

Plug-in Signal Conditioners M-UNIT

CT TRANSMITTER

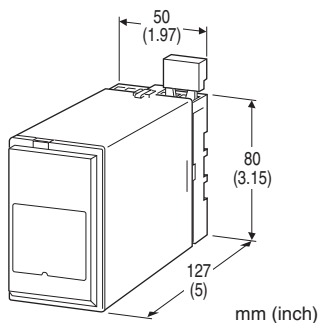
(inverter use)

Functions & Features

- Converting an alternating current from a current transformer into a standard process signal
- Wide range of frequency can be accepted thanks to the incorporated wide-range CT
- Isolation up to 2000 V AC
- High-density mounting

Typical Applications

- 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: CTH-5[1]-[2][3]

ORDERING INFORMATION

- Code number: CTH-5[1]-[2][3]
- Specify a code from below for each of [1] through [3]. (e.g. CTH-5A-B/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

INPUT

Current

5: 0 - 5 A AC

[1] 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 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 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)

[2] 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 (CE marking unavailable)

[3] 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: 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 to power

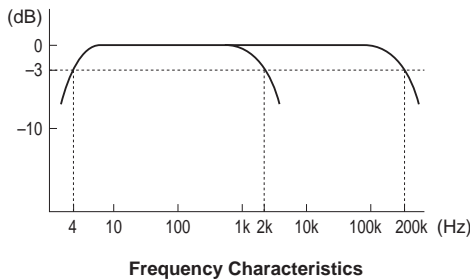
Input waveform: Up to 15 % of 3rd harmonic content

Overrange output: 0 to 120 % at 1 - 5 V

Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
Input filter: Selectable with the front switch

INPUT SPECIFICATIONS

Frequency: 4 Hz - 200 kHz (-3 dB) or 4 Hz - 2 kHz (-3 dB)
Input burden: 0.5 VA max.
Overload capacity: 1000 % of rating for 3 sec., 200 % for 10 sec., 120 % continuous
Operational range: 0 - 120 % of rating



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: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 300 g (0.66 lb)

PERFORMANCE in percentage of span

Accuracy: ± 0.3 % at 20 Hz - 1 kHz
 ± 7 % at 7 Hz - 100 kHz
Temp. coefficient:
 ± 0.015 %/°C (± 0.008 %/°F) at 20 Hz - 1 kHz
 ± 0.35 %/°C (± 0.19 %/°F) at 7 Hz - 100 kHz
Response time: Approx. 1.5 sec. (0 - 90 %)
Ripple: 0.5 %p-p max. (The output ripple may increase when

there is great difference between the frequencies of input signal and power supply)

Line voltage effect: ± 0.1 % over voltage range (input 5 - 100 %)

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

Low Voltage Directive

EN 61010-1

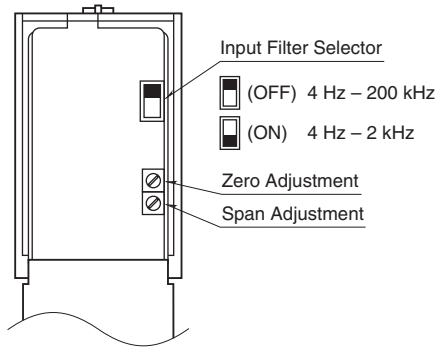
Installation Category II

Pollution Degree 2

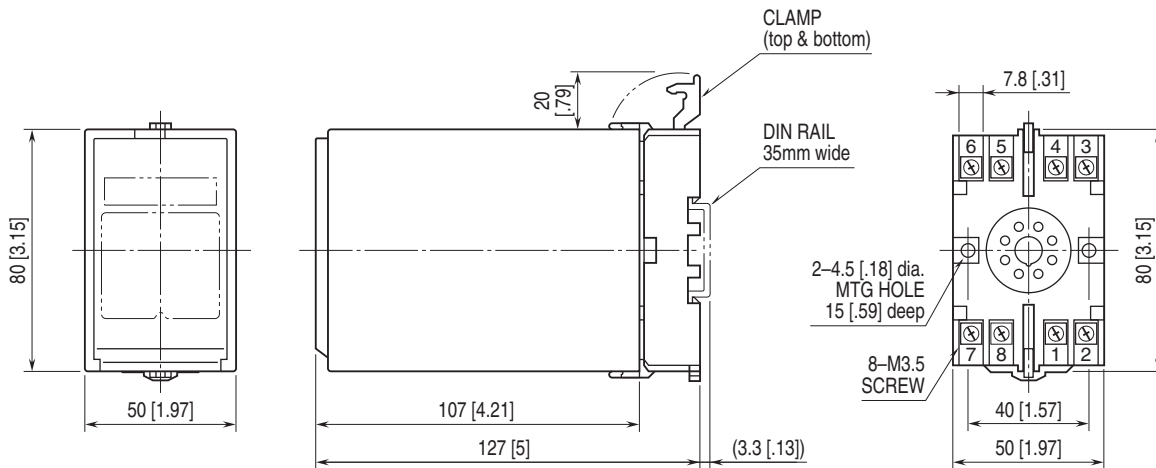
Input to output to power: Reinforced insulation (300 V)

RoHS Directive

EXTERNAL VIEW

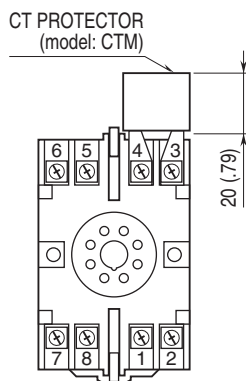


EXTERNAL DIMENSIONS unit: mm [inch]

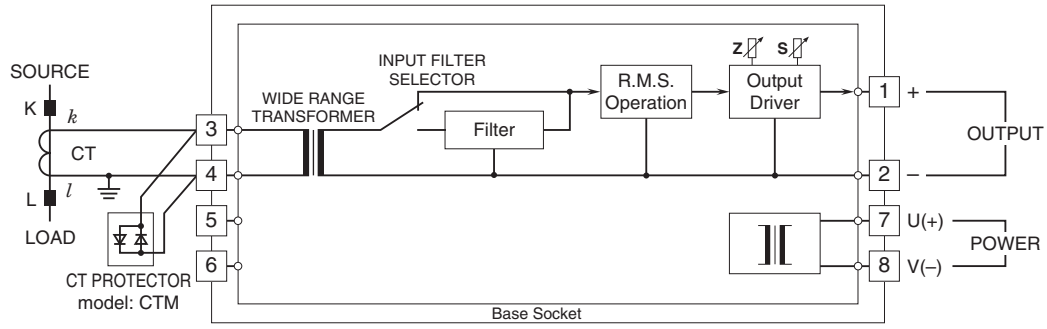


• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.