

## Rack-mounted DCS Signal Conditioners 18-RACK

### RTD CONVERTER

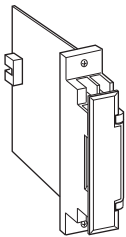
(fast response)

#### Functions & Features

- Accepting direct input from an RTD and providing two standard process signals
- Linearization
- Burnout protection
- Second channel output available at the front terminals and at the Standard Rack connector
- Fast response type

#### Typical Applications

- Converting into standard signals
- Power plant



### MODEL: 18RK-[1]6[2]-R[3]

#### ORDERING INFORMATION

- Code number: 18RK-[1]6[2]-R[3]
- Specify a code from below for each of [1] through [3].  
(e.g. 18RK-166-R/BL)
- Temperature range (e.g. 0 - 100°C)

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

**1:** JPt 100 (JIS'89)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 30°C, 54°F)

**3:** Pt 100 (JIS'89)

(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 30°C, 54°F)

**4:** Pt 100 (JIS'97, IEC)

(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 30°C, 54°F)

**5:** Pt 50 Ω (JIS'81)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 60°C, 108°F)

**6:** Ni 508.4 Ω

(Usable range: -50 to +200°C, -58 to +392°F; min.span: 20°C, 36°F)

**0:** Specify

Note: Consult us for 2-wire RTD

### OUTPUT 1

Voltage

**6:** 1 - 5 V DC (Load resistance 2000 Ω min.)

### [2] OUTPUT 2

Current

**A:** 4 - 20 mA DC (Load resistance 600 Ω max.)

Voltage

**6:** 1 - 5 V DC (Load resistance 2000 Ω min.)

### POWER INPUT

DC Power

**R:** 24 V DC

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

### [3] OPTIONS

Burnout

**blank:** Upscale burnout

**/BL:** Downscale burnout

#### GENERAL SPECIFICATIONS

**Construction:** Rack-mounted; terminal access via screw terminals on the front and connector on the rear; terminal cover provided

**Connection**

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

**Output 1:** Connector

**Output 2:** M3.5 screw terminals (torque 0.8 N·m) and connector

**Power input:** Supplied from connector

**Screw terminal:** Nickel-plated steel

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

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

**Zero adjustment:** -5 to +5 % (front)

**Span adjustment:** 95 to 105 % (front)

**Linearization:** Standard

#### INPUT SPECIFICATIONS

**Maximum leadwire resistance:** 20 Ω per wire (3-wire)

**Sensing current:** 2 mA

## INSTALLATION

**Current consumption:** Approx. 35 mA with voltage output

Approx. 65 mA with current output

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

**Operating humidity:** 30 to 90 %RH (non-condensing)

**Mounting:** Standard Rack 18BXx or 18KBXx

**Weight:** 150 g (0.33 lb)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.2\%$

**Temp. coefficient:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )

**Response time:** Approx. 25 msec. (0 - 90 %)

**Burnout response:**  $\leq 10$  sec.

**Line voltage effect:**  $\pm 0.1\%$  over voltage range

**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

**Dielectric strength:** 1500 V AC @ 1 minute

(input to output 1 or output 2 or power)

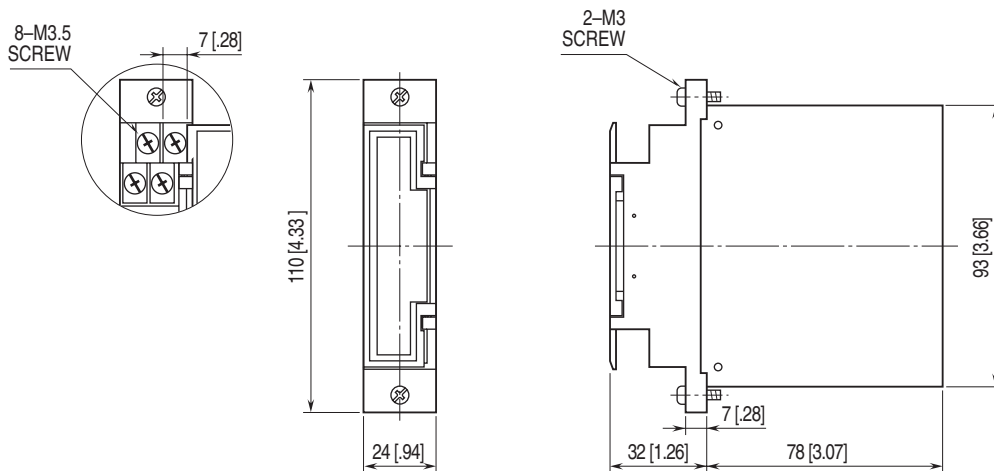
500 V AC @ 1 minute

(output 1 to output 2 to power)

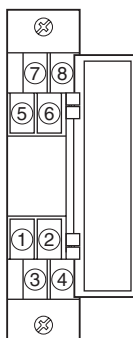
1500 V AC @ 1 minute

(input or output or power to ground)

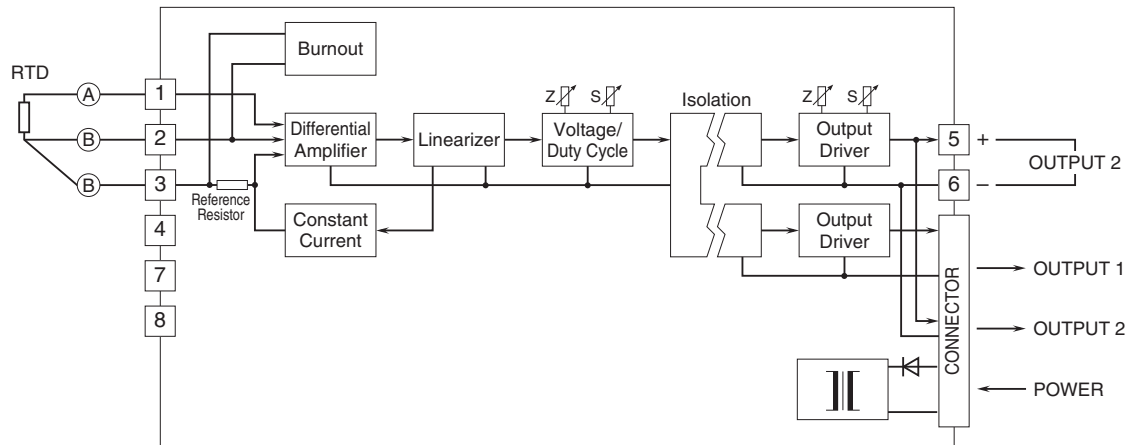
## EXTERNAL DIMENSIONS unit: mm [inch]



## TERMINAL ASSIGNMENTS



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



For OUTPUT 2 with current output, use either of terminals on the front or connector on the rear.



Specifications are subject to change without notice.