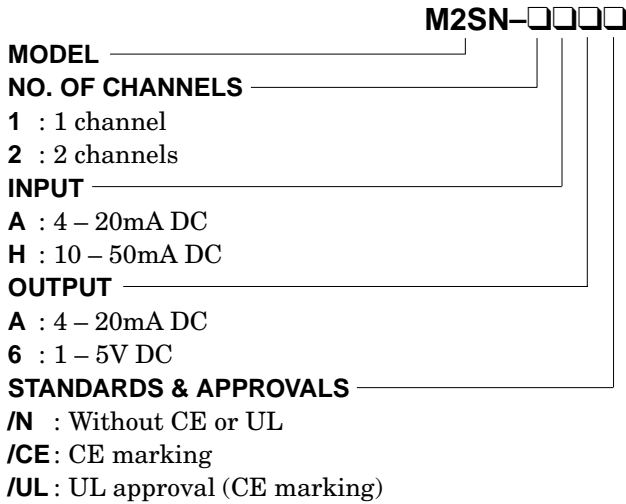


Super-mini Signal Conditioners *Mini-M Series*

INPUT LOOP POWERED ISOLATOR

MODEL **M2SN**

MODEL & SUFFIX CODE SELECTION



ORDERING INFORMATION

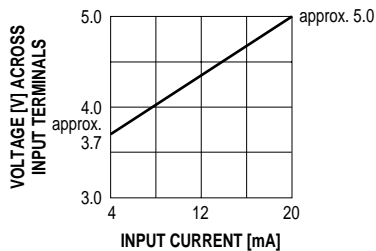
Specify code number. (e.g. M2SN-2AA/CE)

GENERAL SPECIFICATIONS

Construction: plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Housing material: flame-resistant resin (black)
Isolation: input to output, between channels
Front adjustments
Voltage output: zero and span; $\pm 5\%$
Current output: $\pm 0.5\%$ for zero; $\pm 1.5\%$ for span

INPUT & OUTPUT

■ **INPUT 4 – 20mA DC / OUTPUT 1 – 5V DC**
Equivalent input impedance: approx. 250Ω with 20mA input
Operational range: 3 – 22mA DC (Accuracy is assured within 4 – 22mA)
Load resistance: 50kΩ minimum



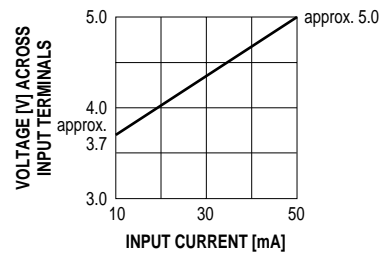
Functions & Features

- Loop-powered design eliminates output loop power supply
- 2 isolators housed in one enclosure
- 350Ω output drive with 4 – 20mA
- High-density mounting
- CE marking
- UL approval

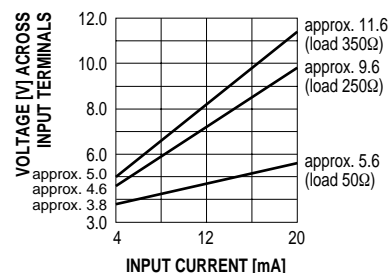
Typical Applications

- 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

■ **INPUT 10 – 50mA DC / OUTPUT 1 – 5V DC**
Equivalent input impedance: approx. 100Ω with 50mA input
Operational range: 7 – 55mA DC (Accuracy is assured within 8 – 55mA)
Load resistance: 50kΩ minimum



■ **INPUT 4 – 20mA DC / OUTPUT 4 – 20mA DC**
Equivalent input impedance: 230Ω plus load resistance with 20mA input
Operational range: 3 – 22mA DC (Accuracy is assured within 4 – 22mA)
Load resistance: 350Ω maximum; min. 50Ω required for adequate operation

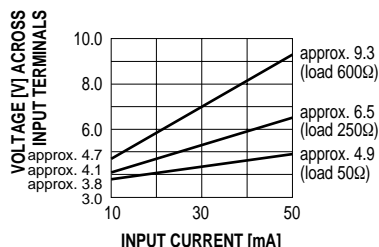


INPUT 10 – 50mA DC / OUTPUT 4 – 20mA DC

Equivalent input impedance: $90\Omega + [\text{load resistance} \times 0.16]$ with 50mA input

Operational range: 7 – 55mA DC
(Accuracy is assured within 8 – 55mA)

Load resistance: 600Ω maximum; min. 50Ω required for adequate operation



INSTALLATION

- 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")
See General Spec. Sheet Figure A-1.
- Weight:** 150 g (0.33 lbs)
- Terminal assignment:** See General Spec. Sheet Figure B-1.

PERFORMANCE in percentage of span

- VOLTAGE OUTPUT**
- Accuracy:** ±0.1%
- Temp. coefficient:** ±0.015%/°C (±0.008%/°F)
- Response time:** ≤0.5 seconds (0 – 90%)

CURRENT OUTPUT

- Accuracy:** ±0.1%
- Temp. coefficient:** ±0.02%/°C (±0.01%/°F)
- Response time:** approx. 15 milliseconds (0 – 90%)

- Load effect***
- 4 – 20mA input:** 0.015%/Ω (50 – 150Ω)
0.003%/Ω (150 – 350Ω)
- 10 – 50mA input:** 0.015%/Ω (50 – 100Ω)
0.003%/Ω (100 – 600Ω)

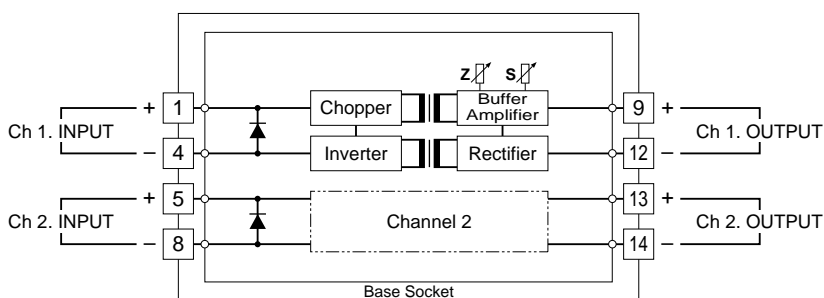
- *The unit is calibrated with 250Ω load at the factory.
- Insulation resistance:** ≥100MΩ with 500V DC
- Dielectric strength:** 500V AC @1 minute
(input to output)
2000V AC @1 minute (between channels)
2000V AC @1 minute
(input or output to ground)

STANDARDS & APPROVALS

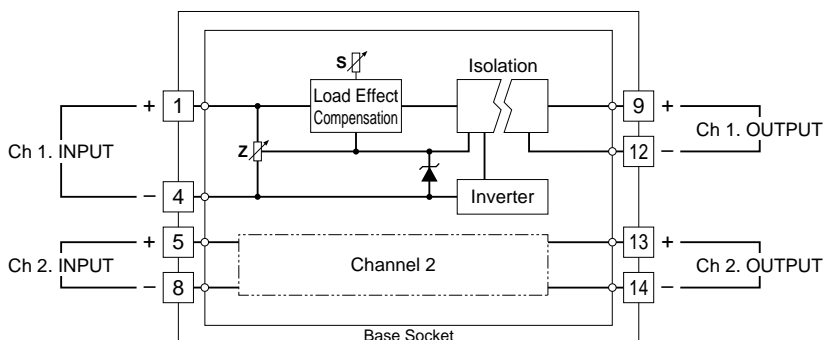
- CE conformity:** EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2
- Approval:** UL nonincendive Class I, Division 2, Groups A, B, C, and D hazardous locations (UL 1604); UL general safety requirements (UL 3111-1)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

VOLTAGE OUTPUT



CURRENT OUTPUT



Specifications subject to change without notice.