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User's Guide

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DPF700
Dual Relay Option Board
for the DPF700 Meter



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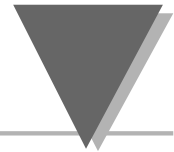
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WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

This device is marked with the international caution symbol. It is important to read the Setup Guide before installing or commissioning this device as the guide contains important information relating to safety and EMC.



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PREFACE

MANUAL OBJECTIVES

This manual shows you how to install and use the Dual-Relay option board with the DPF700 meter.

In this manual we provide procedures for:

- * Setting up the Dual-Relay option board
- * Installing the Dual-Relay option board

Use this manual with you DPF700 manual (M1676)

NOTES and CAUTIONS

Information that is especially important to note is identified by these labels:

- **NOTE**
- **WARNING**
- **CAUTION**
- **IMPORTANT**



NOTE: provides you with information that is important to successfully setup and use the Programmable Digital Meter.



CAUTION or WARNING: tells you about the risk of electric shock.



CAUTION, WARNING or IMPORTANT: tells you of circumstances or practices that can effect the meter's functionality and must refer to accompanying documents



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1.1 UNPACKING

Remove the Packing List and verify that all equipment has been received. If there are any questions about the shipment, use the phone number for the Customer Service Department nearest you.

Upon receipt of shipment, inspect the container and equipment for any signs of damage. Take particular note of any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

 *The carrier will not honor any claims unless all shipping material is saved for their examination. After examining and removing contents, save packing material and carton in the event reshipment is necessary.*

1.2 SAFETY CONSIDERATIONS

Refer to your main owners guide manual for complete safety considerations.



This option card is intended for use in a DPF700 panel mount device that is protected in accordance with **Class I** of EN 61010 (115/230 AC power connections). Installation of this instrument should be done by Qualified personnel.



- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.
- Unit mounting should allow for adequate ventilation to ensure instrument does not exceed operating temperature rating.
- Use electrical wires with adequate size to handle mechanical strain and power requirements. Install without exposing bare wire outside the connector to minimize electrical shock hazards.

2.1 INSTALLING THE DUAL-RELAY OPTION BOARD

To install the dual-relay option board, follow these steps (refer to the Figure 2-1):



CAUTION: The meter has no power-on switch, so it will be in operation as soon as you apply power.



IMPORTANT: Disconnect the power from the unit before installing this option board.

1. Hold the board in a horizontal position, with the TB3 connector facing towards the rear of the meter.
2. Line up the 3 connectors located on the back side of the board with pin groups J3, J4 and J5 on the mother card.
3. Push connectors down to secure on relay board.

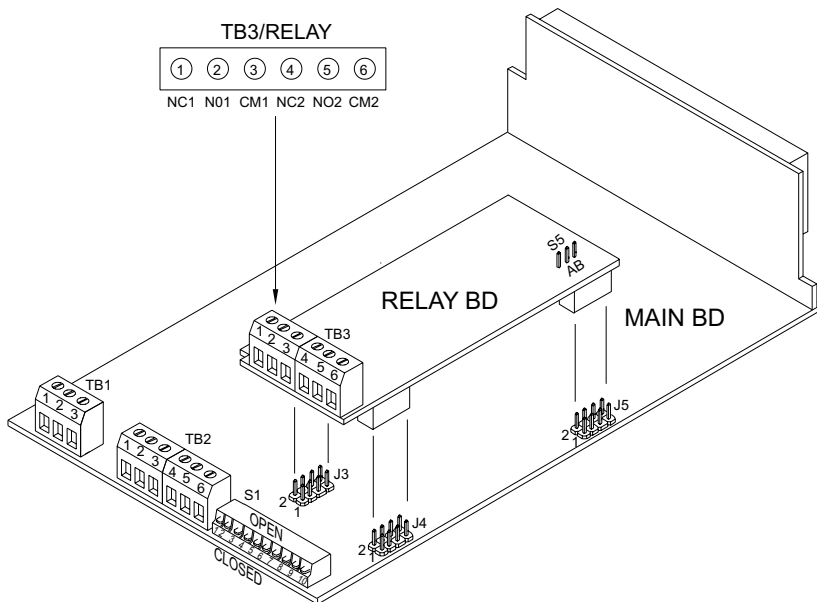


Figure 2-1. Dual-Relay Option Board

2.2 SETTING UP THE DUAL-RELAY OPTION BOARD

You may enter a setpoint from -99999 to 999999 with a decimal point in any of the following positions: 9.9.9.9.9. After applying the scale factor and offset, the displayed measurement is compared to the setpoint values.

LO ALARM

Displayed value is less than Setpoint LO

HI ALARM

Displayed value is more than Setpoint HI

HYSTERESIS

Relay 2 is energized when display value is more than Setpoint HI. Relay 2 is not energized when display value is less than Setpoint LO

Setpoint Example:

Setpoint HI is 500.0 and Setpoint LO is 100.0.

Reading changes from 0 to 600 and back to 0.

Figure 10-2 on the following page illustrates Table 2-1.

Table 2-1. Setpoint Example

Reading	Alarm Status		
	LO (Relay 1)	HI (Relay 2)	HYS
0	On	Off	Off
99.9	Off	Off	Off
300	Off	Off	Off
500.0	Off	Off	Off
500.1	Off	On	On
600	Off	On	On
500.1	Off	Off	On
100 - 500	Off	Off	On
99.9	On	Off	Off
0	On	Off	Off

2.2 SETTING UP THE DUAL-RELAY BOARD (Continued)

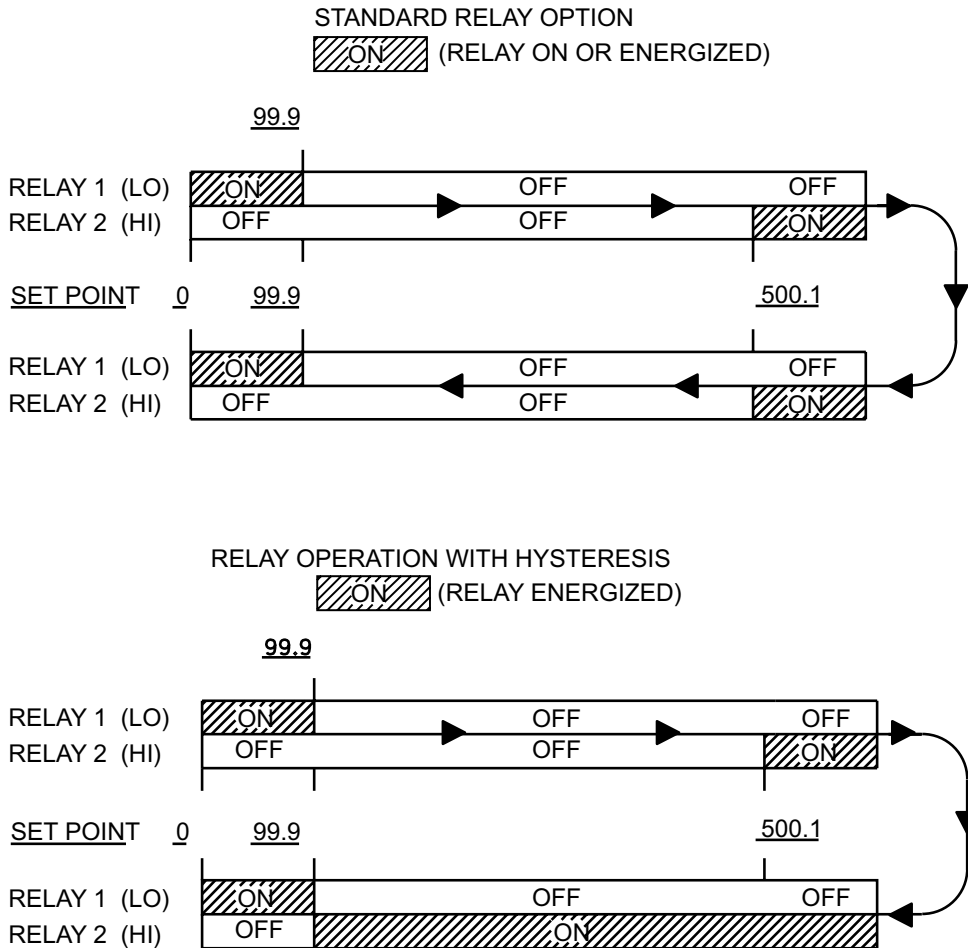


Figure 2-2. Setpoint Example Illustration

To convert Setpoint LO to a second high setpoint, set software switch 3 of the configuration menu to 1 (**ConFIG = XX1XXX**). LO ALARM becomes active when the reading is greater (more positive) than that setpoint.

To convert both setpoints to latched setpoints, set software switch 2 of the configuration menu to 1 (**ConFIG = X1XXXX**). When relays are energized, they stay energized until a Reset (either front-panel or back connector reset).

2.3 ELECTRICAL CONNECTION AND SPECIFICATION

Each relay has a form C contact. Refer to Figure 2-1 and Figure 2-3 to locate contacts and S5 switch.

- * Install S5-A to control Relay 2 with hysteresis action.
- * Install S5-B to control Relay 2 with setpoint HI.
- * TB3-1 is a normally closed contact of relay 1.
- * TB3-2 is a normally open contact of relay 1.
- * TB3-3 is a common contact of relay 1.
- * TB3-4 is a normally closed contact of relay 2.
- * TB3-5 is a normally open contact of relay 2.
- * TB3-6 is a common contact of relay 2.

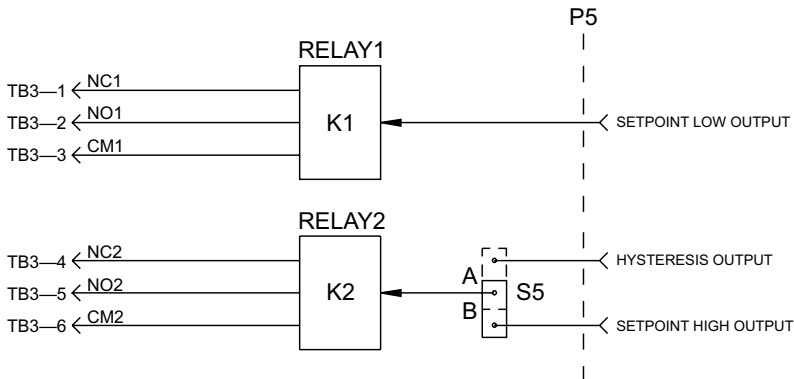


Figure 2-3. Electrical Wiring for Relay Connections

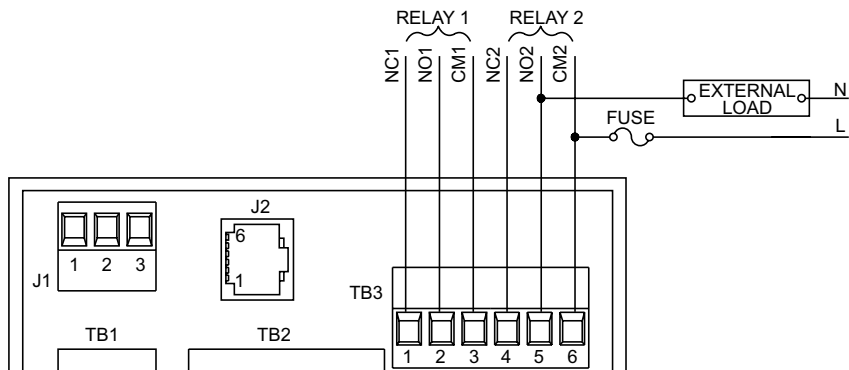


Figure 2-4. Dual-Relay Connections



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OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

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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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