

**DESCRIPTION**

The MS3720 is a slim, plug-in CT transmitter that calculates the rms values of AC current signals from a CT, converts them into commonly used DC signals, and provides isolated single or dual output.

**ORDERING CODE**

**MS3720** -  -

**Model** \_\_\_\_\_

**Power Supply** \_\_\_\_\_  
**A:** 100 to 240V AC (50 to 60Hz)  
**D:** 24V DC                      **P:** 100 to 240V DC

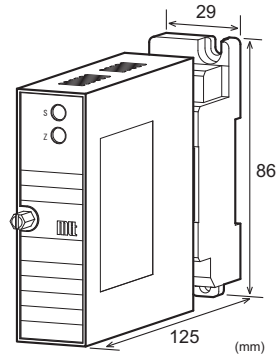
**Input (AC Current Signal)** \_\_\_\_\_  
**1:** 0 to 1A AC, 50/60Hz  
**5:** 0 to 5A AC, 50/60Hz

**Output 1** \_\_\_\_\_  
**A:** 4 to 20mA DC                      **1:** 0 to 10mV DC  
**D:** 0 to 20mA DC                      **2:** 0 to 100mV DC  
**Z:** Other DC current signal        **3:** 0 to 1V DC  
   **4:** 0 to 10V DC  
   **5:** 0 to 5V DC  
   **6:** 1 to 5V DC  
   **3W:** ±1V DC  
   **4W:** ±10V DC  
   **5W:** ±5V DC  
   **0:** Other DC voltage signal

**Output 2** \_\_\_\_\_  
**No code:** None  
**The codes are the same as for Output 1.**

Note 1: When a voltage output is selected for Output 1, a current output cannot be selected for Output 2.  
Note 2: When the code A (4 to 20mA) is selected for both of the two outputs, the output load will be 550Ω maximum for Output 1 and 350Ω maximum for Output 2.

**Options** \_\_\_\_\_  
**No code:** None  
**/L:** Dual current output with high output load  
\* Not subject to CE approval.  
(OUT-1: 750Ω / OUT-2: 550Ω)  
**/X:** Others (Special order)  
\* For non-standard options, ask MTT for availability.


**ORDERING INFORMATION**

To place an order, please use the ordering code format as shown on the left.  
(e.g.) MS3720-A-5A6

Other Ordering Examples:  
For an output code of "0": MS3720-A-160 (Output: 2 to 5V)  
For an option code of "X": MS3720-A-1AA/X (0-90% response time: 100ms max.)  
Note: If you wish to include multiple options in your order, specify the option codes in series (e.g. /LX).

**SPECIFICATIONS**
**POWER SECTION**

Power Requirements	100 to 240V AC: 85 to 264V AC (47 to 63Hz) 24V DC: 24V DC±10% 100 to 240V DC: 85 to 264V DC		
Power Sensitivity	Better than ±0.1% of span for each power supply 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	5.5VA max	1.6W max	6.0W max

**INPUT SECTION**

Input Resistance	5A AC input: 2mΩ (Shunt resistor) 1A AC input: 10mΩ (Shunt resistor)	
Allowable Input Current	Continuous: 120% of the rated input value Instantaneous: 10 times the rated input value (within 3 seconds)	
Crest Factor	3 max.	

**OUTPUT SECTION**

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

Zero Adjustment	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
Span Adjustment	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
Ranges 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%
* For current output signals, the accuracy of any current output smaller than 0.1mA is not guaranteed.		
Output Spec. Ex. 1: For 4 to 20mA output, the output span is 16mA and the bias +25%.		
Output Spec. Ex. 2: For -1 to 4V output, the output span is 5V and the bias -20%.		

● PERFORMANCE

Accuracy Rating	Better than ±0.25% of span with at least 10% input (at 25°C±5°C).	
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.	
Response Time	400ms max. (0 to 90%) with a step input at 100%.	
CMRR	100dB min. (500V AC, 50/60Hz)	
Isolation	4-way isolation between input, output [Output 1/Output 2], power, and ground.	
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output [Output 1/Output 2], power, and ground.	
Dielectric Strength	Input / Output [Output 1/Output 2] / [Power, Ground]: 2000V AC for 1 minute (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 Capability	Tested as per ANSI/IEEE C37.90.1-1989.	
Operating Environment	Ambient temperature: -5 to 55°C Humidity: 5 to 90% RH (non-condensing)	
Storage Temperature	-10 to 60°C	

● PHYSICAL

Installation	Wall/DIN rail mounting
Wiring	M3.5 screw terminal connection (with a power terminal block cover & drop-out prevention screws) The supplied shunt resistor should be connected to the terminal block. (The two brackets of the resistor should be fixed to the terminals ⑨ and ⑩).
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W29 × H86 × D125mm (including the mounting screw and socket, but not including the shunt resistor)
Weight	Main unit: 120g max. Socket: 80g max. Shunt resistor: 5g max.

● MATERIALS

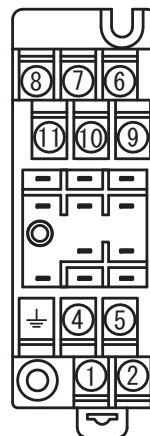
Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block Cover	PC resin (UL 94V-2)
DIN Rail Stopper	PP resin (UL 94HB)
Screw Terminal	Nickel-plated steel
Contacts Material and Finish	Brass with 0.2μm gold plating
Printed Circuit Board	Glass fabric epoxy resin (FR-4: UL 94V-0)
Anti-Humidity Coating	HumiSeal® 1A27NS (Polyurethane)

\* HumiSeal® is a registered trademark of Chase Corporation.

● STANDARDS CONFORMITY

EC Directive Conformity	EMC Directive (2014/30/EU) EN61326-1: 2013 Low Voltage Directive (2014/35/EU) IEC61010-1/EN61010-1: 2010 Installation Category II Pollution Degree 2 Maximum operating voltage 300V Reinforced insulation between [input/output/GND] and power.
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TERMINAL ASSIGNMENT



①	P (+)	POWER
②	N (-)	
⊥	GND	
④	+ OUTPUT 1	
⑤	- OUTPUT 1	
⑥	(L) INPUT	
⑦	+ OUTPUT 2	
⑧	- OUTPUT 2	
⑨	L INPUT	
⑩	N INPUT	
⑪	(N) INPUT	

**BLOCK DIAGRAM**

