

Dual Output Plug-in Signal Conditioners W-UNIT

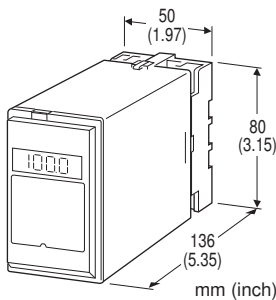
AC TRANSMITTER

Functions & Features

- Converting an alternating current/voltage into two standard process signals
- True RMS sensing
- Isolation up to 2000 V AC
- LCD meter
- High-density mounting

Typical Applications

- Converting a large AC current in combination with a shunt resistor, or a narrow span AC voltage



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

ORDERING INFORMATION

- Code number: WAC-[1][2][3]-[4][5]
- Specify a code from below for each of [1] through [5].
(e.g. WAC-A1A6-B/E/Q)
- Special input and output ranges (For codes AZ, A8, Z & 0)
- 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

Current

- AA:** 0 - 10 mA AC (Input resistance 100 Ω)
- AB:** 0 - 50 mA AC (Input resistance 20 Ω)
- AC:** 0 - 100 mA AC (Input resistance 10 Ω)
- AD:** 0 - 500 mA AC (Input resistance 1 Ω)
- AZ:** Specify current (See INPUT SPECIFICATIONS)
(0 % input must be 0 mA.)

Voltage

- A1:** 0 - 100 mV AC (Input resistance 100 kΩ min.)
- A2:** 0 - 500 mV AC (Input resistance 100 kΩ min.)
- A3:** 0 - 1 V AC (Input resistance 100 kΩ min.)

- A4:** 0 - 5 V AC (Input resistance 100 kΩ min.)
- A5:** 0 - 10 V AC (Input resistance 100 kΩ min.)
- A6:** 0 - 120 V AC (Input resistance 100 kΩ min.)
- A7:** 0 - 150 V AC (Input resistance 100 kΩ min.)
- A8:** Specify voltage (See INPUT SPECIFICATIONS)
(0 % input must be 0 V.)

[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

Span \leq 500 mA: 1 Ω
 Span \leq 1 A: 0.5 Ω
 ■ AC Voltage: 0 - 250 V AC
 Minimum span: 50 mV
 Input resistance: 100 k Ω min.

[5] OPTIONS (multiple selections)

Input Signal 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 to output 1 to output 2 to power
Input waveform
RMS sensing: Up to 15 % of 3rd harmonic content
Overrange output: 0 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.
 ■ **DISPLAY (Input indicator)**
LCD digital display: 0.0 - 100.0 % (min. digit 0.1 %) (No scaling)

INPUT SPECIFICATIONS

Frequency: 40 Hz min., 1 kHz max.
 ■ **AC Current:** 0 - 1 A AC; input resistor incorporated
Minimum span: 1 mA
Input resistance
 Span 1 mA: 1 k Ω
 Span \leq 2 mA: 500 Ω
 Span \leq 5 mA: 200 Ω
 Span \leq 10 mA: 100 Ω
 Span \leq 20 mA: 50 Ω
 Span \leq 50 mA: 20 Ω
 Span \leq 100 mA: 10 Ω

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 V

INSTALLATION

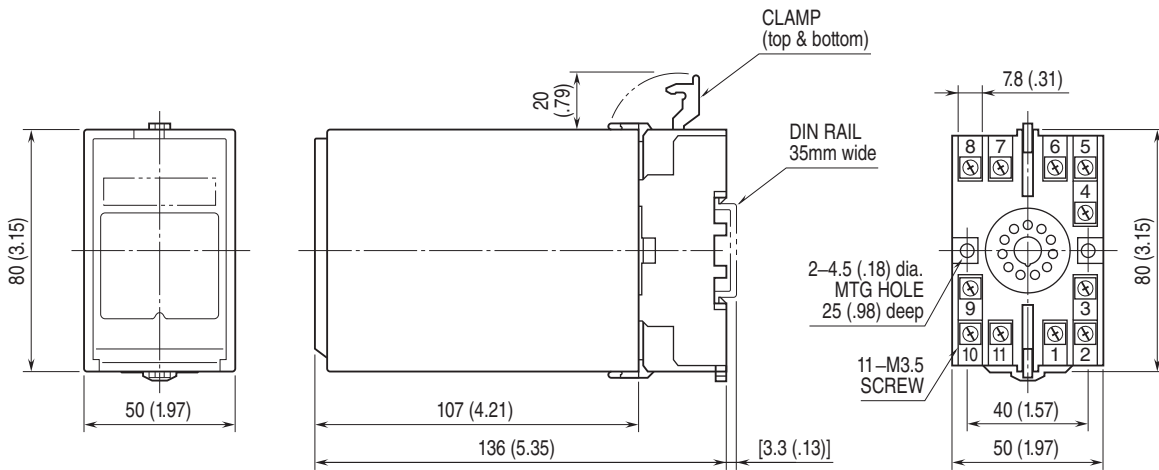
Power input

• **AC:** Operational voltage range: rating \pm 10 %, 50/60 \pm 2 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

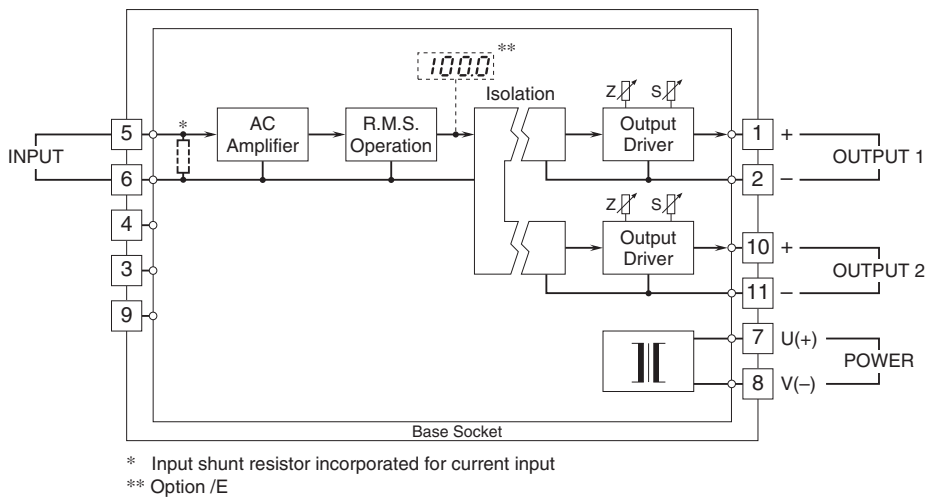
Accuracy: \pm 0.4 %
Display accuracy: \pm (0.4 % of FS + 1 digit)
Temp. coefficient: \pm 0.05 %/°C (\pm 0.03 %/°F)
Response time: \leq 0.7 sec. (0 - 90 %)
Ripple: 0.5 %p-p max.
Line voltage effect: \pm 0.1 % over voltage range
Insulation resistance: \geq 100 M Ω with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)
 1000 V AC @ 1 minute (output 1 to output 2)

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.