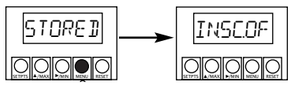
5

To Configure Meter Inputs:

1. Press MENU until the meter displays:

2. Press ▶/MIN to display:

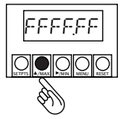
3. Press ▲/MAX, if necessary to change the configuration value.
4. Repeat steps 2 and 3 for INP.2 through INP.7
5. Press MENU
   The meter displays:



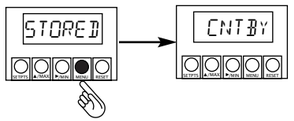
To Set Decimal Point Position:

1. Press MENU until the meter displays:

2. Press ▶/MIN to display:
   Press ▲/MAX to move the decimal point to the desired location.



3. Press MENU.
   The meter displays:



4. Press RESET twice. The meter flashes and displays an output reading.
   The meter is now in RUN mode.

Configure Reading Offset

Now that you are in the run mode with a transducer connected to the meter, do the following:

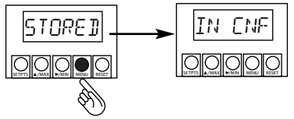
1. Simulate a load on the transducer (leave the pressure port open).
2. Note the display reading. Let's assume the display shows 43.5
3. To make the display show zeroes, press MENU until the meter displays:

4. Press ▶/MIN to display the previous reading offset value.
5. Using ▶/MIN to scroll through the digits and ▲/MAX to change the value, enter the value -0043.5

6

Configure Reading Offset (continued)

6. Press MENU.
   The meter displays:

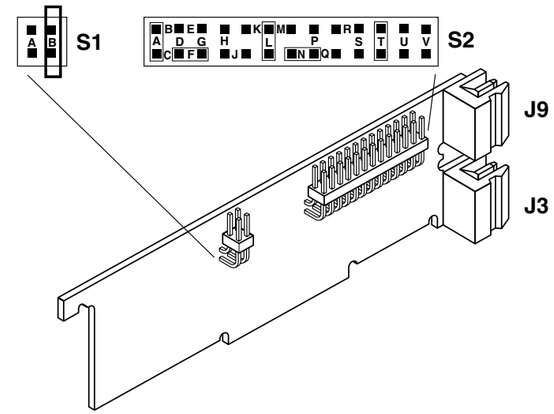


7. Press RESET twice.
   The meter flashes and then displays a value.

Your meter is now in RUN mode and operational.

If You Have Bipolar Input ±50mV

The typical setting for your meter is unipolar. If, however, you have bipolar input ±50mV, you must install jumper S1B. Remove the outer panel mounting sleeve to expose the jumper.



S1 Jumper Location on Signal Input Board

In addition, you must set configuration menu value INP.3=1 (under IN CNF menu). Refer to the Configuration sections of this Quick Start manual.

RELAY OUTPUT:	4 Form-C relay
POWER RATING FOR RESISTIVE LOADS:	
4 RELAY:	Two relays at P6 and P7 Normally open contact, 5 amp; 30Vdc or 230Vac Normally closed contact, 5 amp; 30Vdc or 230Vac
4 RELAY ONLY:	Two relays at P18 Normally open contact, 3 amp; 24Vdc or 30Vac Normally closed contact, 3 amp; 24Vdc or 30Vac

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **61 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **five (5) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

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 in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:
1. Purchase Order 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. Purchase Order number to cover the COST of the repair or calibration,
2. Model and serial number of the 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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MQS1291/0818

QUICK START

For complete product manual:
www.omega.com/manuals/manualpdf/M1291.pdf

5 YEAR WARRANTY

DP41-S
High Performance Strain Gage Indicator

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Tel: (203) 359-1660 Fax: (203) 359-7700
e-mail: info@omega.com

For Other Locations Visit omega.com/worldwide

START HERE

Using This Quick Start Manual

Use this Quick Start Manual to get your High Performance Strain Gage Indicator up and running right out of the box. These instructions use the factory default settings of **100mV unipolar input** and **10 Vdc sensor excitation**. If you have voltage or current input, refer to the main manual.

Note: The latest complete Communication and Operational Manual as well as **free** Software are available at ***www.omega.com***

To start your unit:

- Connect ac power
- Wire the sensor
- Configure the meter, using the front panel buttons and the configuration menus

Your unit should have the following parts:

- Panel mounting gaskets
- ac Power Connector (orange P1), two Input Connectors (P3 and P9), and rear protective cover (mounted).

For detailed instructions, refer to the appropriate section in the Operator's Manual.

Before You Begin

In addition to the unit and related parts, you will need the following items to set up your unit:

- ac power as listed on meter's product/ID label
- External sensor (e.g.; load cell)
- 1/8" Phillips head screwdriver
- 1/8" flat blade screwdriver

Safety Consideration

This device is marked with the international Caution symbol.

The instrument is a device protected in accordance with UL 61010:2010 Electrical Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory. The device has no power-on switch. Installations must include a switch or circuit breaker that is compliant to IEC 947-1 and 947-3. It must be suitably located to be easily reached and marked as the disconnecting devise for the equipment. Use copper conductors only, minimum 20 AWG, UL Rated, for power connection. Insulation must be rated for at least 85C and 600V.

SAFETY:

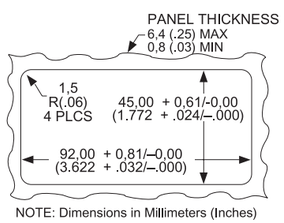
- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

EMC:

- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

Mount the Unit

1. Cut a panel opening using the dimensions shown to the right.
2. Position the unit in the opening, making sure the front bezel/ gasket is flush with the panel.
3. From the rear of the panel, slide the sleeve forward over the case and up to the panel surface.
4. The panel should now be sandwiched between the bezel-backed gasket in front and the sleeve in back.
5. Replace the thumbnuts that secure the sleeve tabs to the case.



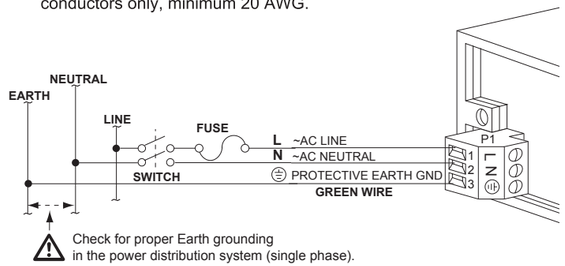
NOTE: Dimensions in Millimeters (Inches)

2

Warning: Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!

Connect ac Power

1. Remove the rear protective cover and set it aside. The cover is secured with a Phillips-head screw.
2. Locate connector P1 on the bottom-left-rear of the unit. The connector has three screw-down terminals (see below).
3. Insert the correct wire in each terminal and tighten the lockdown screw. Tug gently on each wire to verify the connection. Use copper conductors only, minimum 20 AWG.



Check for proper Earth grounding in the power distribution system (single phase).

EXTERNAL FUSE WIRED

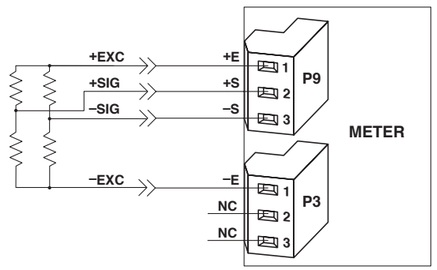
115 Vac IEC127-2/III, 125mA, 250V (Time-Lag)or UL Slow-Blow, 125mA, 250V
230 Vac IEC127-2/III, 63mA, 250V (Time-Lag)or UL Slow-Blow, 63mA, 250V

CAUTION: Use only provided terminal Torque all connections 0.4 to 0.5 Nm.

Wiring a Millivolt Output Sensor

The following example shows wiring a bridge input to the meter.

1. Locate connectors P3 and P9 on the right-side rear of the unit.
2. Attach the wires and tighten the retaining screws. Tug gently on the wires to verify the connection.



Wiring Example (Factory set at 10Vdc Excitation

3. Apply ac power. The front panel of the unit flashes **RESET2**. If it does not:
   a. Remove ac power.
   b. Verify the P1 power and sensor connections.
   c. Check your power source.
   d. Apply ac power again.
4. Replace the rear cover. Thread the sensor wires through the slots on the side of the cover. Replace the rear cover retaining screw.

Determine Meter Scaling Factor

Calculate the scaling factor so the meter displays the desired engineering units. Assuming no known load, use the formula:

RDG SC = display span/[(sensor's mV/V output) (10,000)]

where: display span = desired display at full scale
sensor's output span = mV/V

3

Configure the Meter

Use the front panel buttons to access the configuration menus, to either verify or set the unit values. The first table that follows describes functions of each button on the front of the meter. The second table summarizes the key sequences you must press and the menus you will see to get your meter running. For a step-by-step procedure of specific tasks, refer to the configuration sections following the tables.

Meter Button Descriptions

Press This Button To:	
MENU	Access the configuration program menus and move from one menu to the next.
▶/MIN	Enter and scroll through a submenu.
▲/MAX	Change the value of a submenu.
RESET	Move backward one menu (press once), or exit the configurations menus (press twice).
SETPTS	Change the Setpoints.

Key Sequences and Menus

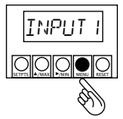
MENU key	Submenu 1 (▶/MIN)	Action/Description
L 1CNF		Skip past
L2CNF		Skip past
L3CNF		Skip past
L4CNF		Skip past
INPUT	BRIDGE	Select meter input Sub Menu 1 choice (BRIDGE)
RDGCNF	RDG 1=0	Scaling y = mx+b
	RDG2=0	Active decimal point
	RDG3=0	Normal display brightness
	RDG4= 1	Leading zeroes suppressed
	RDG5=0	Not used, skip past
	RDG6= 1	Activates RDG SC/OF
	RDG7=0	External hard reset vs peak reset
RDG SC		See previous formula in "Determine Meter Scaling Factor" section.
RDG OF	000000	
INCNF	INP.1=0	60 Hz ac power
	INP.2=0	Slow reading (S1A jumper omitted)
	INP.3=0	Unipolor input (S1B jumper omitted)
	INP.4=0	Std, for BRIDGE inputs
	INP.5=0	Not used, skip past
	INP.6=0	Disables IN.SC.OF (Input Scale & Offset)
	INP.7= 1	Ratiometric input
INSCOF		Skip past
DEC PT	FFFFFF	Select decimal point
CNT BY		Press RESET twice

Now you are in RUN mode. If the meter does not read zero, refer to "Configure Reading Offset" section.

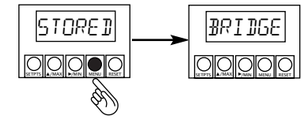
4

To Configure Type of Input:

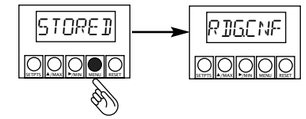
1. Press MENU until the meter displays:



2. Press ▶/MIN to display a flashing input type.
3. Press MENU.
   The meter displays:



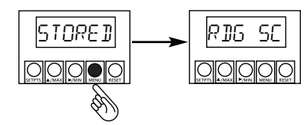
4. Press MENU and BRIDGE stops flashing.
5. Press MENU.
   The meter displays:



To Configure Meter Display Readings:

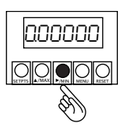
1. Press ▶/MIN to display:

2. Press ▲ /MAX, if necessary to change the configuration value to 0 or 1.
3. Repeat steps 1 and 2 for RDG2 through RDG7
4. Press MENU.
   The meter displays:



To Configure Scaling Factor:

1. Press ▶/MIN to display and to select the digit (or decimal point) you want to change.



2. Press ▲/MAX to increase the value of the selected digit.
3. Repeat steps 1 and 2 until each digit is the desired value (your calculated scaling factor).
4. Press MENU
   The meter displays: