

Dual Output Plug-in Signal Conditioners W-UNIT

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

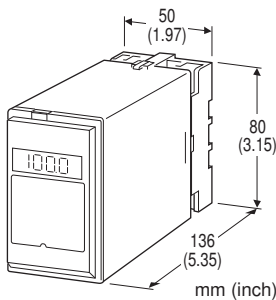
ANALOG ADDER

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 kΩ min.)
- 15:** 0 - 50 mV DC (Input resistance 10 kΩ min.)
- 16:** 0 - 60 mV DC (Input resistance 10 kΩ min.)
- 2:** 0 - 100 mV DC (Input resistance 100 kΩ min.)
- 3:** 0 - 1 V DC (Input resistance 1 MΩ min.)
- 4:** 0 - 10 V DC (Input resistance 1 MΩ min.)
- 5:** 0 - 5 V DC (Input resistance 1 MΩ min.)
- 6:** 1 - 5 V DC (Input resistance 1 MΩ min.)
- 4W:** -10 - +10 V DC (Input resistance 1 MΩ 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 kΩ max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1:** 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2:** 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3:** 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4:** 0 - 10 V DC (Load resistance 10 kΩ 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 kΩ 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 our web site.)

/CO1: Silicone coating

/CO2: Polyurethane coating

/CO3: 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)

INPUT SPECIFICATIONS

■ **DC Voltage:** -300 - +300 V DC

Minimum span: 3 mV

Offset: Max. 1.5 times span

Input resistance

Span 3 - 10 mV : $\geq 10 \text{ k}\Omega$

Span 10 - 100 mV : $\geq 10 \text{ k}\Omega$

Span 0.1 - 1 V : $\geq 100 \text{ k}\Omega$

Span $\geq 1 \text{ V}$: $\geq 1 \text{ M}\Omega$

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 $\geq 0.5 \text{ V}$

INSTALLATION

Power input

• **AC:** Operational voltage range: rating $\pm 10 \%$, 50/60 $\pm 2 \text{ Hz}$, approx. 3 VA

• **DC:** Operational voltage range: rating $\pm 10 \%$, 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: $\pm 0.2 \%$ ($\pm 0.4 \%$ at K_1 and/or $K_2 > 1.00$)

Display accuracy: $\pm (0.2 \%$ of FS + 1 digit)

$\pm (0.4 \%$ of FS + 1 digit) at K_1 and/or $K_2 > 1.00$

Temp. coefficient: $\pm 0.015 \%$ /°C ($\pm 0.008 \%$ /°F)

Response time: $\leq 0.5 \text{ sec.}$ (0 - 90 %)

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

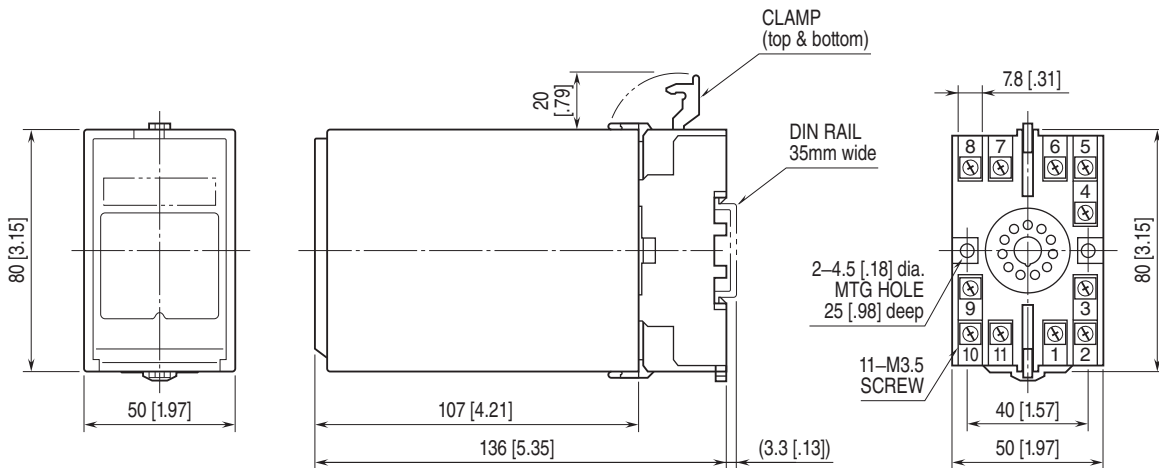
Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 2000 V AC @ 1 minute

(input to output to power to ground)

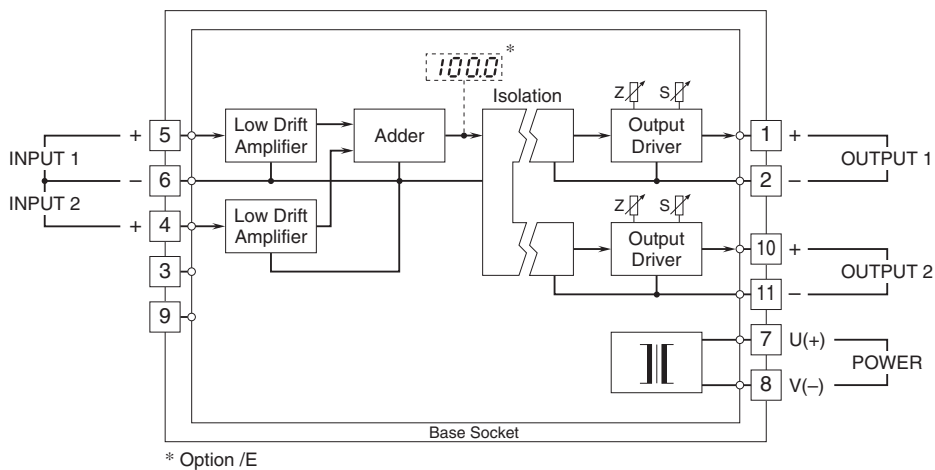
1000 V AC @ 1 minute (output 1 to output 2)

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.