Product Specification Sheet **Model: MS3724HV** **MS3700**

Slim Plug-In High-Level Signal Conditioner with Isolated Single Output (High Voltage Output Model)

DESCRIPTION

The MS3724HV is a slim, plug-in high-level signal conditioner that converts DC current or voltage signals into commonly used DC signals and provides an isolated single output. This model features a maximum output voltage of 40V.

ORDERING CODE

MS3724HV - □ - □ □

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 signal	**0**: Other DC voltage signal

*1: Shunt resistor 50Ω

Output
- **7**: 0 to 15V DC
- **8**: 0 to 20V DC
- **9**: 0 to 40V DC*2
- **7W**: ±15V DC
- **8W**: ±20V DC
- **9W**: ±40V DC*2
- **0**: Other DC voltage signal

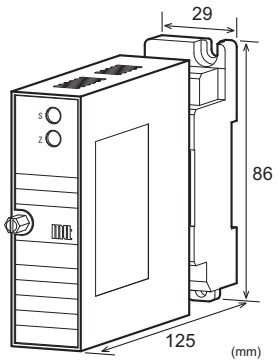
*2: This cannot be selected when 24V DC supply is specified.

Options
- **No code**: None
- **/K**: Fast response (0 to 90% response time: 10ms max.)
- **/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 above.
(e.g.) MS3724HV-A-4W7W

Other Ordering Examples:
For an input code of "Z": MS3724HV-A-Z8 (Input: 8 to 20mA)
For an output code of "0": MS3724HV-A-50 (Output: 0 to 30V)
For an option code of "X": MS3724HV-D-47/X (Fc: 30Hz-3dB)
Note: If you wish to include multiple options in your order, specify the option codes in series (e.g. /KX).



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 5.5VA max	24V DC 1.5W max	100-240V DC 2.5W 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 5 mA	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)	

Ranges Available

	Current Signal	Voltage Signal
Input Range (DC)	-100 to 100mA	-300 to 300V
Input Span (DC)	100μA*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)200μA 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

Maximum Output Load	2mA 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

	Power Supply 100-240V AC 100-240V DC	Power Supply 24V DC
Output Range (DC)	-40 to 40V	-20 to 20V
Output Span (DC)	> 10V* to 80V	> 10V* to 40V
Output Bias	-100 to 100%	-100 to 100%

Note: For any output range including negative output signals, the output spans for 100-240V AC/DC and 24V DC supplies range from any voltage exceeding *20V to 80V and to 40V, respectively.

Output Spec. Ex.1: For 8 to 40V output, the output span is 32V and the bias +25%.

Output Spec. Ex. 2: For -5 to 20V output, the output span is 25V 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.
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, power, and ground.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output, power, and ground.
Dielectric Strength	Input / Output / Power, Ground: 2000V AC for 1 minute (Cutoff current: 0.5mA) Power / Ground: 2000V AC for 1 minute (Cutoff current: 5.0mA)
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

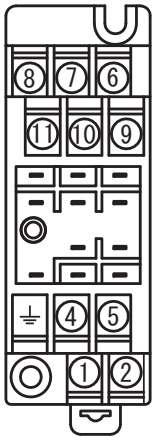
Installation	Wall/DIN rail mounting
Wiring	M3.5 screw terminal connection (with a power terminal block cover & drop-out prevention screws)
Screwing Torque	0.8 to 1.0 [Nm] * Recommended
External Dimensions	W29 × H86 × D125mm (including the mounting screw and socket)
Weight	Main unit: 130g max. Socket: 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)
Anti-Humidity Coating	HumiSeal® 1A27NS (Polyurethane)

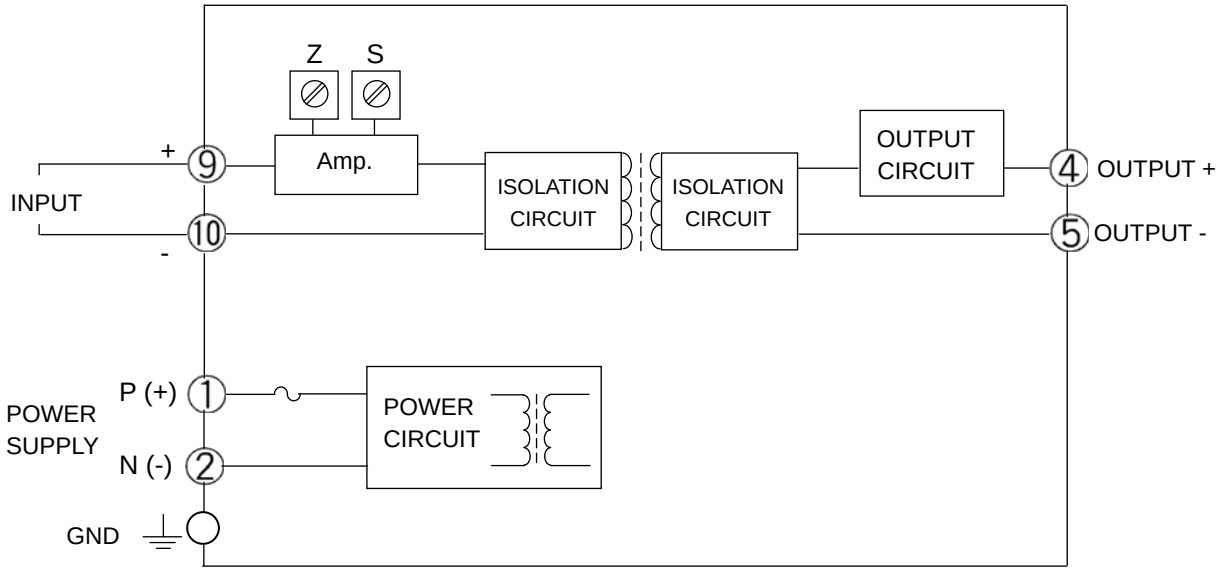
* HumiSeal® is a registered trademark of Chase Corporation.

TERMINAL ASSIGNMENT



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

BLOCK DIAGRAM



* A short circuit between the output terminals (#4 and #5) must be avoided as it may cause a failure.