

Super-mini Signal Conditioners *Mini-M Series*

DC ALARM

MODEL M2AVS

MODEL & SUFFIX CODE SELECTION

M2AVS

MODEL _____

INPUT _____

Current	Voltage
A : 4 – 20mA DC	1 : 0 – 10mV DC
A1 : 4 – 20mA DC * ¹	15 : 0 – 50mV DC
B : 2 – 10mA DC	16 : 0 – 60mV DC
C : 1 – 5mA DC	2 : 0 – 100mV DC
D : 0 – 20mA DC	3 : 0 – 1V DC
E : 0 – 16mA DC	4 : 0 – 10V DC
F : 0 – 10mA DC	5 : 0 – 5V DC
G : 0 – 1mA DC	6 : 1 – 5V DC
H : 10 – 50mA DC	4W : -10 – +10V DC
J : 0 – 10µA DC	5W : -5 – +5V DC
K : 0 – 100µA DC	0 : Specify voltage * ²
GW : -1 – +1mA DC	01 : Specify voltage * ³
FW : -10 – +10mA DC	
Z : Specify current	

*¹ : 50Ω input resistance for Code A1
 *² : CE not available with this code.
 *³ : Select this code for CE.

SETPOINT 1 OUTPUT _____

1 : Hi (coil energized at alarm)
3 : Lo (coil energized at alarm)

SETPOINT 2 OUTPUT _____

1 : Hi (coil energized at alarm)
3 : Lo (coil energized at alarm)

OUTPUT _____

2 : Relay contact; N.O.
6 : Photo MOSFET relay; N.O.

POWER INPUT _____

AC Power	DC Power
M : 85 – 264V AC * ⁴	R : 24V DC
	R2 : 11 – 27V DC * ⁴
	P : 110V DC * ⁴

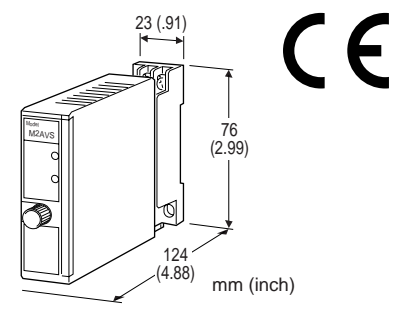
*⁴ : CE not available

STANDARDS & APPROVALS _____

/N : Without CE
/CE : CE marking

ORDERING INFORMATION

Specify code number and variables.
 • **Code number** (e.g. M2AVS-6112-R/CE)
 • **Special input range** (For codes Z & 0)



Functions & Features

- Providing N.O. relay outputs at preset DC input levels
- Dual trip
- Multi-turn potentiometer adj.
- Monitor jacks help setpoint adj.
- Power ON timer
- Relays can be powered 110V DC
- Flexible power input
- High-density mounting
- CE marking for 24V DC power

Typical Applications

- Annunciator
- Various alarm applications

GENERAL SPECIFICATIONS

Construction: plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Housing material: flame-resistant resin (black)
Power fuse: 0.25A incorporated
 (0.5A for 24V or 11 – 27V DC power)
Isolation: input to output to power
Setpoint adjustments: multi-turn screwdriver adjustments (front); 0 – 100% independently
Monitor jacks: output 0 – 1V for 0 – 100% setpoints
Hysteresis (deadband): ≤0.5%
Front LEDs
Output 1: red light turns on when the coil is energized.
Output 2: green light turns on when the coil is energized.
Power ON timer: relays de-energized for approx. 2 seconds after power is turned on.

INPUT & OUTPUT

INPUT

•**DC Current:** shunt resistor attached to input terminals (0.5W)

Input resistance: For resistance values other than listed below, specify when ordering.

Input	Input Resistance
4 – 20mA	: 250 (Ω) (50Ω for Code A1)
2 – 10mA	: 500
1 – 5mA	: 1000
0 – 20mA	: 50
0 – 16mA	: 62.5
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 100
0 – 10μA	: 1000
0 – 100μA	: 1000
-1 – +1mA	: 1000
-10 – +10mA	: 100

•**DC Voltage:** -300 – +300V DC*

*-30 – +30V when power input code R is selected. Span 30V max.

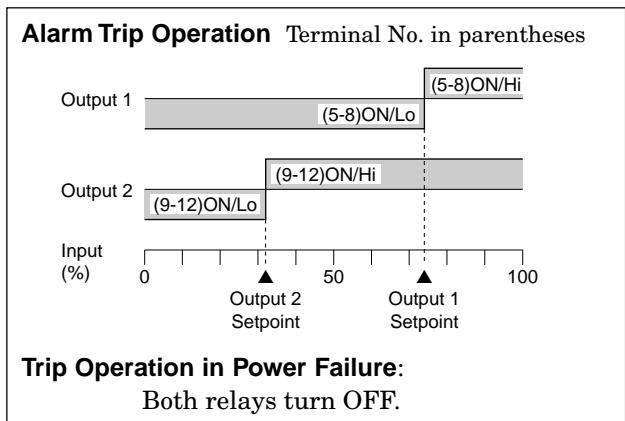
Minimum span: 3mV

Zero suppression/elevation: max. 1.5 times span

Input resistance

Input Span	Input Resistance
3 – 10mV	: 10k (Ω minimum)
10 – 100mV	: 10k
0.1 – 1V	: 100k
≥1V	: 1M

OUTPUT



•**Relay Contact**

- 120V AC @0.5A (cosφ=1)
- 240V AC @0.5A (cosφ=1)
- 30V DC @0.5A (resistive load)
- electrical life 5 × 10⁵ cycles (rate 30/min.)

Maximum switching voltage: 250V AC or 120V DC

Maximum switching power: 120VA or 15W (≤0.5A)

Minimum load: 5V DC @10mA

Mechanical life: 5 × 10⁷ cycles

For maximum relay life with inductive loads, external protection is recommended.

•**Photo MOSFET Relay**

Maximum switching voltage: 30V AC or 50V DC

Maximum switching current: 0.5A

ON resistance: ≤2kΩ

Leakage current at OFF: ≤10μA

For maximum relay life with inductive loads, external protection is recommended.

INSTALLATION

Power input

AC: operational voltage range 85 – 264V
47 – 66 Hz; approx. 3VA at 100V
approx. 4VA at 200V
approx. 5VA at 264V

DC: operational voltage range for R: 24V ±10%, R2: 11 – 27V, or P: 85 – 150V, ripple 10% p-p max.; approx. 3W

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

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

Mounting: surface or DIN rail

Dimensions: W23×H76×D124 mm (0.91"×2.99"×4.88")

Weight: 150 g (0.33 lbs)

PERFORMANCE in percentage of span

Setpoint monitor accuracy: ±0.5%

Temp. coefficient: ±0.05%/°C (±0.03%/°F)

Response time: ≤0.5 seconds (0 – 100% at 90% setpoint)

Line voltage effect: ±0.1% over voltage range

Insulation resistance: ≥100MΩ with 500V DC

Dielectric strength: 2000V AC @1 minute (input to output 1 to output 2 to power to ground)

STANDARDS & APPROVALS

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

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

Installation category II

Pollution degree 2

Max. operating voltage 300V

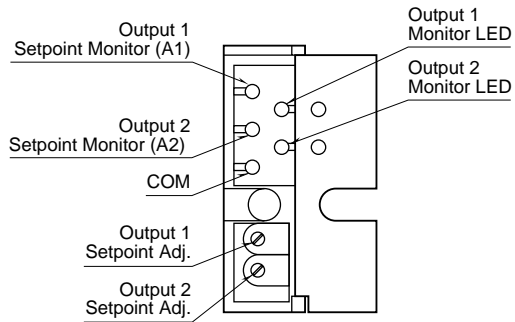
Input or power to output – Basic insulation

Between outputs – Basic insulation

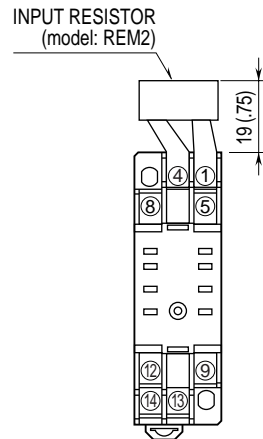
Input to power – Operational insulation

Specifications subject to change without notice.

FRONT PANEL CONFIGURATION

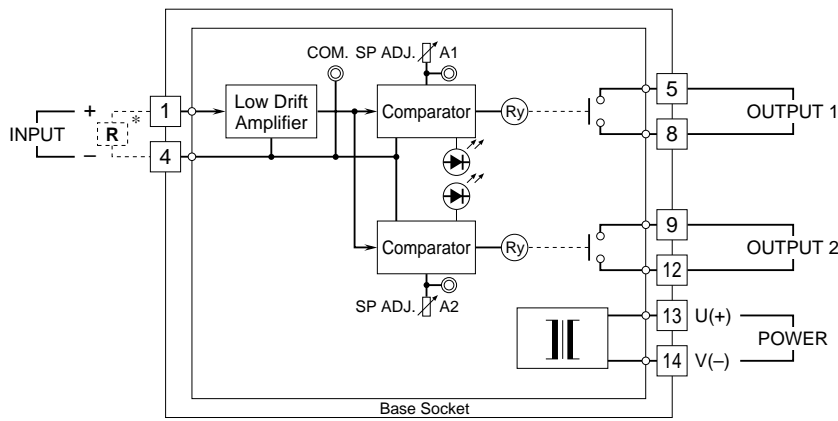


TERMINAL ASSIGNMENT mm (inch)



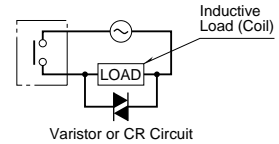
Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

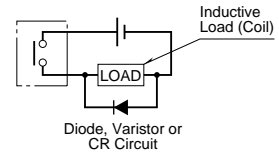


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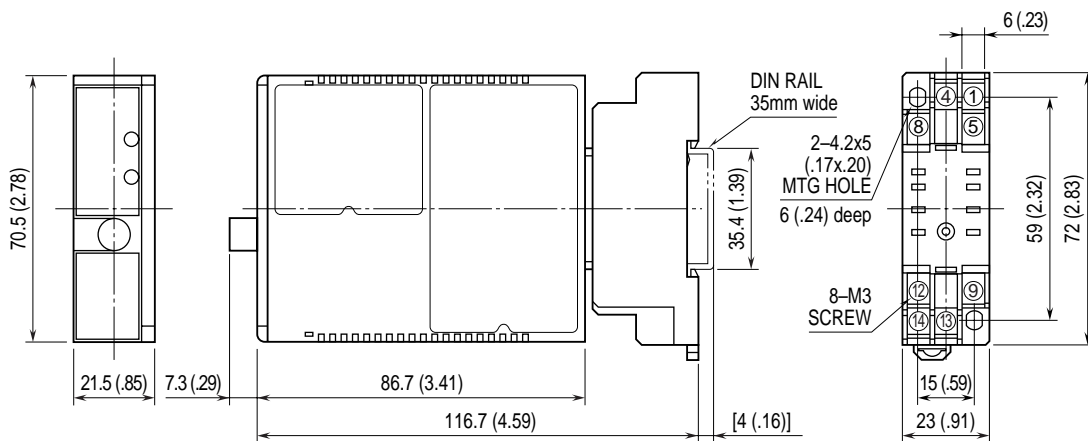
Relay Protection •AC Powered



•DC Powered



EXTERNAL DIMENSIONS mm (inch)



•When mounting, no extra space is needed between units.