

**Super-mini Signal Conditioners *Mini-M Series***

**CURRENT LOOP SUPPLY  
(isolated)**

MODEL **M2DYS**

**MODEL & SUFFIX CODE SELECTION**

M2DYS-24□-□□

MODEL \_\_\_\_\_

SUPPLY OUTPUT \_\_\_\_\_

24: 24V DC

INPUT \_\_\_\_\_

4 – 20mA DC

OUTPUT SIGNAL \_\_\_\_\_

<b>Current</b>	<b>Voltage</b>
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 \_\_\_\_\_

<b>AC Power</b>	<b>DC Power</b>
M : 85 – 264V AC *1	R : 24V DC
M2: 100 – 240V AC	R2: 11 – 27V DC *1
	P : 110V DC

\*1: Select 'N' for 'Standards & Approvals' code.

**STANDARDS & APPROVALS** \_\_\_\_\_

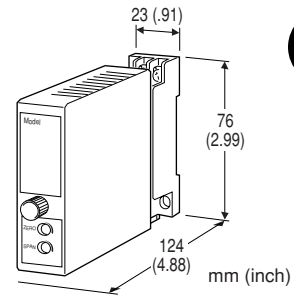
/N : Without CE  
/CE: CE marking

**ORDERING INFORMATION**

Specify code number. (e.g. M2DYS-24A-M2/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 to power  
**Overrange output:** Approx. -10 – +120% at 1 – 5V  
**Front adjustments:** Zero and span; ±5%



**Functions & Features**

- Powering a 4 – 20mA DC current loop
- Shortcircuit protection
- Applicable to smart transmitters
- Universal power input
- High-density mounting
- CE marking

**Typical Applications**

- Various 2-wire transmitters
- Isolation application (4 – 20mA input)

**INPUT & OUTPUT**

■ **SUPPLY OUTPUT** (across the terminals 1 – 8)

**Output voltage:** 24 – 28V DC with no load  
18V DC maximum at 20mA

**Current rating:** 22mA DC maximum

• **Shortcircuit Protection**

**Current limited:** 30mA maximum

**Protected time duration:** No limit

■ **INPUT:** 4 – 20mA DC; input resistor incorporated (0.5W)

**Input resistance:** Approx. 300Ω (50Ω as receiving resistor, 250Ω across the monitor terminals)

■ **OUTPUT SIGNAL**

• **DC Current:** 0 – 20mA DC

**Minimum span:** 1mA

**Zero suppression/elevation:** Max. 1.5 times span

**Load resistance:** Output drive 15V maximum

Output	Load Resistance
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  $\geq 0.5V$

Output	Load Resistance
0 – 10mV	: 10k ( $\Omega$ 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  
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,  
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-1.

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

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

**Response time:**  $\leq 0.5$  seconds (0 – 90%)

**Line voltage effect**

**Supply output:**  $\pm 3\%$  over voltage range

**Output signal:**  $\pm 0.1\%$  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

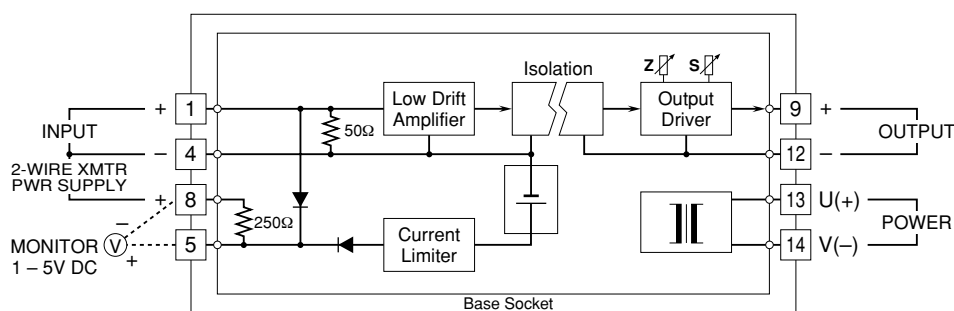
Pollution degree 2

Max. operating voltage 300V

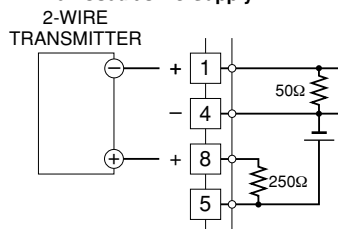
Input or output to power – Reinforced insulation

Input to output – Basic insulation

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



### ■When Used as DC Supply



### ■When Used as Isolator

