

High-density Signal Conditioners 10-RACK

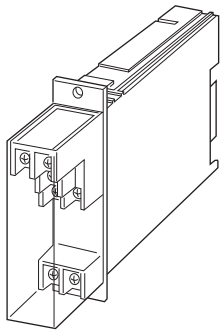
AC TRANSMITTER

Functions & Features

- Converting an alternating current/voltage into two standard process signals
- True RMS sensing
- Optional second channel output available at the front terminals and at the Standard Rack connector

Typical Applications

- Converting a large AC current in combination with a shunt resistor, or a narrow span AC voltage



MODEL: 10AC-[1][2][3]-R[4]

ORDERING INFORMATION

- Code number: 10AC-[1][2][3]-R[4]
Specify a code from below for each [1] through [4].
(e.g. 10AC-A1A6-R/Q)
- Special input range (For codes AZ & A8)
- Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT

Current

- AA:** 0 - 10 mA AC (Input resistance 100 Ω)
- AB:** 0 - 50 mA AC (Input resistance 20 Ω)
- AC:** 0 - 100 mA AC (Input resistance 10 Ω)
- AD:** 0 - 500 mA AC (Input resistance 1 Ω)
- AZ:** Specify current (See INPUT SPECIFICATIONS)
(0 % input must be 0 mA.)

Voltage

- A1:** 0 - 100 mV AC (Input resistance 10 kΩ min.)
- A2:** 0 - 500 mV AC (Input resistance 10 kΩ min.)
- A3:** 0 - 1 V AC (Input resistance 10 kΩ min.)
- A4:** 0 - 5 V AC (Input resistance 200 kΩ min.)

- A5:** 0 - 10 V AC (Input resistance 200 kΩ min.)
- A6:** 0 - 120 V AC (Input resistance 200 kΩ min.)
- A7:** 0 - 150 V AC (Input resistance 200 kΩ min.)
- A8:** Specify voltage (See INPUT SPECIFICATIONS)
(0 % input must be 0 V.)

[2] OUTPUT 1

Current

- A:** 4 - 20 mA DC (Load resistance 600 Ω max.)
- B:** 2 - 10 mA DC (Load resistance 1200 Ω max.)
- C:** 1 - 5 mA DC (Load resistance 2400 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 600 Ω max.)
- E:** 0 - 16 mA DC (Load resistance 750 Ω max.)
- F:** 0 - 10 mA DC (Load resistance 1200 Ω max.)
- G:** 0 - 1 mA DC (Load resistance 12 kΩ max.)

Voltage

- 1:** 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2:** 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3:** 0 - 1 V DC (Load resistance 100 Ω min.)
- 4:** 0 - 10 V DC (Load resistance 1000 Ω min.)
- 5:** 0 - 5 V DC (Load resistance 500 Ω min.)
- 6:** 1 - 5 V DC (Load resistance 500 Ω min.)

[3] OUTPUT 2

0: None

Voltage

- 6:** 1 - 5 V DC (Load resistance 5000 Ω min.)

POWER INPUT

DC Power

- R:** 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[4] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

- /C01:** Silicone coating
- /C02:** Polyurethane coating
- /C03:** Rubber coating

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)

Output: Card-edge connector and M3.5 screw terminals



(torque 0.8 N·m)

Power input: Supplied from card-edge connector

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output 1 to output 2 to power

Input waveform: Up to 15 % of 3rd harmonic content

Overrange output: Approx. 0 to 120 % at 1 - 5V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

Frequency: 40 Hz min., 1 kHz max.

■ **AC Current:** 0 - 1 A AC; input resistor incorporated

Minimum span: 1 mA

Input resistance

Span 1 mA: 1 k Ω

Span \leq 2 mA: 500 Ω

Span \leq 5 mA: 200 Ω

Span \leq 10 mA: 100 Ω

Span \leq 20 mA: 50 Ω

Span \leq 50 mA: 20 Ω

Span \leq 100 mA: 10 Ω

Span \leq 500 mA: 1 Ω

Span \leq 1 A: 0.5 Ω

■ **AC Voltage:** 0 - 250 V AC

Minimum span: 50 mV

Input Resistance

Span 50 mV - 3 V : \geq 10 k Ω

Span \geq 3V : \geq 200 k Ω

INSTALLATION

Current consumption: Approx. 35 mA with voltage output 1

Approx. 55 mA with current output 1

Operating temperature: -5 to +55 $^{\circ}$ C (23 to 131 $^{\circ}$ F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Standard Rack 10BXx

Weight: 200 g (0.44 lb)

PERFORMANCE in percentage of span

Accuracy: \pm 0.4 %

Temp. coefficient: \pm 0.02 %/ $^{\circ}$ C (\pm 0.01 %/ $^{\circ}$ F)

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

Ripple: 0.5 %p-p max. (100/120 Hz)

Line voltage effect: \pm 0.1 % over voltage range

Insulation resistance: \geq 100 M Ω with 500 V DC

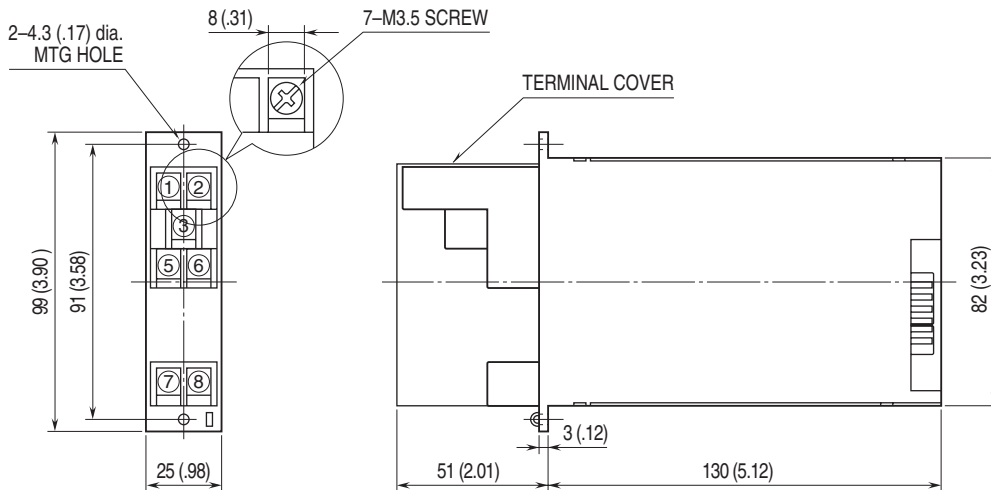
Dielectric strength: 500 V AC @ 1 minute

(input to output 1 to output 2 to power)

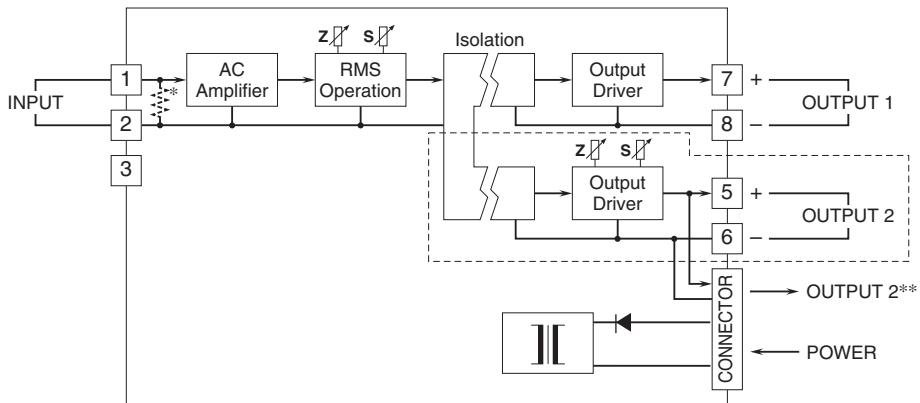
1500 V AC @ 1 minute (input or output or power to ground)




EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Input shunt resistor incorporated for current input.
 **1 output type has the output 1 connected to the card-edge connector in parallel.
 Remark 1) The section enclosed by broken line is only for 2nd output channel.

 Specifications are subject to change without notice.

