

Rack-mounted DCS Signal Conditioners 18-RACK

POTENTIOMETER CONVERTER

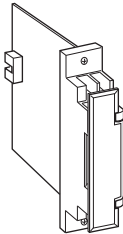
(field-programmable)

Functions & Features

- Providing two DC outputs proportional to a potentiometer or slidewire position input
- Microprocessor based
- Constant voltage excitation allows use with pots with total resistances from 100 Ω - 10 k Ω without affecting accuracy
- 75 % zero/span adjustments with minimal interaction
- Linearization data programmable via hand-held programmer PU-2x
- Loop testing via hand-held programmer PU-2x
- Second channel output available at the front terminals and at the Standard Rack connector

Typical Applications

- Tank levels
- Positions
- Linearizing non-linear signal characteristics by the sensor's linking mechanism



MODEL: 18JM-166-R

ORDERING INFORMATION

- Code number: 18JM-166-R
 - Linearization data (max. 16 points)
- Use Ordering Information Sheet (No. ESU-1669) to specify linearization data when the I/O signals are non-linear.

INPUT POTENTIOMETER

1: Total resistance 100 Ω - 10 k Ω

OUTPUT 1

Voltage

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

OUTPUT 2

Voltage

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

POWER INPUT

DC Power

R: 24 V DC

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

RELATED PRODUCTS

- Programming Unit (model: PU-2x)
- PC configurator software (model: JXCON)

Downloadable at our web site.

A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

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

Linearization: 16 points max. within the range of -15.00 - +115.00 % input or output; represented as percentage of full-scale

Adjustments: Programming Unit (model: PU-2x); linearization data (Unused resistance of the potentiometer's total resistance can be programmed with the linearization table.), zero and span, simulating output, etc.

(Refer to the users manual of JXCON for the adjustments configurable with JXCON.)

INPUT SPECIFICATIONS

Minimum span: 25 % of total resistance (set with the Programming Unit [model: PU-2x] or PC configurator software [model: JXCON])

Excitation: 0.25 V DC

INSTALLATION

Current consumption: Approx. 60 mA

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: $\pm 0.1\%$ with segment gain ≤ 1 [$\pm 0.1\% \times$ gain]
with segment gain > 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: 1500 V AC @ 1 minute

(input to output 1 or output 2 or power)

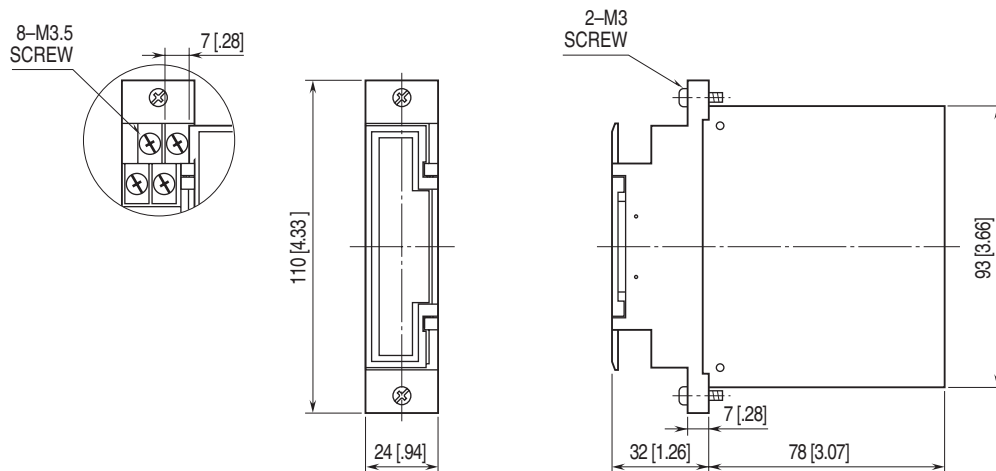
500 V AC @ 1 minute

(output 1 to output 2 to power)

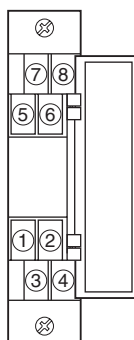
1500 V AC @ 1 minute

(input or output or power to ground)

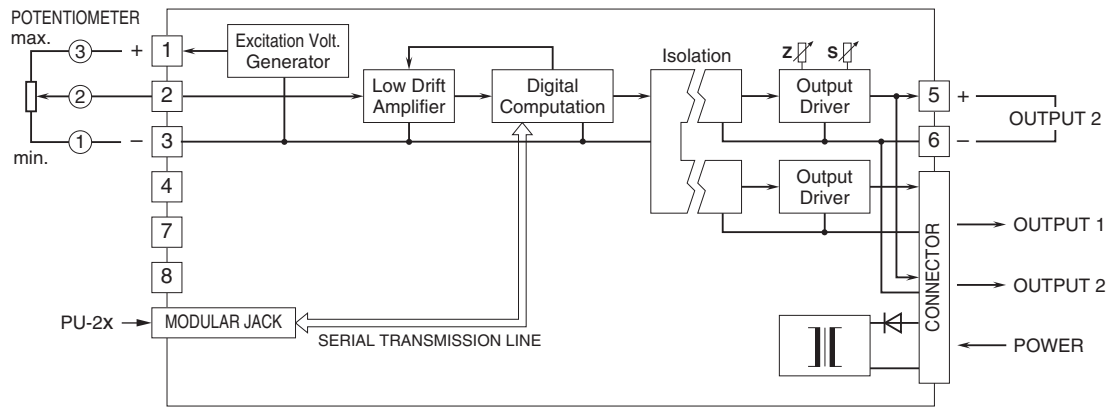
EXTERNAL DIMENSIONS unit: mm [inch]



TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.