

## Rack-mounted DCS Signal Conditioners 18K-RACK

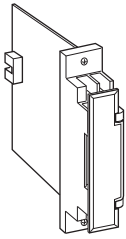
### SIGNAL CONVERTER

#### Functions & Features

- Converts a DC input into a standard process signal using analog circuit
- DC isolation between inputs and outputs
- Module can be retracted without removing wiring for an insulation test

#### Typical Applications

- Isolation between control room and field instrumentation



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

### ORDERING INFORMATION

- Code number: 18KVS-[1]6[2]-R
- Specify a code from below for each of [1] and [2].  
(e.g. 18KVS-166-R)
- Special input range (For code 0)

### [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) and connector

**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 - 50 V DC

**Minimum span:** 3 mV

**Offset:** Max. 1.5 times span

#### Input Resistance

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

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

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

Span  $\geq$  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

#### 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 18KBXX

Weight: 150 g (0.33 lb)

## PERFORMANCE in percentage of span

Accuracy:  $\pm 0.1\%$

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

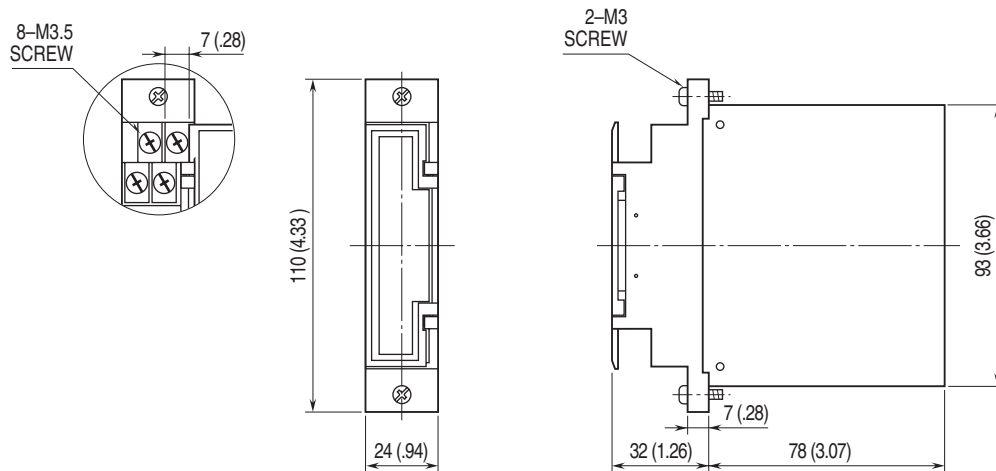
Response time:  $\leq 0.5$  sec. (0 - 90 %)

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

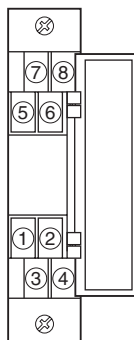
Insulation resistance:  $\geq 100\text{ M}\Omega$  with 500 V DC

Dielectric strength: 500 V AC @ 1 minute (input to output 1 to output 2 to power to ground)

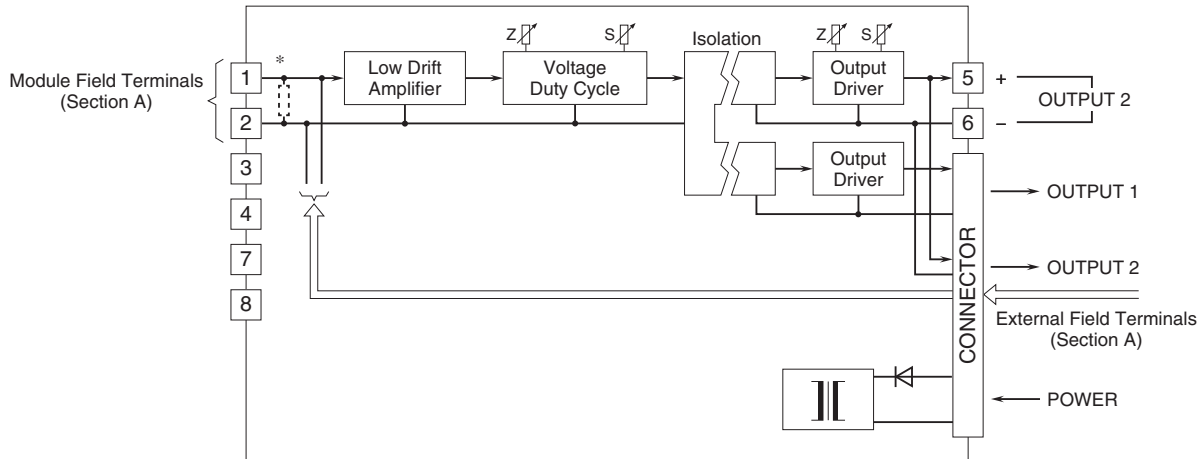
## EXTERNAL DIMENSIONS unit: mm (inch)



## TERMINAL ASSIGNMENTS



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

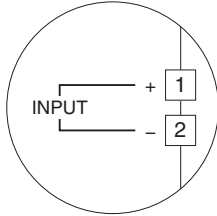


\* Input shunt resistor incorporated for current input.

Note 1: Use either of module or external field terminals.

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

Section A. Field Terminals



Specifications are subject to change without notice.