



Optional super bright LEDs



Optional Green LED Display



## UM-35-ACV

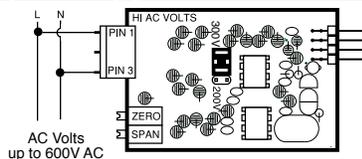
**199.9V AC to 600V AC Meter  
3 1/2 DIGIT with 0.56" LEDs  
in a NEMA type 1 Style Case**

**A cost-effective utility meter for AC voltage measurement with safe resistively isolated differential inputs.**

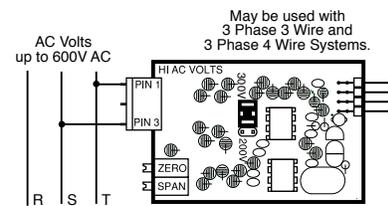
### General Features

The UM-35-ACV is a cost-effective, utility, AC voltage measuring meter with two header selectable ranges of 199.9V AC and 600V AC. The unique resistively isolated differential input of this meter allows safe measurement of phase to phase voltages, making it an effective solution to most AC voltage measuring applications.

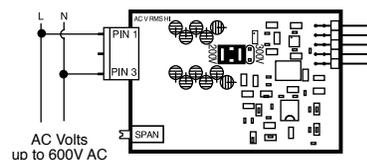
### Typical Application Connections



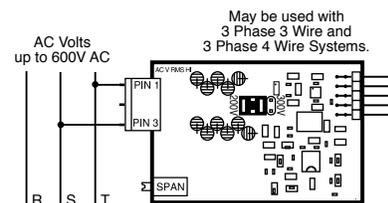
**AC Voltage measurement in Single-phase Systems.**



**AC Phase to Phase Voltage measurement in Multi-phase Systems.**



**AC True RMS Voltage measurement in Single-phase Systems.**



**AC True RMS Phase to Phase Voltage measurement in Multi-phase Systems.**

The unique differential input allows safe phase to phase AC true RMS line voltage measurements up to 600V AC.

### Specifications

**Input Configuration:**.....Differential auto zeroing Volts average AC or true RMS AC Volts to DC converter. Inputs are resistively isolated to 1400V from internal ground of meter by 1.94MΩ, so that phase to phase measurements up to 600V AC can be safely made.

**Full Scale Ranges:**.....Two header selectable ranges of 199.9V AC and 600V AC full scale

**Input Impedance:**.....4MΩ minimum.

**A/D Converter:**.....12 Bit Dual Slope

**Accuracy:**.....±(0.05% of reading + 2 counts)

**Temperature Coefficient:** 100 ppm/°C (Typical)

**Warm Up Time:**.....2 minutes to specified accuracy

**Conversion Rate:**.....3 conversions per second (Typical)

**Display:**.....3 1/2 digit 0.56" Red LED display (std), Green or Super Bright Red are optional. Range 0 to 1999 counts.

**Decimal Selection:**.....Header under face plate, X·X·X·X·

**Over-range Indication:**.....1 (MSD) displayed all other digits blank

**Power Supply (std):**.....120/240V AC, 50/60/400 Hz. approx 1.5W.

(Optn) VO-DC/ISO.....Isolated Switcher. 9 to 36V DC/12 to 24V AC

**Operating Temperature:**.....-10 to 50 °C

**Storage Temperature:**.....-20 to 70 °C.

**Relative Humidity:**.....95% (non-condensing)

**Case Dimensions:**.....Bezel 3.78"Wx1.89"H (96mm x 48mm)  
Depth behind bezel 3.36" (83.5mm) Plus 0.5 to .9" (12.7 to 22.8mm) depending on connector used.

**Weight:**.....NW. 12oz (0.34kg)

15.6oz (0.44kg). when packed.

### UM-Series utility meters for switchboard and process indication

**UM-35-ACA**.....AC amps, Scaled or True RMS, (1 or 5 Amp internal shunt), 3.5 digit.

**UM-35-ACV**.....AC volts, Scaled or True RMS. 199.9V AC/600V AC header selectable 3.5 digit.

**UM-35-DCA**.....DC mV ±20mV/±50mV/±100mV/±200mV header selectable ranges, 3.5 digit

**UM-35-DCV**.....DC Volts ±2V/±20V/±200V DC header selectable ranges, 3.5 digit.

**UM-40-ACA**.....AC amps, Scaled or True RMS, (1 or 5 Amp internal shunt), 4.0 digit.

**UM-40-ACV**.....AC volts, Scaled or True RMS. 199.9V AC/600V AC header selectable, 4.0 digit.

**UM-45-DCA**.....DC mV ±20mV/±50mV/±100mV/±200mV header selectable ranges, 4.5 digit

**UM-45-DCV**.....DC Volts ±2V/±20V/±200V DC Header selectable ranges, 4.5 digit.

**UM-35-CL**.....Process 4 to 20mA (100.0), optional 24V DC excitation, easy user scalable in engineering units from -1999 to +1999. 3.5 digit

**UM-35-HZ**.....15Hz to 199.9Hz or optional 40Hz to 400Hz up to 500V AC, 3.5 digit.

**UM-35-Pressure**.....Pressure, strain gage and load cell, 4 and 6 wire, 5V DC excitation, Header Selectable Sensitivity 2mV/V, 5mV/V, 10mV/V, 20mV/V, 3.5 digit

**UM-35-JF**.....J thermocouple input, 1° resolution, order °C or °F, 3.5 digit

**UM-35-KF**.....K thermocouple input, 1° resolution, order °C or °F, 3.5 digit

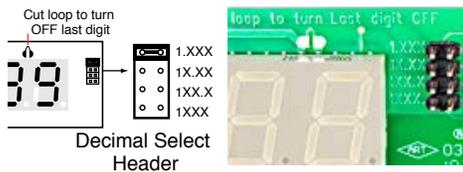
**UM-35-RTD/F**.....100Ω platinum RTD, 3 or 4 wire, order °C or °F and 0.1° or 1°, 3.5 digit

## Calibration Procedure

1. Select the required full scale voltage range by re-positioning the jumper clip on the Range Select Header. A range of 199.9V AC or 600V AC full scale may be selected.
2. Apply an input of 0 Volt AC to the meter by shorting the inputs. The meter will auto zero and display zero.
3. If the Zero Offset Pot is installed, adjust it until the meter reads 000. If a Zero Offset Pot is not installed, the meter will auto-zero.
4. Apply a known high input signal that is within the full scale voltage range selected.
5. Adjust the Span Pot until the meter displays the required reading for the signal being applied.
6. The UM-35-ACV is now calibrated and ready for use.  
(Whenever a new range is selected, re-calibration is required to meet the specified accuracy).

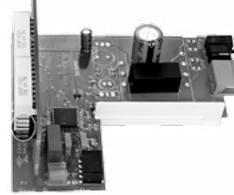
## Decimal Point Selection

Decimal selection is made by moving the jumper to the indicated position on the header for the decimal required on the front of the display board.

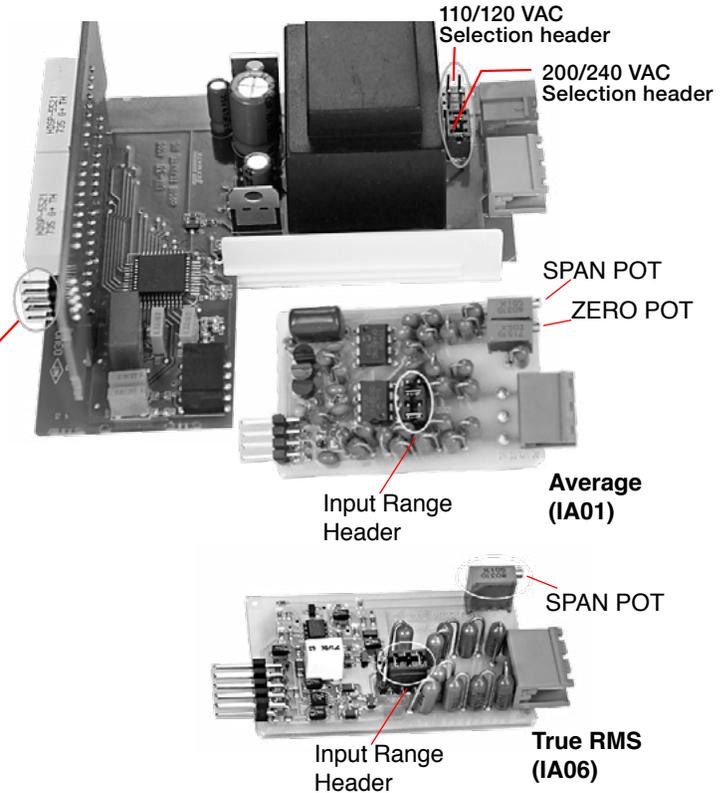


To open meter, insert a flat head screwdriver or similar instrument in both slots on the side of the cover and pry open. The UM-Series meters slide out from the front of the case as a complete assembly.

## Component Layout



Optional Isolated auto-sensing  
AC/DC 9 to 36V DC / 12 to 24V AC  
P.N.: V0-DC/ISO

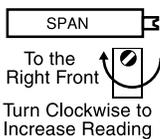


## Signal Conditioning Components

### INPUT RANGE Header

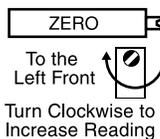
600V  
200V

Range values are marked on the PCB. Two positions are provided. After selecting a new range with the single jumper clip, re-calibration is required.



### SPAN Potentiometer (Pot)

The 15 turn SPAN pot is always on the right side (as viewed from the front of the meter). Typical adjustment is 20% of the input signal range.



### ZERO Potentiometer (Pot)

The Optional ZERO pot when installed is always to the left of the SPAN pot (as viewed from the front of the meter). Typically it enables the displayed reading to be offset  $\pm 100$  counts.

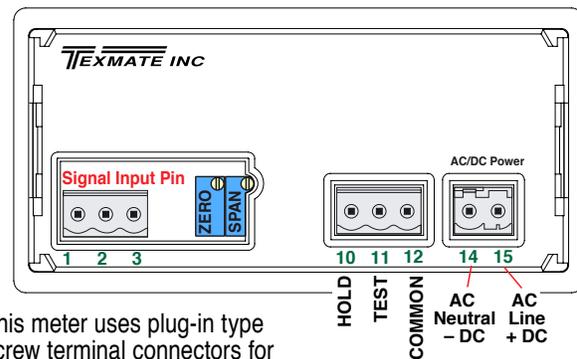
## Optional Face Plate Descriptors

AC	V	Hz	kV	kVAR	m	Hz	RPM
V	mV	min	PF	F	C	Cost	
DC	mA	µA	PSIG	mS	k	psi	
kW	W	KWH	pH	%	K	RPS	
A	mbar	mA	MW	kA	RPS	mV	
mWs	µm	kWs	l	l/sec	ml	cm	
DRP	min/s	l/min	mm	kg/sec	lbs	mm	
BT	bars	min	mm	Mega	µV	dB	

To customize the face plate, clear adhesive label containing various popular descriptors may be ordered. Choose the descriptor desired, peel off the adhesive backing and align the descriptor in the center right of the faceplate.

P.N.: DU-CASEDES

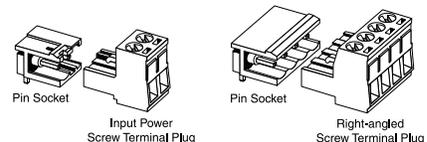
## Connector Pinouts



This meter uses plug-in type screw terminal connectors for all connections.

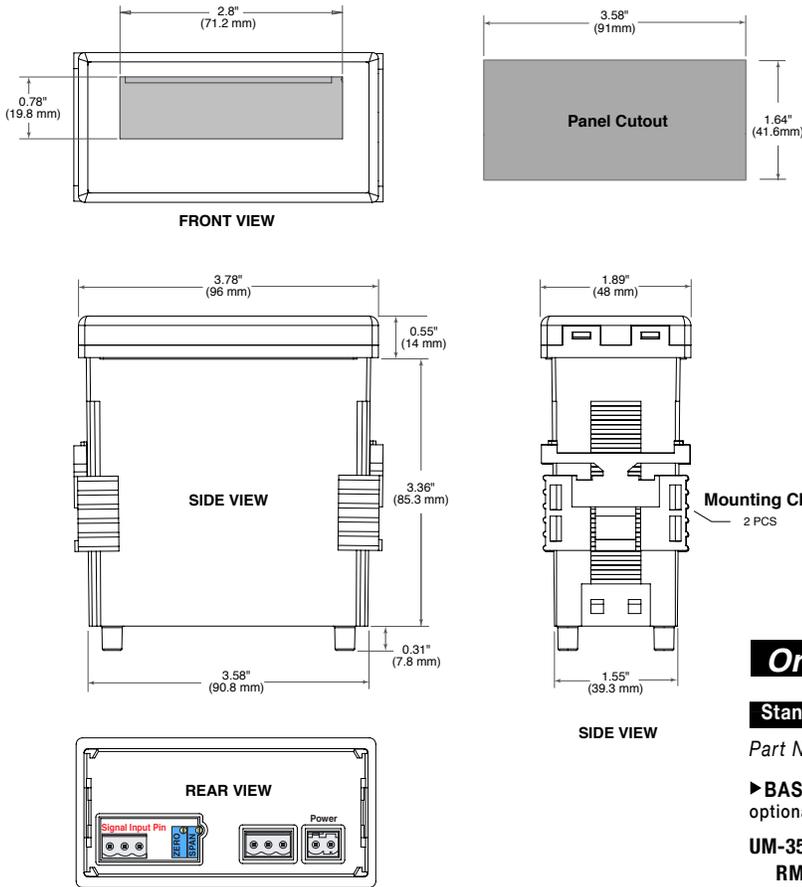
## Connectors

This meter uses plug-in type screw terminal connectors for all input and output connections. The power supply connections (pins 14 and 15) have a unique plug and socket outline to prevent cross connection. The main board uses standard right-angled connectors.



**WARNING:** AC and DC input signals and power supply voltages can be hazardous. Do Not connect live wires to screw terminal plugs, and do not insert, remove or handle screw terminal plugs with live wires connected.

## UM Case Dimensions and Panel Cutouts



## Clear Lockable Water-proof Cover

The clear lockable cover is designed to be dust and waterproof to NEMA-4X, IP65 standards. The assembly consists of a base and a cover with a cam hinge and key-lock fastening mechanism. An O-ring, or neoprene gasket forms a seal between the base and the panel. The cam hinge prevents the cover from closing when opened until pushed closed. The cover has a tapered recess that, when closed, forms a seal with a tapered spigot on the base. A key-lock employs a cam locking device to force the spigot into the recess, ensuring seal integrity. A safety catch keeps the cover closed even when the key is removed, and the keyhole can be used to attach a safety seal clip,

preventing unauthorized opening.



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## Warranty and User's Responsibility

### WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges pre-paid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

### USER'S RESPONSIBILITY

We are pleased to offer suggestions on the use of our various products either by way of printed matter or through direct contact with our sales/application engineering staff. However, since we have no control over the use of our products once they are shipped, NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE is made beyond the repair, replacement, or refund of purchase price at the sole discretion of Texmate. Users shall determine the suitability of the product for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any of our suggestions or statements as to application or construction. In no event shall Texmate's liability, in law or otherwise, be in excess of the purchase price of the product.

Texmate cannot assume responsibility for any circuitry described. No circuit patent or software licenses are implied. Texmate reserves the right to change circuitry, operating software, specifications, and prices without notice at any time.

## Ordering Information

### Standard Options for this Model Number

Part Number	Description	List
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► **BASIC MODEL NUMBER** standard display and standard power supply unless optional versions are ordered.

**UM-35-ACV.....** AC Volts, Scaled RMS.199.9/600V AC IA01 .....  
**RMS OPTION ..** AC Volts, True RMS.199.9/600V AC IA06 .....

### ► DISPLAY

**STANDARD.....**0.56" Red LEDs .....

UM-BRIGHT.....Super bright Red LEDs, 0.56 inch high .....

UM-GREEN.....Green LEDs, 0.56 inch high .....

### ► POWER SUPPLY

**STANDARD.....**100/120 or 200/240VAC User selectable .....

V0-DC/ISO .....Isolated auto-sensing AC/DC 9 to 36V DC/12 to 24V AC ...

### ► SPECIAL OPTIONS (Specify Inputs or Outputs & Req. Reading)

CR-CHANGE.....Calibrated Range Change to another Standard Range..

CS-3/3.5/4 .....Custom display scaling within std.ranges.....

### Special Options and Accessories

Part Number	Description
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### ► ACCESSORIES

OP-N4X/96X48 . . .96x48mm clear lockable front cover NEMA 4X, splash proof

UM-CASE . . . . .Case: Replacement with Mounting Clips. . . . .

ART-FS-S/D . . . . .NRC for Artwork & set-up Custom Faceplate and or Descriptor

ART-FS-001 . . . . .Produce & Install Custom Faceplate per meter - 1 color no-min

ART-FS-002 . . . . .Produce & Install Custom Faceplate per meter - 2 color no-min

ART-FS-003 .....Produce & Install Custom Faceplate per meter - 3 color no-min

DU-CASEDES.....Clear adhesive descriptors label for face plate. . . . .

## Custom Face Plates

**Texmate Produces Thousands of Custom OEM Face Plates.** Have Texmate Design and produce a Custom Face Plate for your next project!

• Custom face plates have a non-recurring artwork charge. A serial number is then assigned to each artwork to facilitate reordering.

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