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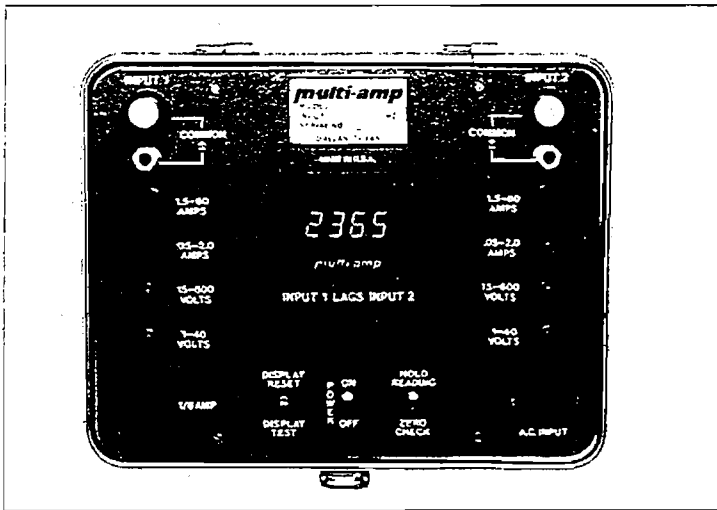
INSTRUCTION MANUAL

For

DIGITAL PHASE ANGLE METER

MODEL PAM-275

It is essential that this instruction book be read thoroughly before putting the equipment in service.



MULTI-AMP Model PAM-275

- Reliable
- Rugged
- Easy-to-use
- Battery-operated

Digital Phase Angle Meter

DESCRIPTION

The Multi-Amp Model PAM-275 Digital Phase Angle Meter was designed specifically for electrical system applications. It is a battery-operated (rechargeable) or line-powered instrument. Incorporating two identical isolated input circuits, the unit permits precision measurements to be made of the phase angle relationship between two currents, two voltages or a voltage and a current.

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APPLICATIONS

Model PAM-275 is commonly used in testing and calibrating protective relays, phasing out circuits, checking differential relay schemes, checking polyphase watt-hour and var-hour meter installations and verifying the polarity of CTs and PTs.

FEATURES AND BENEFITS

- Direct digital reading
- Broadband current ranges
- Broadband potential ranges
- Excellent resolution
- Highly accurate
- Universal: measures I to I, E to E, E to I
- Long battery life
- Isolated input circuits
- Harmonic immunity: accurate reading with up to 30% harmonic distortion
- Not frequency-sensitive, accuracy not dependent on precise 50- or 60-Hertz inputs
- Rugged. Sturdy design provides years of typical field use.

- Out-of-range indication: automatic indication given when inputs are above or below rated ranges, eliminating need for instruments to monitor inputs
- Hold feature
- Not influenced by position

SPECIFICATIONS

Input (for battery recharging or line operation)

Nominal 115 or 230 V (switch-selected), 1ø, 25 VA. Instrument may be used while battery is being recharged.

Battery Capacity

Minimum 8 hours of continuous usage on a single full charge. Low-battery condition is indicated by flashing decimals. Recharge time is twice the time used on battery power. The battery charger is built-in.

Digital Display0.0 to 359.9[°]PAM-275R: Nonflickering, 0.6-in.
(15-mm) LED numeralsPAM-275B: 0.5-in. (12-mm)
LCD numerals**Isolation**Each input circuit is isolated from the
other and from ground.**Input Frequency Range
(specify one)**

58 to 62 Hz OR 48 to 52 Hz

Overload Capability120 A for 1 min on high range
35 A for 1 min on low range
1200 V for 1 min on high range
120 V for 1 min on low range**Measurement Rate**Two measurements per second. Read-
ings are held between measurements to
avoid flickering.**Environmental****Temperature Range:** 10 to 110° F
(-12 to +43° C)**Warm-Up Time:** Approx 1 min**Enclosure**The instrument is housed in a high-
strength, molded suitcase-style case
with carrying handle, removable hinged
cover and lead compartment.**Dimensions****(including removable cover)**8.5 H x 12 W x 90 D in.
216 H x 305 W x 229 D mm**Weight**

12 lb (5.5 kg)

Current (both inputs)

Range	Accuracy	Resolution	Burden
0.05 - 2.0 A	±0.5 [°]	0.1 [°]	0.32 VA at 2 A
1.5 - 60 A			2.5 VA at 60 A

Useful down to 0.015 A and up to 120 A at reduced accuracy

Voltage (both inputs)

Range	Accuracy	Resolution	Burden
1 - 40 V	±0.5 [°]	0.1 [°]	4.7 kΩ
15 - 600 V			71 kΩ

Useful down to 0.25 V and up to 1200 V at reduced accuracy

ORDERING INFORMATION

Item	Cat. No.	Item (Qty)	Cat. No.
Model PAM-275 with:			
Included Accessories			
LCD Display		Line cord (1)	6828
115-V, 60-Hz input	PAM-275B-115/60	Fuses, 0.125, 250 V MDL (5)	981
LCD Display		Instructional manual (1)	9160
230-V, 50-Hz input	PAM-275B-230/50	Optional Accessories	
LED Display		Leads	
115-V, 60-Hz input	PAM-275R-115/60	5 ft [1.5 m] (1 pr)	7933
LED Display		Low-current, 5 ft [1.5 m] (1 pr)	7934
230-V, 50-Hz input	PAM-275R-230/50	High-current, 5 ft [1.5 m] (1 pr)	7935