

## Output Specifications:

Relay Output: Form -C, SPDT Relays

Power Rating for Resistive Loads: Two relays at P6 and P7  
250 Vac or 30 Vdc @ 5 A

Two relays at P18  
250 Vac or 30 Vdc @ 3 A

Isolation: Power to Input/Relay Outputs:  
2500 Vac per 1 min. test

Relays to Inputs / Analog, Comm, & Ethernet Outputs:  
2500 Vac per 1 min. test



### WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **one (1) year** from the date of purchase. In addition to OMEGA's standard warranty period, OMEGA Engineering will extend the warranty period for **four (4) additional years** if the warranty card enclosed with each instrument is returned to OMEGA.

If the unit malfunctions, 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 having been 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:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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## OPERATION MANUAL



## DP41-B 4 Relay Output Option

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Ω OMEGA<sup>®</sup>

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[www.omega.com](http://www.omega.com)

Internet e-mail  
[info@omega.com](mailto:info@omega.com)

### Servicing North America:

USA:  
ISO 9001 Certified

One Omega Drive, P.O. Box 4047  
Stamford CT 06907-0047  
TEL: (203) 359-1660  
e-mail: [info@omega.com](mailto:info@omega.com)

FAX: (203) 359-7700

Canada:

976 Bergar  
Laval (Quebec) H7L 5A1  
TEL: (514) 856-6928  
e-mail: [info@omega.ca](mailto:info@omega.ca)

FAX: (514) 856-6886

### For immediate technical or application assistance:

USA and Canada:

Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA<sup>®</sup>  
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TEL: (001)800-TC-OMEGA<sup>®</sup> FAX: (001) 203-359-7807  
En Español: (001) 203-359-7803  
e-mail: [info@omega.com.mx](mailto:info@omega.com.mx)

### Servicing Europe:

Benelux:

Postbus 8034, 1180 LA Amstelveen, The Netherlands  
TEL: +31 20 3472121 FAX: +31 20 6434643  
Toll Free in Benelux: 0800 0993344  
e-mail: [nl@omega.com](mailto:nl@omega.com)

Czech Republic:

Rudé armády 1868, 733 01 Karviná 8  
TEL: +420 69 6311899 FAX: +420 69 6311114  
e-mail: [czech@omega.com](mailto:czech@omega.com)

France:

11, rue Jacques Cartier, 78280 Guyancourt  
TEL: +33 1 61 37 29 00 FAX: +33 1 30 57 54 27  
Toll Free in France: 0800 466 342  
e-mail: [france@omega.com](mailto:france@omega.com)

Germany/Austria:

Daimlerstrasse 26, D-75392 Deckenfronn, Germany  
TEL: +49 7056 9398-0 FAX: +49 7056 9398-29  
Toll Free in Germany: 0800 639 7678  
e-mail: [germany@omega.com](mailto:germany@omega.com)

United Kingdom:  
ISO 9002 Certified

One Omega Drive  
River Bend Technology Centre  
Northbank, Ilam Manchester M44 5BD United Kingdom  
TEL: +44 161 777 6611 FAX: +44 161 777 6622  
Toll Free in England: 0800 488 488  
e-mail: [sales@omega.co.uk](mailto:sales@omega.co.uk)

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

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

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

The information contained in this document is believed to be correct but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

## Start Here

### FEATURES OVERVIEW:

The 4 Relay Output Board provides four isolated Form-C electro-mechanical relays that enable setpoint-triggered switching to an external device. Each relay can accommodate a single setpoint. 200 W, 2500pf snubbers are provided for each normally open contact.

### BOARD INSTALLATION:

To install optional Relay Output printed circuit board:

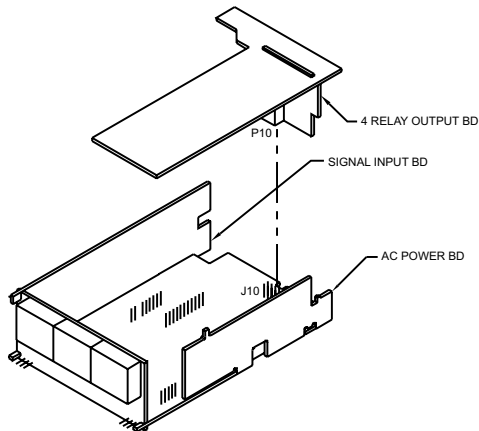
1. Refer to "Reveal the Main Board" in Main Operator's Manual **Section 5.2**, Disassembly.
2. Using figure below as a reference, insert relay option board(s) into J10 connector on the main board.



**WARNING:** To avoid electrical shock be sure to disconnect the unit from its power supply. After you have opened the meter you are ready to install option card.

To install:

1. Hold relay board with components facing the main board.
2. Position the P10 connector to mate with the J10 connector on the main board (at rear of unit).
3. Push the board downward, guiding relay board edges through the rear panel guides until it rests on the upper rear panel and the main board.

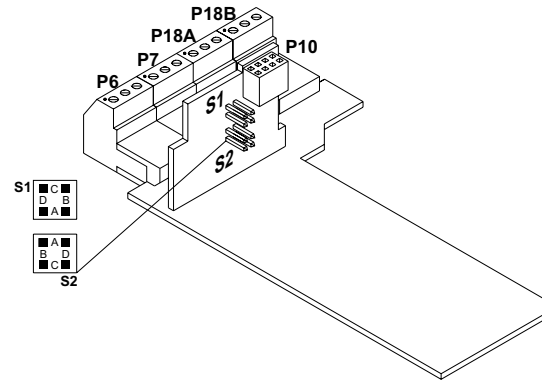


**Figure 1 Option Board Installation**

## 2

### JUMPER CONFIGURATION:

The figure below shows the locations of the 4 Relay Output Board jumpers S1 and S2, the P10 socket connecting the board to the Main Board, and the output plugs P6, P7, P18A and P18B.



**Figure 2 4 Relay Board Jumpers and Plugs**

The table below shows which jumpers are assigned to each relay. Defaults have asterisks.

**Table 1 4 Relay Board Jumpers**

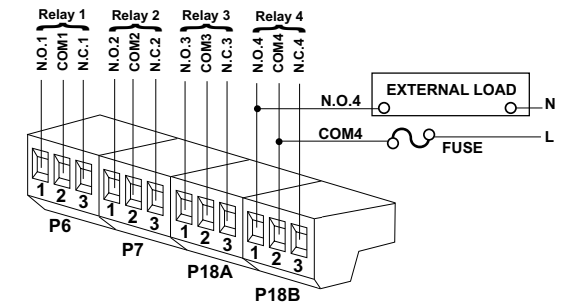
S1	S2	FUNCTION
A, C*	A, C*	Assigns SP1 to Relay 1 (P6) Assigns SP2 to Relay 2 (P7) Assigns SP3 to Relay 3 (P18A) Assigns SP4 to Relay 4 (P18B)
B, D	A, C	Assigns SP1 to Relay 3 (P18A) Assigns SP2 to Relay 4 (P18B) Assigns SP3 to Relay 1 (P6) Assigns SP4 to Relay 4 (P18B)
B, D	B, D	Assigns SP1 to Relay 3 (P18A) Assigns SP2 to Relay 4 (P18B) Assigns SP3 to Relay 1 (P6) Assigns SP4 to Relay 2 (P7)
A, C	B, D	Assigns SP1 to Relay 1 (P6) Assigns SP2 to Relay 4 (P18B) Assigns SP3 to Relay 3 (P18A) Assigns SP4 to Relay 2 (P7)

## 3

### WIRING CONNECTIONS:



**WARNING:** Do not connect ac power meter until you have completed all input and output connections. Failure to do so may result in injury! This device must only be installed electrically by a specially trained electrician with corresponding qualifications.



**Figure 3 4 Relay Output Board Wiring Connections**

**Table 2 Pin Assignments for the P6, P7 and P18**

CONNECTOR	PIN	FUNCTION
P6 (Relay 1 Connection)	1	NO1 (Normally Open)
	2	Common 1
	3	NC1 (Normally Closed)
P7 (Relay 2 Connection)	1	NO2 (Normally Open)
	2	Common 2
	3	NC2 (Normally Closed)
P18A (Relay 3 Connection)	1	NO3 (Normally Open)
	2	Common 3
	3	NC3 (Normally Closed)
P18B (Relay 4 Connection)	1	NO4 (Normally Open)
	2	Common 4
	3	NC4 (Normally Closed)