# DC Current

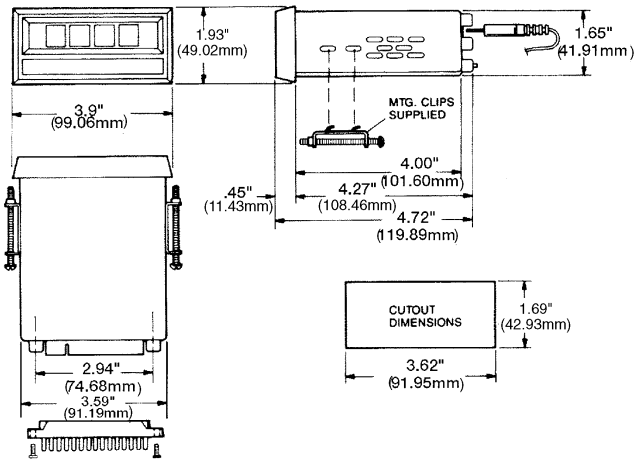
## 2842 Series Digital Panel Meters

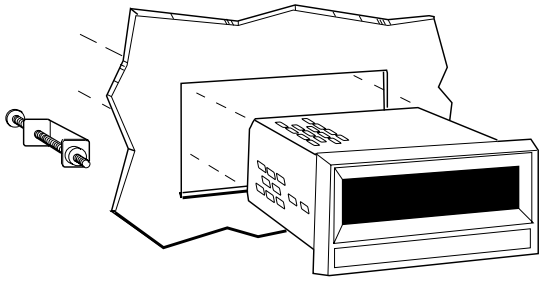
- *5 Current Ranges: 20mA, 200mA, 2mA, 20mA, 200mA*
- *Jumper-Selectable Decimal Point*
- *Input Edge Connector*
- *4-1/2 digit, 0.56" Red LED Display*
- *Model 2842 Requires 117 VAC Power Supply*
- *Optional Display Hold*
- *Additional Rear Terminal Connector Available*
- *Optional "U" Shaped Mounting Bracket*


Simpson's 2842 Series meters offer high accuracy with up to 1 nA resolution. Model 2842 requires a 117 VAC supply at 50-400Hz. The large 4-1/2-digit display is easily read from a distance of about 25 feet. Panel adapters are available for 1/8 DIN panel cutouts. In addition, a large "U" shaped mounting bracket is available for applications where the panel strength is unknown or weak.

The optional Display Hold is activated from the rear connector (when ordered). Typically a switch (not supplied) is used to activate the Display Hold so the operator may take a reading from the display.

## Installation and Panel Cutout



### Mounting Instructions

The 2842 indicators are installed with the mounting hardware provided. Slide the meter through the panel cutout. Next, insert a side mounting bracket to each side of the meter. Use the two holes located near the bezel to attach them to the meter. Slide the brackets back until they lock into the meter. Turn the screws in each bracket until they firmly contact the panel surface. Attach the wiring connections to the meter.

## Specifications

**DISPLAY**
**Type:** 7-segment, Red LED
**Height:** 0.56" (14.2mm)
**Decimal point:** Jumper-selectable
**Overrange indication:**
All digits blink "0", "1" digit off

**POWER REQUIREMENTS**
**AC Voltages**:
117V, ±10%, 50Hz to 400Hz, 6VA
234V, ±10%, 50Hz to 400Hz, 6 A
**Rated Circuit to Ground Voltage:** 250VDC

**ACCURACY @ 23ºC, ±2ºC**
± 0.05% of input +1 count

**ENVIRONMENTAL**
**Operating Temperature:** 0 to 55°C
**Storage Temperature:** -40 to 60 °C

**Relative Humidity:** 0 to 85%, non-condensing

**Temp. Coefficient:**
±(0.01%of input + 0.1 digit)/per ºC

**Warmup time:** 15 minutes

**ANALOG TO DIGITAL CONVERSION**
**Technique:** Dual slope
**Rate:** 2.5 samples/second-nominal

**MECHANICAL**
**Bezel:** 1.93" x 3.9" (49mm x 99mm)
**Depth**: 4.72" (120mm)
**Panel cutout:** 1.68" x 3.622" (42.72mm x 92mm)
**Weight:** 12.5oz (354.3g)

**INPUTS : DC Current**

| Range | Display Resolution | Maximum Input |
|---|---|---|
| 20µA | 1µA | 5mA |
| 200µA | 10µA | 15mA |
| 2mA | 100µA | 20mA |
| 20mA | 1µA | 100mA |
| 200mA | 10µA | 500mA |

Voltage Drop on all ranges = 200mV

## Connections

These instruments are designed for maximum safety to the operator when mounted in a panel according to instructions. They are not to be used unmounted or for exploratory measurements in unknown circuits.

**Pin Connections**
The signal and power inputs are made on the rear connector. Make sure the connector is firmly attached to the meter. Connections for each pin are summarized in the table below. This allows the meter to be used in multiple locations by moving it from connector to connector. Additional connectors are available.

**Input Signal**
The "+" signal input is connected to Pin S. The "-" signal input (common) is connected to Pin P.

**Display Hold**
This optional feature must be specified when ordering. By shorting Pin H to Pin J, the displayed value can be held indefinitely. This short can be controlled by a switch (optional). This will allow the operator to flip the switch (holding the display) and to take a reading. The switch is then turned off, and the display functions normally again.

**Supply Power**
If the unit is VAC powered, attach the neutral to Pin C. The Ground is connected to Pin #1 and A. The High (or Hot) is connected to Pin E. If your application changes and you want the unit to be 220 VAC power supplied, return the unit to our factory or to an Authorized Service Center.

If the unit is powered by VDC, attach the VDC return to Pin #1 and A. The "+" VDC is connected to Pin #4.

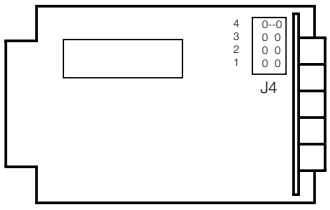
**Remote Decimal Point**
This option allows you to remotely select different decimal points without opening the meter to make the changes. This option can be installed by the factory or one of our Authorized Service Centers. Remote Decimal Point uses the same terminal points as BCD outputs, eliminating the BCD capabilities if specified.

| Pin Number | 2842 Circuit | Pin Number | 2842 Circuit |
|---|---|---|---|
| 1 | 3rd wire GND | A | 3rd wire GND |
| 2 | NC | B | NC |
| 3 | NC | C | 120VAC Neutral |
| 4 | NC | D | NC |
| 5 | NC | E | 120VAC High |
| 6 | NC | F | NC |
| 7 | (Strobe) | H | (Hold/Remote DP Common) |
| 8 | (LSD, A0) | J | Digital Common |
| 9 | (A1) | K | (A, B1, or DP3) |
| 10 | (A2) | L | (B, B2, or DP2) |
| 11 | (A3) | M | (C, B3, or DP1) |
| 12 | (MSD, A4) | N | (D, B4, or DP4) |
| 13 | Polarity | P | "-" Input Common |
| 14 | NC | R | NC |
| 15 | NC | S | "+" Input |

## Jumper Decimal Point

The decimal point can be changed by moving Jumper J4 inside the unit. The meter must be disassembled, exposing the main board. The Edge Connector should be removed first. Next, remove the two screws on the back of the bezel. Remove the front bezel, and slide out the main board.

| Jumper Position | Decimal Point Position |
|---|---|
| 4 | 1000.0 |
| 1 | 100.00 |
| 2 | 10.000 |
| 3 | 1.0000 |




The Jumper Positions are printed on the main circuit board of the meter. After moving the jumper to the location you selected, slide the circuit board back into the meter case and reassemble the meter.

## Accessories

| Optional Mounting Hardware | Catalog Number |
|---|---|
| 1/8 DIN Panel Adapter | 22992 |
| "U" Type Mounting Bracket | 22991 |
| Extra Edge Connector | 22991 |

**Please see the Accessory Section for full details on Mounting Hardware.**

## Safety Symbols

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which if not correctly performed or adhered to, could result in personal injury.

The CAUTION sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which if not correctly adhered to could result in damage to or destruction of part or all of the instrument.

## Ordering Information

| Range | Model 2865 120VAC | Model 2866 5VDC |
|---|---|---|
| 20µA | 24504 | 24604 |
| 200µA | 24505 | 24605 |
| 2mA | 24506 | 24606 |
| 20mA | 24507 | 24607 |
| 200mA | 24508 | 24608 |