DESCRIPTION

The MS5505D is a plug-in digital alarm setter that compares the levels of DC current or voltage signals with two set-points (upper and lower limits) and outputs two independent isolated relay contact closure signals.

ORDERING CODE

MS5505D - □ - □ □ □

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
D: 0 to 20mA DC
3: 0 to 1V DC
4: 0 to 10V DC
5: 0 to 5V DC
6: 1 to 5V DC

Relay Activation Modes for Output 1&2
Mode of operation for each channel can be selected from the following:

	With Power		Without Power
	Input < Set Value	Input > Set Value	
OH	OFF	ON	OFF
OL	ON	OFF	OFF
CH	ON	OFF	ON
CL	OFF	ON	ON

Note: The mode of operation cannot be changed by users.

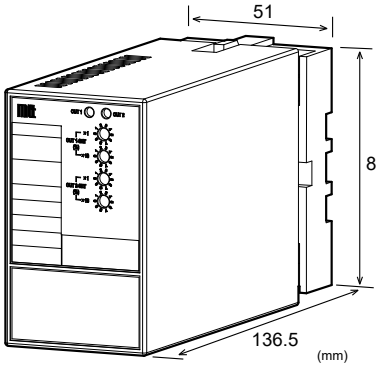
Options
No code: None
/K: Fast response (0 to 90% response time: 100ms max.)
/X: Others (Special order)
* For non-standard options, ask MTT for availability.

ORDERING INFORMATION

To place an order, please use the ordering code format as shown above.
(e.g.) MS5505D-A-6OHOL

* The factory default trip point for both channels is 50% or equivalent of input span.

Other Ordering Examples:
For an option code of "X": MS5505D-A-6OHOL/X
(Response time constant: T = 50ms with 90% setting)
For specific trip points*: MS5505D-A-6OHOL
Trip point for Output 1: 40%
Trip point for Output 2: 70%
* Specify values in % within the range of 0 to 99% of input span.
Note: If you wish to include multiple options in your order, specify the option codes in series (e.g. /KX).



SPECIFICATIONS

●POWER SECTION

Power Requirement	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		
Maximum Power Consumption			
Power	100-240V AC Approx. 6.5VA	24V DC Approx. 2.0W	100-240V DC Approx. 8.4W

●INPUT SECTION

Input Resistance	
Voltage Input (DC)	With power: 1MΩ min. Without power: 10kΩ min.
Current Input (DC)	4 to 20mA (std.) 250Ω
Allowable Input Voltage	
Voltage Input Model	30V DC max., continuous.
Current Input Model	40mA DC max., continuous.

●OUTPUT SECTION

Output Signal	Two independent relay contact closure signals OH & OL: Form A contacts CH & CL: Form B contacts
Trip Points	
Setting	Through the front-accessible rotary switch.
Range	0 to 99% of span (in steps of 1%).
Accuracy	±0.5% of span.
Hysteresis	1.0% of span ±0.3%
Relay Indicator	OH & OL: The red LED lights up when the relay is ON. CH & CL: The red LED lights up when the relay is OFF.
Relay Activation without Power	OH & OL: OFF CH & CL: ON
Relay Start-up Limitation	The relay gets ready for action about 2 seconds after power-up.

●PERFORMANCE

Temperature Effect	Better than ±0.15% of span per 10°C change in ambient.
Response Time	150ms max. (0 to 90%) with a step input at 100%.
Isolation	4-way isolation between input, output 1, output 2, and power.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output 1, output 2, and power.
Dielectric Strength	Input / Output 1 / Output 2 / Power: 2000V AC for 1 minute (Cutoff current: 0.5mA)
Relay Contacts	
Rated Load	2A 125V AC, 2A 30V DC
Maximum Allowable Voltage	250V AC, 30V DC
Maximum Allowable Current	2A
Electrical Life	2A, 250V AC: 50×10^3 cycles (Frequency: 1,800 cycles/h) 2A, 30V DC: 100×10^3 cycles (Frequency: 1,800 cycles/h)
Mechanical Life	5×10^6 cycles (Frequency: 18,000 cycles/h)
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

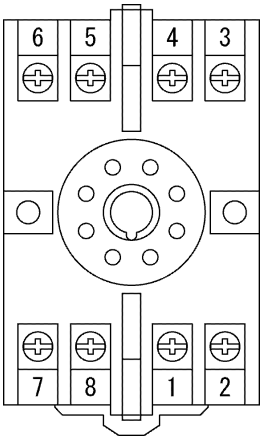
Installation	Wall/DIN rail mounting
Mounting Orientation	Vertical
Screwing Torque	0.78 to 1.18 [Nm] * Recommended
Wiring	M3.5 screw terminal connection
External Dimensions	W51 × H85 × D136.5mm (including the socket)
Weight	Main unit: 210g max. Socket: 60g max.

●MATERIALS

Housing	ABS resin (UL 94V-0)
Socket	ABS resin (UL 94V-0)
Screw Terminal	Galvanized steel with trivalent chromate finish
Printed Circuit Board	Glass fabric epoxy resin (FR-4: UL 94V-0)
Conformal Coating	HumiSeal® 1A27NS (Polyurethane)

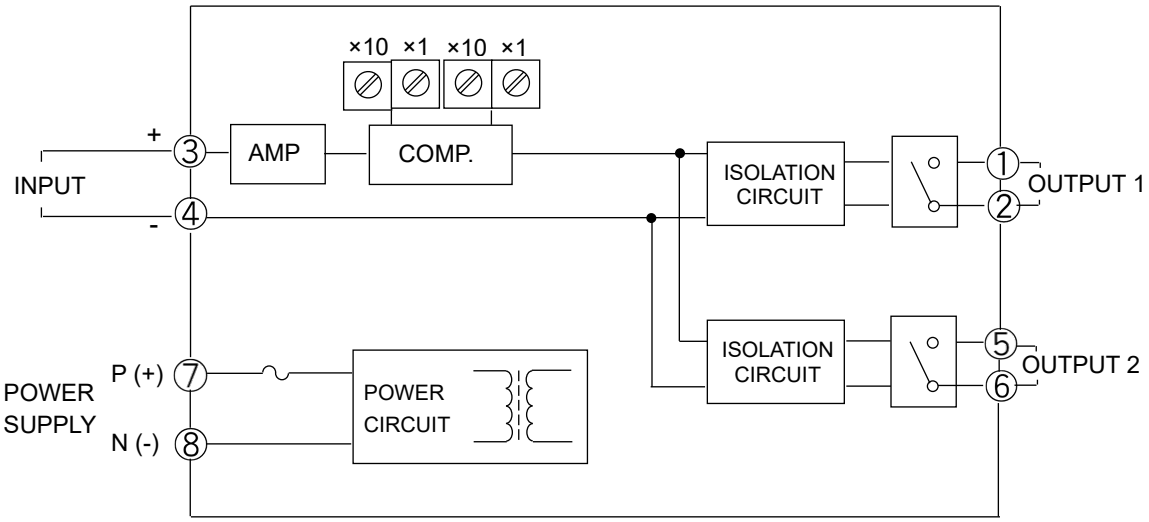
* HumiSeal® is a registered trademark of Chase Corporation.

TERMINAL ASSIGNMENT



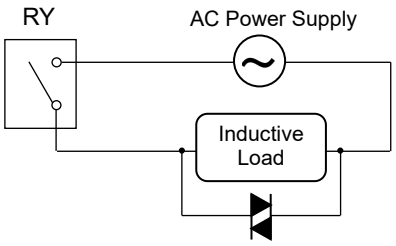
①	OUTPUT 1	
②	OUTPUT 1	
③	+ INPUT	
④	- INPUT	
⑤	OUTPUT 2	
⑥	OUTPUT 2	
⑦	P (+)	POWER
⑧	N (-)	

BLOCK DIAGRAM



When an inductive load, such as an electric motor, is connected to the output, a relay contact protection circuit must be connected across the load.

Example of AC Power Connection:



Example of DC Power Connection: