

Super-mini Signal Conditioners *Mini-M Series*

INVERTED OUTPUT TRANSMITTER

MODEL **M2UDS**

MODEL & SUFFIX CODE SELECTION

M2UDS-□□□□

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
GW : -1 – +1mA DC	
FW : -10 – +10mA DC	
Z : Specify current	

*1 : 50Ω input resistance for Code A1

OUTPUT _____

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

POWER INPUT _____

AC Power	DC Power
M : 85 – 264V AC *2	R : 24V DC
M2 : 100 – 240V AC	R2 : 11 – 27V DC *2
	P : 110V DC

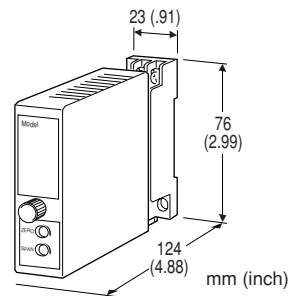
*2 : Select 'N' for 'Standards & Approvals' code.

STANDARDS & APPROVALS

/N : Without CE or UL
 /CE : CE marking
 /UL : UL approval (CE marking)

ORDERING INFORMATION

Specify code number and variables.
 • **Code number** (e.g. M2UDS-6A-M2/CE)
 • **Special input and output ranges** (For codes Z & 0)



Functions & Features

- Providing a reversed output proportional to the input signal
- Universal power input
- High-density mounting
- CE marking
- UL approval

Typical Applications

- Matching manipulating signal with the valve action

GENERAL SPECIFICATIONS

Construction: plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Housing material: flame-resistant resin (black)
Isolation: input to output to power
Overrange output: approx. -10 – +120% at 5 – 1V
Front adjustments: zero and span; ±5%

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.

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

Minimum span: 3mV

Zero suppression/elevation: max. 1.5 times span

Input resistance

(Span) 3 – 10mV	: 10k (Ω minimum)
10 – 100mV	: 10k
0.1 – 1V	: 100k
$\geq 1V$: 1M

■OUTPUT

•DC Current: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 15V maximum

4 – 20mA	: 750 (Ω maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k

•DC Voltage: -10 – +12V DC

Minimum span: 5mV

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 1mA maximum at $\geq 0.5V$

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 85 – 264V (90 – 264V for UL);
47 – 66 Hz; approx. 3VA at 100V
approx. 4VA at 200V
approx. 5VA at 264V

DC: operational voltage range for R: 24V $\pm 10\%$,
R2: 11 – 27V, or P: 85 – 150V (110V $\pm 10\%$
for UL); 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")
See General Spec. Sheet Figure A-1.

Weight: 150 g (0.33 lbs)

Terminal assignment: See General Spec. Sheet Figure B-2.

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$

Temp. coefficient: $\pm 0.015\%/^{\circ}C$ ($\pm 0.008\%/^{\circ}F$)

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

Line voltage effect: $\pm 0.1\%$ over voltage range

Insulation resistance: $\geq 100M\Omega$ 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)

EN61010-1

Installation category II

Pollution degree 2

Max. operating voltage 300V

Input or output to power – Reinforced insulation

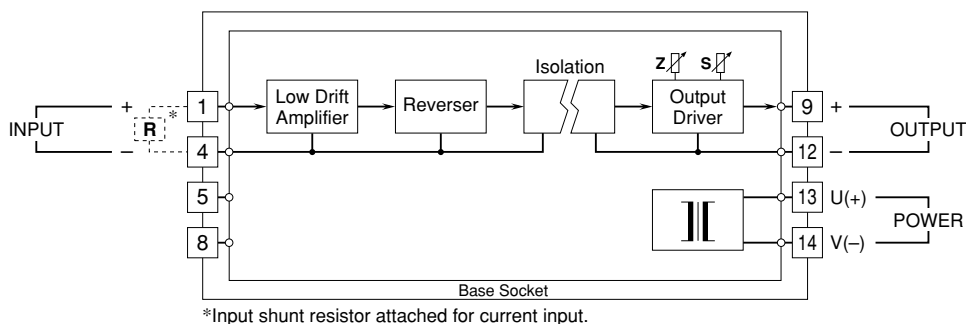
Input to output – Basic insulation

Approval: UL/C-UL nonincendive

Class I, Division 2, Groups A, B, C, and D
(UL 1604, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements
(UL 3111-1, CAN/CSA-C22.2 No.1010-1)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications subject to change without notice.