

**Terminal Block Dual Output Signal Conditioners *W5-UNIT***

**RTD TRANSMITTER**

**MODEL W5RS**

**MODEL & SUFFIX CODE SELECTION**

W5RS-□□□□□□

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 1 \_\_\_\_\_

**Current**

**Voltage**

- |                     |                     |
|---------------------|---------------------|
| A : 4 – 20mA DC     | 1 : 0 – 10mV DC     |
| B : 2 – 10mA DC     | 2 : 0 – 100mV DC    |
| C : 1 – 5mA DC      | 3 : 0 – 1V DC       |
| D : 0 – 20mA DC     | 4 : 0 – 10V DC      |
| E : 0 – 16mA DC     | 5 : 0 – 5V DC       |
| F : 0 – 10mA DC     | 6 : 1 – 5V DC       |
| G : 0 – 1mA DC      | 4W : -10 – +10V DC  |
| Z : Specify current | 5W : -5 – +5V DC    |
|                     | 0 : Specify voltage |

OUTPUT 2 \_\_\_\_\_

Same range availability as Output 1

Y : None

POWER INPUT \_\_\_\_\_

**AC Power**

**DC Power**

- |                     |                    |
|---------------------|--------------------|
| M : 85 – 264V AC *1 | R : 24V DC         |
|                     | R2: 11 – 27V DC *1 |
|                     | P : 110V DC *1     |

\*1: CE not available

OPTIONS \_\_\_\_\_

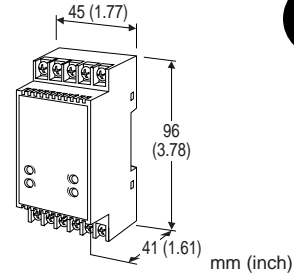
/K : Fast response

/BL : Downscale burnout

**ORDERING INFORMATION**

Specify code number and variables. When only one (1) output is needed, the output must be assigned to Output 1 terminal.

- **Code number** (e.g. W5RS-4A6-R/K/BL)
- **Temperature range** (e.g. 0 – 500°C)
- **Special output range** (For codes Z & 0)



**Functions & Features**

- Accepts direct input from an RTD
- Two independent output ranges
- Universal power input
- Linearization
- Burnout protection
- Fast response type available
- High-density mounting
- CE marking for 24V DC power

**GENERAL SPECIFICATIONS**

**Construction:** Terminal block

**Connection**

**Input:** M3.5 screw terminals

**Output & power:** M3 screw terminals

**Screw material:** Nickel-plated steel

(torque 0.8 N·m)

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input to output 1 to output 2 to power

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

**Front adjustments:** ±2% for zero and span

**Burnout protection:** Upscale standard; downscale optional

**Linearization:** Standard

**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

**OUTPUTS (two)**

•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 ( $\Omega$ maximum)
2 – 10mA	: 1100
1 – 5mA	: 2200
0 – 20mA	: 550
0 – 16mA	: 685
0 – 10mA	: 1100
0 – 1mA	: 11k

•DC Voltage: -10 – +12V DC

Spans: Min. 5mV, max. 20V

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 10mA maximum;  
5mA for negative voltage output; at  $\geq 0.5V$ 

Output	Load Resistance
0 – 10mV	: 10k ( $\Omega$ minimum)
0 – 100mV	: 100k
0 – 1V	: 100
0 – 10V	: 1000
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 2000
-5 – +5V	: 1000

**INSTALLATION****Power input**

**AC:** Operational voltage range 85 – 264V;  
47 – 66 Hz; approx. 4VA at 100V  
approx. 5VA at 200V  
approx. 6VA at 264V

**DC:** Operational voltage range for R: 24V  
 $\pm 10\%$ , R2: 11 – 27V, or P: 85 – 150V;  
ripple 10% p-p max.; approx. 3W

**Operating temperature:** -5 to +55°C (23 to 131°F)**Operating humidity:** 0 to 90% RH (non-condensing)**Mounting:** DIN rail**Dimensions:** W45×H96×D41 mm (1.77"×3.78"×1.61")

See General Spec. Sheet Figure A-1.

**Weight:** 130 g (0.29 lbs)**Terminal assignment:** See General Spec. Sheet Figure B-1.**PERFORMANCE in percentage of span****Accuracy:**  $\pm 0.2\%$ **Temp. coefficient:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )  
(at over 200°C or 360°F spans)**Response time:**  $\leq 0.5$  seconds (0 – 90%)  
approx. 25 milliseconds with option /K**Burnout response:**  $\leq 10$  seconds**Line voltage effect:**  $\pm 0.1\%$  over voltage range**Insulation resistance:**  $\geq 100M\Omega$  with 500V DC**Dielectric strength:** 2000V AC @1 minute

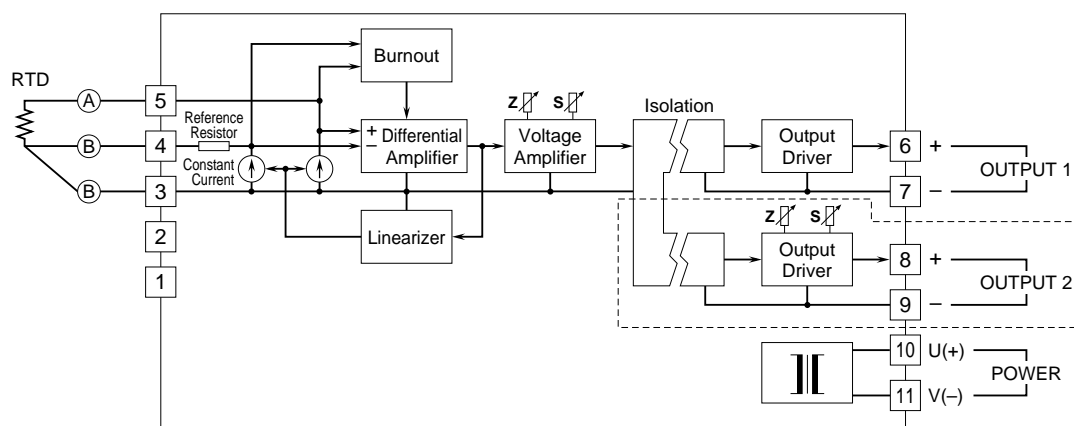
(input to output 1 or output 2 to power)

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

**STANDARDS & APPROVALS****CE conformity:** EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

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

Remark 2: DO NOT connect to the terminals 1 – 2.