Super-space-saving Signal Conditioners *M3S-UNIT Series*

POTENTIOMETER TRANSMITTER

MODEL **M3SMS**

MODEL & SUFFIX CODE SELECTION

M3SMS–❑–❑❑

MODEL

INPUT POTENTIOMETER

Total resistance 100Ω – 10kΩ

OUTPUT

Current	Voltage
A : 4 – 20mA DC	**1** : 0 – 10mV DC
B : 2 – 10mA DC	**2** : 0 – 100mV DC
C : 1 – 5mA DC	**3** : 0 – 1V DC
D : 0 – 20mA DC	**4** : 0 – 10V DC
E : 0 – 16mA DC	**5** : 0 – 5V DC
F : 0 – 10mA DC	**6** : 1 – 5V DC
G : 0 – 1mA DC	**4W** : -10 – +10V DC
Z : Specify current	**5W** : -5 – +5V DC
	0 : Specify voltage

POWER INPUT

M2 : 100 – 240V AC

R : 24V DC

AD : 100 – 240V AC / 24 – 240V DC (universal)

OPTIONS

/K : Fast response

ORDERING INFORMATION

Specify code number and variables.

- **Code number** (e.g. M3SMS-A-R/K)
- **Special output range** (For codes Z & 0)

GENERAL SPECIFICATIONS

Connection: Removable terminal block

Housing material: Flame-resistant resin (grey)

Isolation: Input to output to power

Overrange output: Approx. -10 – +120% at 1 – 5V

Front adjustments: 0 – 30% of total resistance for zero; 70 – 100% for span

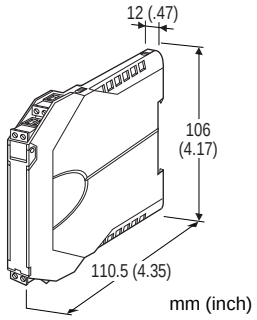
INPUT & OUTPUT

■INPUT: Potentiometer; 100Ω – 10kΩ

Minimum span: 70% of total resistance

Excitation: 0.5V DC

ISOLATION



Functions & Features

- Provides a standard DC output proportional to a potentiometer or slidewire position input
- Constant voltage excitation
- Universal AC/DC power input
- Fast response type available
- High-density mounting
- CE marking

Typical Applications

- Tank levels
- Positions

■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)
2 – 10mA	: 1100
1 – 5mA	: 2200
0 – 20mA	: 550
0 – 16mA	: 680
0 – 10mA	: 1100
0 – 1mA	: 11k

- **DC Voltage**: -10 – +11V DC

Minimum span: 5mV

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 1mA maximum; at ≥0.5V

Output	Load Resistance
0 – 10mV	: 10k (Ω minimum)
0 – 100mV	: 100k
0 – 1V	: 1000
0 – 10V	: 10k
0 – 5V	: 5000
1 – 5V	: 5000
-10 – +10V	: 10k
-5 – +5V	: 5000

INSTALLATION

Power input

AC: Operational voltage range 90 – 264V;
47 – 66 Hz; approx. 2VA at 100V
approx. 3VA at 200V
approx. 3VA at 264V

DC: Operational voltage range for R: 24V DC ±10%, AD: 21.6 – 264V DC
approx. 1W; ripple 10% p-p max.

Operating temperature: -10 to +55°C (14 to 131°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: DIN rail
Dimensions: W12×H106×D110.5 mm (0.47"×4.17"×4.35")
Weight: 100 g (0.22 lbs)

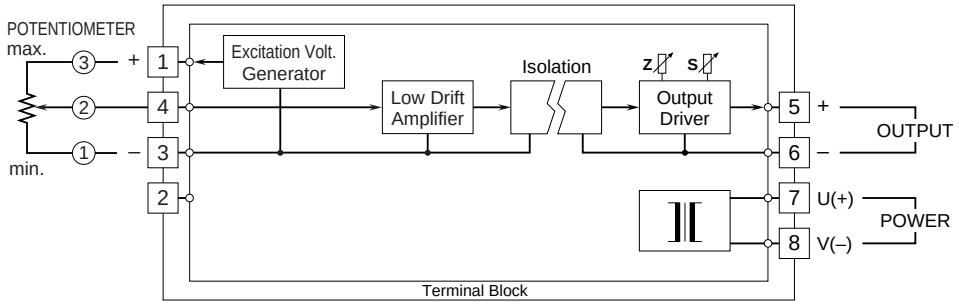
PERFORMANCE

Accuracy: ±0.1%
Temp. coefficient: ±0.015%/°C (±0.008%/°F)
Response time: ≤0.5 seconds (0 – 90%)
Approx. 25 milliseconds with option /K
Line voltage effect: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 2000V AC @1 minute
(input to output to power to ground)

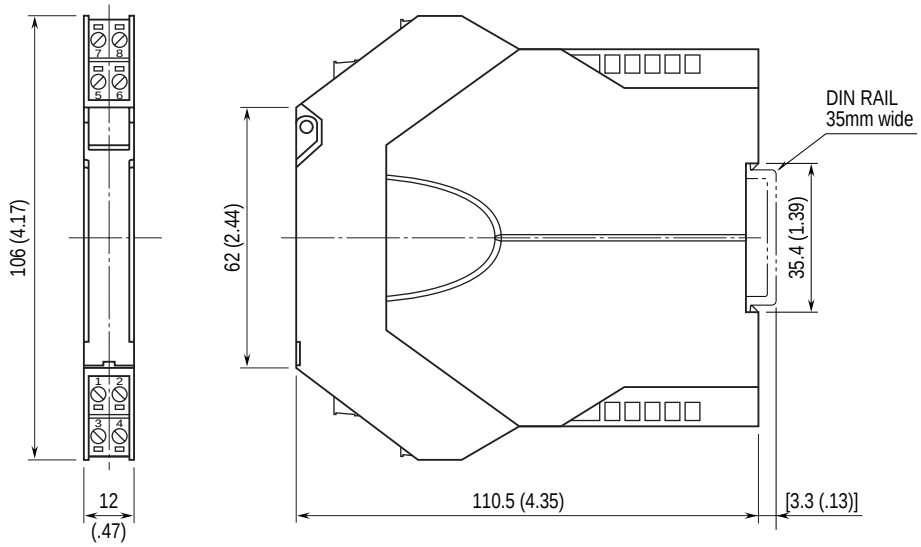
STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2
Low Voltage Directive (73/23/EEC)
Installation category II
Pollution degree 2
Max. operating voltage 300V
Input or output to power – Reinforced insulation
Input to output – Basic insulation

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS mm (inch)



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

Specifications subject to change without notice.