

Plug-in Signal Conditioners M-UNIT

B : 0 - 3000 A AC (300, 600, 1500 or 3000 A selectable)

HIGH AC CURRENT TRANSMITTER

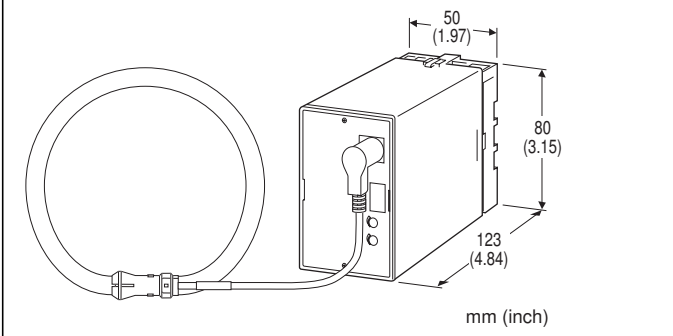
(wide bandwidth)

Functions & Features

- Detecting high current at the flexible current probe and providing a proportional low-ripple standard signal appropriate for computer use
- Wide frequency band can be accepted
- Clipped around a conductor without disconnecting the conductor
- Rogowski coil type
- Isolation up to 2000 V AC
- High-density mounting

Typical Applications

- Measurement in tight places as never before possible
- Monitoring load current of motors employing inverters
- Detecting failures of a pump or other device by monitoring abnormal load current of motors
- Monitoring current of electric welding machine



MODEL: CTS2-[1][2]-[3][4]

ORDERING INFORMATION

• Code number: CTS2-[1][2]-[3][4]

Specify a code from below for each [1] through [4].

(e.g. CTS2-AA-B/Q)

- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

Default Setting for input range:

30 A for 300 A rating

300 A for 3000 A rating

[1] INPUT

Current

A : 0 - 300 A AC (30, 60, 150 or 300 A selectable)

[2] OUTPUT

Current

A: 4 - 20 mA DC (Load resistance 750 Ω max.)

B: 2 - 10 mA DC (Load resistance 1500 Ω max.)

C: 1 - 5 mA DC (Load resistance 3000 Ω max.)

D: 0 - 20 mA DC (Load resistance 750 Ω max.)

E: 0 - 16 mA DC (Load resistance 900 Ω max.)

F: 0 - 10 mA DC (Load resistance 1500 Ω max.)

G: 0 - 1 mA DC (Load resistance 15 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 100 Ω min.)

4: 0 - 10 V DC (Load resistance 1000 Ω min.)

5: 0 - 5 V DC (Load resistance 500 Ω min.)

6: 1 - 5 V DC (Load resistance 500 Ω min.)

4W: -10 - +10 V DC (Load resistance 2000 Ω min.)

5W: -5 - +5 V DC (Load resistance 1000 Ω min.)

0: Specify voltage (See OUTPUT SPECIFICATIONS)

[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

P: 110 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



GENERAL SPECIFICATIONS

Construction

Probe: Clip-around type

Transmitter: Plug-in

Connection

Output & power: M3.5 screw terminals

Input: Connector

Screw terminal: Chromated steel (standard) or stainless steel

Housing material

Probe: TPE rubber, Polypropylene

Transmitter: Flame-resistant resin (black)

Isolation: Current input to sensor output or transmitter input or transmitter output 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)

Input range: Selectable with the front DIP switch among 30, 60, 150 or 300 A, or 300, 600, 1500 or 3000 A

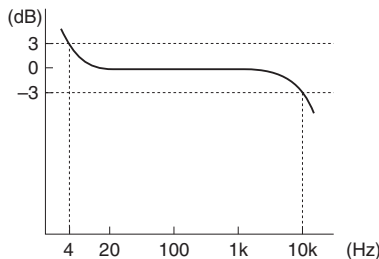
INPUT SPECIFICATIONS

Frequency: 4 Hz - 10 kHz (± 3 dB)

Max. operating voltage: 1000 V AC (primary side)

Overload capacity: 1000 % of rating for 3 seconds, 200 % for 10 seconds, 120 % continuous

Operational range: 0 - 120 % of rating



Frequency Characteristics

OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 15 V max.

■ **DC Voltage:** -10 - +12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

Power input

• **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2 VA

• **DC:** Operational voltage range: rating ± 10 %, or 85 - 150 V for 110 V rating (ripple 10 % p-p max.)

Approx. 2 W (80 mA at 24 V)

Operating temperature

Probe: -10 to +55°C (14 to 131°F)

Transmitter: -5 to +60°C (23 to 140°F)

Operating humidity:

Probe: 15 to 85 % RH (non-condensing)

Transmitter: 30 to 90 % RH (non-condensing)

Mounting: Surface or DIN rail

Weight

Probe: 370 g (0.82 lb)

Transmitter: 300 g (0.66 lb)

PERFORMANCE in percentage of span

Accuracy: ± 1.5 % at 20 Hz - 1 kHz

Repeatability: ± 0.1 %

Position sensitivity: ± 1 % (In recommended mounting; otherwise the sensitivity may increase. Refer to the instruction manual.)

Temp. coefficient: ± 0.15 %/°C (± 0.08 %/°F)

Response time: 1.5 sec. (0 - 90 %)

Ripple: 0.5 % p-p max.

Line voltage effect: ± 0.1 % over voltage range

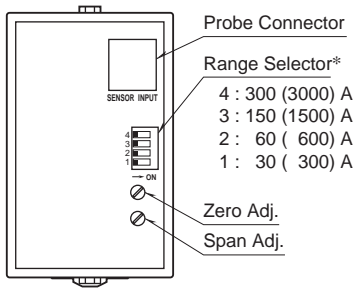
Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @ 1 minute

(Current input to sensor output or transmitter input or transmitter output to power to ground)



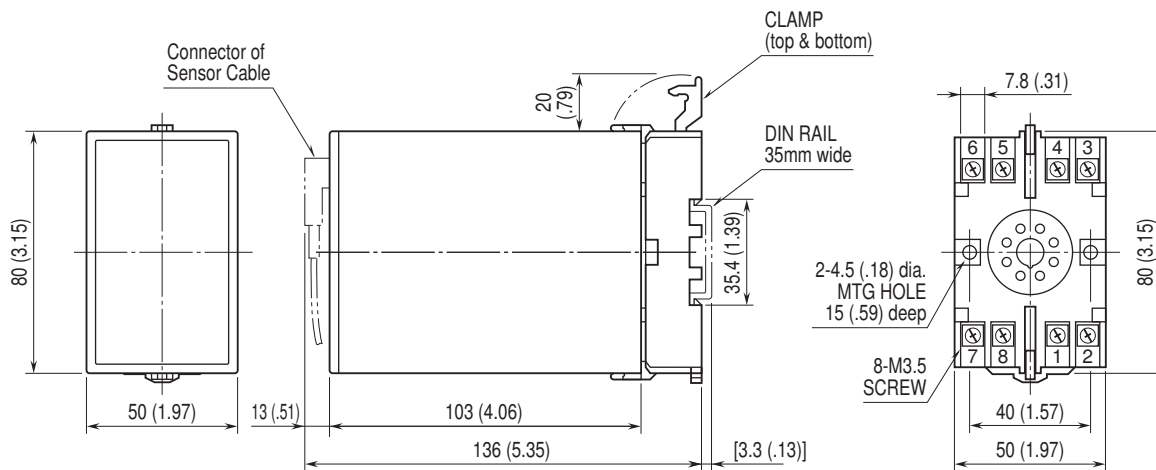
EXTERNAL VIEW



*() for input 3000A type.

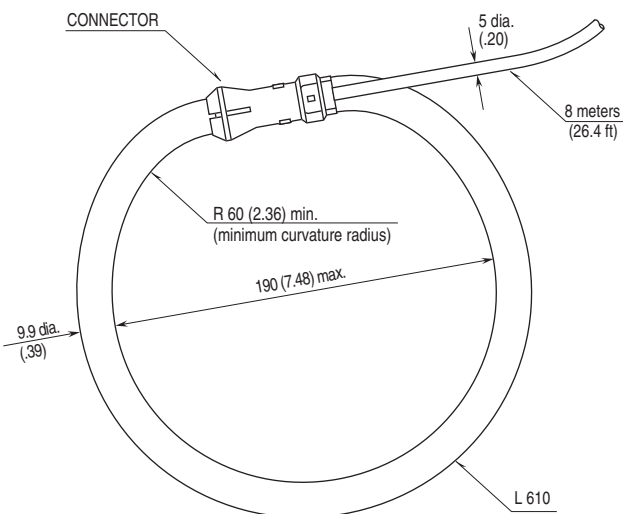
DIMENSIONS unit: mm (inch)

■ TRANSMITTER

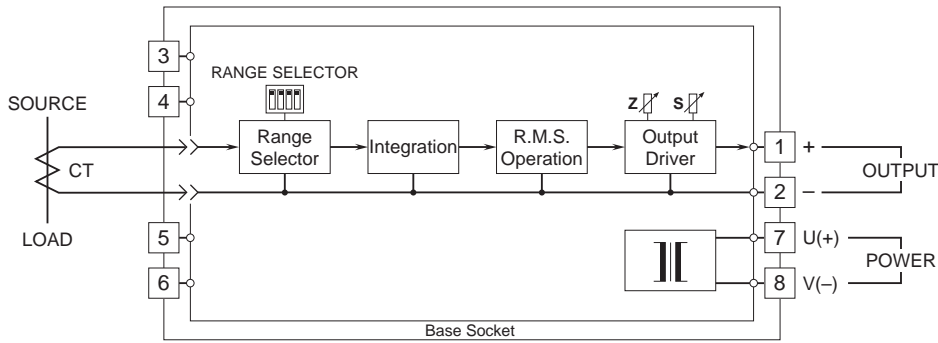


• When mounting, no extra space is needed between units.

■ SENSOR



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

