

Super-mini Terminal Block Signal Conditioners *M5-UNIT*

FREQUENCY TRANSMITTER

MODEL M5PA

MODEL & SUFFIX CODE SELECTION

MODEL _____ **M5PA-□□□**

INPUT _____

A1: Open collector
A2: Mechanical contact
C : 5V pulse (sensitivity 2V)
D : 12V/24V pulse (sensitivity 5V)

OUTPUT _____

Current	Voltage
A : 4 – 20mA DC	4 : 0 – 10V DC
Z : Specify current	5 : 0 – 5V DC
	6 : 1 – 5V DC
	4W : -10 – +10V DC
	5W : -5 – +5V DC
	0 : Specify voltage

POWER INPUT _____

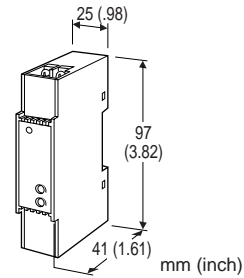
M : 85 – 264V AC *1
R : 24V DC
 *1: CE not available.

ORDERING INFORMATION

Specify code number and variables.
 • **Code number** (e.g. M5PA-CA-R)
 • **Frequency range** (e.g. 0 – 1 kHz)
 • **Special output range** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: Terminal block
Connection: M3.5 screw terminals
 (nickel-plated steel; torque 0.8 N·m)
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Front adjustments: ±2% for zero and span
Chattering protection: Filter provided for mechanical contact input
Power LED: Green light turns on when the power is supplied.



Functions & Features

- Converts the output from a pulse-type transducer into a standard process signal
- High-density mounting
- Power LED
- CE marking for 24V power

INPUT & OUTPUT

INPUT

• **Open Collector**
Frequency range: 0 – 0.01 Hz through 100 kHz
Pulse width time requirement: 4 μsec. min. for both H and L levels
Sensing voltage/current: 5V DC @2mA
Detecting levels: ≤350Ω for ON; ≥10kΩ for OFF

• **Mechanical Contact**

Frequency range: 0 – 0.01 Hz through 30 Hz
Pulse width time requirement: 10 msec. min. for both ON and OFF
Sensing voltage/current: 5V DC @2mA
Detecting levels: ≤350Ω for ON; ≥10kΩ for OFF

• **Voltage Pulse**

Frequency range: 0 – 0.01 Hz through 100 kHz
Pulse width time requirement: 4 μsec. min. for both H and L levels

Waveform: Square or sine

Input impedance: 10kΩ minimum

Max. voltage between input terminals: ±50V

Detecting levels

INPUT	5V PULSE	12V / 24V PULSE
V _H	≥3V	≥6V
V _L	≤1V	≤4V

OUTPUT

•DC Current: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 11V maximum

Output	Load Resistance
4 – 20mA	: 550 (Ω maximum)

•DC Voltage: 0 – 10V DC

Minimum span: 1V

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 10mA maximum; at ≥1V

Output	Load Resistance
0 – 10V	: 1000 (Ω minimum)
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 8000
-5 – +5V	: 4000

PERFORMANCE in percentage of span

Accuracy: ±0.1%

Temp. coefficient: ±0.015%/°C (±0.008%/°F)

Response time: Max. 0.5 sec. plus one pulse cycle (0 – 90%)

Line voltage effect: ±0.1% over voltage range

Insulation resistance: ≥100MΩ with 500V DC

Dielectric strength

DC powered: 2000V AC @1 minute

(input to output to power to ground)

AC powered: 1500V AC @1 minute

(input to output to power to ground)

STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

INSTALLATION

Power input

AC: Operational voltage range 85 – 264V;
47 – 66 Hz; approx. 2VA

DC: Operational voltage range 24V ±10%;
ripple 10% p-p max.; approx. 2W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 0 to 90% RH (non-condensing)

Mounting: DIN rail

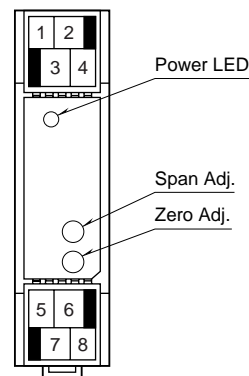
Dimensions: W25×H97×D41 mm (0.98"×3.82"×1.61")

See General Spec. Sheet Figure C-1.

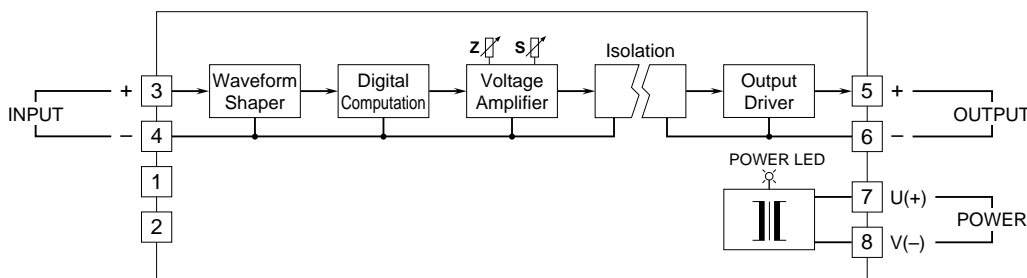
Weight: 80 g (2.8 oz.)

Terminal assignment: See General Spec. Sheet Figure D-1.

FRONT PANEL CONFIGURATION



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Input Connection Examples

■ Open Collector or Mechanical Contact ■ Voltage Pulse

