

Plug-in Signal Conditioners M-UNIT

HIGH AC CURRENT TRANSMITTER
(wide bandwidth)

MODEL **CTS**

MODEL & SUFFIX CODE SELECTION

MODEL _____ CTS-□□□

INPUT _____

A : 0 – 300A AC (30, 60, 150 or 300A selectable)
 B : 0 – 3000A AC (300, 600, 1500 or 3000A selectable)

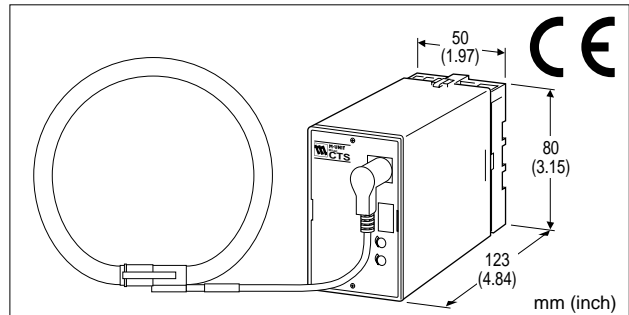
OUTPUT _____

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	4W : -10 – +10V DC
Z : Specify current	5W : -5 – +5V DC
	0 : Specify voltage

POWER INPUT _____

AC Power	DC Power
B : 100V AC	G : 200V AC
C : 110V AC	H : 220V AC
D : 115V AC	J : 240V AC
F : 120V AC	V : 48V DC
	S : 12V DC
	R : 24V DC
	U : 48V DC
	P : 110V DC *1

*1: CE marking unavailable



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 2000V 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

ORDERING INFORMATION

Specify code number and variables.

- **Code number** (e.g. CTS-AA-B)
- **Special output range** (For codes Z & 0)

Default Setting

Input range	30A for 300A rating 300A for 3000A rating
-------------	--

GENERAL SPECIFICATIONS

Construction

Probe: clip-around type

Transmitter: plug-in

Connection

Output & power: M3.5 screw terminals

Input: connector

Housing material

Probe: TPE rubber, Polypropylene

Transmitter: flame-resistant resin (black)

Isolation: input to output to power

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

Overrange output: 0 – 120% at 1 – 5V

Front adjustments: zero and span; ±5%

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

INPUT & OUTPUT

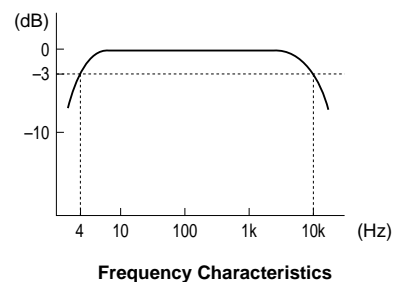
INPUT

Frequency: 4 Hz – 10 kHz (-3 dB)

Max. operating voltage: 600V AC (primary side)

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

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: -10 – +12V DC

Minimum span: 5mV

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 10mA maximum;

5mA for negative voltage output; at ≥0.5V	
0 – 10mV	: 10k (Ω minimum)
0 – 100mV	: 100k
0 – 1V	: 100
0 – 10V	: 1000
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 2000
-5 – +5V	: 1000

INSTALLATION

Power input

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

DC: operational voltage range: rating ±10%, or 85 – 150V for 110V rating; ripple 10% p-p max.; approx. 2W (80mA at 24V)

Operating temperature

Probe: -20 to +85°C (-4 to 185°F)

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

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

Mounting: surface or DIN rail

Dimensions

Probe: Max. I. D. (closed) 152.4 mm (6")
 Min. bending radius 38.1 mm (1.5")
 Cable diameter 14.3 mm (0.56")

Transmitter: W50×H80×D123 mm (1.97"×3.15"×4.84")
 See General Spec. Sheet Figure A-2.

Weight

Probe: 200 g (0.44 lbs)

Transmitter: 300 g (0.66 lbs)

Terminal assignment: See General Spec. Sheet Figure B-1.

PERFORMANCE in percentage of span

Accuracy: ±1.5% at 20 Hz – 1 kHz

Repeatability: ±0.1%

Position sensitivity: ±1%

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

Response time: ≤1.5 second (0 – 90%)

Ripple: 0.5% p-p max.

Line voltage effect: ±0.1% over voltage range

Insulation resistance: ≥100MΩ with 500V DC

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

STANDARDS & APPROVALS

CE conformity: Electromagnetic Compatibility Directive (89/336/EEC)

EMI EN50081-2

EMS EN50082-2 (EN61000-6-2)

Low Voltage Directive (73/23/EEC)

Probe: Installation category III

Pollution degree 2

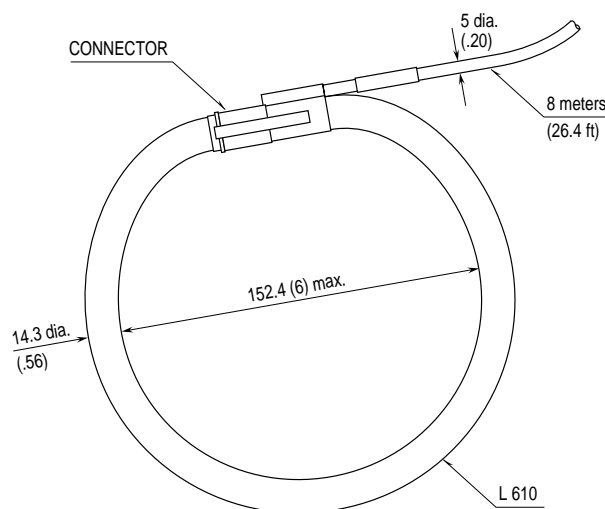
Max. operating voltage 600V

Transmitter: Installation category II

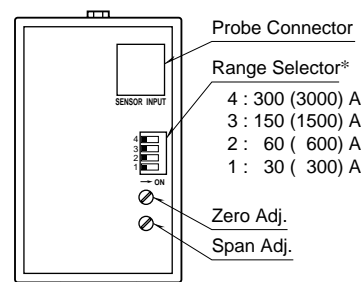
Pollution degree 2

Max. operating voltage 300V

PROBE DIMENSIONS mm (inch)



FRONT PANEL CONFIGURATIONS



* () for input 3000A type.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

