



[DITEL](#): [PRODUCTS](#): [DIGITAL STARS](#): **816S0YCX**



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DESCRIPTION

Model 816S panel voltmeters are specific instruments that readout DC voltages up to 1000V with 6 selectable ranges and scaling capabilities.

Available options include analog or digital outputs and setpoint control which is programmable by either hidden or visible presets.

One selector provides adjustable time delay or hysteresis to limit relay action.

Fully configured at the factory, the following items remain accessible of reconfiguration:

- The input option (signal amplitude, gain).
- Preset values and alarm operating modes. Time delay (0 to 15 seconds) or hysteresis levels (0 to 10 counts of L.S.D.).
- The output option for the type of signal and its range.
- Zero, span adjustments and decimal point location

SELECTION GUIDE

816	S	0	Y	C	X
PRESET / RELAY					
NO PRESET	0				
1 VISIBLE PRESET	1				
2 VISIBLE PRESETS	2				
1 HIDDEN PRESET	5				
2 HIDDEN PRESETS	6				
SUPPLY POWER					
115V 50/60Hz			1		
230V 50/60Hz			2		
12V DC ISOLATED			4		
24V 50/60Hz			7		
24V DC ISOLATED			8		

OUTPUT					
NONE				0	
RS 232C				1	
BCD (OE)				2	
0-10V/0-1V				3	
0-20mA/4-20mA				4	
RS 232/20mA				5	
BCD (OC)				6	
1mV/count				8	
SCALE					
1.999V					1
19.99V					2
199.9V					3
1000V					4
1999mV					6
199.9mV					7
UPON REQUEST					9
SILKSCREENED UNIT					

ORDERING EXAMPLE

8166 0214 D25 DC: voltmeter Series 8000
 Supply power: 230V AC (50/60Hz)
 2 hidden presets. Range: 1000V
 Output: RS 232C. Unit: V DC

SPECIFICATIONS

INPUT SIGNAL

- Configuration Differential asymmetrical
- Maximum allowable voltage $V_{max.}(IN)$
- Input impedance $Z (IN)$

SCALE	$V_{max.}(IN)$	$Z (IN)$
199.9mV	50V	1Mohm
1999mV	50V	1Mohm
1.999V	50V	1Mohm
19.99V	50V	1Mohm
199.9V	250V	1Mohm
1000V	1000V	3Mohm

- Common mode max. voltage (signal/power)

AC Voltage	1000V DC or 1500V ACpp
DC Voltage	$\pm 400V$ DC

POWER

- Supply power

AC (50/60Hz)

24, 115, 230V AC

DC (isolated)

12, 24V DC

- Maximum isolation

1000V DC or 1500V ACpp

- Consumption

5W nominal

ACCURACY

- Resolution

0.05% F.S.

- Maximum error

0.10% F.S. ± 1 digit**DISPLAY**

- Type

red LED (0.56") 14mm. high

- Polarity

automatic ($\pm$) sign

- Overrange

1999. (3 L.S.D. blanked)

- Reading rate

4 per second

ENVIROMENTALS

- Operating temperature

0°C to 50°C

- Storage temperature

-25°C to +85°C

- Relative humidity

max. 95% (non condensing)

- Weight

380g

- Dimensions

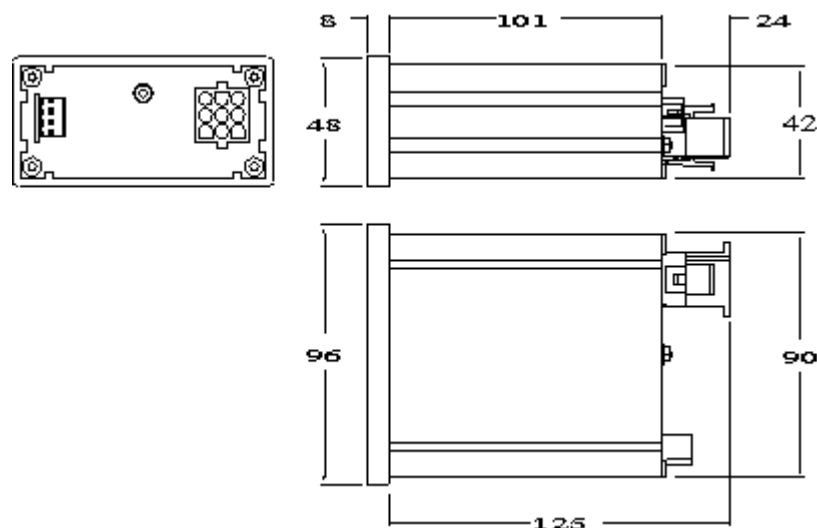
96x48x110mm. (s/DIN 43700)

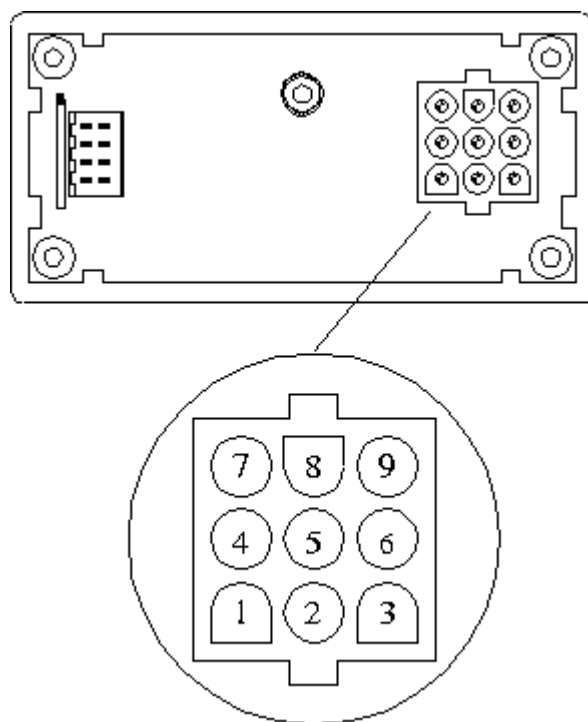
- Panel cutout

92x45mm. (s/DIN 43700)

- Case material

94 V-0 UL-rated polycarbonate

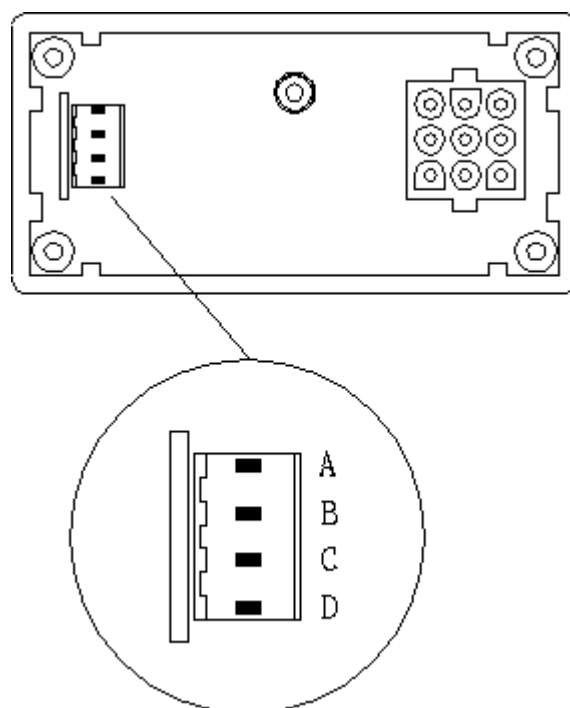
DIMENSIONS (mm)**SIGNAL AND POWER CONNECTION**



AC power supply
PIN 7 AC HI
PIN 9 AC LO (neutral)

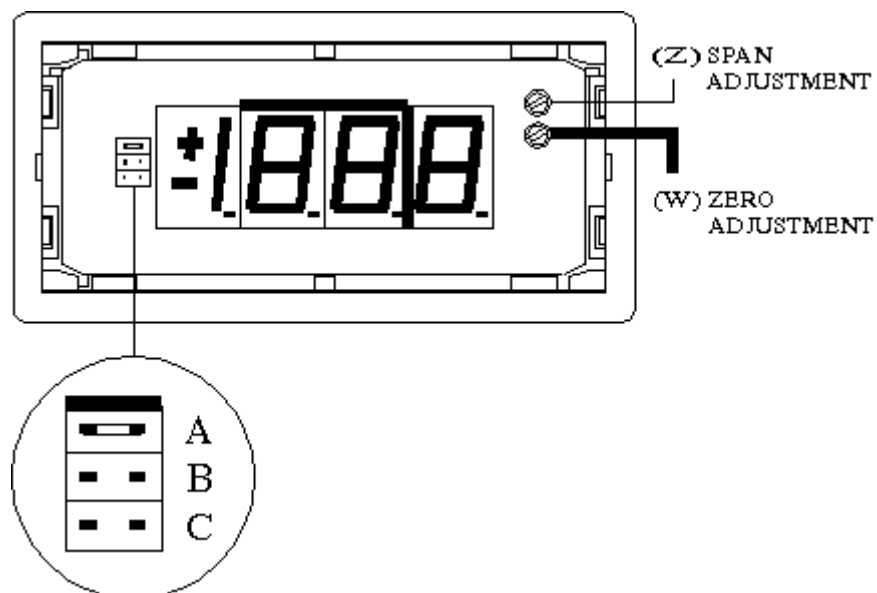
DC power supply
PIN 7 DC positive (+)
PIN 9 DC negative (-)

INPUT SIGNAL CONNECTIVITY



Input signal
 PIN A Input signal (-)
 PIN B Spare
 PIN C Spare
 PIN D Input signal (+)

SETUP AND CALIBRATION



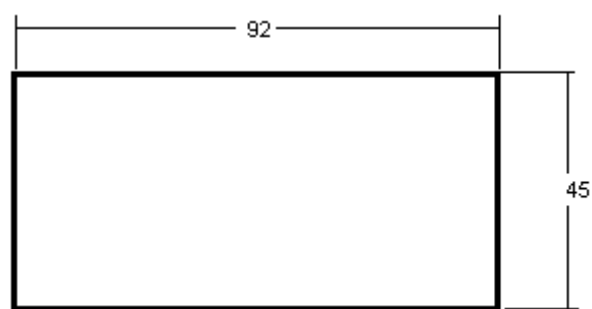
jumper	Display
A	1.999
B	19.99
C	199.9
None	1999

The zero and span adjustment is made via the potentiometers (W) and (Z) respectively, located to the upper, right side of the display. Turning clockwise increases the display readout.

The zero adjustment margin is ± 3 counts.
 The span adjustment margin is $\pm 20\%$ of F.S.

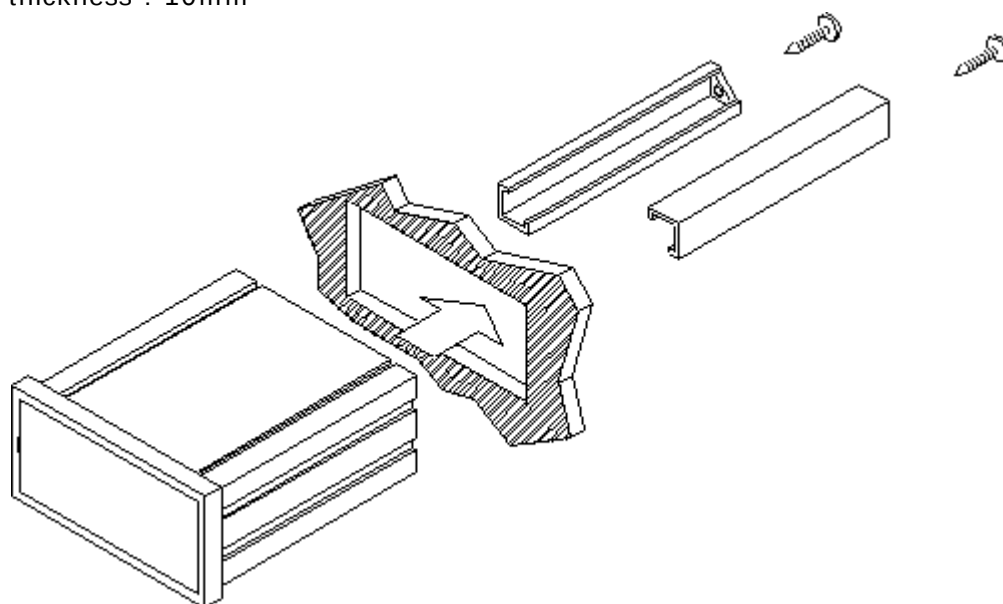
MOUNTING

Panel cutout

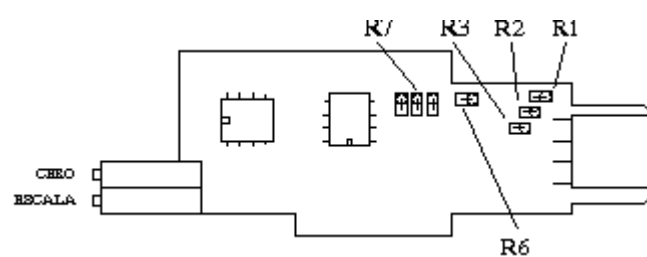


Min. thickness : 0.8mm

Max. thickness : 10mm



SCALING



SCALE	R1+R2+R3	R6	R7
199.9mV	0ohm	1Mohm	10kohm
1999mV	0ohm	1Mohm	1Mohm
1.999V	0ohm	1Mohm	1Mohm
19.99V	1Mohm	121kohm	none
199.9V	1Mohm	11kohm	none
1000V	3x1Mohm	3630ohm	none

BUILT-IN SCALES USER-SELECTED SCALES

To obtain a specific display value VD corresponding to a specific input voltage VE, calculate the value of R6 and place the resistors R6, R1, R2, R3 whose values are given here below.

For 20V < VE < 200V :

$$R6 \text{ (kohm)} = 1000 * VD / 909 * VE - VD$$

$$R1 + R2 + R3 = 1 \text{Mohm}$$

For 200V < VE < 1000V :

$$R6 \text{ (kohm)} = 3000 * VD / 909 * VE - VD$$

$$R1 + R2 + R3 = 3 \times 1 \text{Mohm}$$

Where : VE = Input voltage in volts

VD = Display value disregarding decimal point.

Warranty:

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