M·SYSTEM CO.,LTD.

Space-saving Dual Output Signal Conditioners *Mini-MW Series*

CURRENT LOOP SUPPLY
(with square root extractor; isolated)

MODEL **W2DNY**

MODEL & SUFFIX CODE SELECTION

W2DNY–24❑❑–❑❑

MODEL

SUPPLY OUTPUT

24: 24V DC

INPUT

4 – 20mA DC

OUTPUT SIGNAL 1

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	**0** : Specify voltage
Z : Specify current	

OUTPUT SIGNAL 2

Same range availability as Output 1

Y : None

POWER INPUT

AC Power	DC Power
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 and variables. When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

- **Code number** (e.g. W2DNY-24A6-M2/CE)
- **Special output ranges** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: Plug-in

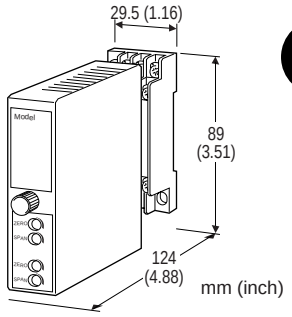
Connection: M3 screw terminals (torque 0.8 N·m)

Housing material: Flame-resistant resin (black)

Isolation: Input to output 1 to output 2 to power

Overrange output: 0 – 110% at 1 – 5V

Front adjustments: Zero and span; ±5%



CE

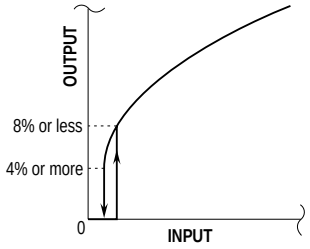
Functions & Features

- Powering a 4 – 20mA DC current loop
- Square root extraction
- Shortcircuit protection
- Applicable to smart transmitters
- Two independent output ranges
- Universal power input
- High-density mounting
- CE marking

Typical Applications

- Various 2-wire transmitters

Low-end cutout: Approx. 4 – 8% (output)



INPUT & OUTPUT

■**SUPPLY OUTPUT** (across the terminals 1 – 5)

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

■**OUTPUT SIGNALS (two)**

- **DC Current**: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 15V max. for Output 1; 7V max. for Output 2

Output	Ch.1 L.R.	Ch.2 L.R.
4 – 20mA	: 750	350 (Ω max.)
2 – 10mA	: 1500	700
1 – 5mA	: 3000	1400
0 – 20mA	: 750	350
0 – 16mA	: 900	430
0 – 10mA	: 1500	700
0 – 1mA	: 15k	7000

•**DC Voltage**: 0 – 12V DC (up to 10V for Out. 2)
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

INSTALLATION

Power input

AC: Operational voltage range 85 – 264V
47 – 66 Hz; approx. 5VA at 100V
approx. 6VA at 200V
approx. 7VA at 264V

DC: Operational voltage range for R: 24V ±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: W29.5×H89×D124 mm (1.16"×3.51"×4.88")
See General Spec. Sheet Figure A-1.
Weight: 200 g (0.44 lbs)
Terminal assignment: See General Spec. Sheet Figure B-1.

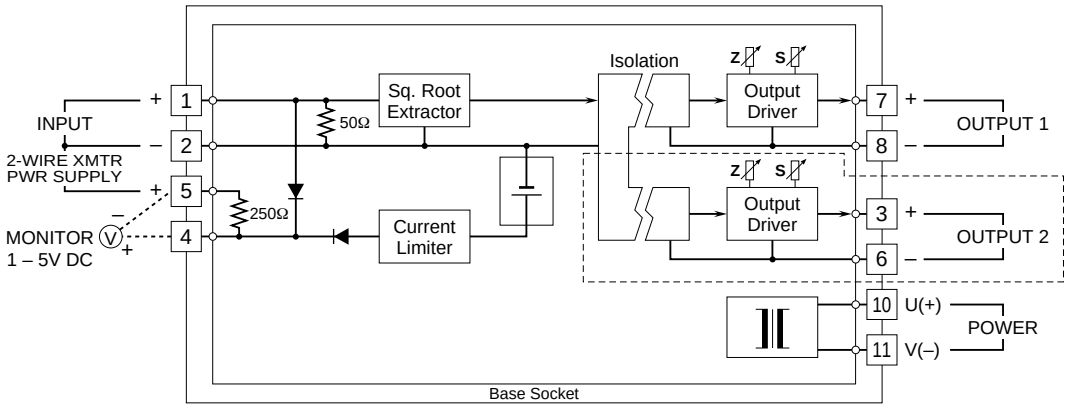
PERFORMANCE in percentage of span

Accuracy: ±0.2% (input 1 – 100%)
Temp. coefficient: ±0.015%/°C (±0.008%/°F)
Response time: ≤0.5 seconds (0 – 90%)
Line voltage effect
Supply output: ±3% over voltage range
Output signal: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 2000V AC @1 minute (input to output 1 to output 2 to power to ground)

STANDARDS & APPROVALS

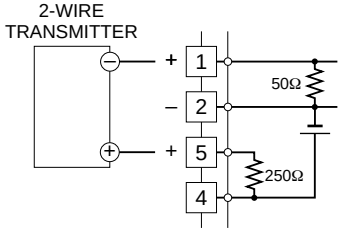
CE conformity: EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2
Low Voltage Directive (73/23/EEC)
Installation category II
Pollution degree 2
Max. operating voltage 300V
Input or output 1 or output 2 to power – Reinforced insulation
Input to output 1 to output 2 – Basic insulation

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

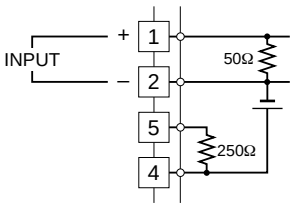


Remark: The section enclosed by broken line is only with 2nd output option.

■**When Used as DC Supply**



■**When Used as Square Root Extractor**



Specifications subject to change without notice.