General Specifications

GS 77J04H07-02E

Model MH7D
Isolator
(Dual-output and Unified Signal Type)

JUXTA

■ General

The MH7D is a dual-output, plug-in type isolator that receives 1 to 5 V DC voltage or 4 to 20 mA DC current signals to convert them into isolated 1 to 5 V DC voltage or 4 to 20 mA DC current signals.

• Provided with power indicator lamp (RDY).

■ Model and Suffix Codes

MH7D-□□□-□/□

Model

Input signal
A: 4 to 20 mA DC 6: 1 to 5 V DC

Output-1 signal
A: 4 to 20 mA DC 6: 1 to 5 V DC

Output-2 signal
A: 4 to 20 mA DC 6: 1 to 5 V DC

Power supply
3: 24 V DC ±10%
4: 100-130 V AC/DC (Operating range: 85 to 150 V)
5: 200-240 V AC (Operating range: 170 to 264 V)

Option
/SN: No socket (with socket if not specified)
/C0: Coating
/FB: Fuse bypass

■ Ordering Information

• Model and Suffix Codes: e.g. MH7D-6A6-4

Note: When output signals of 4 to 20 mA and 1 to 5 V DC are required, specify Output-1 as 4 to 20 mA DC because of the allowable load resistance.

■ Input/Output Specifications

Input signal: 4 to 20 mA DC or 1 to 5 V DC signal
Input resistance:
4 to 20 mA DC: 250 Ω (Attach an external resistor.)
1 to 5 V DC: 1 MΩ
Output signal: 4 to 20 mA DC or 1 to 5 V DC insulated dual outputs
Allowable load resistance:

Output-1 Range	Allowable Load Resistance	Output-2 Range	Allowable Load Resistance
4 to 20 mA DC	750 Ω maximum	4 to 20 mA DC	350 Ω maximum
1 to 5 V DC	2 kΩ minimum	1 to 5 V DC	2 kΩ minimum

Zero adjustment: –5 to +5%
Span adjustment: 95 to 105%
Output variable range: −6 to 106% (Both output-1 and output-2)

■ Standard Performance

Accuracy rating: ±0.1% of span (aside from the ±0.1% accuracy of the external resistor for current input)
Response speed: 150 ms, 63% response (10 to 90%)
Effect of power supply voltage fluctuation: Within the accuracy range of span for power supply voltage fluctuation.
Effect of ambient temperature change: ±0.15% of span for change of 10°C

■ Power Supply and Isolation

Supply rated voltage range: 24 V DC ⎓ ±10%
100-130 V AC / DC ≂ 50/60Hz
200-240 V AC ~ 50/60 Hz
Supply input voltage range: 24 V DC ⎓ ±10%
100-130 V AC / DC (±15%) 50/60Hz
200-240 V AC (−15, +10%) 50/60 Hz
Power consumption:
1.8 W at 24 V DC; 1.7 W at 110 V DC;
3.6 VA at 100 V AC; 4.7 VA at 200 V AC
Insulation resistance: 100 MΩ minimum at 500 V DC between input, output-1, output-2, power supply and grounding terminals mutually
Withstanding voltage: 2000 V AC for one minute between input, (output-1, output-2), power supply and grounding terminals mutually; 1000 V AC for one minute between output-1 and output-2 terminals

■ Environmental Conditions

Temperature: 0 to 50°C (0 to 40°C for multiple mounting)
Humidity: 5 to 90% RH (no condensation)
Ambient Condition: Avoid installation in such environments as corrosive gas like sulfide hydrogen, dust, sea breeze and direct sunlight.
Magnetic field: 400 A/m or less.
Continuous vibration (at 5 to 9 Hz) Half amplitude of 3 mm or less (at 9 to 150 Hz) 4.9 m/s^2 or less, 1 oct/min for 90 minutes each in the 3-axis directions.
Impact: 98 m/s^2 or less, 11 msec, 3-axis 3 times each in 6 directions.
Altitude: 2000 m or less.
Warm-up time: At least 30 minutes after power on.

GS 77J04H07-02E

6th Edition June 2021 (YK)

■ Transport and Storage Conditions

Ambient temperature: –25 to 70°C
Temperature change rate: 20°C per hour or less
Ambient humidity: 5 to 95%RH (no condensation)

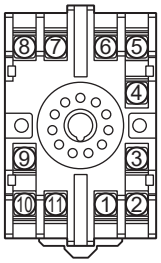
■ Mounting and Appearance

Construction: Compact plug-in type
Material: Modified polyphenylene oxide (casing)
Mounting method: Wall or DIN rail mounting
More than 5 mm interval is required for side-by-side close mounting.
Connection method: M3.5 screw terminals
External dimensions: 86.5 (H) × 51 (W) × 132 (D) mm (including a socket)
Weight: Main unit: 200 g or less
Socket: 80 g or less

■ Accessories

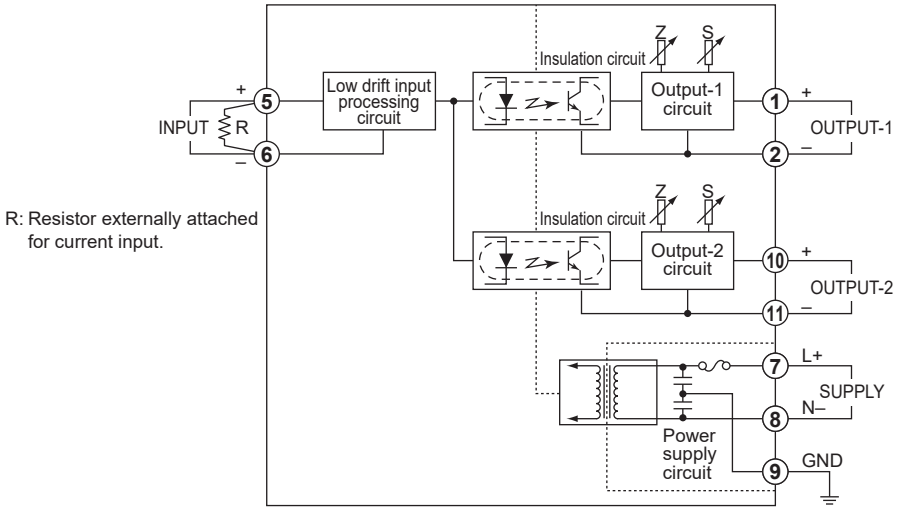
Spacer: 1 piece (used for DIN rail mounting)
Socket (A1654MR): 1 piece (when /SN option is not specified.)
Resistor: 1 piece (for current input)

■ Terminal Assignments



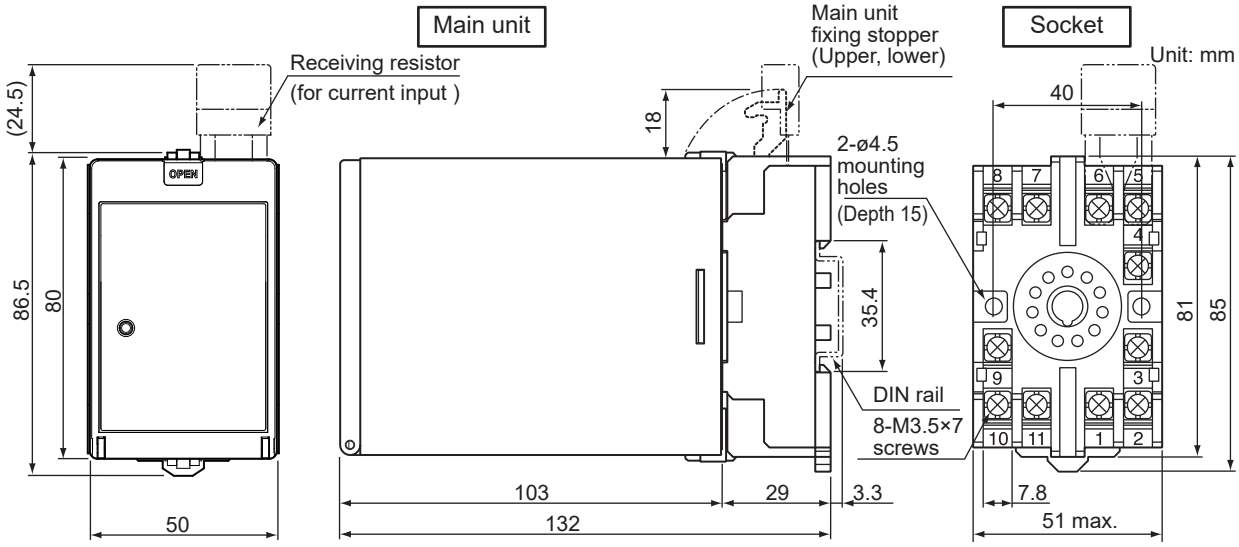
1	Output-1	(+)
2	Output-1	(−)
3	Do not use	
4	Do not use	
5	Input	(+)
6	Input	(−)
7	Supply	(L+)
8	Supply	(N−)
9	GND	
10	Output-2	(+)
11	Output-2	(−)

■ Block Diagrams

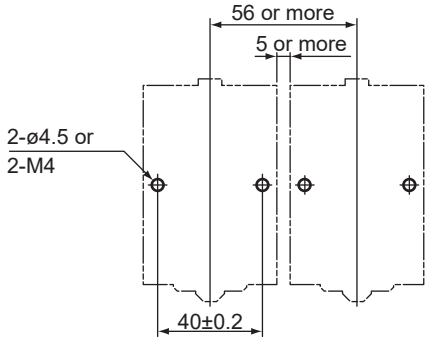


R: Resistor externally attached for current input.

■ External Dimensions



<Mounting Dimensions>



Unit: mm

Note:
- When mounting the units close together, leave a space of at least 5 mm between them.
- Use the supplied spacer to keep a space of 5 mm for DIN rail mounting.

Normal Allowable Deviation= ± (Value of JIS B 0401-2016 tolerance grade IT18) / 2