

## Warranty/Disclaimer

NEWPORT Electronics, 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 NEWPORT's standard warranty period, NEWPORT Electronics will extend the warranty period for one (1) additional year if the warranty card enclosed with each instrument is returned to NEWPORT.

If the unit should malfunction, it must be returned to the factory for evaluation. NEWPORT's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by NEWPORT, if the unit is found to be defective it will be repaired or replaced at no charge. NEWPORT'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 NEWPORT's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

NEWPORT is pleased to offer suggestions on the use of its various products. However, NEWPORT neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by NEWPORT, either verbal or written. NEWPORT warrants only that the parts manufactured by it will be as specified and free of defects. NEWPORT MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive and the total liability of NEWPORT with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall NEWPORT be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by NEWPORT is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, or used on humans, or misused in any way, NEWPORT assumes no responsibility as set forth in our basic WARRANTY / DISCLAIMER language, and additionally purchaser will indemnify NEWPORT and hold NEWPORT harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

# NEWPORT



Made in the USA

## MODEL 305-A 3 1/2 DIGIT MINI-SIZE VOLTMETER

### SPECIFICATIONS

#### Analog Input

Range	±199.9 mV	±1.999 V	±19.99 V	±199.9 V
Input resistance	1 GΩ	1.1 MΩ	1.0 MΩ	1.0 MΩ
Bias current	50 pA	5 pA	1 pA	1 pA
Maximum input	130 Vp	250 Vp	250 Vp	250 Vp

#### Noise Rejection

NMR, sig hi to sig lo	56 dB, 50/60 Hz
CMR, sig lo to pwr gnd	120 dB, DC to 60 Hz
CMV, sig lo to pwr gnd	1500 Vp per HV test; 354 Vp per IEC spacing
CMV, sig lo to dig gnd	0 volts

#### Accuracy at 25°C / Display

Maximum error	±0.05% of reading ±1 count
Display range	±1999
Span tempco	±0.02% of reading / °C
Full-scale step response	1 second
Warmup	30 minutes
Reading rate	2.5 / second
Overrange indication	Three least-significant digits blank

#### Power Options

Input power	24, 100, 115 or 230 Vac ±15%, 49-63 Hz +5 or 7-32 Vdc, non-isolated
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#### Environmental

Operating temperature	0 to 60°C
Storage temperature	-40 to +85°C
Relative humidity	95% at 40°C (non-condensing)

#### Mechanical

Case type	3/64 DIN (DIN 2472-100)
Bezel	1.89 x 3.78 in (48 x 96 mm)
Panel cutout 1/8 DIN	1.72 x 3.62 in (45 x 92 mm)
Depth behind bezel	4.32 in (110 mm), with connector
Weight	8 oz (227 g)
Case material	94V-1 UL-rated thermoplastic

## Return Requests/Inquiries

Direct all warranty and repair requests/inquiries to the NEWPORT Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO NEWPORT, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM NEWPORT'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.

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 NEWPORT:

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 NEWPORT for current repair charges. Have the following information available BEFORE contacting NEWPORT:

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.

NEWPORT'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. NEWPORT is a registered trademark of NEWPORT Electronics, Inc.

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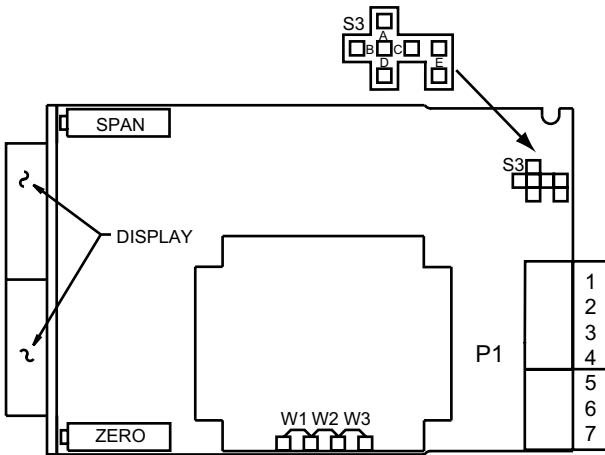
It is our policy to comply with all applicable safety and EMC/EMI regulations worldwide. We are constantly pursuing certification of our products to the European New Approach Directives. We will add the CE mark to every appropriate device upon certification.

This device is marked with the international caution 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.

CHG	ECO	DATE	BY	CHK
C	9352	26 OCT 98	ML	

11433ML-01

## RANGE SELECTION



Voltage Input Range	S3
$\pm 199.9$ mV dc	-
$\pm 1.999$ V dc	A
$\pm 19.99$ V dc	B
$\pm 199.9$ V dc	C

Voltage operation was configured per customer order. 115 and 230 Vac operation use the same transformer and may be reversed with simple wiring installation.

TRANSFORMER #	AC VOLTAGE	INSTALL	REMOVE
48131	115	W1, W3	W2
48131	230	W2	W1, W3

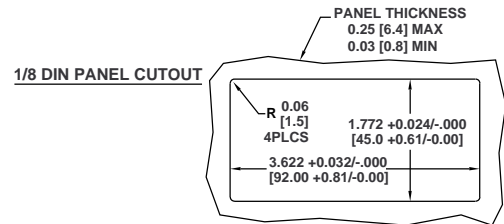
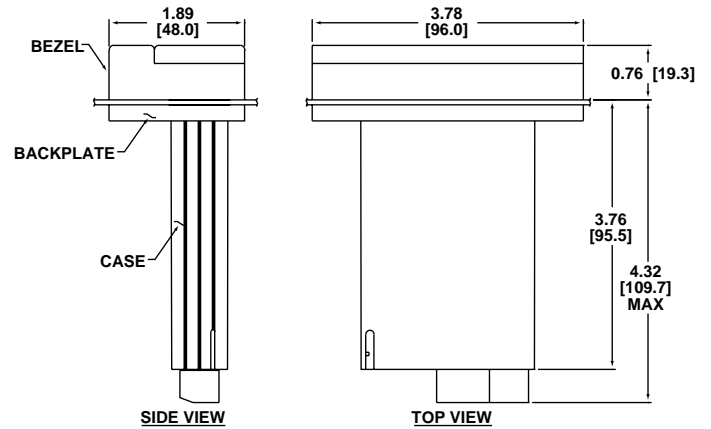
## ELECTRICAL CONNECTIONS

POWER AND SIGNAL INPUT		
P1	~ AC POWER	= DC POWER
1	SIG HI (+S)	SIG HI (+S)
2	SIG LO (-S)	SIG LO (-S)
3	Hold	Hold
4	Digital Return	Digital Return
5	Earth GND (⊖)	-DC (-)
6	Neutral (N)	+ DC (+)
7	Line (L)	No Connection (N/C)

## AVAILABLE OPTIONS

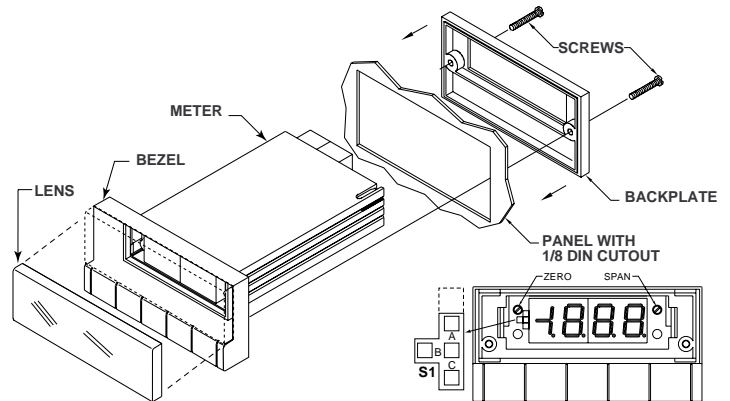
OPTION DESCRIPTION	PART #
230 V ac power input	Add suffix "-C1"
100 V ac power input	Add suffix "-C5"
24 V ac power input	Add suffix "-C8"
5 V dc power input	Add suffix "-C3"
7-32 V dc power input	Add suffix "-C2"
Green LED display (instead of Red)	Add suffix "-G"

## DIMENSIONS



## INSTALLATION

1. Remove the 2 phillips screws from behind the display (you don't have to go inside the meter) holding the rectangular backplate to the meter. Remove the backplate and set aside.
2. Cut or punch a hole in the panel where you want the meter to go. The panel can be as thick as 0.25" (6.4mm) to as thin as 0.03" (0.8mm).
3. Insert the meter into the panel cutout.
4. From the rear of the panel, slide the backplate over the case (smooth side out).
5. Install the 2 phillips screws to secure the meter in 1/8 DIN mount. Center the meter in hole prior to tightening screws.



Decimal Point	S1
1.999	A
19.99	B
199.9	C
1999	Store jumper above A

## CALIBRATION

1. Apply a voltage equivalent to 95% of the range selected to the signal input.
2. Adjust the span pot for a reading of  $1900 \pm 1$  count.
3. Reinstall the lens.