Dual Output Plug-in Signal Conditioners W-UNIT

POTENTIOMETER TRANSMITTER

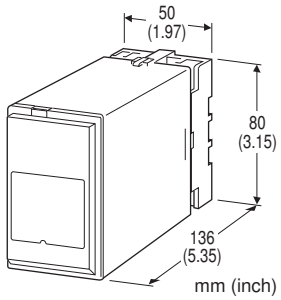
(field-programmable)

Functions & Features

• Providing DC output proportional to a potentiometer or slidewire position input
• Microprocessor based
• Constant voltage excitation allows use with pots with total resistances from 100 Ω – 10kΩ without affecting accuracy
• 75 % zero/span adjustments with minimal interaction
• Linearization data programmable via hand-held programmer PU-2x
• Isolation up to 2000 V AC
• Loop testing via hand-held programmer PU-2x
• High-density mounting

Typical Applications

• Tank levels
• Positions: Compensating non-linear signal from the linking mechanism of a position detector



MODEL: WJM–1[1][2]–[3][4]

ORDERING INFORMATION

•Code number: WJM-1[1][2]-[3][4]
Specify a code from below for each of [1] through [4].
(e.g. WJM-1A6-B/Q)
•Special output ranges (For codes Z & 0)
• Linearization data (max. 16 points)
Use Ordering Information Sheet (No. ESU-1669) to specify linearization data when the I/O signals are non-linear.
• 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.

INPUT POTENTIOMETER

1: Total resistance 100 Ω – 10 kΩ

[1] 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)

[2] 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

[3] 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

[4] OPTIONS

blank: none
/Q: With options (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

RELATED PRODUCTS

• Programming Unit (model: PU-2x)
• PC configurator software (model: JXCON)
Downloadable at M-System's web site.
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

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
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
Adjustable individually for each output 1 and output 2.
Linearization: 16 points max. within the range of -15.00 – +115.00 % input or output; represented as percentage of full-scale
Adjustments: Programming Unit (model: PU-2x); linearization data (Unused resistance of the potentiometer's total resistance can be programmed with the linearization table.), zero and span, simulating output, etc.
(Refer to the users manual of JXCON for the adjustments configurable with JXCON.)

INPUT SPECIFICATIONS

Minimum span: 25 % of total resistance (set with the Programming Unit [model: PU-2x] or PC configurator software [model: JXCON])
Excitation: 0.25 V DC

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 – +10 V DC
Minimum span: 5 mV
Offset: Max. 1.5 times span
Load resistance: Output drive 1 mA max.; at ≥ 0.5 V

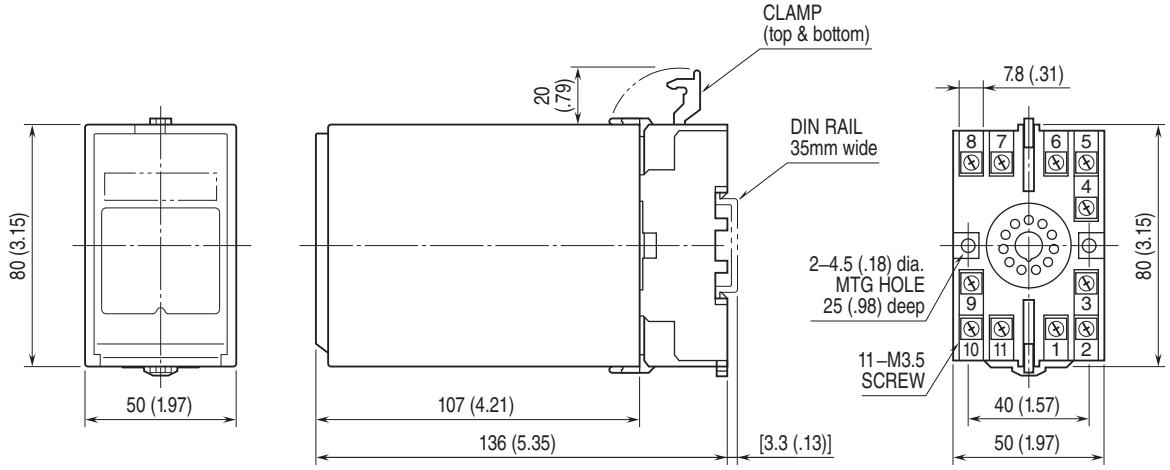
INSTALLATION

Power input
•AC: Operational voltage range: rating ±10 %, 50/60 ±2 Hz, approx. 3.5 VA
•DC: Operational voltage range: rating ±10 % ripple 10 %p-p max., approx. 2.6 W (110 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

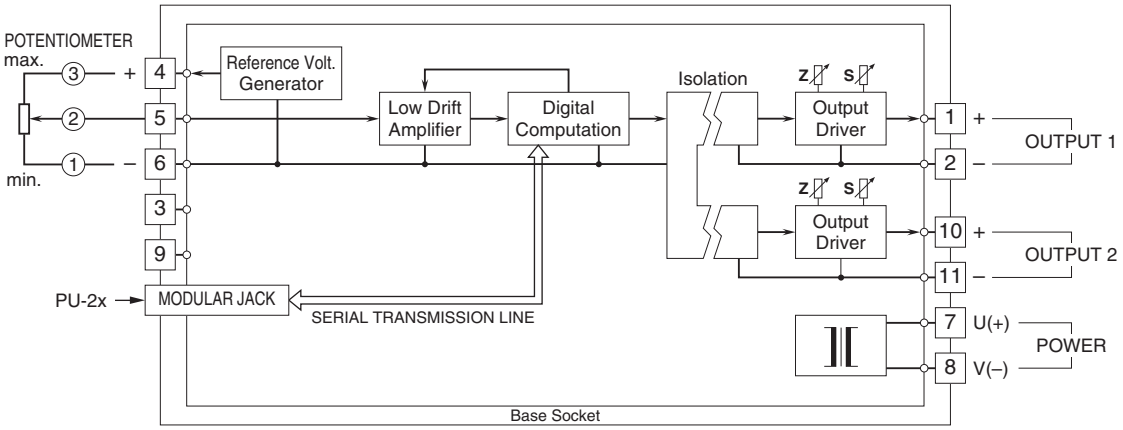
Accuracy: ±0.1 % with segment gain ≤ 1 [±0.1 % × gain] with segment gain > 1
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.5 sec. (0 – 90 %)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to 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.