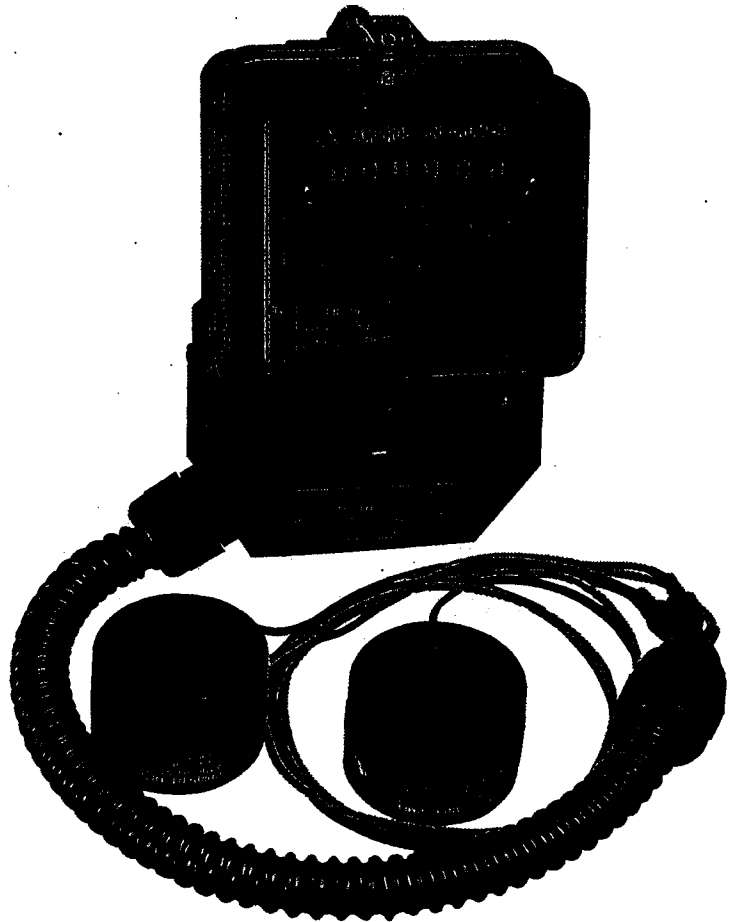


Kilowatt/Hour Meter

Single, Polyphase, Demand, and Non Demand Installation Procedure

**DO NOT DISCARD! WARRANTY ENCLOSED.
LEAVE WITH END USER.**



AMPROBE INSTRUMENT®
DIVISION OF CORE INDUSTRIES INC

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Preliminary

- I. Installation must be in accordance with all NEC and local electric codes by qualified personnel.
- II. Phase sequence must be identified for proper installation of 3 PHASE METERS. If phase sequence is unknown, obtain an Amprobe model # PSA-1 to identify phase sequence.
- III. Installation must be done with all power off. Contact your local utility to shut off power before installation. Amprobe and its representatives shall not be responsible or liable with regard to safety, where personal injury, death, or property loss is concerned or any other consequential damages. Buyer assumes responsibility to apply this product with due regard to safety.
- IV. Verify that all power is off.
- V. Fuses are required for installation and are not provided with meter.

Mounting Meter and Flexible Conduit

1. Install a screw, flush to the wall, at the approximate height you want the top of the meter to be, no more than 18" from the panel box.
Note: If meter must be installed more than 18" from panel, flex into a 6" junction box and run conduit to panel. Be sure to follow color code. Refer to Page 14, "Recommended meter to transducer length w/A.W.G."
2. Back the screw out enough so the meter's hanging bracket can slide in securely.
3. Hang the meter on the screw and install lower mounting screws (min 2 1/2" x 10p) in the pre-drilled holes. (see Fig. 1.)

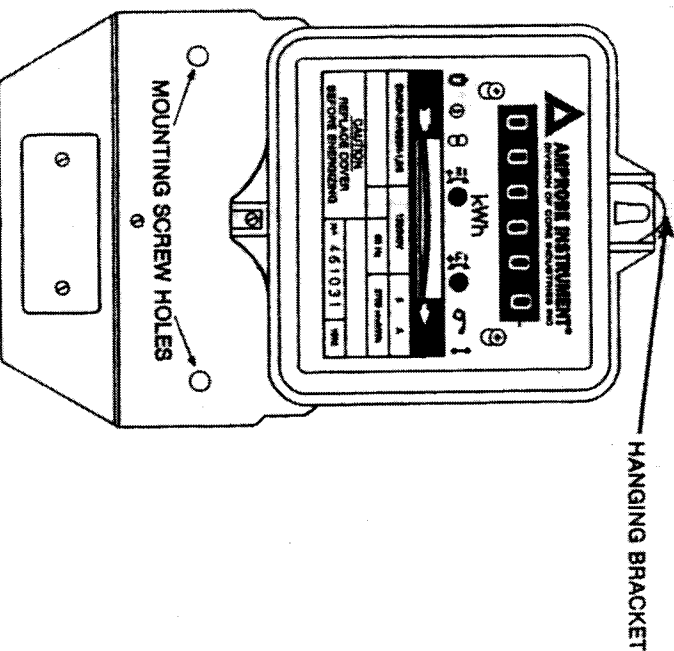


Figure 1

4. Remove plastic nut from threaded end of flexible conduit. (see Figure 2.)

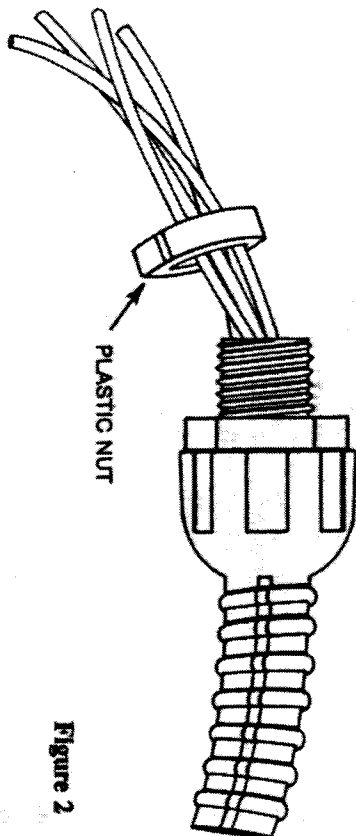


Figure 2

5. Insert threaded end of flexible tubing into a $\frac{1}{2}$ " conduit knock out ($\frac{3}{4}$ " hole) in the panel box and reinstall nut on tubing on the inside of the box. (see Figure 3.)

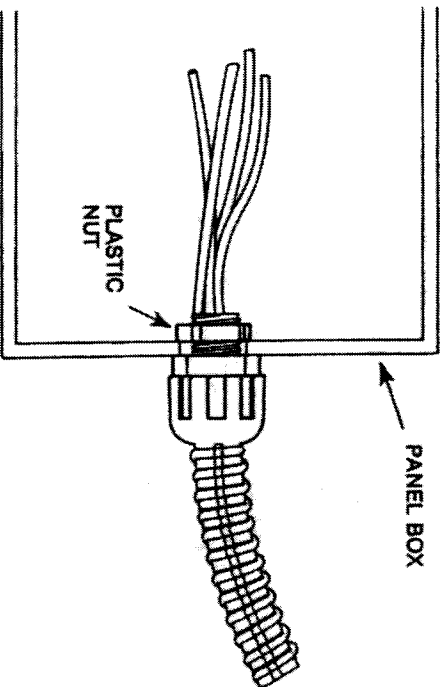


Figure 3

Electrical Connections

1. Hard wire the end of the GREEN wire (piece without slide connect), labeled ($\frac{1}{2}$), to earth ground.
2. Loosen phase A's terminal block bolt and remove phase A wire from terminal block.
3. Slip current transformer, labeled "PHASE A", on line with marking "HI" and phase A label faced toward the source. (see Figure 4.)

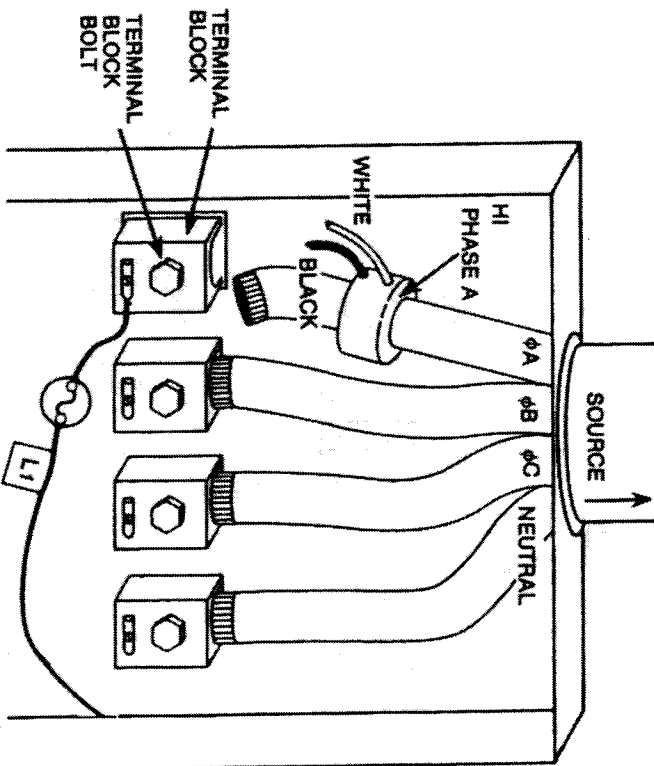


Figure 4 "HI" MUST FACE SOURCE, VOLTAGE LEAD CONNECTION.

4. Reinsert phase A wire into its terminal block and tighten to specified torque.
5. Connect the current transformer leads to their corresponding meter leads by sliding the interconnects together. The color of the label, on the current transformer leads, corresponds to the wire on the meter harness.
6. Connect harness wire labeled "L1", via fused jumper (not included), to phase A's terminal block. Check your local code for correct fuse amp rating and lead termination. We recommend 3A fast blow at rated voltage.
7. Repeat steps 2 through 6 for each additional phase to be metered. Refer to tables I-III and Figures 5-8, for electrical wiring applicable to your meter.
8. Double check all wiring before re-energizing.

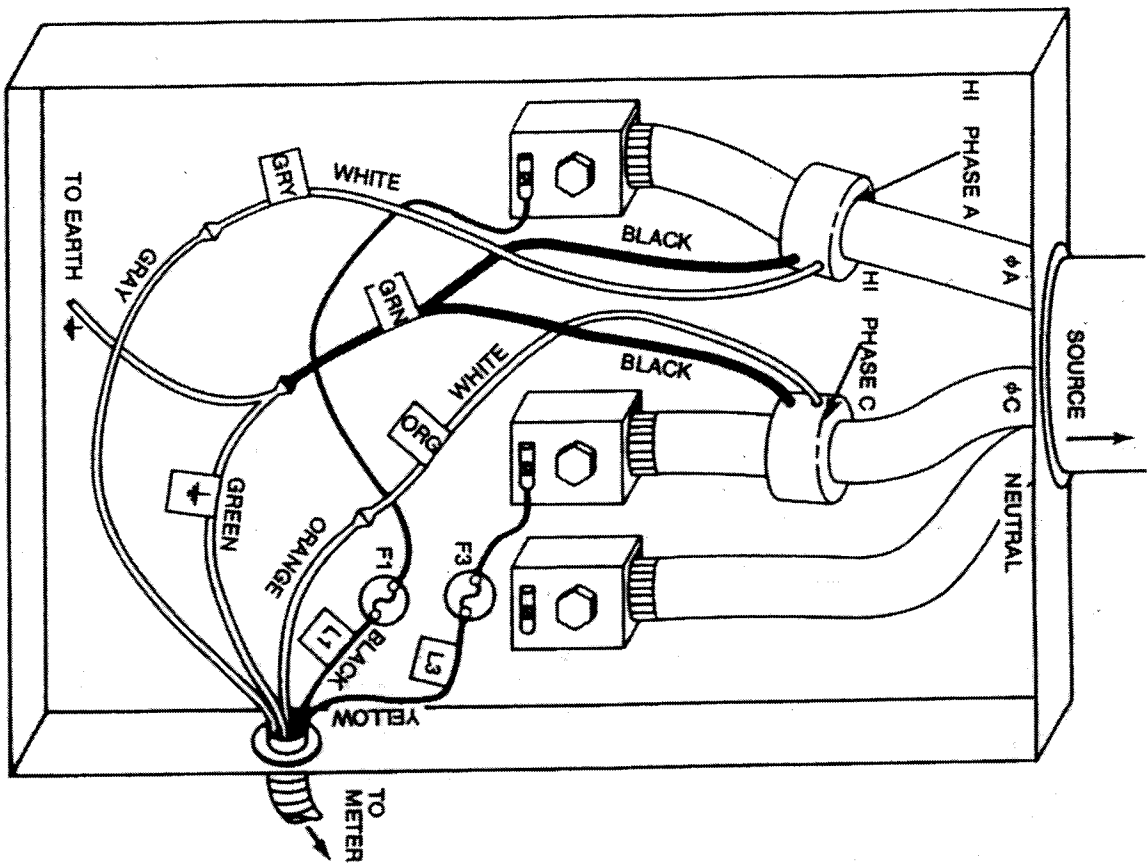


Figure 5 120/240V 1 PHASE 3 WIRE

TABLE 1 (120/240V 1 PHASE 3 WIRE WIRING)	
CURRENT TRANSFORMER LEADS	METER BUS LEADS
PHASE A: WHITE W/GRAY INDICATOR	goes to GRAY
BLACK W/GREEN INDICATOR	goes to GREEN(4)
PHASE C: WHITE W/ORANGE INDICATOR	goes to ORANGE
BLACK W/GREEN INDICATOR	goes to GREEN(4)
YELLOW W/L3 INDICATOR	goes to PHASE C VOLTAGE(FUSED)

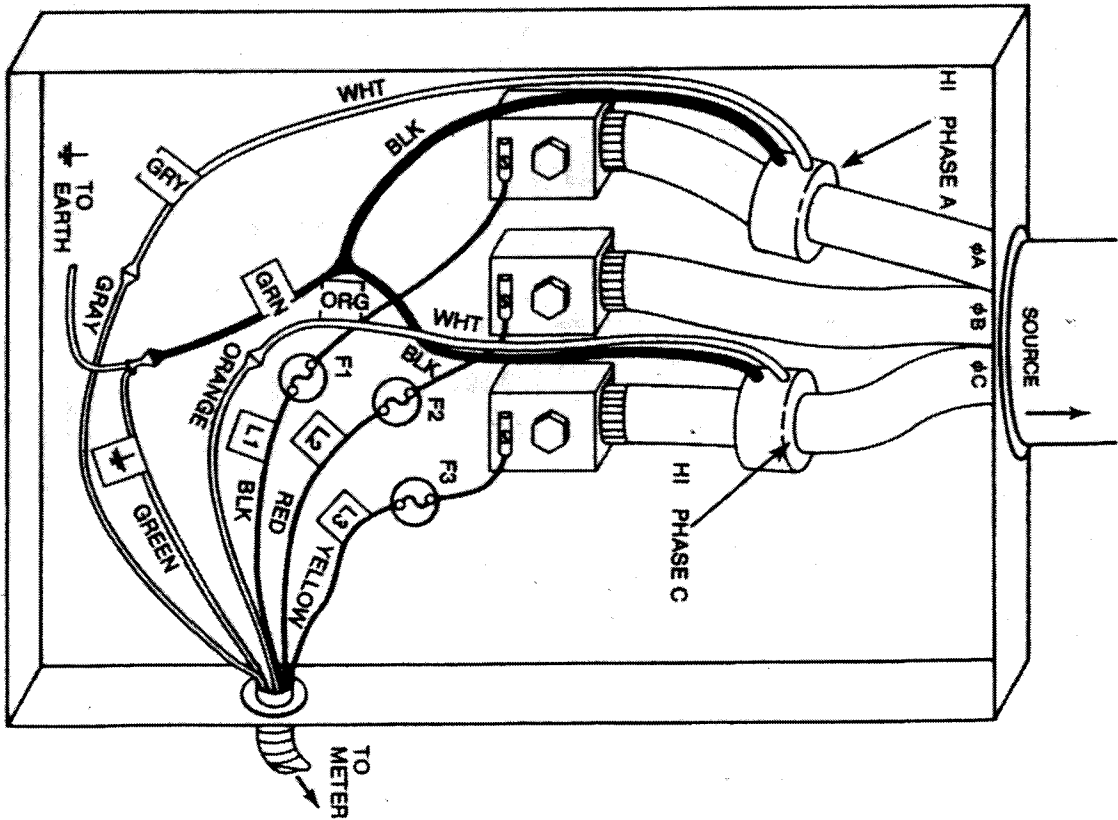


Figure 6 480V 3 WIRE DELTA

TABLE 2 (480V 3 WIRE DELTA WIRING)	
CURRENT TRANSFORMER LEADS	METER BUS LEADS
PHASE A: WHITE W/GRAY INDICATOR	goes to GRAY
BLACK W/GREEN INDICATOR	goes to GREEN(4)
PHASE C: WHITE W/ORANGE INDICATOR	goes to ORANGE
BLACK W/GREEN INDICATOR	goes to GREEN(4)
YELLOW W/L3 INDICATOR	goes to PHASE C VOLTAGE(FUSED)

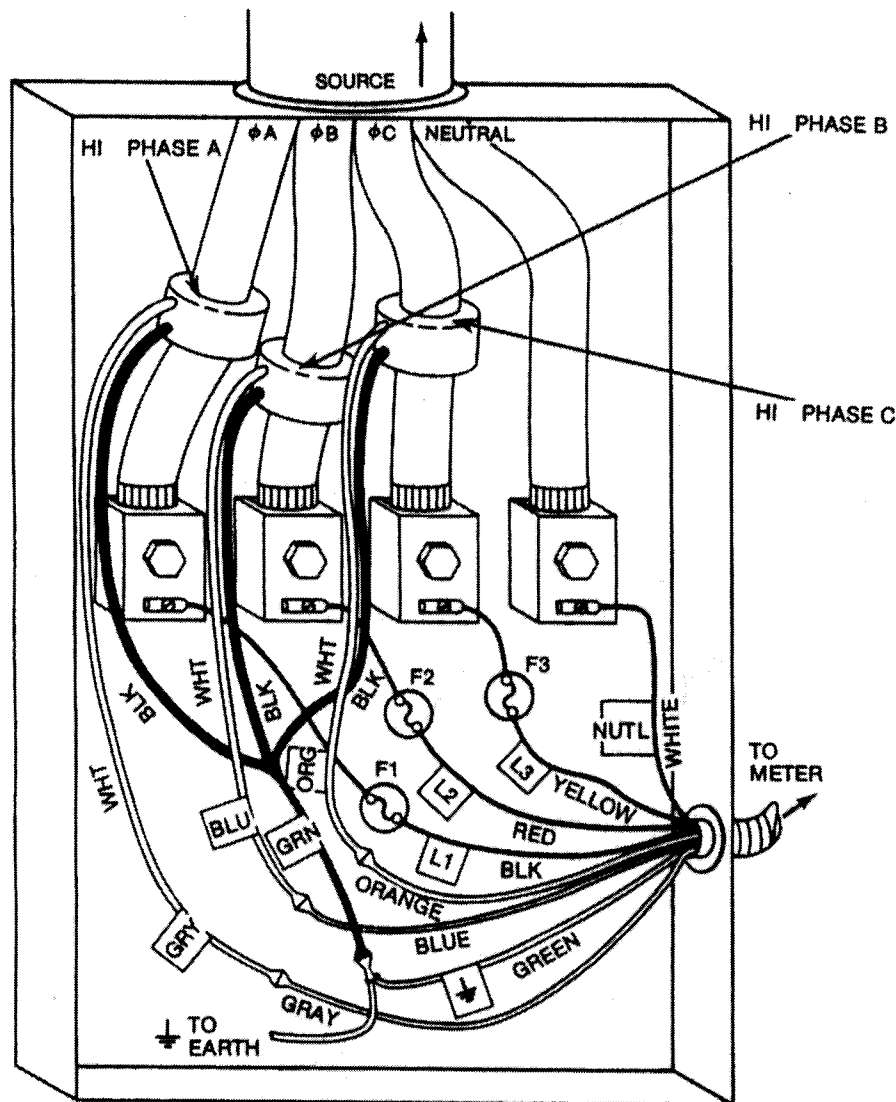


Figure 7 120/208v, 277/480v 4 WIRE Y AND 120/240v 4 WIRE DELTA

CURRENT TRANSFORMER LEADS		METER BUS LEADS	PANEL TERMINATIONS
PHASE A: WHITE w/GRAY INDICATOR	goes to GRAY		
BLACK w/GREEN INDICATOR	goes to GREEN(+)		goes to EARTH GROUND(+)
PHASE B: WHITE w/BLUE INDICATOR	goes to BLUE	BLACK w/L1 INDICATOR	goes to PHASE A VOLTAGE(FUSED)
BLACK w/GREEN INDICATOR	goes to GREEN(+)		goes to EARTH GROUND(+)
PHASE C: WHITE w/ORANGE INDICATOR	goes to ORANGE	RED w/L2 INDICATOR	goes to PHASE B VOLTAGE(FUSED)
BLACK w/GREEN INDICATOR	goes to GREEN(+)		goes to EARTH GROUND(+)
		YELLOW w/L3 INDICATOR	goes to PHASE C VOLTAGE(FUSED)
		WHITE/NUTL FLAG	goes to NEUTRAL BAR

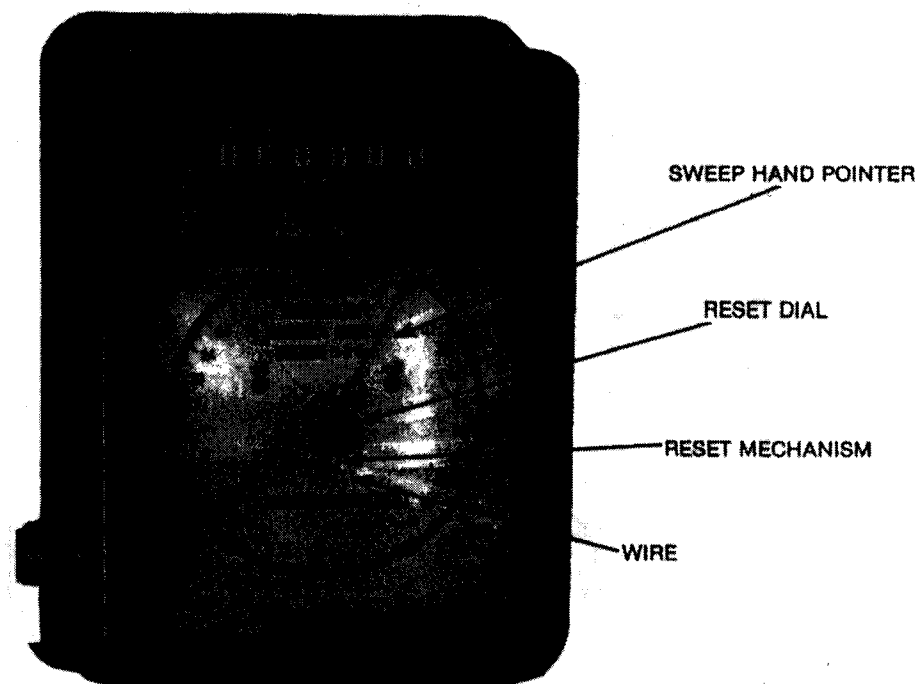
Resetting Demand Meter's Sweep Hand Pointer

Demand meters are shipped with a wire inserted through the eye of the sweep hand pointer reset dial. The purpose of this wire is to lock the reset dial and prevent the reset mechanism from interfering with normal operation.

To reset the demand pointer:

1. Remove the wire from the reset dial.
2. Turn the reset dial *counterclockwise* until the mechanism drags the pointer to 0. **DO NOT FORCE THE POINTER PAST 0 OR METER DAMAGE WILL RESULT!!**
3. Turn the reset dial clockwise to the original position.
4. Reinsert wire back into the eyes of the reset dial.

To seal and prevent unauthorized resetting of the sweep hand pointer, obtain an Amprobe Part # WH134, containing 50 lead seals and Galvanized wire.



Totalization

It is possible to measure the combined power of two or more panels with one meter. Figure 8 is a typical wiring diagram which incorporates an Amprobe totalization package. Totalization packages include additional current transformers and a special wiring harness.

WARNING: Meter damage and/or fire could result if more than three (3) CTs are wired in parallel to the 12 AWG wire in the meter harness. Consult factory if more than three (3) panels need to be totalized.

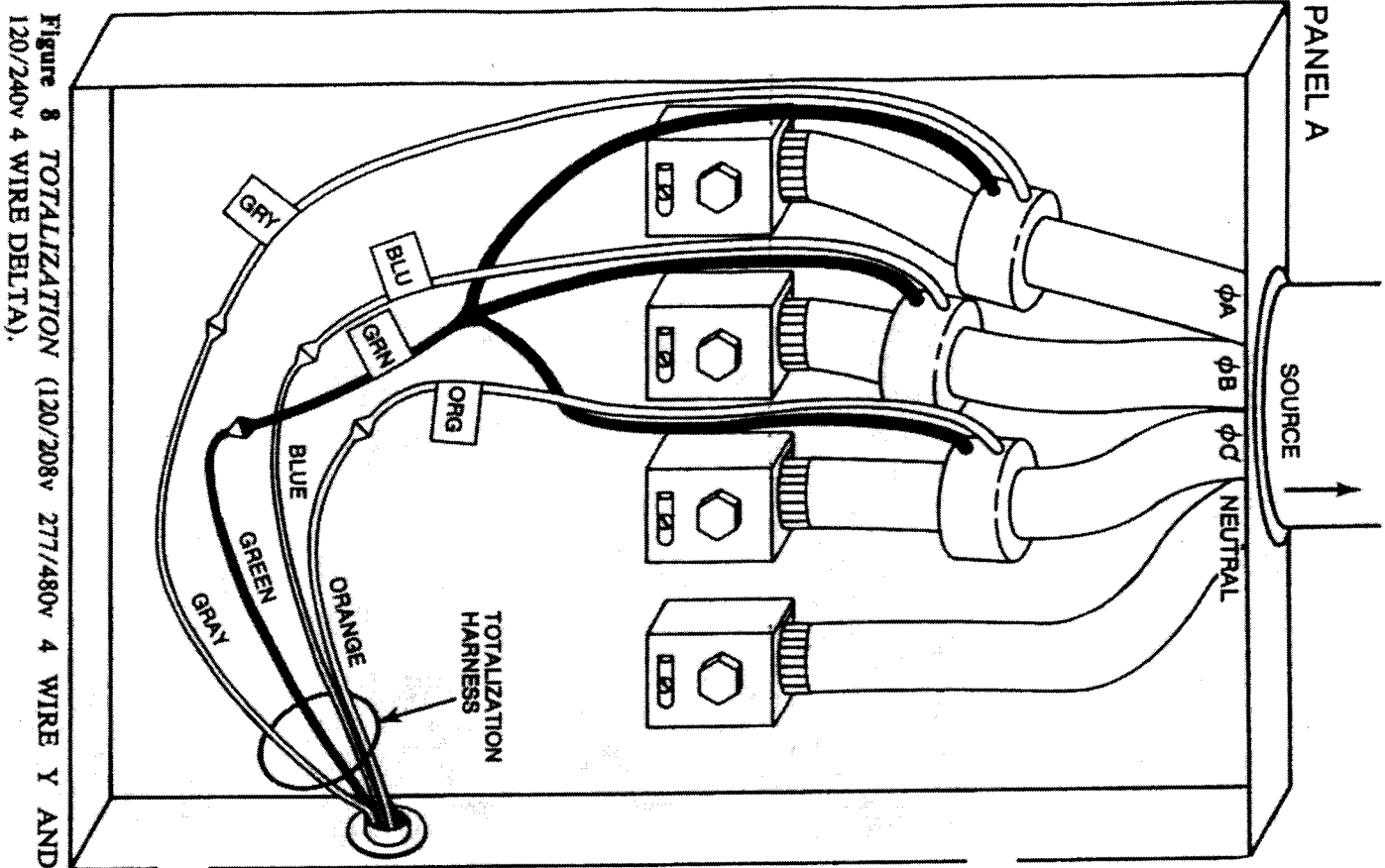
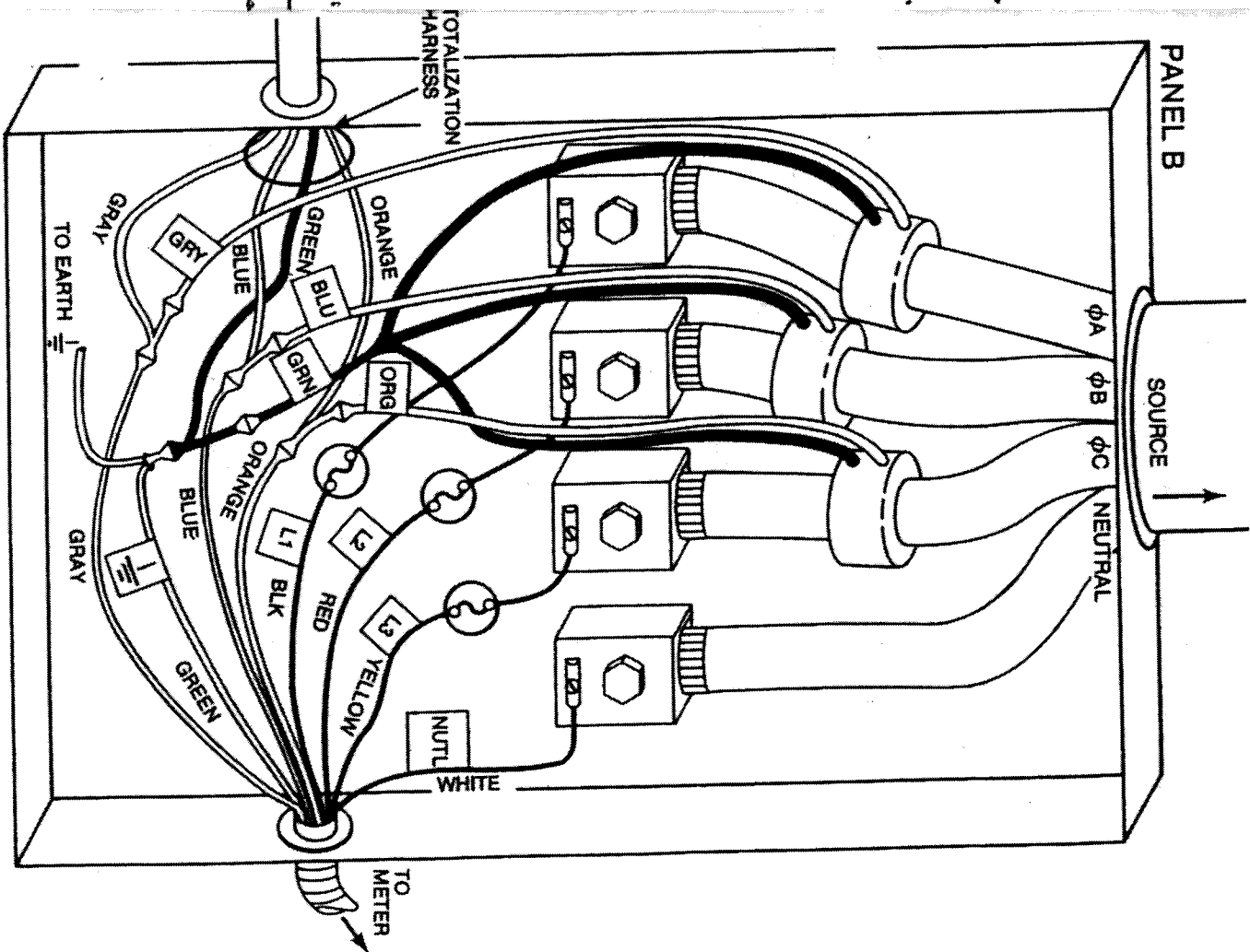


Figure 8 (CONTINUED)



READING YOUR METER

Kilowatt/Hours (Non Demand and Demand Meters)

To determine the amount of Killowatt/Hours used, use the following formula:

Kilowatt/Hours = Meter Reading Change \times Multiplier.

For example,

Today the meter reads:

Last month the meter read:

Meter Change =

0	0	3	1	.	8	5
0	0	2	0	.	1	0

0011.75

If your Multiplier number is 40:

x 40

Kilowatt/Hours used =

470.00

Note: Your Multiplier number is stamped on the label at the bottom of the meter. See Figure 9.

Kilowatt Peak Demand (Demand Meters only)

To determine the Kilowatt Peak Demand, use the following formula:

Kilowatt Peak Demand = Pointer Reading \times Multiplier

For example:

The Sweep Hand Pointer is pointing to: 2 . 4 3

If your Multiplier number is 40:

x 40

Kilowatt Peak Demand =

97.2

Note: Your Multiplier number is stamped on the label at the bottom of the meter. See Figure 10.

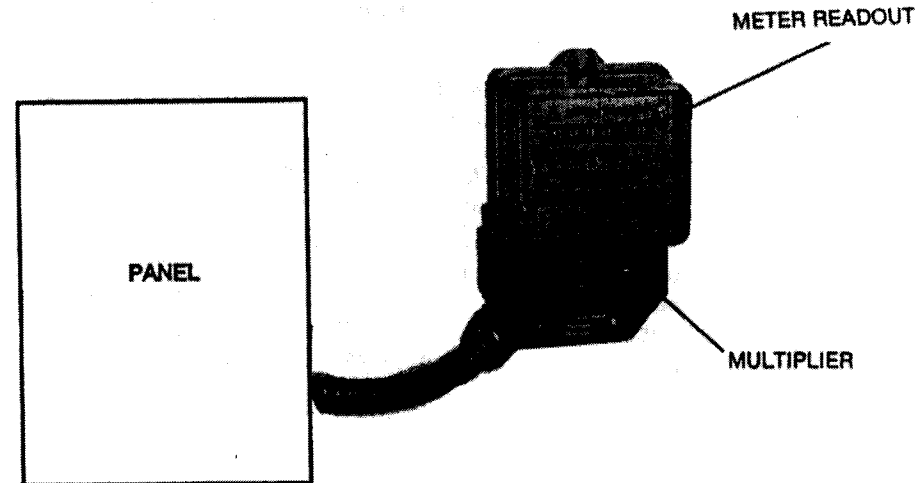


Figure 9

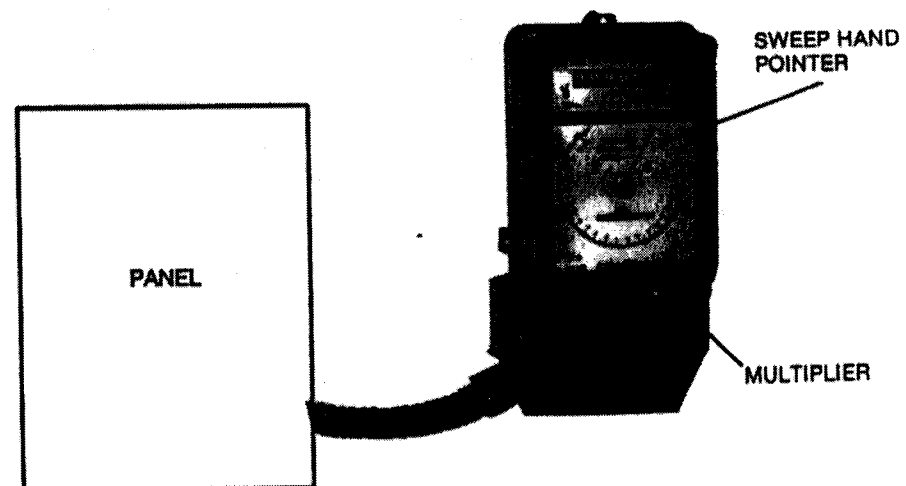


Figure 10

AMPROBE kW/hr SUBMETERS

★ ★ ★ ★ ★ 25 YEAR WARRANTY ★ ★ ★ ★ ★

Amprobe Instrument, division of Core Industries, 630 Merrick Road, Lynbrook, NY 11563, warrants its kW/hr submeters to the original purchaser to be free from manufacturer's defects in materials and workmanship for a period of 25 years, provided the following criteria has been met:

The product has been stored, handled, installed by qualified personnel, with all power off, and used under proper conditions in an environment conducive to this product. All installations must be in accordance with all national and local electrical codes. Meters installed outdoors must be equipped with a NEMA 3R, or equivalent, enclosure.

This warranty is void if seals are not intact.

Warranty does not cover damage due to abuse, neglect, lightning, or any acts of God. Pulse outputs and electronic portions of demand meters are warranted for one year.

If this product should fail during the specified period, after Amprobe's inspection and at Amprobe's discretion, we will repair or replace this product free of charge.

Buyer is responsible for obtaining a returned goods authorization (RGA) number, from Amprobe's repair department, prior to shipment. No returns will be accepted without RGA numbers. All returns must include a copy of the bill of sale and a brief description of the malfunction. Buyer is responsible for returning the unit(s) undamaged, prepaid, and insured for full value.

Made in U.S.A.

Amprobe kW/Hr Submeter Specifications

Key: (N)=non demand
(D)=demand

Electrical Specs		Mechanical Specs	
PHASE CONFIGURATION:	Delta and Y	SIZE (H"XW"XD")	3 Phase(N) 13.5x7x6.5
PHASES OFFERED:	Single and Polyphase	3 Phase(D) 13.5x7x6.5	
SELF CONTAINED V(max)	(N) 600 (D) 575	1 Phase(N) 6x6x5	
OVERCURRENT VOLTAGE RATING:	200% for 1 min.	WEIGHT(lbs.)	18
ACCUMULATED OVERLOAD RATING:	< 15% (1-100% F.L.)	PREWIRED	yes
MEMORY BACKUP SOURCE:	(N) unnecessary (D) unnecessary	DISPLAY TYPE:	(N) 6 digit mech. register (D) 6 digit red w/pressure head printer
LIVE V SENSATION ALLOWED	< 25%	DISPLAY RESOLUTION:	(N) 0.001 (D) 0.02
FREQUENCY (Hz)	60 or 50	MULTIPLIER	yes
OPERATING TEMP. 1	-20 - +75	METER MOVEMENT PRINCIPLE:	(N) Magnetic Bearing (D) Magnetic Bearing
OPERATING TEMP. 2	-20 - +125	READOUT DIGIT SIZE(in):	(N) 0.315 (D) 0.18
TRANSFORMER OFFERED:	(N) *SOLID OR SPLIT I XPMRS (D) *SOLID OR SPLIT I XPMRS *INDUSTRY STD. (SA REG)	HOUSING COVER	(N) Polycarbonate (D) Bakelite/Glass
CURRENT RANGE (A):	100-10000	BASE	(N) Bakelite (D) Bakelite
RECOMMENDED METER TO TRANSFORMER LENGTH WIA, W.B.	1-4 ft (14 AWG) 4-25ft (12 AWG) 25-100ft (10 AWG)	OPERATION INDICATOR:	(N) Aluminum disc (D) Aluminum disc
UL SPEC	MEETS UL 1244	RESET BUTTON	(N) no (D) yes
ANSI	C12.1	OUTDOOR USE	yes
I.E.C.	821	REMA ENCLOSURE SIZE	*with NEMA 3R enclosure (N) 1/16" X 1/16" X 1/16"
MANUFACTURED	USA	AVG. INSTALL TIME(min.)	20
WARRANTY (YRS)	(N) 25 (D) 25 (EXCLUDES ELECTRONICS)		
COMPANY ESTABLISHED	1948		

Amprobe kW/Hr Submeter Part Numbers

AMPROBE MODEL	3 PHASE 4 WIRE Y	3 PHASE 4 WIRE Y	3 PHASE 4 WIRE DELTA	3 PHASE 4 WIRE DELTA	3 PHASE 3 WIRE DELTA
100	WH-100A12W	WH-100A12W	WH-100A12W	WH-100A12W	WH-100A12W
250	WH-250A12W	WH-250A12W	WH-250A12W	WH-250A12W	WH-250A12W
400	WH-400A12W	WH-400A12W	WH-400A12W	WH-400A12W	WH-400A12W
600	WH-600A12W	WH-600A12W	WH-600A12W	WH-600A12W	WH-600A12W
800	WH-800A12W	WH-800A12W	WH-800A12W	WH-800A12W	WH-800A12W
1000	WH-1000A12W	WH-1000A12W	WH-1000A12W	WH-1000A12W	WH-1000A12W
1500	WH-1500A12W	WH-1500A12W	WH-1500A12W	WH-1500A12W	WH-1500A12W
2000	WH-2000A12W	WH-2000A12W	WH-2000A12W	WH-2000A12W	WH-2000A12W
3000	WH-3000A12W	WH-3000A12W	WH-3000A12W	WH-3000A12W	WH-3000A12W
4000	WH-4000A12W	WH-4000A12W	WH-4000A12W	WH-4000A12W	WH-4000A12W

AMPROBE MODEL	3 PHASE 4 WIRE Y	3 PHASE 4 WIRE Y	3 PHASE 4 WIRE DELTA	3 PHASE 4 WIRE DELTA	3 PHASE 3 WIRE DELTA
100	WH-100A12W	WH-100A12W	WH-100A12W	WH-100A12W	WH-100A12W
250	WH-250A12W	WH-250A12W	WH-250A12W	WH-250A12W	WH-250A12W
400	WH-400A12W	WH-400A12W	WH-400A12W	WH-400A12W	WH-400A12W
600	WH-600A12W	WH-600A12W	WH-600A12W	WH-600A12W	WH-600A12W
800	WH-800A12W	WH-800A12W	WH-800A12W	WH-800A12W	WH-800A12W
1000	WH-1000A12W	WH-1000A12W	WH-1000A12W	WH-1000A12W	WH-1000A12W
1500	WH-1500A12W	WH-1500A12W	WH-1500A12W	WH-1500A12W	WH-1500A12W
2000	WH-2000A12W	WH-2000A12W	WH-2000A12W	WH-2000A12W	WH-2000A12W
3000	WH-3000A12W	WH-3000A12W	WH-3000A12W	WH-3000A12W	WH-3000A12W
4000	WH-4000A12W	WH-4000A12W	WH-4000A12W	WH-4000A12W	WH-4000A12W