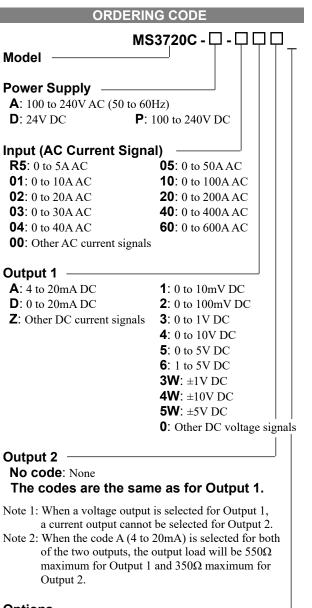


# Product Specification SheetModel: MS3720CSlim Plug-In CT Transmitter with Isolated Single/Dual Output(Clamp Type CT Input)

### DESCRIPTION

The MS3720C is a slim, plug-in CT transmitter that calculates the rms values of AC current signals from a clamp type CT, converts them into commonly used DC signals, and provides isolated single or dual output.



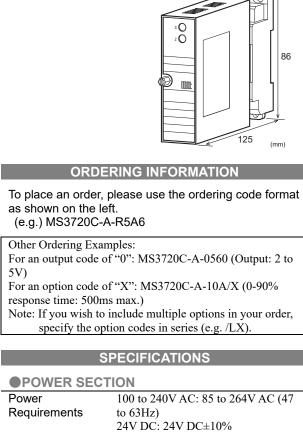
### Options

### No code: None

- /L: Dual current output with high output load (OUT-1:  $750\Omega$  / OUT-2:  $550\Omega$ )
- **/H**: Polyurethane conformal coating

### /X: Others (Special order)

\* For non-standard options, ask MTT for availability.



	24 V DC: 2	$4^{\circ}$ DC±107	0	
	100 to 240	V DC: 85 to	264V DC	
Power Sensitiv	ity Better thar	Better than $\pm 0.1\%$ of span for each		
	power sup	ply range.		
Power Line Fuse 160mA fuse is installed (standard).				
Power Consumption				
Power	100-240V AC	24V DC	100-240V DC	
Single Output	4.5VA max	1.2W max	4.8W max	
Dual Output	5.0VA max	1.6W max	6.0W max	

#### **OINPUT SECTION**

Input Signal	Output from the clamp type CT	
Crest Factor	3 max.	
Notes:		

1. The output terminals of the supplied clamp type CT should be connected to the input terminals on the transmitter's terminal block.

2. A connecting cable is not included.

OUTPUT SECTION		
Allowable Output Load		
Voltage Output	1V span and up	2mA max.
(DC)	10mV	$10k\Omega$ min.
	100mV	$100k\Omega$ min.
Current Output	4-20mA single output	$750\Omega$ max.
(DC)	4-20mA dual output	Output 1:
		550Ω max.
		Output 2:
		$350\Omega$ max.

## MTT Corporation

Zero Adjustment	Approx. ±5% of span.
Zero / lajustitient	(Adjustable by the front-accessible
	trimmer.)
Span Adjustment	Approx. $\pm 5\%$ of span.
	(Adjustable by the front-accessible
Ranges Available	trimmer.)
Naliyes Available	Current Signal Voltage Signal
Output Range (DC)	0 to 20mA -10 to 10V
Output Span (DC)	4 to 20mA 10mV to 20V
Output Bias	0 to 100% -100 to 100%
	tput signals, the accuracy of any current
	than 0.1mA is not guaranteed. For 4 to 20mA output, the output span is
	6mA and the bias $+25%$ .
Output Spec. Ex. 2: 1	For -1 to 4V output, the output span is
5	V and the bias -20%.
PERFORMAN	CE
Accuracy Rating	Better than $\pm 0.4\%$ of span with at
	least 10% input (at $25^{\circ}C\pm 5^{\circ}C$ ).
Temperature	Better than $\pm 0.2\%$ of span per 10°C
Effect	change in ambient.
Response Time	450ms max. (0 to 90%) with a step input at $100\%$
CMRR	input at 100%. 100dB min. (500V AC, 50/60Hz)
Isolation	4-way isolation between input, output
	1, output 2, and power.
Insulation	100MΩ min. (@ 500V DC) between
Resistance	input, output 1, output 2, power, and
Dielectric	ground. Input / [Output 1, Output 2] / [Power,
Strength	Ground]: 2000V AC for 1 minute
etter.gtt	(Cutoff current: 0.5mA)
	Power / Ground: 2000V AC for 1
	minute (Cutoff current: 5mA)
	Output 1 / Output 2: 500V AC for 1 minute (Cutoff current: 0.5mA)
Surge Withstand	Tested as per ANSI/IEEE
Capability	C37.90.1-1989.
Operating	Ambient temperature: -5 to 55°C
Environment	Humidity: 5 to 90% RH
Storage	(non-condensing) -10 to 60°C
Temperature	-10 10 00 C
PHYSICAL	
Installation Wiring	Wall/DIN rail mounting M3.5 screw terminal connection
vviing	(with a power terminal block cover &
	drop-proof screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External	$W29 \times H86 \times D125 \text{ mm}$
Dimensions	(including the mounting screw and socket)
Weight	Main unit: 120g max.
	Socket: 80g max.
MATERIAL	
Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block	PC resin (UL 94V-2)
Cover	
DIN Rail Stopper	PP resin (UL 94HB)
Screw Terminal	Nickel-plated steel

Contacts Material	
and Finish	Brass with 0.2µm gold plating
Printed Circuit	Glass fabric, epoxy resin
Board	(FR-4: UL 94V-0)
Board	
CLAMP TY	PE CT SPECIFICATIONS
CTF-5A	
Input 0-5A	
Rated Primary	5A AC (rms)
Current Maximum	
Allowable Current	100A (rms), continuous.
Applicable Wire	φ7.9 mm max.
Size	ψ <i>τ.</i> , πημητικά.
External	W25.3 × H41.3 × D33 mm
Dimensions	(not including the protrusion)
Weight	Approx. 60g
CTF-50A	
Input (0-10A) to	
Rated Primary	50A AC (rms)
Current	
Maximum	100A (rms), continuous.
Allowable Current Applicable Wire	φ9.5 mm max.
Size	φ9.5 mm max.
External	W25.5 × H48 × D23 mm
Dimensions	(not including the protrusion)
Weight	Approx. 45g
CTF-100A	
Input (0-60A) to	(0-100A)
Rated Primary	100A AC (rms)
Current	
Maximum	200A (rms), continuous.
	200A (IIIIs), continuous.
Allowable Current	
Allowable Current Applicable Wire	φ14.5 mm max.
Allowable Current Applicable Wire Size	φ14.5 mm max.
Allowable Current Applicable Wire Size External	φ14.5 mm max. W30.5 × H55 × D29.5 mm
Allowable Current Applicable Wire Size External Dimensions	φ14.5 mm max. W30.5 × H55 × D29.5 mm (not including the protrusion)
Allowable Current Applicable Wire Size External	φ14.5 mm max. W30.5 × H55 × D29.5 mm
Allowable Current Applicable Wire Size External Dimensions	φ14.5 mm max. W30.5 × H55 × D29.5 mm (not including the protrusion)
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A	φ14.5 mm max. W30.5 × H55 × D29.5 mm (not including the protrusion) Approx. 80g
Allowable Current Applicable Wire Size External Dimensions Weight	φ14.5 mm max. W30.5 × H55 × D29.5 mm (not including the protrusion) Approx. 80g
Allowable Current Applicable Wire Size External Dimensions Weight • CTF-200A Input (0-125A) to	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion)</li> <li>Approx. 80g</li> <li>(0-200A)</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight • CTF-200A Input (0-125A) to Rated Primary	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion)</li> <li>Approx. 80g</li> <li>(0-200A)</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight • CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion)</li> <li>Approx. 80g</li> <li>(0-200A)</li> <li>200A AC (rms)</li> <li>300A (rms), continuous.</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion)</li> <li>Approx. 80g</li> <li>(0-200A)</li> <li>200A AC (rms)</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion) Approx. 80g</li> <li>(0-200A) 200A AC (rms)</li> <li>300A (rms), continuous.</li> <li>φ24 mm max.</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g $(0-200A)$ 200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g $\phi$ (0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g $(0-200A)$ 200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g $\phi$ (0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)
Allowable Current Applicable Wire Size External Dimensions Weight • CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight • CTF-400A	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g(0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)Approx. 190g
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion) Approx. 80g</li> <li>(0-200A) 200A AC (rms)</li> <li>300A (rms), continuous.</li> <li>φ24 mm max.</li> <li>W35.5 × H76 × D45 mm (not including the protrusion) Approx. 190g</li> <li>(0-400A)</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to Rated Primary	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g(0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)Approx. 190g
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g(0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)Approx. 190g(0-400A)400A AC (rms)
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to Rated Primary Current	<ul> <li>φ14.5 mm max.</li> <li>W30.5 × H55 × D29.5 mm (not including the protrusion) Approx. 80g</li> <li>(0-200A) 200A AC (rms)</li> <li>300A (rms), continuous.</li> <li>φ24 mm max.</li> <li>W35.5 × H76 × D45 mm (not including the protrusion) Approx. 190g</li> <li>(0-400A)</li> </ul>
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to Rated Primary Current Maximum Allowable Current Maximum Allowable Current Maximum Allowable Current Maximum Allowable Current Maximum Allowable Current	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g(0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)Approx. 190g(0-400A)400A AC (rms)
Allowable Current Applicable Wire Size External Dimensions Weight •CTF-200A Input (0-125A) to Rated Primary Current Maximum Allowable Current Applicable Wire Size External Dimensions Weight •CTF-400A Input (0-225A) to Rated Primary Current Maximum Allowable Current	$\varphi$ 14.5 mm max.W30.5 × H55 × D29.5 mm (not including the protrusion)Approx. 80g(0-200A)200A AC (rms)300A (rms), continuous. $\varphi$ 24 mm max.W35.5 × H76 × D45 mm (not including the protrusion)Approx. 190g(0-400A)400A AC (rms), continuous.600A (rms), continuous.

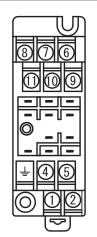
External	W35.5 × H94 × D62.5 mm
Dimensions	(not including the protrusion)
Weight	Approx. 310g
CTF-600A	
Input (0-500A) to	(0-600A)
Rated Primary	600A AC (rms)
Current	
Maximum	800A (rms), continuous.
Allowable Current	
Applicable Wire	φ35.5 mm max.
Size	
External	$W35.5 \times H94 \times D62.5 mm$
Dimensions	(not including the protrusion)
Weight	Approx. 360g

### **GENERAL SPECIFICATIONS**

Applicable	50Hz/60Hz/400Hz
Frequency	
Accuracy	$\pm 1\%$
Open-Circuit	Built-in overvoltage clamping device;
Protection	clamping voltage 7.5V
Insulation	100MΩ min. (@ 500V DC) between
Resistance	the housing and output terminals.
Dielectric	2200V AC for 1 minute between the
Strength	housing and output terminals. (Cutoff
	current: 0.5mA)
Operating	Ambient temperature: -10 to 60°C
Environment	Humidity: 5 to 80% RH
	(non-condensing)

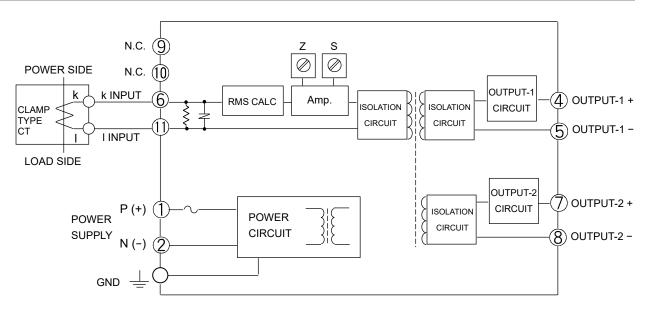
Storage	-20 to 60°C
Temperature	
Wiring	M3 screw terminal connection
Screwing Torque	0.5 [Nm] * Recommended
CT Output Cable	Shielded cable with a nominal
	conductor cross-section of 0.5 to 2.0
	mm <sup>2</sup>
Housing Material	PP resin (UL 94V-0)

### TERMINAL ASSIGNMENTS



(1)	P (+) POWER
2	
1	GND
4	+ OUTPUT 1
(5)	- OUTPUT 1
6	k INPUT
$\bigcirc$	+ OUTPUT 2
8	- OUTPUT 2
9	N.C.
10	N.C.
(1)	I INPUT

### **BLOCK DIAGRAM**

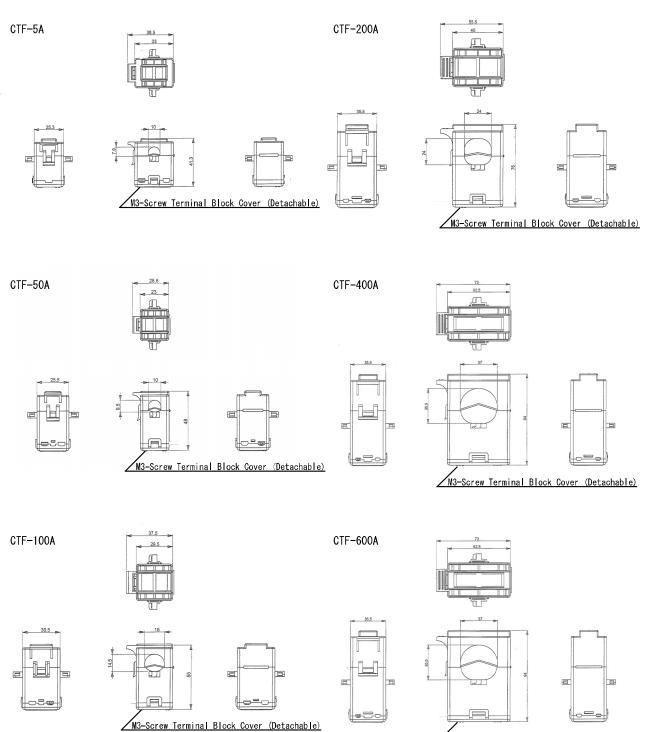


\* The output terminals of the supplied clamp type CT should be connected to the input terminals on the transmitter's terminal block.

\* A connecting cable is not included.

\* A shielded cable not longer than 30 meters should be used to connect the clamp type CT to the transmitter's terminal block.

### **DIMENSIONAL OUTLINE DRAWINGS**



<u>M3-Screw Terminal Block Cover (Detachable)</u>