



Sensing Solutions since 1959

# M3784 Series Technical Data Sheet

## Conductivity Sensors



M3784-2

### Applications

- Environments such as semi-solid liquids, industrial slurries and wastewater
- Water-based liquids

### Related Products



M3784-110



M3784-220



M3784-24

### Custom Solutions

At times, OEMs, end users or military specifiers require a customized solution or sample product to test. Madison Company can design, manufacture and ship a custom switch or sensor in just six business days. Simply communicate the quantity and requirements to our technical sales staff. We will quote the product to establish budget and ROI. Following the quote approval, Madison engineers will design the switch or sensor that satisfies the application specifications, and provide proof of concept. Upon approval, we will build and ship the product or sample.

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## Conductivity Sensors

Conductivity Sensor Specifications							
Model	Input Voltage	Max. Pressure	Max. Temp	Mounting	Other Wetted Materials	Pump Level Controller	Length Total
M3784-110	110 VAC	30 PSI	212°F (100°C)	1" NPT	316 Stainless Steel electrodes; Polypropylene housing. All food-grade materials	R2-120 Level Controller	24" length (Standard); 72" length (Maximum, with two extensions). May be cut to custom length
M3784-2		30 PSI	212°F (100°C)	1" NPT	316 Stainless Steel electrodes; Polypropylene housing. All food-grade materials	No controller	24" length (Standard); 72" length (Maximum, with two extensions). May be cut to custom length
M3784-220	220 V	30 PSI	212°F (100°C)	1" NPT	316 Stainless Steel electrodes; Polypropylene housing. All food-grade materials	R2-220 Level Controller	24" length (Standard); 72" length (Maximum, with two extensions). May be cut to custom length
M3784-24	24 VAC	30 PSI	212°F (100°C)	1" NPT	316 Stainless Steel electrodes; Polypropylene housing. All food-grade materials	R2-24 Level Controller	24" length (Standard); 72" length (Maximum, with two extensions). May be cut to custom length

Note: Integral junction box with IP68 (NEMA 6) protection 10' cable for attaching sensing head to controller

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### General Information

1. Switches should be installed rigidly so the float or floats are free to move as the liquid level changes.
2. Switches should be mounted in a tank area free of severe turbulence or protected from such turbulence by appropriate and adequate slosh shields.
3. Vertical switch stems should be vertical for best results, but satisfactory operation is possible in most liquids with the stem at up to a 30° angle from vertical.
4. Side mount switch stems must be mounted with the arrow vertically either up or down depending on switch operation.
5. Care should be taken that switches are always operated within electrical ratings.
6. Orientation for standard Vertical switches can be changed from normally open to normally closed dry or vice versa by removing the float and reversing it in the stem, except with the M3326.

### Maintenance

Maintenance should consist of inspection to see that the float is free to move and not coated with any substance, which would change its weight or volume significantly. If this occurs, the float should be cleaned. This is easily accomplished without disturbing the installation. In addition, the stem may be wiped down to remove any build-up.

The only repair possible in the field is replacement of either the float or stem. Dents or nicks on the float are usually of no consequence to operation.

### Cautions

1. The pressure, temperature and electrical limitations shown for the specified level switches must not be exceeded.
2. The pressures and temperatures must take into consideration possible surges in the temperature and pressure of the system.
3. The liquids used must be compatible with the materials of construction. Specifications of materials will be given upon request.
4. Life expectancy of the switch varies with applications. Contact the factory if life cycle testing is required.
5. Ambient temperature changes can affect switch set points, since specific gravities of liquids vary with temperature. Consult factory for assistance.
6. Level switches have been designed to be shock and vibration resistant. For maximum life, both shock and vibration should be minimized. Consult factory for assistance.
7. Excessive contaminants in fluid may inhibit float operation, and occasional wipe down may be necessary.
8. Level switches must not be field repaired
9. Physical damage to product may render product unserviceable.
10. Installation in a vessel made from magnetic materials may affect operation.

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