

Rack-mounted DCS Signal Conditioners 18-RACK

FREQUENCY TRANSMITTER

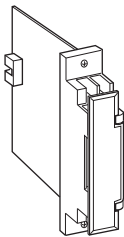
(field-programmable)

Functions & Features

- Converting the output from a pulse-type transducer into two standard process signals
- Microprocessor based
- Field-programmable frequency range
- Linearization available for flow compensation
- Averaging non-uniform pulses
- Excitation
- Loop testing via hand-held programmer PU-2x
- Second channel output available at the front terminals and at the Standard Rack connector

Typical Applications

- Positive displacement flowmeters, turbine flowmeters and vortex flowmeters
- Proximity switches
- Oval flowmeters



MODEL: 18JPA-[1]66-R

ORDERING INFORMATION

- Code number: 18JPA-[1]66-R

Specify a code from below for [1]

(e.g. 18JPA-266-R)

Use Ordering Information Sheet (No. ESU-1673) when the I/O signals are non-linear.

- Frequency range (e.g. 0 - 152.3 Hz)
- Linearization data (max. 16 points)

Note: Consult factory on applications with a sensor handling periodically (& quickly) changing frequency (e.g. oval flowmeter).

[1] INPUT

- 1: Open collector (Excitation: 12 V @ 30 mA)
- 2: Voltage pulse (Excitation: 12 V @ 30 mA)
- 3: Mechanical contact (Excitation: 12 V @ 30 mA)

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 ±10 %, ripple 10 %p-p max.)

RELATED PRODUCTS

- JX configurator connection kit (model: JXCON)
- Programming Unit (model: PU-2x)

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. represented as percentage of full-scale

Adjustments: Programming Unit (model: PU-2x); input range, low-end cutout, zero and span, simulating output, averaging nonuniform pulses, linearization data, etc. (Refer to the users manual of JXCON for the adjustments configurable with JXCON.)

Low-end cutout: 0 - 100 % adjustable (factory set to 0 %); hysteresis fixed to 1 %

INPUT SPECIFICATIONS

Excitation: 12 V DC @30 mA; shortcircuit protection

Pulse width (time) requirement: 10 msec. min. at < 20 Hz; duty ratio 20 - 80 % at ≥ 20 Hz

Offset: Max. 3 times span

■ Open Collector

Frequency range: 0 - 0.01 Hz through 25 kHz

(0 - 1 kHz will be used if not otherwise specified)

Sensing: Approx. 12 V DC @ 3 mA

ON/OFF level: ≤ 800 Ω / 2 V for ON,

≥ 1.2 kΩ / 3.6 V for OFF



■ Mechanical Contact

Frequency range: 0 - 0.01 Hz through 5 Hz
(0 - 5 Hz will be used if not otherwise specified)

Sensing: Approx. 12 V DC @ 3 mA

ON/OFF level: $\leq 800 \Omega / 2 \text{ V}$ for ON,
 $\geq 1.2 \text{ k}\Omega / 3.6 \text{ V}$ for OFF

■ **Voltage Pulse:** Square or sine waveforms

Frequency range: 0 - 0.01 Hz through 25 kHz
(0 - 1 kHz will be used if not otherwise specified.)

Input amplitude: 2 - 50 Vp-p

Input impedance: 10 k Ω min.

INSTALLATION

Power consumption

• DC: Approx. 90 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 lbs)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1 \%$ with segment gain ≤ 1 [$\pm 0.1 \%$ \times gain]
with segment gain ≥ 1

Temp. coefficient: $\pm 0.015 \%$ /°C ($\pm 0.008 \%$ /°F)

Response time: 0.5 sec. + 1 pulse cycle (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)

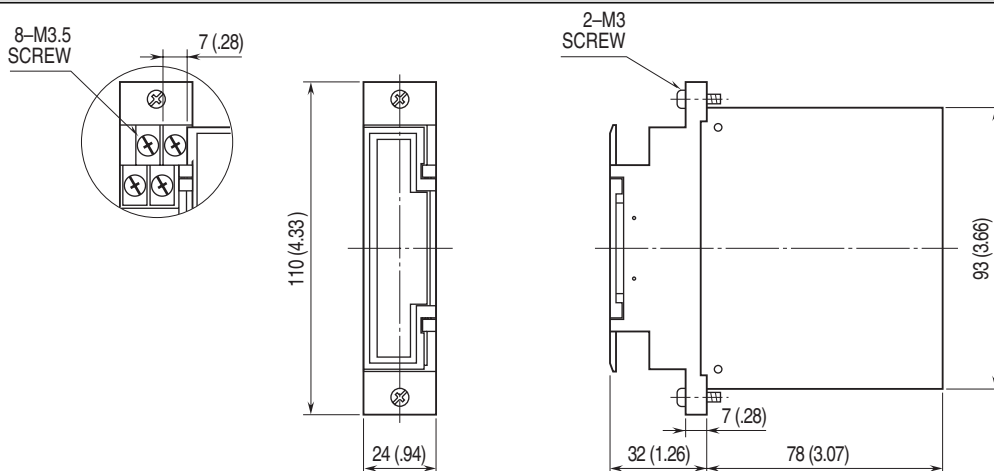
500 V AC @ 1 minute

(output 1 to output 2 to power)

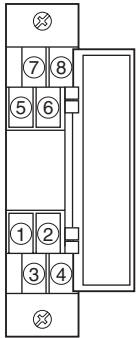
1500 V AC @ 1 minute

(input or output or power to ground)

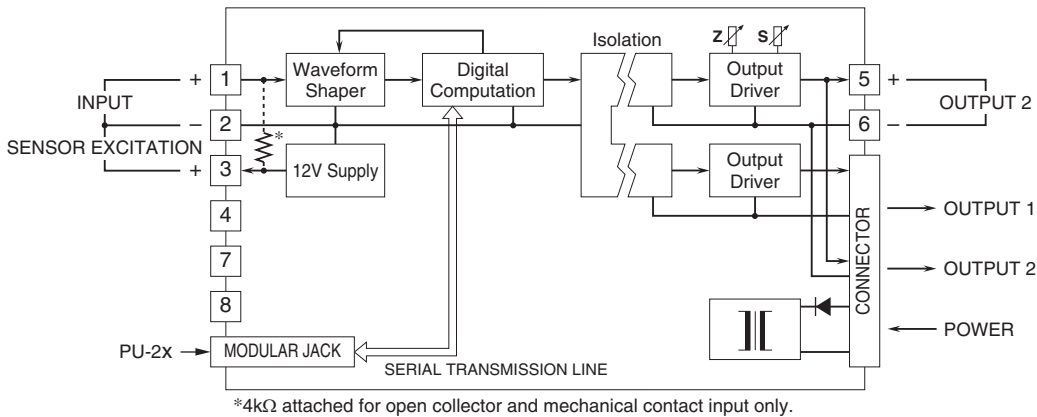
DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

