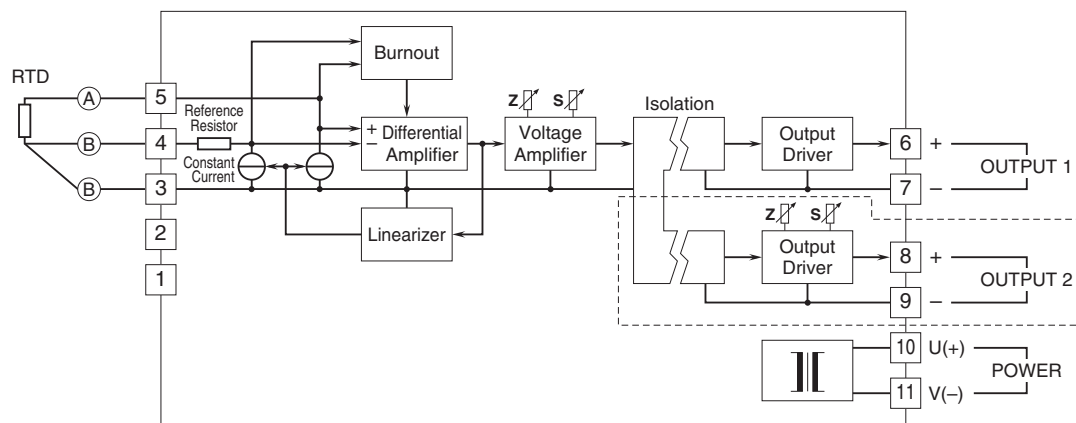
EN 50581

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Note 1: The section enclosed by broken line is only with 2nd output option.

Note 2: DO NOT connect to the terminals 1 - 2.



Specifications are subject to change without notice.