

**DESCRIPTION**

The MS3725 is a slim, plug-in high/low signal selector that selects the higher or lower of two input signals, converts it into a standard process signal, and provides isolated single or dual output. (The input ranges of the two signals should be the same.)

**ORDERING CODE**

**MS3725**  -  -

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

**Mode of Operation** \_\_\_\_\_  
**H:** High selection    **L:** Low selection

**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        **0:** Other DC voltage signals  
**H:** 10 to 50mA DC  
**Z:** Other DC current signals

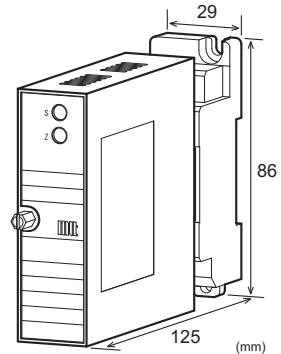
\*1: Shunt resistor 50Ω

**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 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

**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  
**/K:** Fast response (0 to 90% response time: 10ms max.)  
**/L:** Dual current output with high output load  
\* Not subject to CE approval.  
(OUT-1: 750Ω / OUT-2: 550Ω)  
**/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.) MS3725H-A-6A6

**Other Ordering Examples:**  
For an input code of "0": MS3725H-A-0A6 (Input: 2 to 10V)  
For an output code of "0": MS3725H-A-6A0 (Output: 2 to 5V)  
For an option code of "X": MS3725H-A-6A6/X (Response frequency: 50Hz)  
Note: If you wish to include multiple options in your order, specify the option codes in series (e.g. /KX).

**SPECIFICATIONS**
**POWER SECTION**

<b>Power Requirements</b>	100 to 240V AC: 85 to 264V AC (47 to 63Hz) 24V DC: 24V DC±10% 100 to 240V DC: 85 to 264V DC		
<b>Power Sensitivity</b>	Better than ±0.1% of span for each power supply range.		
<b>Power Line Fuse</b>	160mA fuse is installed (standard).		
<b>Power Consumption</b>			
Power	100-240V AC	24V DC	100-240V DC
Single Output	4.5VA max	1.4W max	4.8W max
Dual Output	5.5VA max	1.7W max	6.0W max

**INPUT SECTION**

<b>Input Resistance</b>			
Voltage Input (DC)	With or without power: 1MΩ min.		
Current Input (DC)	4 to 20mA (std.)	250Ω	
	2 to 10mA	250Ω	
	1 to 5 mA	100Ω	
	0 to 20mA	250Ω	
	10 to 50mA	10Ω	
<b>Allowable Input Voltage</b>			
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)		

Ranges Available		
	Current Signal	Voltage Signal
Input Range (DC)	0 to 100mA	0 to 10V
Input Span (DC)	100µA to 100mA	200mV to 10V
Input Bias	0 to 100%	0 to 100%
Input Spec. Ex. 1: For 4 to 20V input, the input span is 16mA and the bias +25%.		
Input Spec. Ex. 2: For 2 to 6V input, the input span is 4V and the bias +50%.		

● **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.)	
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Span Adjustment	Approx. ±5% of span. (Adjustable by the front-accessible trimmer.)	
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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 ±0.1% of span (at 25°C±5°C).
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.
Selection Sensitivity	Better than 0.5% of span.
Response Time	85ms max. (0 to 90%) with a step input at 100%.
CMRR	100dB min. (500V AC, 50/60Hz)
Isolation	4-way isolation between input, output 1, output 2, and power.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output 1, output 2, power, and ground.
Dielectric Strength	Input / [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 × D125 mm (including the mounting screw and socket)
Weight	Main unit: 120g max. Socket: 80g max.

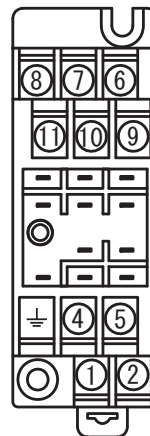
● **MATERIAL**

Housing	ABS resin (UL 94V-0)
Terminal Block	PBT resin (UL 94V-0)
Terminal Block 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)

● **STANDARDS CONFORMITY**

EC Directive Conformity	EMC Directive (2014/30/EU) EN61326-1:2013 Low Voltage Directive (2014/35/EU) IEC61010-1 EN61010-1:2010/A1:2019 Installation Category II Pollution Degree 2 Maximum operating voltage 300V Reinforced insulation between [input/output/GND] and power.
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**TERMINAL ASSIGNMENTS**



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

**BLOCK DIAGRAM**

