

MODEL PAXLI - PAX LITE CURRENT METERS & MODEL PAXLV - PAX LITE VOLTMETERS



- **FOUR MULTI-RANGE UNITS COVER:**
 - 199.9 μ A to 1.999 A *, 199.9 mV (AC or DC)
 - 1.999 V to 300 V (AC or DC)
- **3 1/2-DIGIT, 0.56" (14.2 mm) HIGH LED DISPLAY W/POLARITY**
- **BUILT-IN SCALING PROVISIONS**
- **SELECTABLE DECIMAL POINT LOCATION**
- **AUTO ZEROING CIRCUITS**
- **OVER-RANGE INDICATION**
- **NEMA 4X/IP65 SEALED FRONT BEZEL**
- **OPTIONAL CUSTOM UNITS OVERLAY W/BACKLIGHT**

* Accessory Shunts Available For Higher Current Ranges.

GENERAL DESCRIPTION

PAX Lite Current and Volt Meters are premium quality instruments designed for tough industrial applications. With multi-range capability, built-in provision for scaling, and DIP switch selectable decimal points, these meters offer the ultimate in application flexibility. Four models cover your voltage and current indicator needs. The meter can provide direct readout from pressure, speed or flow transducers, or any other variable that can be translated to voltage or current. The built-in scaling allows the display to be scaled to the desired engineering unit.

The 3 1/2 -digit bi-polar display (minus sign displayed when current or voltage is negative) features a 0.56" high, 7-segment LEDs for easy reading. The meter is also available with custom units label capability. Using the PAX label kit (PAXLBK30), the selected label is installed behind the panel, keeping it safe from washdown or other environmental conditions. A DIP switch is used to control the backlight for the units label.

The meters have a NEMA 4X/IP65 sealed bezel and extensive testing of noise effects to CE requirements, allowing the meter to provide a tough yet reliable application solution.

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

DEFINITION OF TERMS

INSTALLATION CATEGORY (overvoltage category) I, (CAT I):

Signal level, special equipment or parts of equipment, telecommunication, electronic, etc. with smaller transient overvoltages than Installation Category (overvoltage category) II. (See IEC 664 & IEC 61010)

INSTALLATION CATEGORY (overvoltage category) II, (CAT II):

Local level, appliances, portable equipment, etc. with smaller transient overvoltages than Installation Category (overvoltage category) III. (See IEC 664 & IEC 61010)



CAUTION: Read complete instructions prior to installation and operation of the unit.



CAUTION: Risk of electric shock.

DIMENSIONS In inches (mm)

Note: Recommended minimum clearance (behind the panel) for mounting clip installation is 2.1" (53.4) H x 5.0" (127) W.

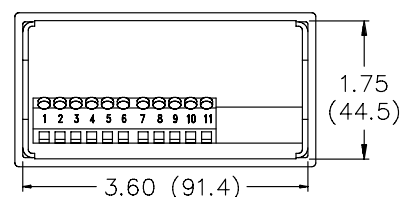
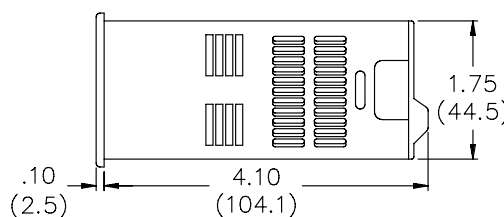
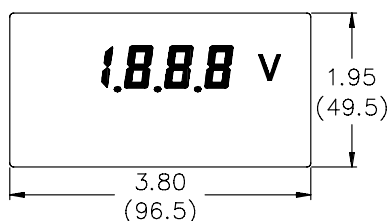
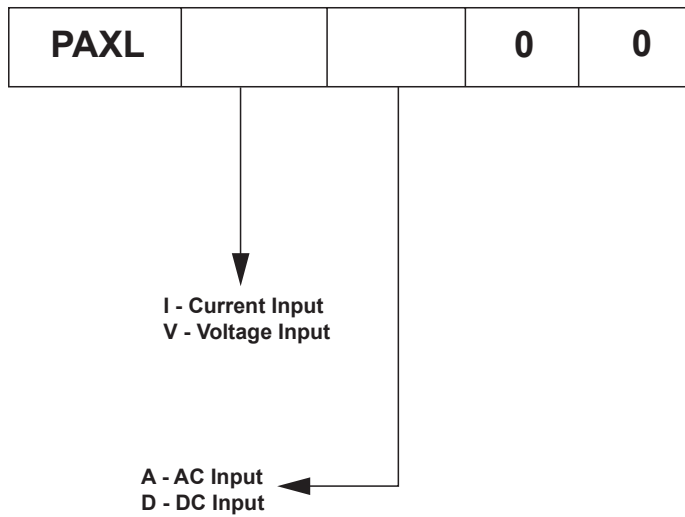


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ORDERING INFORMATION

Meter Part Numbers



Accessories Part Numbers

TYPE	MODEL NO.	DESCRIPTION	PART NUMBERS
Accessories	PAXLBK	Units Label Kit Accessory	PAXLBK30
	APSCM	10 Amp DC Current Shunt	APSCM010
		100 Amp DC Current Shunt	APSCM100

GENERAL METER SPECIFICATIONS

- DISPLAY:** 3 1/2-digit, 0.56" (14.2 mm) high, 7-segment LED, (-) minus sign displayed when current or voltage is negative. Decimal points inserted before 1st, 2nd, or 3rd least significant digits by DIP switch selection.
- POWER:** 115/230 VAC, switch selectable. Allowable power line variation $\pm 10\%$, 50/60 Hz, 6 VA.

Isolation: 2300 Vrms for 1 min. between input and supply

Working Voltage: 300 V max., CAT II

- INPUT RANGES/RESOLUTION:** (Selectable by jumper connections.):

AC Voltmeters	AC Current Meters	DC Voltmeters	DC Current Meters
0-1.999 V/1 mV	0-199.9 μ A/0.1 μ A	± 1.999 V/1 mV	± 199.9 μ A/0.1 μ A
0-19.99 V/10 mV	0-1.999 mA/1 μ A	± 19.99 V/10 mV	± 1.999 mA/1 μ A
0-199.9 V/100 mV	0-19.99 mA/10 μ A	± 199.9 V/100 mV	± 19.99 mA/10 μ A
0-300 V/1 V	0-199.9 mA/100 μ A	± 300 V/1 V	± 199.9 mA/100 μ A
	0-1.999 A/1 mA		± 1.999 A/1 mA
	0-199.9 mV/100 μ V		± 199.9 mV/100 μ V

Working Voltage: 300 V max., CAT II

- ACCURACY:**

AC Voltmeters: $\pm(0.1\%$ of Reading + 2 digits) (45-500 Hz)

AC Current Meters (45-500 Hz):

199.9 μ A/199.9 mV, 1.999 mA, 19.99 mA: $\pm(0.1\%$ of Reading + 2 digits)

199.9 mA: $\pm(0.15\%$ of Reading + 2 digits)

1 A: $\pm(0.5\%$ of Reading + 2 digits)

DC Voltmeters: $\pm(0.1\%$ of Reading + 1 digit)

DC Current Meters:

199.9 μ A/199.9 mV, 1.999 mA, 19.99 mA: $\pm(0.1\%$ of Reading + 1 digit)

199.9 mA: $\pm(0.15\%$ of Reading + 1 digit)

1.999 A: $\pm(0.5\%$ of Reading + 1 digit)

Note: Any individual range may be recalibrated (scaled) to 0.1% accuracy with appropriate calibration equipment.

- OVER-RANGE INDICATION:** on all modes is indicated by blanking 3 least significant digits.
- MAX. VOLTAGE ON LOWEST INPUT RANGE:** 75 VAC or DC (Both voltmeters and current meters).
- MAX. VOLTAGE ON TERMINAL BLOCK:** 300 VAC or DC (Both voltmeters and current meters).
- MAX. CURRENTS (FOR CURRENT METERS):**
199.9 μ A through 19.99 mA: 10 times max. range current
199.9 mA: 1 A
1.999 A: 3 A

Caution: In circuits where fault currents can exceed the maximum shunt current, a fast-blow fuse should be installed in series with the input signal. Otherwise, a slow blow 10 amp fuse is recommended that will allow for start-up over current situations, while still protecting the instrument.

- TEMPERATURE COEFFICIENTS:**

Current meters	Voltmeters
DC: ± 100 PPM/ $^{\circ}$ C	DC: ± 75 PPM/ $^{\circ}$ C
AC: ± 200 PPM/ $^{\circ}$ C	AC: ± 150 PPM/ $^{\circ}$ C

- ENVIRONMENTAL CONDITIONS:**

Operating Temperature: 0 $^{\circ}$ to 60 $^{\circ}$ C

Storage Temperature: -40 $^{\circ}$ to 80 $^{\circ}$ C

Operating and Storage Humidity: 85% max. relative humidity (non-condensing)

Altitude: Up to 2000 meters

- RESPONSE TIME TO STEP CHANGE INPUT:** 1 sec. nominal

- READING RATE:** 2.5 readings/sec., nominal

- NORMAL MODE REJECTION:** 50 dB 50/60 Hz (DC units only)
- COMMON MODE REJECTION:** 110 dB DC or 50/60 Hz (DC units only)
- COMMON MODE VOLTAGE (COMM. TO EARTH):** 350 volt peak

CERTIFICATIONS AND COMPLIANCES:

SAFETY
 UL Recognized Component, File #E179259, UL3101-1, CSA C22.2 No. 1010-1

Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.

UL Listed, File #E137808, UL508, CSA C22.2 No. 14-M95

LISTED by Und. Lab. Inc. to U.S. and Canadian safety standards

Type 4X Enclosure rating (Face only), UL50

IECEE CB Scheme Test Certificate #UL/7470/UL

CB Scheme Test Report #03ME09282-08292003

Issued by Underwriters Laboratories, Inc.

IEC 1010-1, EN 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use, Part 1.

IP65 Enclosure rating (Face only), IEC 529

ELECTROMAGNETIC COMPATIBILITY:

Emissions and Immunity to EN 61326: Electrical Equipment for Measurement, Control and Laboratory use.

Immunity to Industrial Locations:

Electrostatic discharge	EN 61000-4-2	Criterion A 4 kV contact discharge 8 kV air discharge
Electromagnetic RF fields	EN 61000-4-3	Criterion B 10 V/m
Fast transients (burst)	EN 61000-4-4	Criterion B 2 kV power 2 kV signal
Surge	EN 61000-4-5	Criterion A 1 kV L-L, 2 kV L&N-E power
RF conducted interference	EN 61000-4-6	Criterion A 3 V/rms
Voltage dip/interruptions	EN 61000-4-11	Criterion A 0.5 cycle; 40 % variation
Emissions:		
Emissions	EN 55011	Class B

Notes:

- Criterion A: Normal operation within specified limits.*
- Criterion B: Temporary loss of performance from which the unit self-recovers.*

- CONNECTIONS:** High compression cage-clamp terminal block

Wire Strip Length: 0.3" (7.5 mm)

Wire Gage: 30-14 AWG copper wire

Torque: 4.5 inch-lbs (0.51 N-m) max.

- CONSTRUCTION:** This unit is rated for NEMA 4X/IP65 use. Installation Category II, Pollution Degree 2. One piece bezel/case. Flame resistant. Panel gasket and mounting clip included.

- WEIGHT:** 0.65 lbs. (0.24 Kg)

ACCESSORIES

UNITS LABEL KIT (PAXLBK)

Each meter has a units indicator with backlighting that can be customized using the Units Label Kit. The backlight is controlled by a DIP switch.

EXTERNAL CURRENT SHUNTS (APSCM)

To measure DC current signals greater than 2 ADC, a shunt must be used. The APSCM010 current shunt converts a maximum 10 ADC signal into 10.0 mV. The APSCM100 current shunt converts a maximum 100 ADC signal into 100.0 mV. The continuous current through the shunt is limited to 115% of the rating.