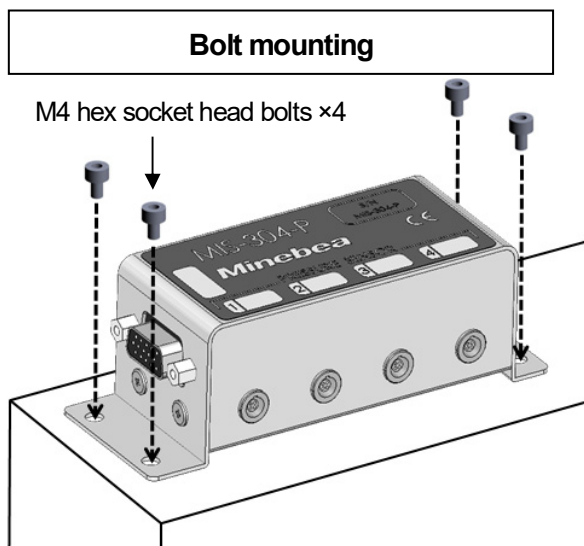


Integrated Mold Sensing System MIS-304-P/T Relay Box Mounting Instructions

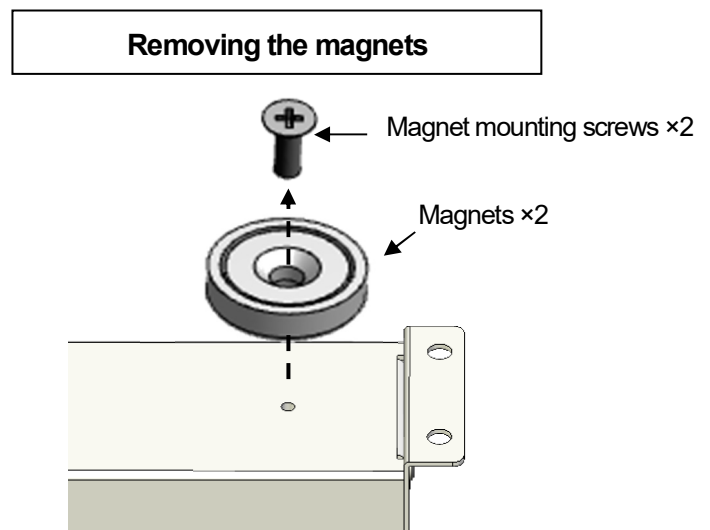
For details of how to mount the overall system, see the Integrated Mold Sensing System MIS-202 Instruction Manual (EN294-1906*).

Relay Box Mounting

- The relay box can be mounted either by attaching using the magnets or by bolting using the mounting bolt holes.
- When mounting using the magnets, attach to the moving part (platen) of the mold clamping unit. Also make sure the operating temperature does not exceed 70 °C here.
- If the magnets do not provide sufficient magnetic attraction or when attaching to a location where the operating temperature exceeds 70 °C, the relay box should be bolted to the mold.



Mount using two M4 hex socket head bolts each on either side. (M4 tapped holes must be drilled in the mounting surface.)



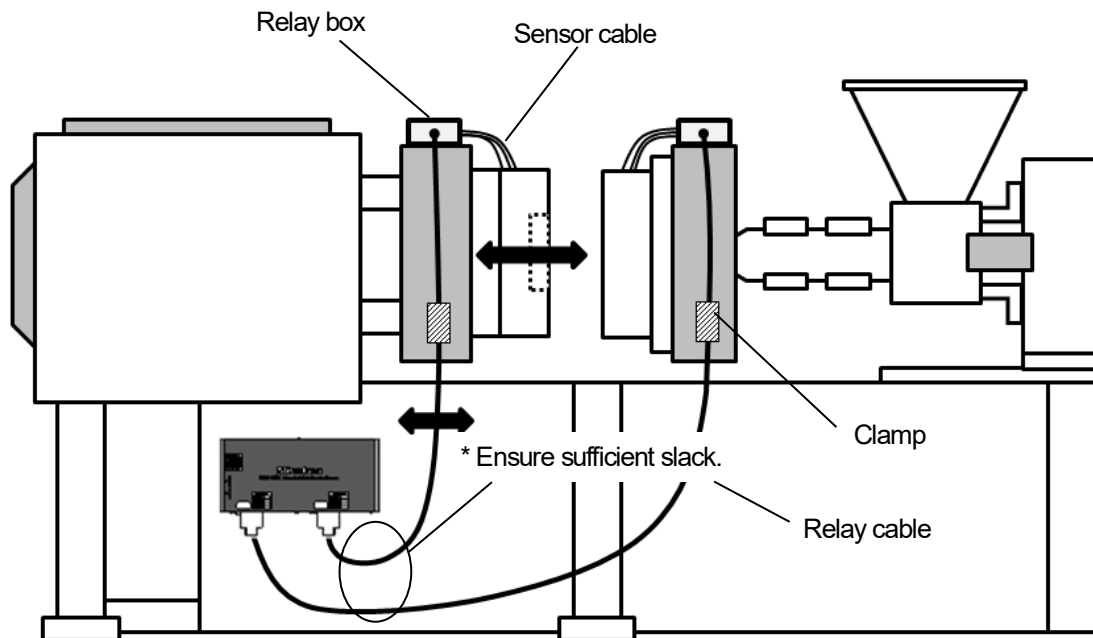
Be sure to remove the magnets when using bolts to attach the relay box. The magnets can be removed by removing the screw in the center of each magnet.

Handling Precautions

- The relay box ambient temperature should be in the range 0 °C to 70 °C when mounted using the magnets, and in the range 0 °C to 100 °C when mounted using the bolts.
- When mounting using the magnets, check that there is sufficient magnetic attraction. If the magnetic attraction is insufficient due to the mounting surface conditions, or if the relay box is to be used for extended periods, mount using the bolts.
- Keep credit cards and cash cards away from the magnets, as the magnetism may render them unusable. Likewise, the magnets may also cause malfunctions if precision equipment such as PCs and mobile phones are close by.
- Be sure to remove the magnets before mounting the relay box using the bolts. Otherwise, the box will not make close contact with the mounting surface and will not be securely attached.
- Be sure to use bolt mounting when mounting the relay box on a mold.

Installing on Molding Machine (Wiring)

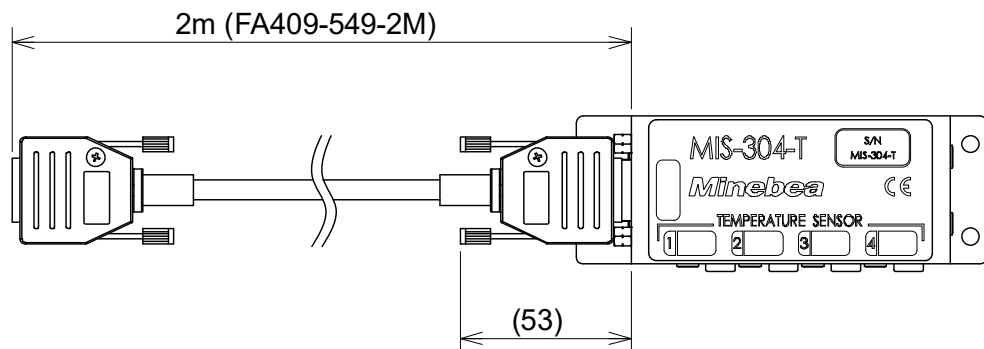
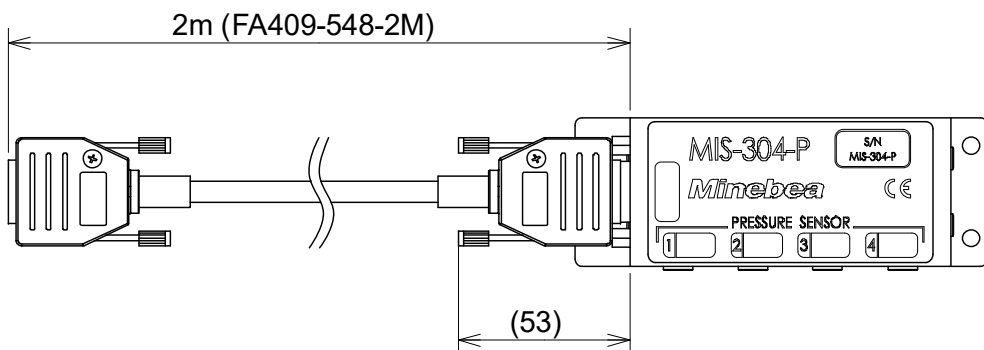
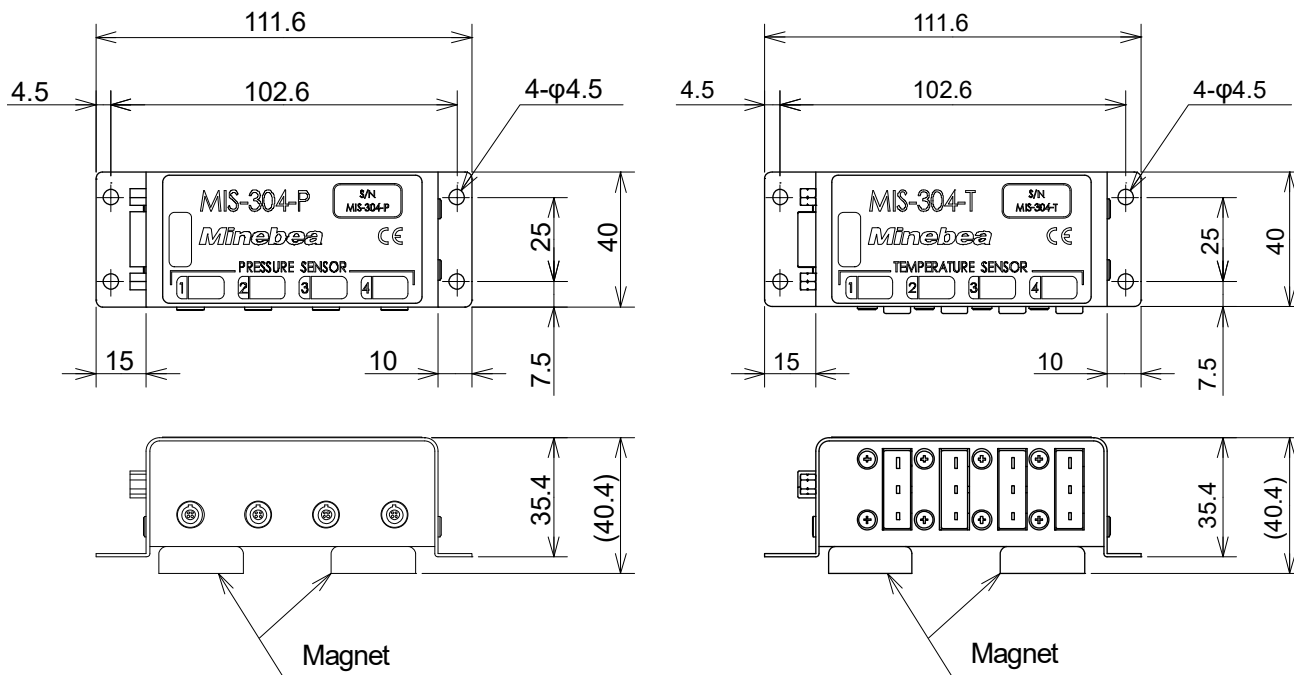
Install the amplifier and relay boxes using the layout shown below as a guide, taking care to prevent equipment falling off and cables becoming disconnected. Install the relay boxes on the top or side of the mold or platen to allow the sensors to be connected. The amplifier should be installed on the operating side of the molding machine where it is accessible by operators and where the LED indicators are visible.



⚠ Handling Precautions

- Ensure adequate slack in the relay cable and do not clamp the cable close to moving parts to ensure that the base of the cable is not subjected to any load even when the mold moves.
- Install leaving sufficient slack in the relay cable to ensure that the relay cable is not subjected to any load when the mold moves.
- The following minimum bending radii for the cables must be adhered to when installing to prevent cable disconnection.
 - Pressure sensor cables:
 - Clamped sections: 50 mm or greater Movable sections: 50 mm or greater
 - Temperature sensor cables:
 - Clamped sections: 70 mm or greater Movable sections: 100 mm or greater
- When connecting a relay cable to a relay box, tighten the screws on both sides of the D-sub connector.
- Flexible cable is used for the relay cables, but this is a consumable item, which is subject to breakage if it is bent excessively. Depending on usage frequency, the cables should be replaced periodically, or spare cables should be kept on hand.
- If a relay box is mounted using the magnets, clamp the relay cable at a point not more than 2 m away from the relay box. Otherwise, the weight of the cable may pull the relay box away from its mounting position.
- Route the sensor and relay cables to make sure they are not trapped or pulled when the mold moves. Bundle excess lengths of cable where necessary.

Exterior Diagram



Units: mm

General Specifications MIS-304-P

- Operating temperature range 0 °C to 70 °C
0 °C to 100 °C (when not using magnets)
- Operating humidity range Max. 85 %RH (with no condensation)
- Storage temperature range -10 °C to 70 °C
-10 °C to 100 °C (when not using magnets)
- Vibration resistance 2 hours at 10 Hz to 55 Hz, double amplitude 1.5 mm,
in X/Y/Z directions respectively
- External dimensions (W × H × D) 111.6 mm × 40 mm × 40.4 mm (not including protrusions)
- Weight Approx. 190 g (including magnets)
- Casing material SUS430
- Applicable transducers LSMS-S06 series (20K, 50K, 100K, 200K, 500K, 1T, 3T)
- Applicable amplifiers MIS-202-PT, MIS-202-PP

General Specifications MIS-304-T

- Operating temperature range 0 °C to 70 °C
0 °C to 100 °C (when not using magnets)
- Operating humidity range Max. 85 %RH (with no condensation)
- Storage temperature range -10 °C to 70 °C
-10 °C to 100 °C (when not using magnets)
- Vibration resistance 2 hours at 10 Hz to 55 Hz, double amplitude 1.5 mm,
in X/Y/Z directions respectively
- External dimensions (W × H × D) 111.6 mm × 40 mm × 40.4 mm (not including protrusions)
- Weight Approx. 220 g (including magnets)
- Casing material SUS430
- Applicable transducer K type thermocouple MMTK-01
- Applicable amplifier MIS-202-PT