

Dual Output Super-mini Signal Conditioners Pico-M Series

CT CONVERTER

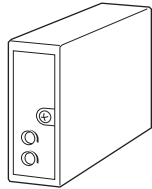
(clamp-on current sensor)

Functions & Features

- Converts an alternating current into a standard process signal
- Easy-to-install clamp-on type current sensor without needing a current transformer
- Clamp-on current sensor included
- Wide input range from 10 A up to 600 A
- True RMS sensing
- Space-saving, easy-to-maintain, multi-channel installation base

Typical Applications

- Centralized monitoring and control of motors at a supervisory panel
- Monitoring abnormal load current at motors to detect pump malfunctions



MODEL: M8CTC-[1][2][3]-R[4]

ORDERING INFORMATION

- Code number: M8CTC-[1][2][3]-R[4]
Specify a code from below for each [1] through [4].
(e.g. M8CTC-1506A-R/Q)
- Specify the specification for option code /Q
(e.g. /C01/V01)

[1] SENSOR

- 1: Leadwire type CLSA
- 2: Screw terminal type CLSB

[2] INPUT

- 10: 0 - 10 A AC
- 15: 0 - 15 A AC
- 20: 0 - 20 A AC
- 30: 0 - 30 A AC
- 40: 0 - 40 A AC
- 50: 0 - 50 A AC
- 60: 0 - 60 A AC
- 75: 0 - 75 A AC
- 100: 0 - 100 A AC

- 125: 0 - 125 A AC
- 150: 0 - 150 A AC
- 175: 0 - 175 A AC
- 200: 0 - 200 A AC
- 225: 0 - 225 A AC
- 250: 0 - 250 A AC
- 300: 0 - 300 A AC
- 350: 0 - 350 A AC
- 400: 0 - 400 A AC
- 500: 0 - 500 A AC
- 600: 0 - 600 A AC (Not selectable with the sensor type code 1 'Leadwire type CLSA')

[3] OUTPUT 1 / OUTPUT 2

- 6A: 1 - 5 V DC (Load resistance 2500 Ω min.)
/ 4 - 20 mA DC (Load resistance 300 Ω max.)
- 44: 0 - 10 V DC (Load Resistance 5000 Ω min.)
/ 0 - 10 V DC (Load Resistance 5000 Ω min.)
- 55: 0 - 5 V DC (Load resistance 2500 Ω min.)
/ 0 - 5 V DC (Load resistance 2500 Ω min.)
- 66: 1 - 5 V DC (Load resistance 2500 Ω min.)
/ 1 - 5 V DC (Load resistance 2500 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[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

ADJUSTMENT

/V01: Multi-turn fine adjustment

RELATED PRODUCTS

- Installation Base or Single Mount Base Socket (model: M8BSx)

This unit must be mounted on dedicated base or socket.

ACCESSORIES

The clamp-on current sensor is included in the product package.

- CLAMP-ON CURRENT SENSOR (leadwire type CLSA)

- 0 - 10 A through 0 - 75 A Use



Sensor model No.: CLSA-08

Sensor cable model No.: CLSA-08C-30

Applicable cable diameter: Max. 10.0

Sensor leadwire: AWG 22

Weight: 45 g (1.6 oz)

• 0 - 100 A Use

Sensor model No.: CLSA-12

Sensor cable model No.: CLSA-08C-30

Applicable cable diameter: Max. 16.0

Sensor leadwire: AWG 22

Weight: 70 g (2.5 oz)

• 0 - 125 A through 0 - 300 A Use

Sensor model No.: CLSA-30

Applicable cable diameter: Max. 24.0

Sensor leadwire: AWG 18, 200 mm

Weight: 200 g (7.1 oz)

• 0 - 350 A through 0 - 500 A Use

Sensor model No.: CLSA-50

Applicable cable diameter: Max. 36.0

Sensor leadwire: AWG 18, 200 mm

Weight: 300 g (10.6 oz)

■ **CLAMP-ON CURRENT SENSOR (screw terminal type CLSB)**

Connection: M3 screw terminal (torque 0.5 N·m)

Screw terminal: Nickel-plated steel

Output wiring: Use AWG22 or thicker wires for the output.

Twist the paired wires, extendable up to 30 meters.

• 0 - 10 A through 0 - 50 A Use

Sensor model No.: CLSB-05

Applicable cable diameter: Max. 10.0

Weight: 45 g (1.6 oz)

• 0 - 60 A through 0 - 100 A Use

Sensor model No.: CLSB-10

Applicable cable diameter: Max. 16.0

Weight: 80 g (2.8 oz)

• 0 - 125 A through 0 - 200 A Use

Sensor model No.: CLSB-20

Applicable cable diameter: Max. 24.0

Weight: 200 g (7.1 oz)

• 0 - 225 A through 0 - 400 A Use

Sensor model No.: CLSB-40

Applicable cable diameter: Max. 35.0

Weight: 300 g (10.6 oz)

• 0 - 500 A through 0 - 600 A Use

Sensor model No.: CLSB-60

Applicable cable diameter: Max. 35.0

Weight: 360 g (12.7 oz)

Note 1: The output values may vary depending on the accuracy of engagement at the clamp connection.

Note 2: The sensor is detachable up to 100 times (approx.).

Note 3: The sensor's mechanical construction may cause it to generate resonance sound. However, it does not affect the performance of the sensor.

GENERAL SPECIFICATIONS

Construction: Plug-in

Mounting screw: M3 screw (torque 0.3 N·m)

Housing material: Flame-resistant resin (black)

Power supply: Via the Installation Base terminals (model: M8BSx)

Isolation: Sensor core to sensor output or input to output 1 to output 2 to power

Input waveform

RMS sensing: Up to 15 % of 3rd harmonic content

Zero adjustment: -2 to +2 % (front)

Span adjustment: 98 to 102 % (front)

INPUT SPECIFICATIONS

Frequency: 50 / 60 Hz

Overload capacity

CLSA - 08: 120 A continuous

CLSA - 12: 300 A continuous

CLSA - 30: 360 A continuous

CLSA - 50: 600 A continuous

CLSB - 05: 100 A continuous

CLSB - 10: 200 A continuous

CLSB - 20: 300 A continuous

CLSB - 40: 600 A continuous

CLSB - 60: 720 A continuous

Operational range: 0 - 120 % of rating

Be sure that the input voltage is of 440 V or less.

INSTALLATION

Current consumption: Approx. 30 mA (50 mA for current output)

Operating temperature: 0 to 55°C (32 to 131°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Mounting: Installation Base (model: M8BSx)

Weight: 70 g (2.5 oz)

PERFORMANCE in percentage of span

Accuracy: ± 1 %

Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)

Response time: ≤ 0.25 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: 1500 V AC @1 minute (input to output 1 or output 2 or power to ground)

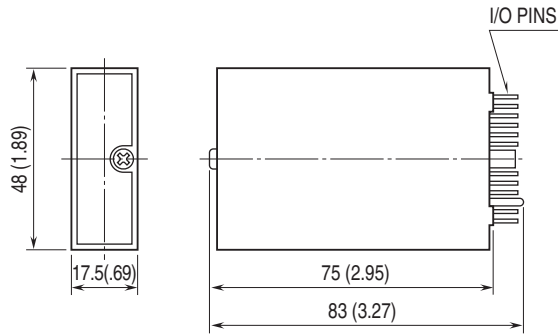
500 V AC @1 minute (output 1 to output 2 to power)

1000 V AC @1 minute (sensor core to sensor output)

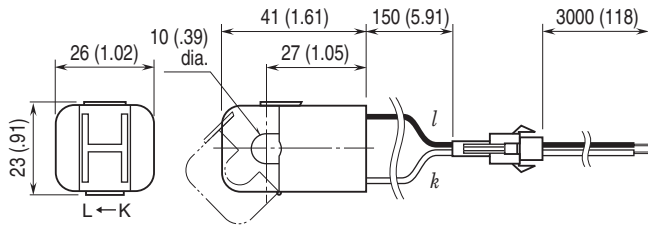
SWC test: ANSI/IEEE-C37.90.1-1989



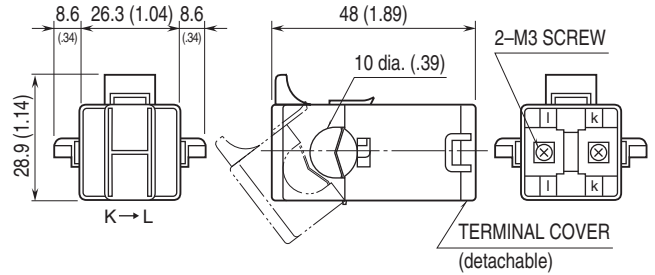
DIMENSIONS unit: mm (inch)



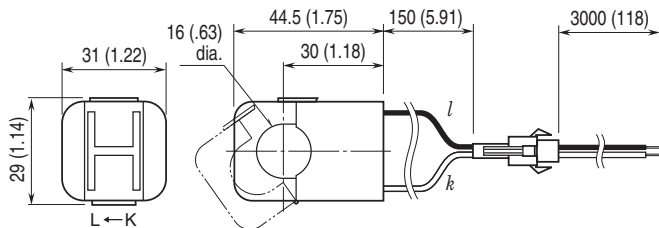
■ Sensor model No.: CLSA-08



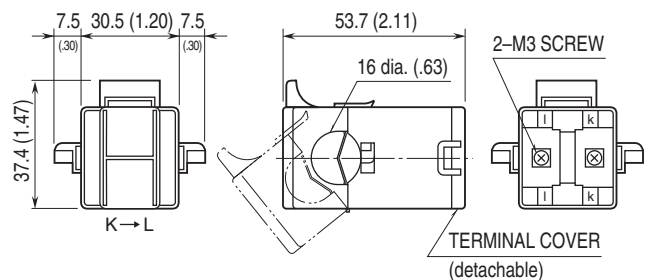
■ Sensor model No.: CLSB-05



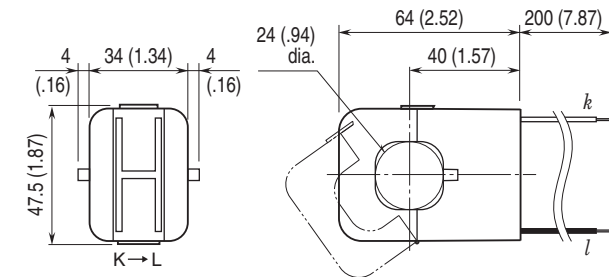
■ Sensor model No.: CLSA-12



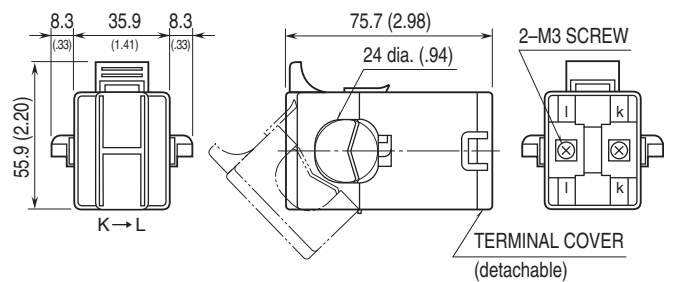
■ Sensor model No.: CLSB-10



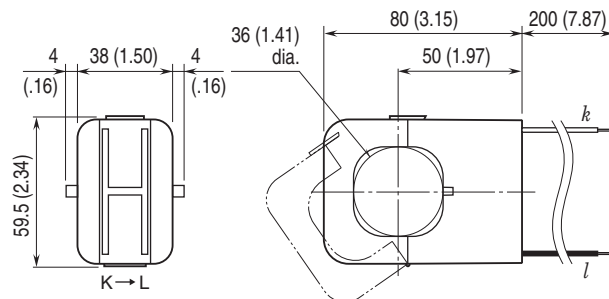
■ Sensor model No.: CLSA-30



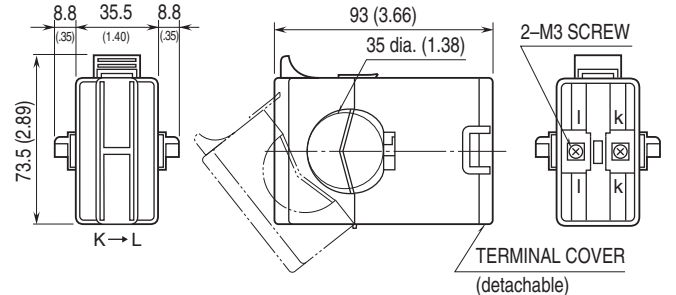
■ Sensor model No.: CLSB-20



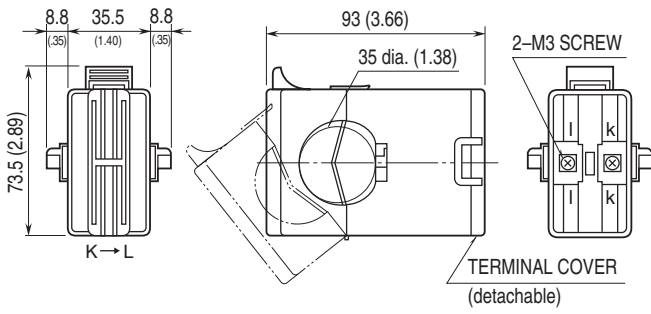
■ Sensor model No.: CLSA-50



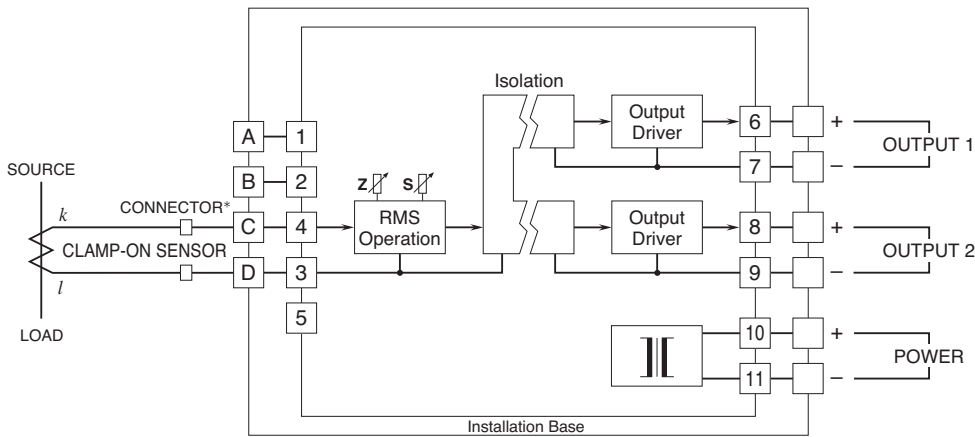
■ Sensor model No.: CLSB-40



■ Sensor model No.: CLSB-60



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Connector provided only for the CLSA-08 and CLSA-12.



Specifications are subject to change without notice.