

Dual Output Plug-in Signal Conditioners W-UNIT

5W: -5 – +5 V DC (Input resistance 1 M Ω min.)
0: Specify voltage (See INPUT SPECIFICATIONS)

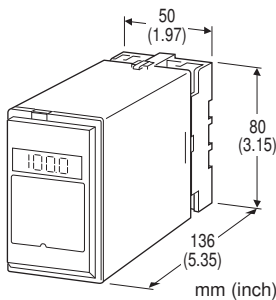
ANALOG ADDER

Functions & Features

- Accepts two DC inputs and provides two standard process signals proportional to the addition of the two signals
- Isolation up to 2000 V AC
- LCD meter indicates added values
- High-density mounting

Typical Applications

- Adding two flows
- DC input transmitter for a power installation (dielectric strength 2000 V AC, 110 V DC power)



MODEL: WADS-[1][2][3]-[4][5]

ORDERING INFORMATION

- Code number: WADS-[1][2][3]-[4][5]
Specify a code from below for each of [1] through [5].
(e.g. WADS-6A6-B/E/Q)
- Special input and output ranges (For codes Z & 0)
- Parameters (e.g. $K_1 = 0.10$, $K_2 = 2.00$)
- Specify the specification for option code /Q
(e.g. /C01/S01)

Note: When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

[1] INPUT

Voltage

- 1: 0 – 10 mV DC (Input resistance 10 k Ω min.)
15: 0 – 50 mV DC (Input resistance 10 k Ω min.)
16: 0 – 60 mV DC (Input resistance 10 k Ω min.)
2: 0 – 100 mV DC (Input resistance 100 k Ω min.)
3: 0 – 1 V DC (Input resistance 1 M Ω min.)
4: 0 – 10 V DC (Input resistance 1 M Ω min.)
5: 0 – 5 V DC (Input resistance 1 M Ω min.)
6: 1 – 5 V DC (Input resistance 1 M Ω min.)
4W: -10 – +10 V DC (Input resistance 1 M Ω min.)

[2] OUTPUT 1

Current

- A: 4 – 20 mA DC (Load resistance 600 Ω max.)
B: 2 – 10 mA DC (Load resistance 1200 Ω max.)
C: 1 – 5 mA DC (Load resistance 2400 Ω max.)
D: 0 – 20 mA DC (Load resistance 600 Ω max.)
E: 0 – 16 mA DC (Load resistance 750 Ω max.)
F: 0 – 10 mA DC (Load resistance 1200 Ω max.)
G: 0 – 1 mA DC (Load resistance 12 k Ω max.)
Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 – 10 mV DC (Load resistance 10 k Ω min.)
2: 0 – 100 mV DC (Load resistance 100 k Ω min.)
3: 0 – 1 V DC (Load resistance 1000 Ω min.)
4: 0 – 10 V DC (Load resistance 10 k Ω min.)
5: 0 – 5 V DC (Load resistance 5000 Ω min.)
6: 1 – 5 V DC (Load resistance 5000 Ω min.)
4W: -10 – +10 V DC (Load resistance 10 k Ω min.)
5W: -5 – +5 V DC (Load resistance 5000 Ω min.)
0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] OUTPUT 2

Current

- A: 4 – 20 mA DC (Load resistance 350 Ω max.)
B: 2 – 10 mA DC (Load resistance 700 Ω max.)
C: 1 – 5 mA DC (Load resistance 1400 Ω max.)
D: 0 – 20 mA DC (Load resistance 350 Ω max.)
E: 0 – 16 mA DC (Load resistance 430 Ω max.)
F: 0 – 10 mA DC (Load resistance 700 Ω max.)
G: 0 – 1 mA DC (Load resistance 7000 Ω max.)
Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

Same range availability as Output 1

[4] POWER INPUT

AC Power

- B: 100 V AC
C: 110 V AC
D: 115 V AC
F: 120 V AC
G: 200 V AC
H: 220 V AC
J: 240 V AC

DC Power

- S: 12 V DC
R: 24 V DC
V: 48 V DC
P: 110 V DC

[5] OPTIONS (multiple selections)**Addition Indicator**

blank: Without

/E: With (0.0 - 100.0 % display)

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)**COATING (For the detail, refer to M-System's web site.)**

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS**Construction:** Plug-in**Connection:** M3.5 screw terminals**Screw terminal:** Chromated steel (standard) or stainless steel**Housing material:** Flame-resistant resin (black)**Isolation:** Input 1 or input 2 to output 1 to output 2 to power**Overrange output:** Approx. -10 to +120 % at 1 - 5 V**Zero adjustment:** -5 to +5 % (front)**Span adjustment:** 95 to 105 % (front)

Adjustable individually for each output 1 and output 2.

Equation: Output = $K_1 \times \text{Input 1} + K_2 \times \text{Input 2}$ K_1, K_2 : 0.10 - 2.00 (parameters)

Output, Input 1, Input 2: 0 - 100 %

 K_1, K_2 are ex-factory specified.

Note: Be aware that a input signal less than 0 % is calculated as a minus signal.

■ DISPLAY (Added values indicator)**LCD digital display:** 0.0 - 100.0 % (min. digit 0.1 %)

(No scaling)

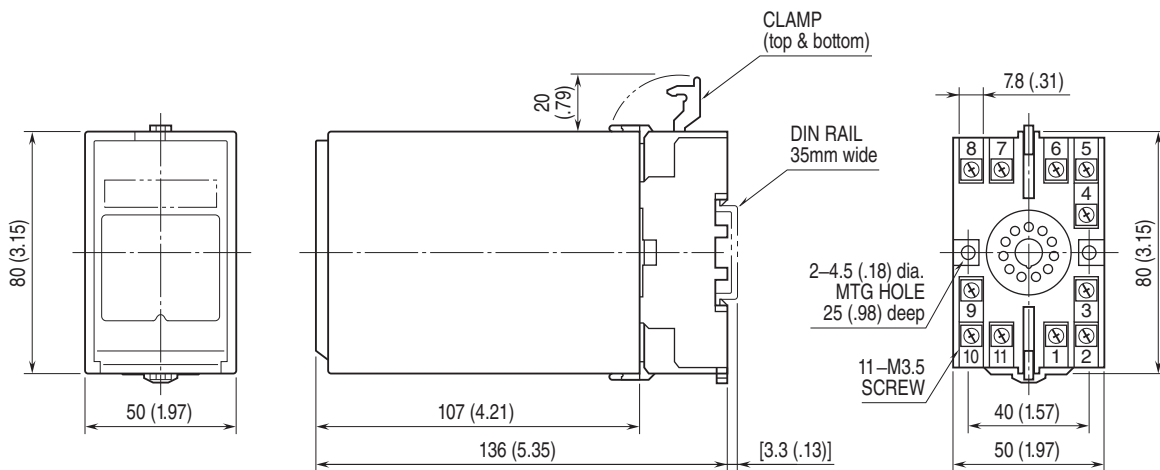
OUTPUT SPECIFICATIONS**■ DC Current:** 0 - 20 mA DC**Minimum span:** 1 mA**Offset:** Max. 1.5 times span**Load resistance:** Output drive 12 V max. for Output 1;
7 V max. for Output 2**■ DC Voltage:** -10 - +12 V DC**Minimum span:** 5 mV**Offset:** Max. 1.5 times span**Load resistance:** Output drive 1 mA max. at ≥ 0.5 V**INSTALLATION****Power input****•AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 3 VA**•DC:** Operational voltage range: rating ± 10 %, or 85 - 150 V for 110 V rating, ripple 10 %p-p max., approx. 3 W (125 mA at 24 V)**Operating temperature:** -5 to +55°C (23 to 131°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Surface or DIN rail**Weight:** 400 g (0.88 lb)**PERFORMANCE in percentage of span****Accuracy:** ± 0.2 % (± 0.4 % at K_1 and/or $K_2 > 1.00$)**Display accuracy:** $\pm (0.2 \text{ % of FS} + 1 \text{ digit})$ $\pm (0.4 \text{ % of FS} + 1 \text{ digit})$ at K_1 and/or $K_2 > 1.00$ **Temp. coefficient:** ± 0.015 %/°C (± 0.008 %/°F)**Response time:** ≤ 0.5 sec. (0 - 90 %)**Line voltage effect:** ± 0.1 % over voltage range**Insulation resistance:** ≥ 100 M Ω with 500 V DC**Dielectric strength:** 2000 V AC @ 1 minute

(input to output to power to ground)

1000 V AC @ 1 minute (output 1 to output 2)

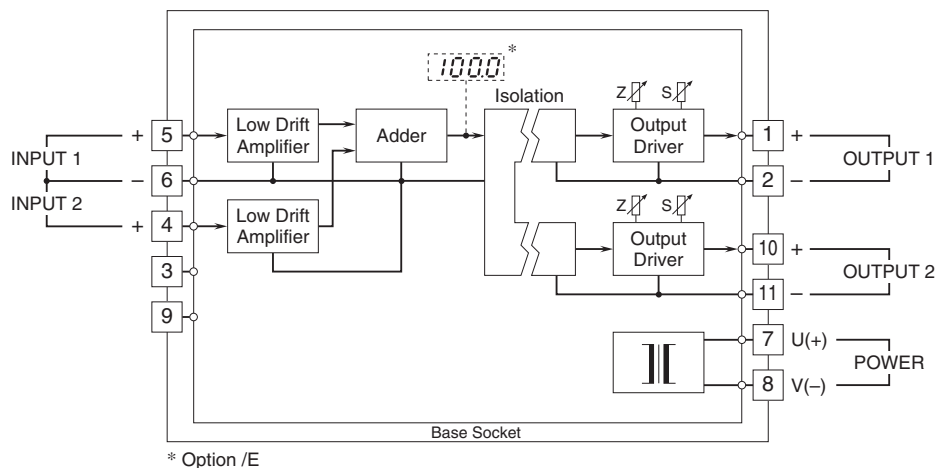
INPUT SPECIFICATIONS**■ DC Voltage:** -300 - +300 V DC**Minimum span:** 3 mV**Offset:** Max. 1.5 times span**Input resistance**Span 3 - 10 mV : ≥ 10 k Ω Span 10 - 100 mV : ≥ 10 k Ω Span 0.1 - 1 V : ≥ 100 k Ω Span ≥ 1 V : ≥ 1 M Ω

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.