

## UM-35-ACA

**1/5 Amp average AC or True RMS  
3 1/2 DIGIT with 0.56" LEDs  
in a NEMA type 1 Style Case**



Optional super bright LEDs



Optional Green LED Display



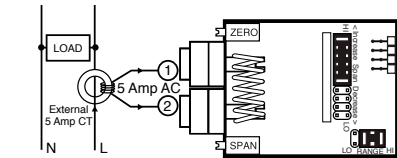
**Utility AC current measuring meters designed for direct connection to industry standard 1 Amp and 5 Amp CTs.**

### General Features

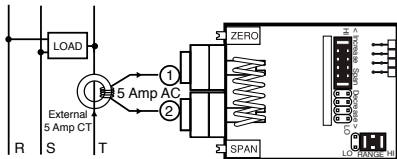
The UM-35-ACA is cost-effective, utility AC current measuring meters. Their low resistance internal shunt, has a very low burden of 0.1VA and 0.5VA when directly connected to 1A or 5A CT's (current transformers) respectively. No matter what the CT ratio, the 15 turn, infinitely adjustable Span potentiometer enables the user to easily scale the meters to display almost any current value required.

The UM-35-ACA meters can withstand momentary over loads of up to 200 Amps (40 times input signal) for one second without developing an open circuit. Texmate's unique differential AC measurement circuit provides a safe high impedance ohmic isolation on both sides of the shunt.

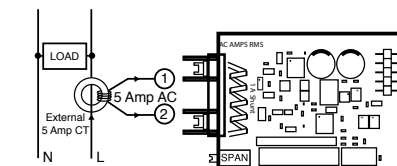
### Typical Application Connections



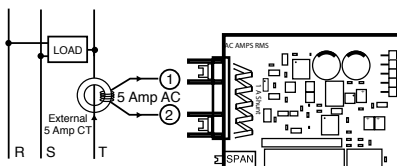
**AC Current measurement in Single-phase Systems.**  
Easily User Scaled to Display Currents up to 1999 Amps.



**AC Current measurement in Multi-phase Systems.**  
Easily User Scaled to Display Currents up to 1999 Amps in 3 Phase 3 Wire and 3 Phase 4 Wire Systems.



**AC True RMS Current measurement in Single-phase Systems.**  
Easily User Scaled to Display Currents up to 1999 Amps.



**AC True RMS Current measurement in Multi-phase Systems.**  
Easily User Scaled to Display Currents up to 1999 Amps in 3 Phase 3 Wire and 3 Phase 4 Wire Systems.

### Specifications

**Input Configuration:**.....Shunt input with differential auto zeroing AC to DC converter scaled in RMS.

A Zero pot is provided to offset the displayed reading  $\pm 500$  counts.

**Full Scale Ranges:** .....1 Amp and 5 Amp Inputs can be scaled to any desired display value from 0 to 1999.

**Input Impedance:**.....0.02 $\Omega$  for 5A CT. Burden is only 0.5VA  
0.1 $\Omega$  for 1A CT. Burden is only 0.1VA

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

**Accuracy:**..... $\pm(0.05\%$  of reading + 2 counts)

**Temperature Coefficient:** 100 ppm/ $^{\circ}$ 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  $^{\circ}$ C

**Storage Temperature:** .....-20 to 70  $^{\circ}$ 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  $\pm 20$ mV/ $\pm 50$ mV/ $\pm 100$ mV/ $\pm 200$ mV header selectable ranges, 3.5 digit

**UM-35-DCV** .....DC Volts  $\pm 2$ V/ $\pm 20$ V/ $\pm 200$ V 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  $\pm 20$ mV/ $\pm 50$ mV/ $\pm 100$ mV/ $\pm 200$ mV header selectable ranges, 4.5 digit

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

**UM-35-CL** .....Process 4 to 20mA (100.0), optional 24V DC excitation, easily 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 $^{\circ}$  resolution, order  $^{\circ}$ C or  $^{\circ}$ F, 3.5 digit

**UM-35-KF** .....K thermocouple input, 1 $^{\circ}$  resolution, order  $^{\circ}$ C or  $^{\circ}$ F, 3.5 digit

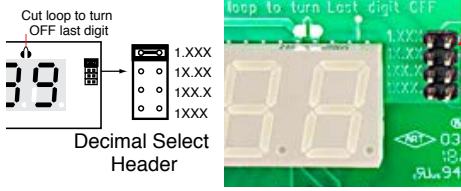
**UM-35-RTD/F**.....100 $\Omega$  platinum RTD, 3 or 4 wire, order  $^{\circ}$ C or  $^{\circ}$ F and 0.1 $^{\circ}$  or 1 $^{\circ}$ , 3.5 digit

## Calibration Procedure

1. Apply an input of 0 amps AC to the meter by shorting the inputs. Adjust the Zero pot until the meter reads 000.
2. Connect the secondary of the current transformer (CT) to the meter inputs, and apply a known current. For high current CTs, a known AC current, proportionate to the CT output, should be used for calibration.
3. Adjust the Span Pot until the meter displays the required reading for the current being applied.
4. The UM-35-ACA is now calibrated and ready for use.  
(Whenever a new range is selected, re-calibration is required to meet the specified accuracy).

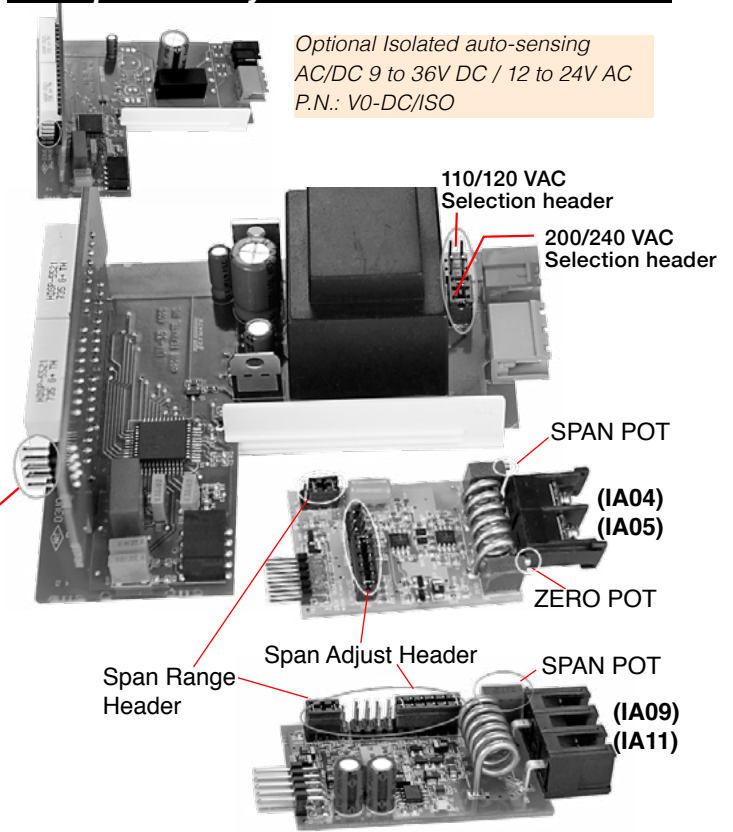
## Decimal Point Selection

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.

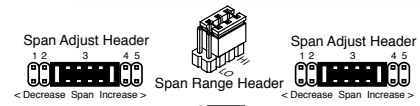


To open meter, insert a flat head screwdriver or similar instrument in both slots on the side of the cover and pry open. The UM-Series meters slide out from the front of the case as a complete assembly.

## Component Layout

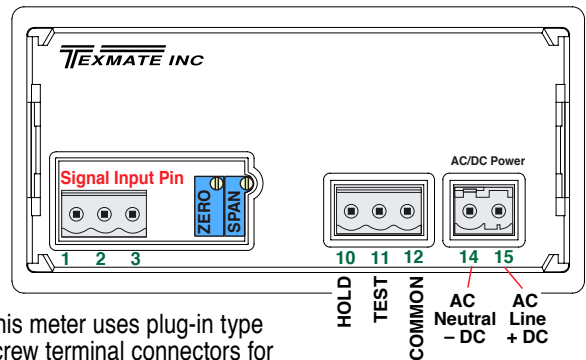


Optional Isolated auto-sensing  
AC/DC 9 to 36V DC / 12 to 24V AC  
P.N.: V0-DC/ISO



SPAN Adjust Header position	1	2	3	4	5	1	2	3	4	5
SPAN Pot %	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Signal Span %	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

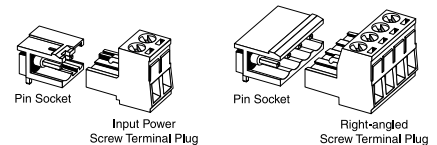
## Connector Pinouts



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

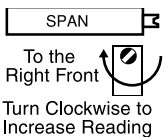
## Connectors

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.

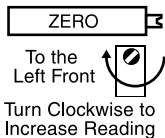
## Signal Conditioning Components



### SPAN Potentiometer (Pot)

To the Right Front  
Turn Clockwise to Increase Reading

The 15 turn SPAN pot is always on the right side (as viewed from the front of the meter). Typical adjustment is 100% of the input signal range.



### ZERO Potentiometer (Pot)

To the Left Front  
Turn Clockwise to Increase Reading

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.

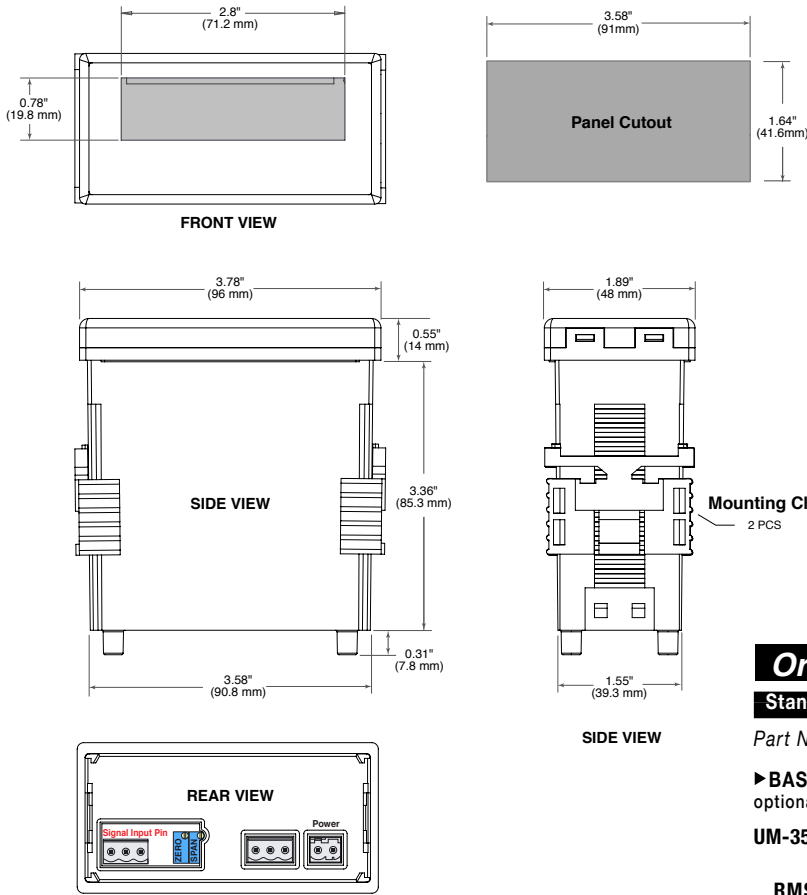
## Optional Face Plate Descriptors

AC	V	kV	kVAR	mV	Hz	RPM
V	mV	min	PF	F	G	Cost
DD	sig	uA	PSIG	mS	W	psi
kW	W	KWH	pH	%	K	RPa
A	mbar	mA	MW	KA	RPS	mW
mWs	um	kWs	I	I/sec	ml	cm
DRP	mm/s	l/min	mm	lq/sec	lbs	oz
mm	hours	min	min	min	min	min

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

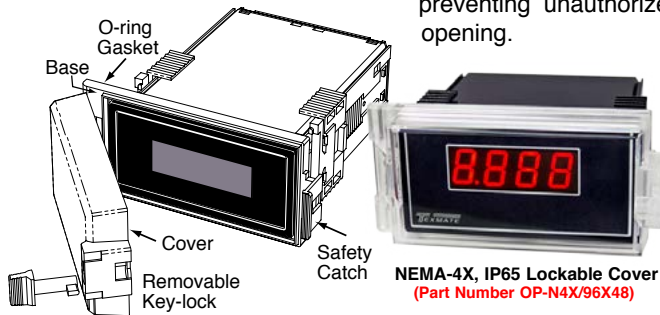
## UM Case Dimensions and Panel Cutouts



## 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

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

**UM-35-ACA.....** AC amps, Scaled RMS. (1 Amp or 5 Amp) Internal shunt  
IA04(1 Amp) or IA05(5 Amp) . . . . .

**RMS OPTION ...** AC amps, True RMS. (1 Amp or 5 Amp) Internal shunt  
IA09(1 Amp) or IA11(5 Amp)

### ► 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

### ► 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  
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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