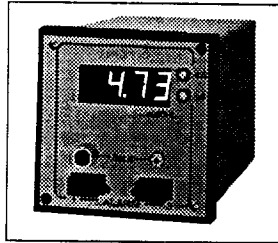




CDPM-70/71 Conductivity Meters



Instructions

M0577/1195

General Description

The CDPM-70 and CDPM-71 panel mounted conductivity meters measure conductivity from 0.1 μ S to 200 mS in four switchable ranges. To ensure accurate readings, automatic temperature compensation is provided over the range 0 to 50°C. The meters have the unique feature of a digital readout and setting of cell constant to a resolution of 0.01 to overcome the normal problems of cell calibration; they require the CDCN-83 conductivity sensor. The meters are housed in rugged steel panel mounting DIN cases, allowing installation from the front to fit in limited access situations. The CDPM-71 has the additional feature of a HI/LO alarm system that consists of two independent alarm points with their own relay indicator.

Sensor and Output Connections

Connect the conductivity cell to the input terminals on the rear panel connector block. The connections are as follows:

- Terminals 1 & 2: Recorder output option if installed (observe polarity)
- Terminal 3: Braided screen
- Terminals 4 & 5: Temperature compensation probe (no polarity)
- Terminals 6 & 7: Conductivity cell plates (no polarity)

Note: The screen on the cable must be connected to Terminal 3. This is especially important when measuring low conductivities.

Typical cable colors and their respective terminals are as follows:

<u>Terminal</u>	<u>Typical Color</u>	<u>Function</u>
3	Screen	Screen
4	Yellow	A.T.C.
5	Black	A.T.C.
6	Blue	Cell Plate
7	Brown	Cell Plate



Alarm Connections

For units with the HI/LO Alarm option, the lower connector block should be connected as follows to give the required alarm output operation.

The following terminals should be linked to give the corresponding function on the front panel LED alarm indicators:

- 1 to 2 Alarm 2 LED lights when conductivity is above Set point 2.
- 2 to 3 Alarm 2 LED lights when conductivity is below Set point 2.
- 10 to 11 Alarm 1 LED lights when conductivity is above Set point 1.
- 11 to 12 Alarm 1 LED lights when conductivity is below Set point 1.

Any external alarm circuitry can be activated by utilizing the changeover relay contacts available on terminals 4, 5 and 6 (ALARM 2) and 7, 8 and 9 (ALARM 1).

- Terminals 5 and 6: Shorted when the reading is above Set point 2.
- Terminals 4 and 5: Shorted when the reading is below Set point 2.
- Terminals 8 and 9: Shorted when the reading is above Set point 1.
- Terminals 7 and 8: Shorted when the reading is below Set point 1.

These contacts are rated at 240V-2A (110V-4A) into a resistive load.

Note: Each relay contact has a spark suppression circuit connected across it. This consists of a 0.01 μ F capacitor in series with a 100 Ω resistor.

When switching low current relays from the AC, the reactance of the capacitor may be low enough to cause the external relay to stay on and not de-energize. If this occurs, it may be necessary to remove the capacitor or replace it with one of a smaller value. The working voltage of this capacitor must be at least 630 VDC (for 240V).

WARNING

This operation should only be carried out by qualified personnel as the unit contains potentially hazardous voltages. This procedure should be carried out only after the unit has been disconnected from the power supply.

To gain access to the capacitors, remove the four screws at the top and side of the unit and remove the top cover. The capacitors are located at the rear of the alarm printed circuit board, near the relays.



Setting Alarm Levels

To set the levels at which the alarms operate, press the button on the front of the unit and set the display to the level required with the control located below the button. The relay is energized when the temperature is below the set point.

Conductivity Measurement

Press the SET K button and adjust display with pre-set multi-turn potentiometer to the cell constant value marked on the conductivity cell. For example, if $K = 1.07$ is marked on the cell, set the display to 107 with the SET K button.

Select the range on the front panel rotary switch.

Specifications

Ranges:	0 to 20 mS, 0 to 200 mS, 0 to 200 μ S, 0 to 2000 μ S
Accuracy:	$\pm 0.5\%$, ± 2 digits
Resolution:	0.01 mS, 0.1 mS, 0.1 μ S, 1.0 μ S
Automatic Temperature Compensation:	0 to 50°C
Reference Temperature:	25°C
Cell Constant Range:	0.5 to 2.0
Recorder Output:	4 to 20 mA
Power:	110/240 Vac, user switchable
Dimensions:	96 mm H x 96 mm W x 149.9 mm D (3.78" x 3.78" x 5.9")
Weight:	CDPM-70: 1.1 kg (2.4 lb.) CDPM-71: 1.4 kg (3.0 lb.)



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2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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