

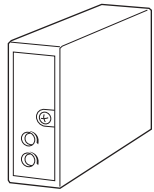
Dual Output Super-mini Signal Conditioners Pico-M Series

DC/FREQUENCY CONVERTER

(CE)

Functions & Features

- Providing pulse rate outputs in proportion to DC input signal
- Space-saving, easy-to-maintain, multi-channel installation base



MODEL: M8AP1-[1][2]-R[3]

ORDERING INFORMATION

- Code number: M8AP1-[1][2]-R[3]
Specify a code from below for each [1] through [3].
(e.g. M8AP1-6A1A1-R/Q)
- Output frequency range (e.g. 0 - 500 Hz)
- Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT

Current

A: 4 - 20 mA DC (Input resistance 250 Ω)

Voltage

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.)

[2] OUTPUT 1 / OUTPUT 2

A1A1: Open collector / open collector (max. 10 kHz)

M1M1: 5 V pulse / 5 V pulse (max. 10 kHz)

POWER INPUT

DC Power

R: 24 V DC

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

[3] 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

RELATED PRODUCTS

- Installation Base or Single Mount Base Socket (model: M8BSx)

This unit must be mounted on dedicated base or socket except Model M8BS2 base.

GENERAL SPECIFICATIONS

Construction: Plug-in

Mounting screw: M3 screw (torque 0.3 N·m)

Housing material: Flame-resistant resin (black)

Power supply: Via the Installation Base terminals (model: M8BSx)

Isolation: Input to output 1 to output 2 to power

Zero adjustment: 0 - 2 % (front)

Span adjustment: 98 to 102 % (front)

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

■ **DC Voltage**

Input resistance: 1 MΩ min. (10 kΩ min. at loss of power)

OUTPUT SPECIFICATIONS

Frequency range: 0 - 0.01 Hz through 10 kHz

(Same frequency for both outputs.)

■ **Open Collector:** 50 V DC @50 mA

Saturation voltage: 0.5 V DC

■ **5 V Pulse**

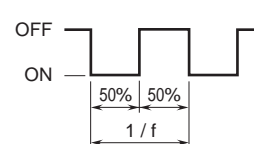
Hi level: 5 V ±10 %

Lo level: ≤ 0.5 V

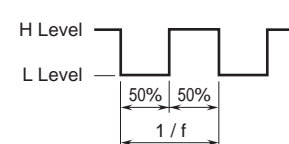
Load resistance: 1000 Ω min.

OUTPUT PULSE WIDTH

• **Open Collector**



• **Voltage Pulse**



INSTALLATION

Current consumption: Approx. 60 mA

Operating temperature: 0 to 55°C (32 to 131°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Mounting: Installation Base (model: M8BSx)



Weight: 70 g (2.5 oz)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$

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

Response time: Approx. 3 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 to ground)

500 V AC @1 minute (output 1 to output 2 to power)

SWC test: ANSI/IEEE-C37.90.1-1989

STANDARDS & APPROVALS

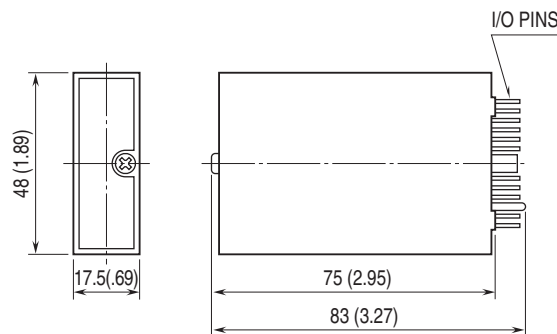
CE conformity:

EMC Directive (2004/108/EC)

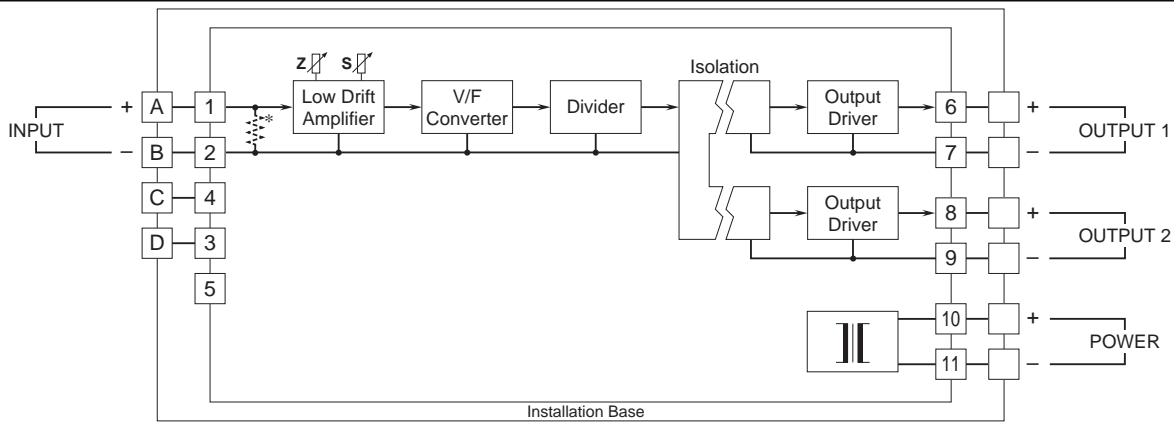
EMI EN 61000-6-4: 2007/A1: 2011

EMS EN 61000-6-2: 2005

DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

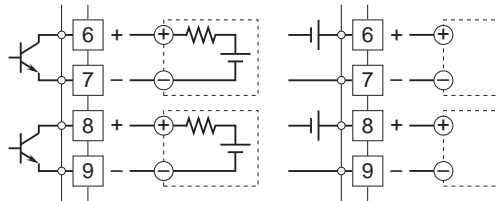


*Input shunt resistor incorporated for current input.

Output Connection Examples

■ Open Collector

■ Voltage Pulse



Specifications are subject to change without notice.