Product Specification Sheet **Model: MS3720-01** **MS3700**

Slim Plug-In Fast Response CT Transmitter with Isolated Single/Dual Output

DESCRIPTION

The MS3720-01 is a slim, plug-in fast response CT transmitter that calculates the average 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 - 01 - □ - □ □ □

Model

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

Input
- **1**: 0 to 1A AC, 50/60Hz (sine wave)
- **5**: 0 to 5A AC, 50/60Hz (sine wave)

Output 1
- **A**: 4 to 20mA DC
- **D**: 0 to 20mA DC
- **Z**: Other DC current signal
- **1**: 0 to 10mV DC
- **2**: 0 to 100mV DC
- **3**: 0 to 1V DC
- **4**: 0 to 10V DC
- **5**: 0 to 5V DC
- **6**: 1 to 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.

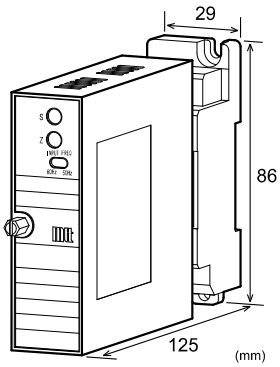
Options
- **No code**: None
- **/X**: Special order

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

ORDERING INFORMATION

To place an order, please use the ordering code format as shown above.
(e.g.) MS3720-01-A-1A6

Other Ordering Examples:
For an output code of "0": MS3720-01-A-160 (Output: 2 to 5V)
For an option code of "X": MS3720-01-A-56/X (0-90% response time: 85ms max.)



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	5.5VA max	1.5W max	2.0W max
Dual Output	6.0VA max	2.5W max	3.0W max

●INPUT SECTION

Input Resistance	1A AC input: 10mΩ (Shunt resistor) 5A AC input: 2mΩ (Shunt resistor)
Allowable Input Current	Continuous: 120% of the rated input value Instantaneous: 10 times the rated input value (within 3 seconds)
Input Frequency	50/60Hz

Notes:
1. The input frequency is selectable between 50Hz and 60Hz by toggling the frequency selector switch on the front panel.
2. If not specified, the input frequency is set to the factory default, 60Hz.
3. Only a sine wave input is applicable.

●OUTPUT SECTION

Allowable Output Load

Voltage Output (DC)	1V span and up	2mA max.
	10mV	10kΩ min.
	100mV	100kΩ min.
Current Output (DC)	4-20mA single output	750Ω max.
	4-20mA dual output	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 (at 25°C±5°C).
Output Ripple	Less than 0.5%p-p of span.
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.
Response Time	20ms max. (0 to 90%) with a step input at 100%.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	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

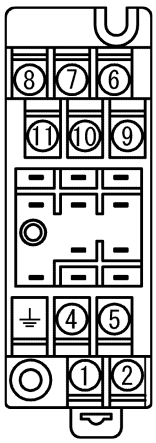
Installation	Wall/DIN rail mounting
Wiring	M3.5 screw terminal connection (with a power terminal block cover & drop-proof screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W29 × H86 × D125mm (including the mounting screw and socket)
Weight	Main unit: 120g max. Socket: 80g max.

●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)
Conformal Coating	HumiSeal® 1A27NSLU (Polyurethane)

* HumiSeal® is a registered trademark of Chase Corporation.

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