

Rack-mounted DCS Signal Conditioners 18K-RACK

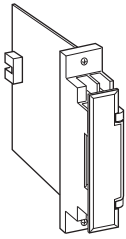
SIGNAL CONVERTER

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 Ω)

D: 0 - 20 mA DC (Input resistance 50 Ω)

G: 0 - 1 mA DC (Input resistance 1000 Ω)

H: 10 - 50 mA DC (Input resistance 100 Ω)

Voltage

1: 0 - 10 mV DC (Input resistance 10 kΩ min.)

2: 0 - 100 mV DC (Input resistance 100 kΩ min.)

3: 0 - 1 V DC (Input resistance 1 MΩ min.)

4: 0 - 10 V DC (Input resistance 1 MΩ min.)

5: 0 - 5 V DC (Input resistance 1 MΩ min.)

6: 1 - 5 V DC (Input resistance 1 MΩ min.)

0: Specify voltage (See INPUT SPECIFICATIONS)

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.)

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 : ≥ 10 kΩ

Span 10 - 100 mV : ≥ 10 kΩ

Span 0.1 - 1 V : ≥ 100 kΩ

Span ≥ 1 V : ≥ 1 MΩ

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

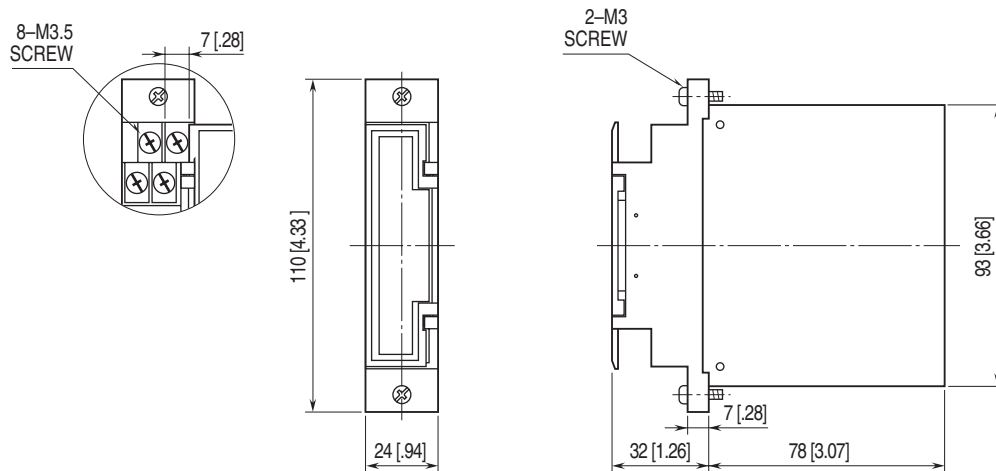
Response time: ≤ 0.5 sec. (0 - 90 %)

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

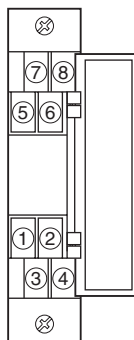
Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

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

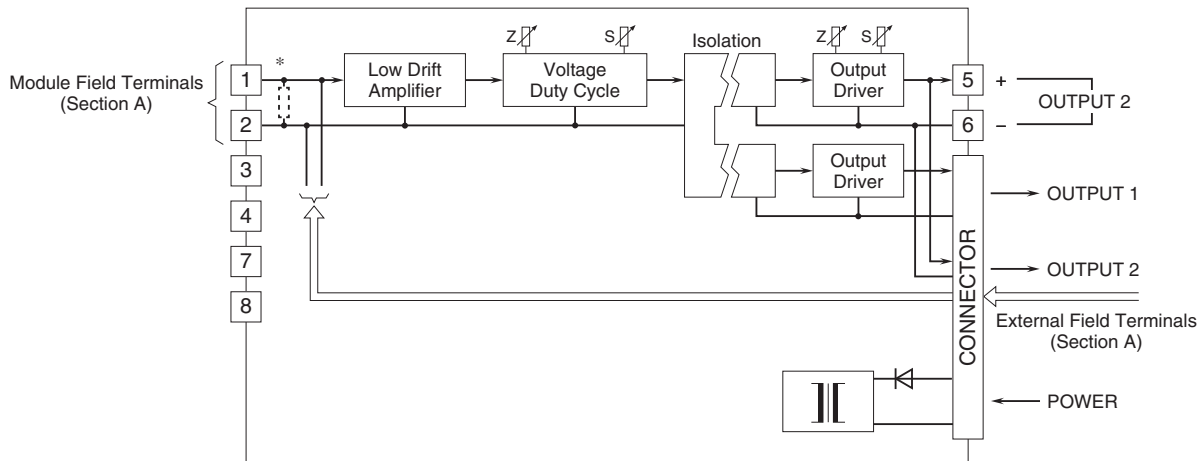
EXTERNAL DIMENSIONS unit: mm [inch]



TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

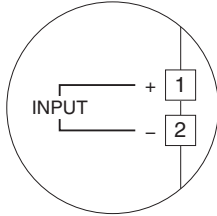


* Input shunt resistor incorporated for current input.

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.