

Plug-in Signal Conditioners M-UNIT

R: 24 V DC

V: 48 V DC

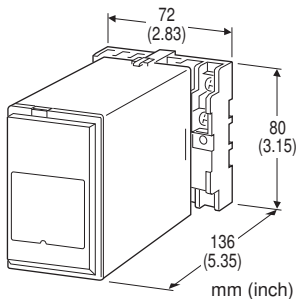
ANALOG SWITCHING MODULE

Functions & Features

- Selecting one signal as output from up to four analog input signals
- Distributing a single input signal to any or all of the up to four output channels
- High-density mounting

Typical Applications

- Switching 1 – 5 V DC signal: no contact failure that happens when using mechanical contacts for this purpose
- Switching low-speed pulse signals
- Switching alternating signals



[3] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

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

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Switching: Photo MOSFET relay

Isolation: Switching command relay to signal line to power

Monitor LED 1: Red light turns on with SW1 ON

Monitor LED 2: Red light turns on with SW2 ON

Monitor LED 3: Red light turns on with SW3 ON

Monitor LED 4: Red light turns on with SW4 ON

MODEL: MNV-[1]-[2][3]

ORDERING INFORMATION

- Code number: MNV-[1]-[2][3]

Specify a code from below for each of [1] through [3].

(e.g. MNV-1-B/Q)

- Specify the specification for option code /Q

(e.g. /C01/S01)

[1] SWITCHING CIRCUIT

1: Single circuit

2: Double circuit

[2] POWER INPUT

AC Power

B: 100 V AC

C: 110 V AC

D: 115 V AC

F: 120 V AC

G: 200 V AC

H: 220 V AC

J: 240 V AC

DC Power

S: 12 V DC

INPUT & OUTPUT

■ Signal Line

Max. operational voltage range: ± 50 V DC (min. span 10 mV)

Max. operational current range: ± 50 mA DC

Max. operational frequency range: 100 Hz

ON resistance: Approx. 50 Ω per line

■ Switching Command: Relay contact or open collector

Sensing:

Approx. 20 V DC @ 7 mA with single circuit

Approx. 20 V DC @ 14 mA with double circuit

Detection levels

ON resistance: ≤ 1 K Ω , ≤ 5 V

OFF resistance: ≥ 100 K Ω , ≥ 18 V

Leakage current at OFF: 1 μ A (400 V AC between lines)

INSTALLATION

Power input

- **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2 VA

- **DC:** Operational voltage range: rating ± 10 %

(ripple 10 % p-p max.) approx. 1 W (30 mA at 24 V)

Operating temperature: -5 to +60°C (23 to 140°F)

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

Mounting: Surface or DIN rail

Weight: 350 g (0.77 lb)

PERFORMANCE

Response time: Approx. 1 msec.

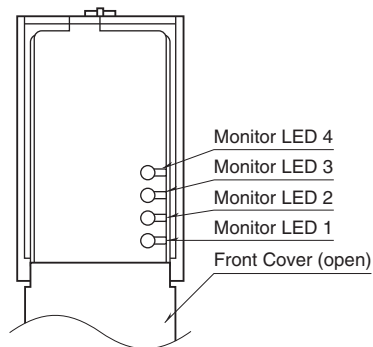
Leakage current at open circuit: $\leq 1 \mu\text{A}$

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

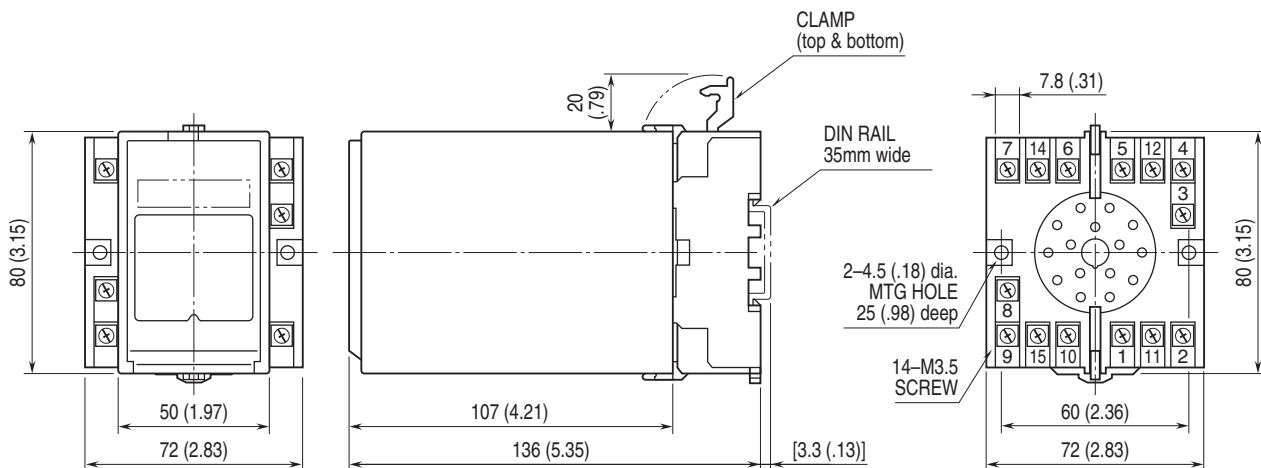
Dielectric strength: 1500 V AC @ 1 minute

(switching command relay to singal line to power to ground)

EXTERNAL VIEW



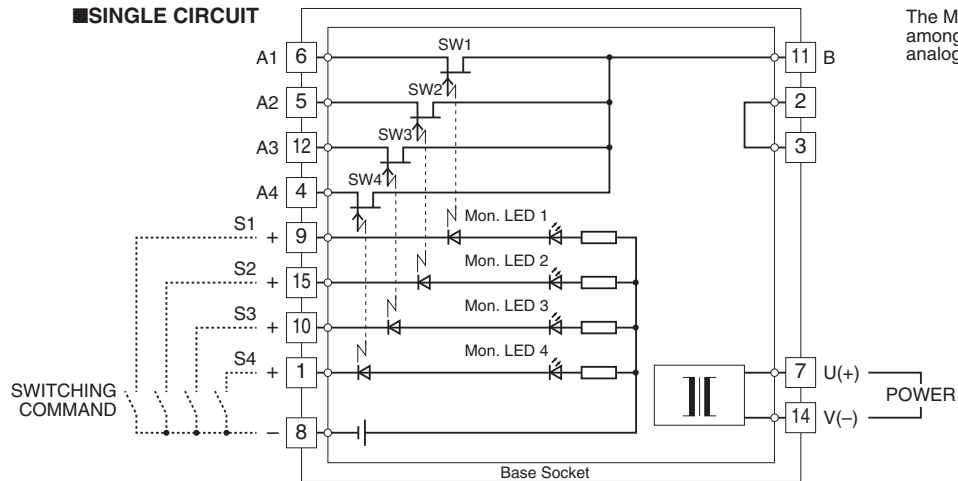
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



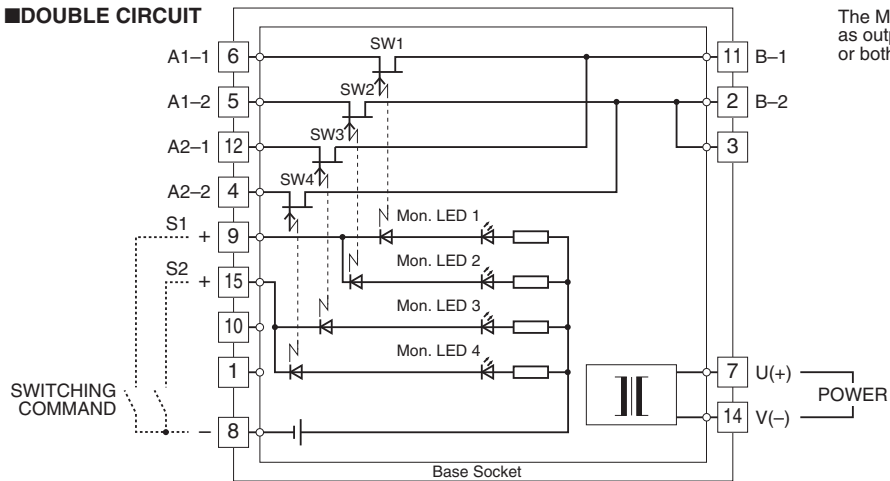
- When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■SINGLE CIRCUIT



■DOUBLE CIRCUIT



Specifications are subject to change without notice.