

## Rack-mounted DCS Signal Conditioners 18-RACK

### SIGNAL CONVERTER

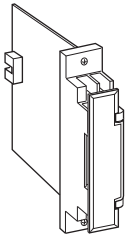
(fast response)

#### Functions & Features

- Converting a DC input into two standard process signals
- Second channel output available at the front terminals and at the Standard Rack connector
- Fast response type

#### Typical Applications

- Isolation between control room and field instrumentation



## MODEL: 18VK-[1]6[2]-R

### ORDERING INFORMATION

• Code number: 18VK-[1]6[2]-R

Specify a code from below for each [1] and [2]  
(e.g. 18VK-166-R)

#### [1] INPUT

##### Current

**A:** 4 - 20 mA DC (Input resistance 250  $\Omega$ )

**D:** 0 - 20 mA DC (Input resistance 50  $\Omega$ )

**G:** 0 - 1 mA DC (Input resistance 1000  $\Omega$ )

**H:** 10 - 50 mA DC (Input resistance 100  $\Omega$ )

##### Voltage

**1:** 0 - 10 mV DC (Input resistance 10 k $\Omega$  min.)

**2:** 0 - 100 mV DC (Input resistance 100 k $\Omega$  min.)

**3:** 0 - 1 V DC (Input resistance 1 M $\Omega$  min.)

**4:** 0 - 10 V DC (Input resistance 1 M $\Omega$  min.)

**5:** 0 - 5 V DC (Input resistance 1 M $\Omega$  min.)

**6:** 1 - 5 V DC (Input resistance 1 M $\Omega$  min.)

**0:** Specify voltage (See INPUT SPECIFICATIONS)

#### OUTPUT 1

##### Voltage

**6:** 1 - 5 V DC (Load resistance 2000  $\Omega$  min.)

#### [2] OUTPUT 2

##### Current

**A:** 4 - 20 mA DC (Load resistance 600  $\Omega$  max.)

##### Voltage

**6:** 1 - 5 V DC (Load resistance 2000  $\Omega$  min.)

#### POWER INPUT

##### DC Power

**R:** 24 V DC

(Operational voltage range 24 V  $\pm$ 10 %, ripple 10 %p-p max.)

### 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)

### INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

■ **DC Voltage:** 0 - 300 V DC

**Minimum span:** 3 mV

**Offset:** Max. 1.5 times span

**Input span: Input Resistance**

3 - 10 mV :  $\geq$  10 k $\Omega$

10 - 100 mV :  $\geq$  10 k $\Omega$

0.1 - 1 V :  $\geq$  100 k $\Omega$

$\geq$  1 V :  $\geq$  1 M $\Omega$

### OUTPUT SPECIFICATIONS

With the input voltage code 3, 4, 5, 6 and current, the output goes below 0 % when the input is open.



## INSTALLATION

### Power consumption

#### •DC:

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 lbs)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

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

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

**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)

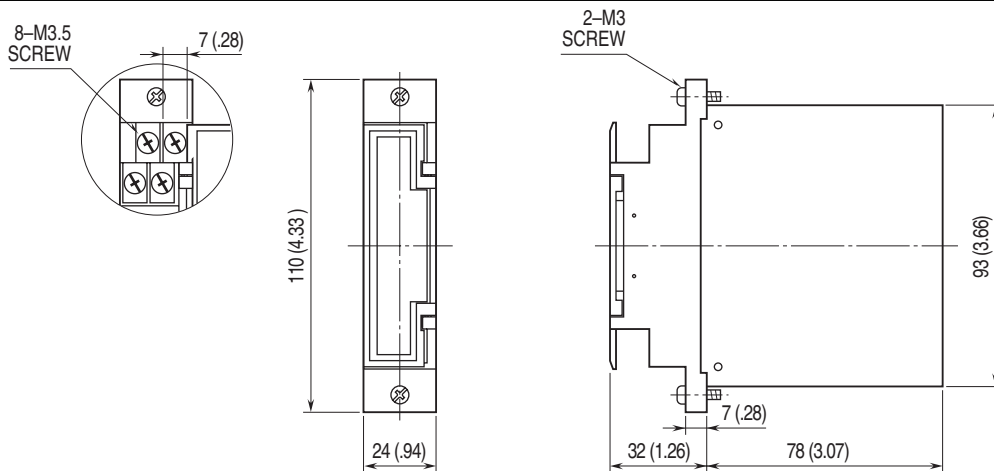
500 V AC @ 1 minute

(output 1 to output 2 to power)

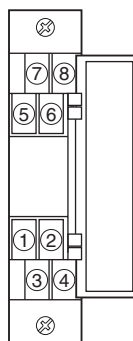
1500 V AC @ 1 minute

(input or output or power to ground)

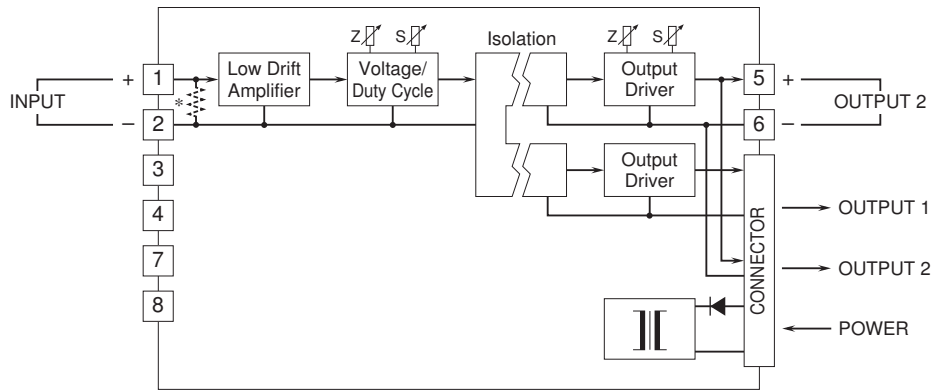
## DIMENSIONS unit: mm (inch)



## TERMINAL ASSIGNMENTS



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



\*Input shunt resistor incorporated for current input  
 Remark 1) Use either the front terminals or the connector for current output 2.



Specifications are subject to change without notice.

