

**Plug-in Signal Conditioners M-UNIT**

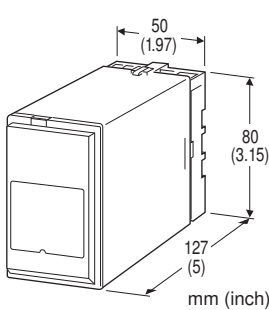
**INPUT LOOP POWERED ISOLATOR**

**Functions & Features**

- Loop-powered design eliminates output loop power supply
- 500 V DC input-to-output isolation
- 2 isolators housed in one enclosure
- 350 Ω output drive with 4 - 20 mA
- High-density mounting

**Typical Applications**

- Isolation between control room and field instrumentation, between telemetering system and input device
- Eliminates ground problems in existing systems thanks to easiness of application without requiring additional power wiring



**MODEL: SN-2[1][2]/CE**

**ORDERING INFORMATION**

- Code number: SN-2[1][2]/CE  
Specify a code from below for each [1] and [2].  
(e.g. SN-2A6/Q/CE)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

**NO. OF CHANNELS**

2: 2 channels

**[1] INPUT / OUTPUT**

- A6: 4 - 20 mA DC / 1 - 5 V DC
- H6: 10 - 50 mA DC / 1 - 5 V DC
- AA: 4 - 20 mA DC / 4 - 20 mA DC
- HA: 10 - 50 mA DC / 4 - 20 mA DC

**[2] 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)
- Isolation:** Input to output; between channels
- Zero adjustment (front)**
  - Voltage output:** -5 to +5 %
  - Current output:** -0.5 to +0.5 %
- Span adjustment (front)**
  - Voltage output:** 95 to 105 %
  - Current output:** 98.5 to 101.5 %

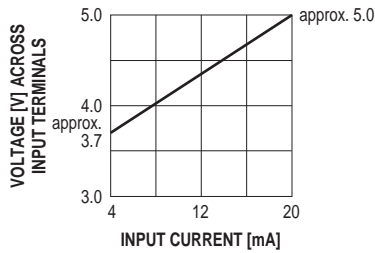
**INPUT & OUTPUT**

- **Input 4 - 20 mA DC / Output 1 - 5 V DC**  
**Equivalent input impedance:** Approx. 250 Ω with 20 mA input  
**Operational range:** 3 - 22 mA DC  
(Accuracy is assured within 4 - 22 mA)  
**Load resistance:** ≥ 50 kΩ
- **Input 10 - 50 mA DC / Output 1 - 5 V DC**  
**Equivalent input impedance:** Approx. 100 Ω with 50 mA input  
**Operational range:** 7 - 55 mA DC  
(Accuracy is assured within 8 - 55 mA)  
**Load resistance:** ≥ 50 kΩ
- **Input 4 - 20 mA DC / Output 4 - 20 mA DC**  
**Equivalent input impedance:** 230 Ω plus load resistance with 20 mA input  
**Operational range:** 3 - 22 mA DC  
(Accuracy is assured within 4 - 22 mA)  
**Load resistance:** 50 - 350 Ω (min. 50 Ω required for adequate operation)
- **Input 10 - 50 mA DC / Output 4 - 20 mA DC**  
**Equivalent input impedance:** 90 Ω + [load resistance×0.16] with 50 mA input  
**Operational range:** 7 - 55 mA DC  
(Accuracy is assured within 8 - 55 mA)  
**Load resistance:** 50 - 600 Ω (min. 50 Ω required for

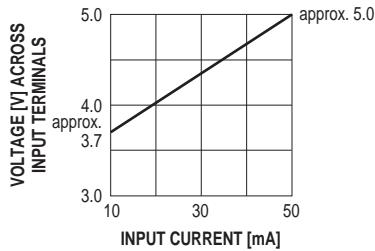


adequate operation)

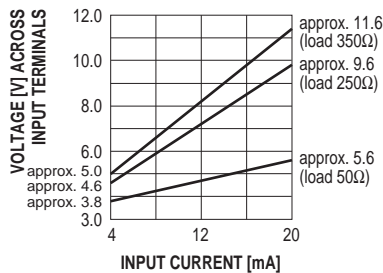
**•INPUT 4 - 20 mA DC / OUTPUT 1 - 5 V DC**



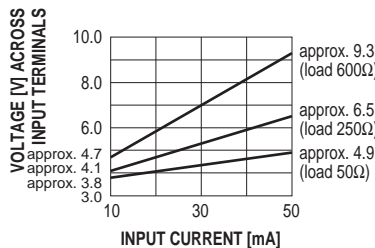
**•INPUT 10 - 50 mA DC / OUTPUT 1 - 5 V DC**



**•INPUT 4 - 20mA DC / OUTPUT 4 - 20 mA DC**



**•INPUT 10 - 50 mA DC / OUTPUT 4 - 20 mA DC**



**Load effect (current output)**

4 - 20 mA input: 0.015 %/Ω (50 - 150 Ω)

0.003 %/Ω (150 - 350 Ω)

10 - 50 mA input: 0.015 %/Ω (50 - 100 Ω)

0.003 %/Ω (100 - 600 Ω)

(The unit is calibrated with 250 Ω load at the factory.)

**Insulation resistance:** ≥ 100 MΩ with 500 V DC

**Dielectric strength:**

500 V AC @ 1 minute (input to output)

1500 V AC @ 1 minute (between channels)

2300 V AC @ 1 minute (input or output to ground)

**STANDARDS & APPROVALS**

**CE conformity:**

EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007

EMS EN 61000-6-2: 2005

**INSTALLATION**

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

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

**Mounting:** Surface or DIN rail

**Weight:** 200 g (0.44 lb)

**PERFORMANCE in percentage of span**

**Accuracy:** ±0.1 %

**Temp. coefficient:**

• Voltage output: ±0.015 %/°C (±0.008 %/°F)

• Current output: ±0.02 %/°C (±0.01 %/°F)

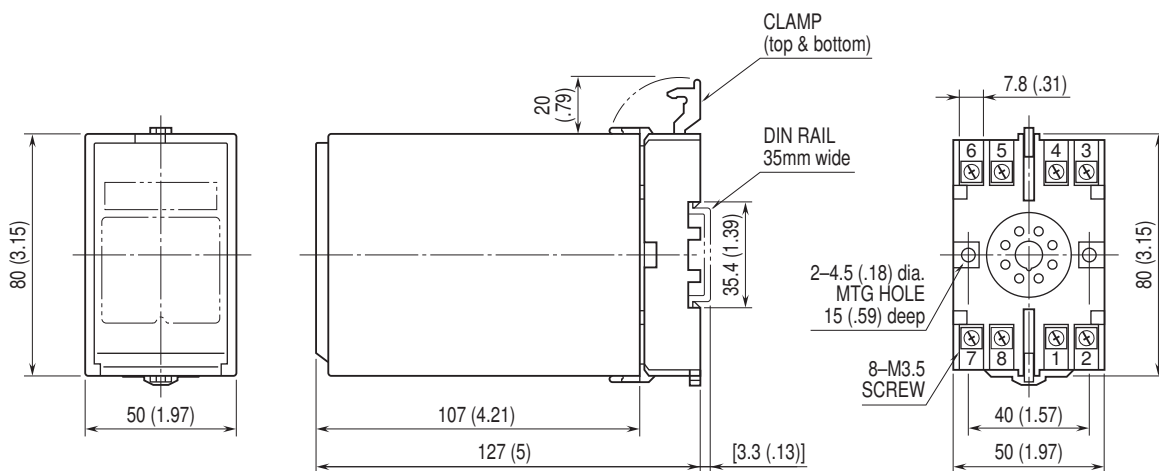
**Response time**

**Voltage output:** ≤ 0.5 sec. (0 - 90 %)

**Current output:** Approx. 15 msec. (0 - 90 %)



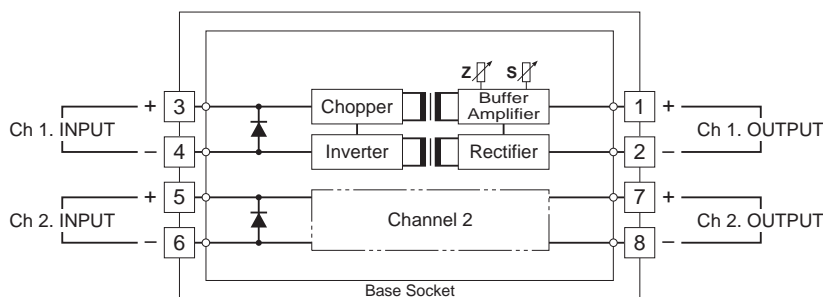
## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



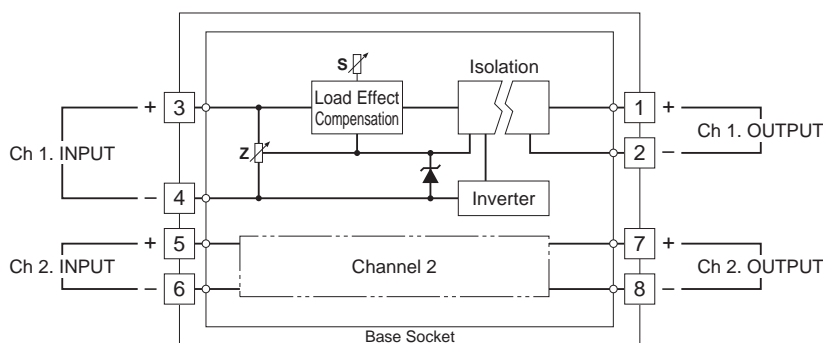
• When mounting, no extra space is needed between units.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

### ■VOLTAGE OUTPUT



### ■CURRENT OUTPUT



Specifications are subject to change without notice.