

DESCRIPTION

The MS3766 is a slim, plug-in analog memory that holds an output signal using external hold input and provides an isolated single output.

ORDERING CODE

MS3766 - - -

Model _____

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

Input _____
A: 4 to 20mA DC **3:** 0 to 1V DC
B: 2 to 10mA DC **4:** 0 to 10V DC
C: 1 to 5mA DC **5:** 0 to 5V DC
D: 0 to 20mA DC **6:** 1 to 5V DC
E: 4 to 20mA DC *1 **4W:** ±10V DC
H: 10 to 50mA DC **5W:** ±5V DC
Z: Other DC current signals **0:** Other DC voltage signals

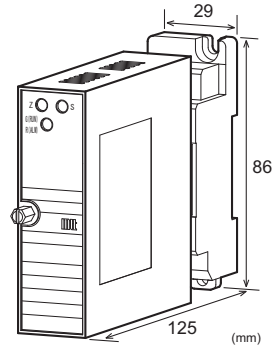
*1: Shunt resistor 50Ω

Output _____
A: 4 to 20mA DC **1:** 0 to 10mV DC
D: 0 to 20mA DC **2:** 0 to 100mV DC
Z: Other DC current signals **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 signals

Hold Input _____
2: Contact input (Internal pull-up: 24V DC @ 10mA)
5: Contact input (Internal pull-up: 5V DC @ 2mA)
T: TTL input

Hold Mode of Operation _____
OP: Contact input; hold with an open circuit
CL: Contact input; hold with a closed circuit
VH: TTL input; hold at HI level
VL: TTL input; hold at LO level

Options _____
No code: None
/H: Polyurethane conformal coating
/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.) MS3766-A-66-TVH

Other Ordering Examples:
For an input code of "0": MS3766-A-06-TVH (Input: 2 to 10V)
For an output code of "Z": MS3766-A-6Z-TVH (Output: 8 to 20mA)

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
	6.5VA max	1.8W max	7.2W max

INPUT SECTION

Input Resistance	
Voltage Input (DC)	With or without power: 1MΩ min.
Current Input (DC)	4 to 20mA (std.) 250Ω
	2 to 10mA 250Ω
	1 to 5mA 100Ω
	0 to 20mA 250Ω
	10 to 50mA 10Ω
Allowable Input Voltage	
Voltage Input Model	30V DC max., continuous (Standard for a span up to 10V)
Current Input Model	40mA DC max., continuous (Standard for 4 to 20mA)
Hold Input	
Contact Input Model	Dry contact; internal pull-up 5V DC @ 2mA or 24V DC @ 10mA
TTL Input Model	Operated by external TTL input

Ranges Available		
	Current Signal	Voltage Signal
Input Range (DC)	-100 to 100mA	-300 to 300V
Input Span (DC)	100 μ A*1 to 200mA	200mV*2 to 600V
Input Bias	-100 to 100%	-100 to 100%

Note: For any input range including negative input signals, the input spans for current and voltage signals range from (*1)200 μ A to 200mA and (*2)400mV to 600V, respectively.

Input Spec. Ex. 1: For 3 to 8V input, the input span is 5V and the bias +60%.

Input Spec. Ex. 2: For -5 to 0V input, the input span is 5V and the bias -100%.

● OUTPUT SECTION		
Allowable Output Load		
Voltage Output (DC)	1V span and up	2mA max.
	10mV	10k Ω min.
	100mV	100k Ω min.
Current Output (DC)		750 Ω max.
Zero Adjustment	Approx. \pm 5% of span. (Adjustable by the front-accessible trimmer.)	
Span Adjustment	Approx. \pm 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%

Note: 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 \pm 0.2% of span (at 25°C \pm 5°C).
Temperature Effect	Better than \pm 0.2% of span per 10°C change in ambient.
Response Time	400ms max. (0 to 90%) with a step input at 100%.
Memory Backup Function	Hold commands allow held values to be saved in the built-in flash memory.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	Isolation between input, hold input, output, and power.
Insulation Resistance	100M Ω min. (@ 500V DC) between input, hold input, output, power, and ground.
Dielectric Strength	Input / [Output, Hold input] / [Power, Ground]: 2000V AC for 1 minute (Cutoff current: 0.5mA) Power / Ground: 2000V AC for 1 minute (Cutoff current: 5mA) Output / Hold input: 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

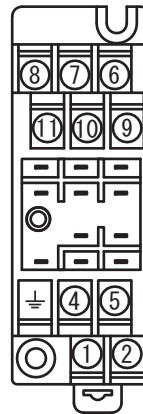
● PHYSICAL

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 × D125 mm (including the mounting screw and socket)
Weight	Main unit: 130g max. Socket: 80g max.

● MATERIAL

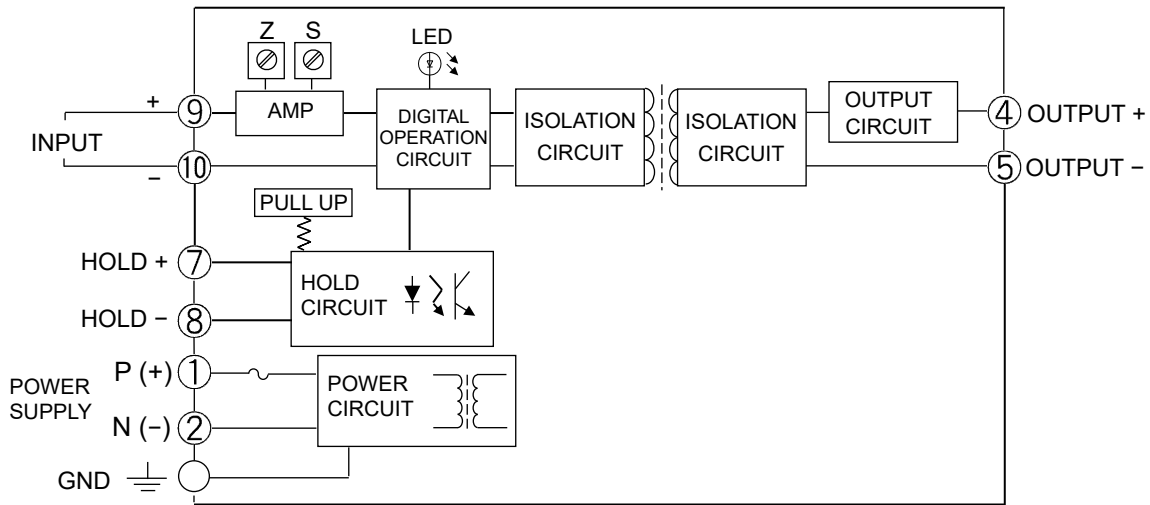
Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block Cover	PC resin (UL 94V-2)
DIN Rail Stopper	PP resin (UL 94HB)
Screw Terminal	Nickel-plated steel
Contacts Material and Finish	Brass with 0.2 μ m gold plating
Printed Circuit Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

TERMINAL ASSIGNMENTS

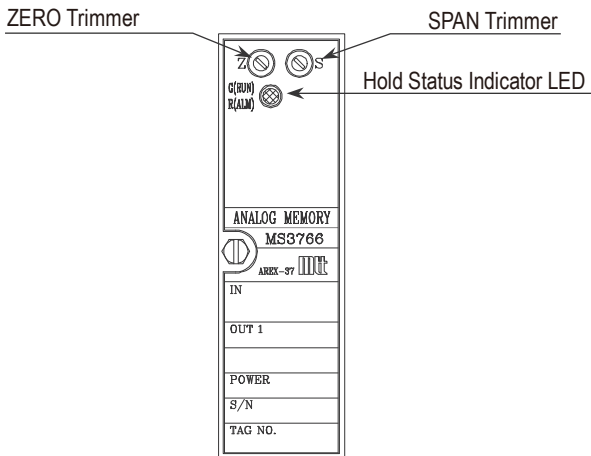


①	P (+)	POWER
②	N (-)	
	⏏	GND
④	+ OUTPUT	
⑤	- OUTPUT	
⑥	N.C.	
⑦	+ HOLD	
⑧	- HOLD	
⑨	+ INPUT	
⑩	- INPUT	
⑪	N.C.	

BLOCK DIAGRAM



FRONT VIEW



LED STATUS INDICATORS

INDICATOR PATTERNS

No.	Event	Hold Status Indicator LED	Output	Recovery Operation
1	Power ON	Green LED turns ON for 1 second, and then red LED turns ON for 0.5 second. This cycle is repeated 3 times.	Normal	—
2	Normal operation	Green LED is ON.	Normal	—
3	Hold operation	Green LED blinks at 1 second intervals.	Held value	—
4	Held value recording error	Red LED blinks at 1 second intervals.	Held value: 0% or less	Cancel the hold mode.
5	DAC error	Red LED blinks at 0.25 second intervals.	Typically 0% or less, but may vary.	None
6	System error	Red LED is ON; Green LED is not defined.	Typically 0% or less, but may vary.	None

Note:
No. 6: The red LED may fail to light up.