

Super-mini Signal Conditioners *Mini-M Series*

CT TRANSMITTER

MODEL M2CA/M2CE

MODEL & SUFFIX CODE SELECTION

M2C□-□□-□□

MODEL

M2CA : Average sensing, RMS calibrated

M2CE : RMS sensing

INPUT (sine wave for M2CA)

1 : 0 – 1A AC

5 : 0 – 5A AC

OUTPUT

Current

Voltage

A : 4 – 20mA DC

1 : 0 – 10mV DC

B : 2 – 10mA DC

2 : 0 – 100mV DC

C : 1 – 5mA DC

3 : 0 – 1V DC

D : 0 – 20mA DC

4 : 0 – 10V DC

E : 0 – 16mA DC

5 : 0 – 5V DC

F : 0 – 10mA DC

6 : 1 – 5V DC

G : 0 – 1mA DC

0 : Specify voltage

Z : Specify current

POWER INPUT

AC Power

DC Power

M : 85 – 264V AC *1

R : 24V DC

M2 : 100 – 240V AC

R2 : 11 – 27V DC *1

P : 110V DC

*1 : Select 'N' for 'Standards & Approvals' code.

STANDARDS & APPROVALS

/N : Without CE or UL

/CE : CE marking

/UL : UL approval (CE marking)

ORDERING INFORMATION

Specify code number and variables.

• **Code number** (e.g. M2CE-1A-M2/CE)

• **Special output range** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: plug-in

Connection: M3 screw terminals (torque 0.8 N·m)

Housing material: flame-resistant resin (black)

Isolation: input to output to power

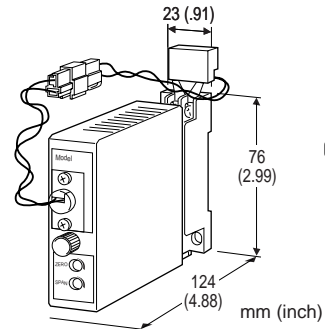
Input waveform

Average sensing: sine wave

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

Ovrange output: 0 – 120% at 1 – 5V

Front adjustments: zero and span; ±5%



Functions & Features

- Converting an alternating current from a current transformer into a standard process signal
- Minimum ripple
- Average or RMS sensing
- Rerouted input signal does not pass through the base socket in order to protect it from melting caused by rush current of a motor
- CT Protector provided for open-circuit protection
- Universal power input
- High-density mounting
- CE marking
- UL approval

Typical Applications

- Centralized monitoring and control of motors, pumps or heaters by DCS
- Monitoring power line and power supply current

INPUT & OUTPUT

■ **INPUT**: 0 – 1A AC or 0 – 5A AC

Frequency: 50 or 60 Hz

Input burden: ≤0.1VA (input 0 – 1A)
≤0.5VA (input 0 – 5A)

Overload capacity: 500% of rating for 5 sec.,
120% continuous

Operational range: 0 – 120% of rating

■ **OUTPUT**

• **DC Current**: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 15V maximum

Output	Load Resistance
4 – 20mA	: 750 (Ω maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k

• **DC Voltage**: 0 – 12V DC

Minimum span: 5mV

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 1mA maximum at $\geq 0.5V$

Output	Load Resistance
0 – 10mV	: 10k (Ω minimum)
0 – 100mV	: 100k
0 – 1V	: 1000
0 – 10V	: 10k
0 – 5V	: 5000
1 – 5V	: 5000

INSTALLATION

Power input

AC: operational voltage range 85 – 264V (90 – 264V for UL);
47 – 66 Hz; approx. 3VA at 100V
approx. 4VA at 200V
approx. 5VA at 264V

DC: operational voltage range for R: 24V $\pm 10\%$, R2: 11 – 27V, or P: 85 – 150V (110V $\pm 10\%$ for UL);
ripple 10% p-p max.; approx. 3W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90% RH (non-condensing)

Mounting: surface or DIN rail

Dimensions: W23xH76xD124 mm (0.91"x2.99"x4.88")

Weight: 150 g (0.33 lbs)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.3\%$

Temp. coefficient: $\pm 0.015\%/^{\circ}C$ ($\pm 0.008\%/^{\circ}F$)

Response time: ≤ 0.5 seconds (0 – 90%)

Ripple: 0.5% p-p max. (100/120 Hz)

Line voltage effect: $\pm 0.1\%$ over voltage range

Insulation resistance: $\geq 100M\Omega$ with 500V DC

Dielectric strength: 2000V AC @1 minute

(input to output to power to ground)

STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

EN61010-1

Installation category II

Pollution degree 2

Max. operating voltage 300V

Input or output to power – Reinforced insulation

Input to output – Basic insulation

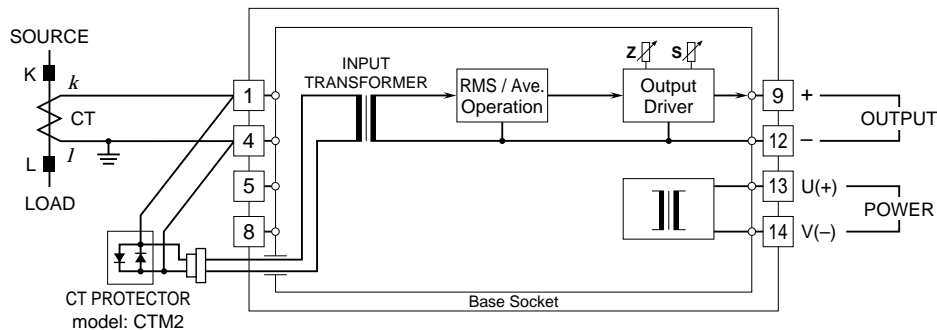
Approval: UL/C-UL nonincendive

Class I, Division 2, Groups A, B, C, and D (UL 1604, CAN/CSA-C22.2 No.213)

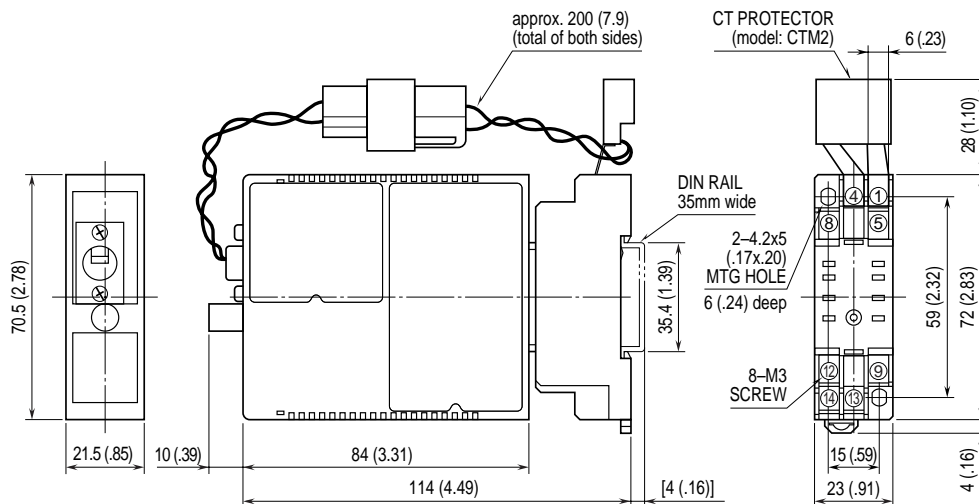
UL/C-UL general safety requirements

(UL 3111-1, CAN/CSA-C22.2 No.1010-1)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT mm (inch)



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

Specifications subject to change without notice.