

# PAM410

## Phase Angle Meter



- Designed for power system applications
- Current and voltage inputs
- Compact and lightweight
- Local calibration
- Rechargeable batteries
- Easy to use

### DESCRIPTION

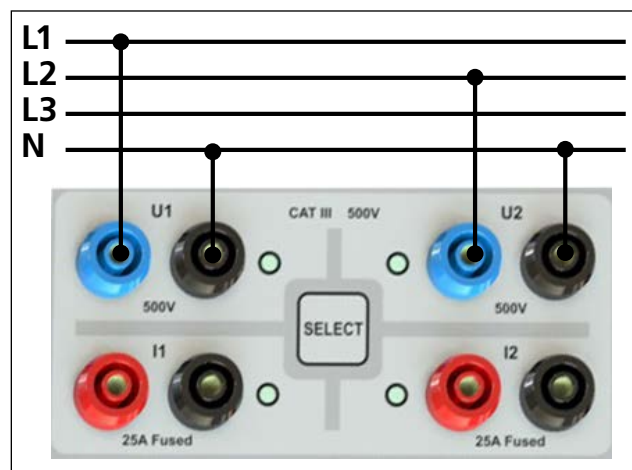
The PAM410 is specifically designed for measurements on electrical power systems. It is capable of displaying the phase angle relationship between two power signals, which can be two currents, two voltages or any combination. Currents up to 25 A and voltages up to 500 V can be applied directly to the instrument. The current input range can be extended by using external current transformers.

### APPLICATION

The PAM410 is suitable for checking polyphase metering installations, testing protective relays, make comparative test in electrical substations, and verifying the phase angle deviation on power transformers.

359.9°

Example of phase angle shown on display



Application example of the PAM410

## SPECIFICATIONS PAM410

Specifications are valid at nominal input voltage and an ambient temperature of +25°C, (77°F). Specifications are subject to change without notice.

### Environment

**Application field** The instrument is intended for use in high-voltage substations and industrial environments.

### Temperature

Operating -10°C to +50°C (14°F to +122°F)  
Storage & transport -40°C to +70°C (-40°F to +158°F)

### Humidity

Altitude 5% – 95% RH, non-condensing  
< 2000 m above sea level

### CE-marking

**LVD** 2014/35/EU

**EMC** 2014/30/EU

**RoHS** 2011/65/EU

### General

**Measurement category** CAT III 500 V  
CAT IV 300 V

**Enclosure class** IP21

**Power supply** Rechargeable batteries

**Mains adapter** 100–240 V AC, 50/60 Hz

Adapter output voltage 9 V DC

Power consumption 10 W (max)

### Dimensions

Instrument 260 x 140 x 55 mm (except handle)  
(10.2" x 5.5" x 2.2")

Transport case 390 x 300 x 140 mm  
(15.4" x 11.8" x 5.5")

**Weight** 1.2 kg (2.6 lbs)  
3.5 kg (7.7 lbs)  
with accessories and transport case

**Test lead set, with 4 mm stackable safety plugs** Black 2 x 2 m (6.6 ft), 2.5 mm<sup>2</sup>  
Red 2 x 2 m (6.6 ft), 2.5 mm<sup>2</sup>

**Display** Alpha numerical LC display with backlighter

## Measurement section

### Phase angle

**Range** 0 – 359.9° (2–500 V and 0.15–25 A)

**Type of phase angle measurement** Current-current, voltage-voltage and current-voltage

**Waveform** Sinusoidal

**Resolution** 0.1°

**Inaccuracy** ±0.5° at >10% of voltage/current range  
±1° at 2 – 10% of voltage/current range  
±2° at 1–2% of voltage/current range

## FEATURES AND BENEFITS

- Direct digital reading down to tenths of a degree (0.1°) – does not require calculation or interpretation.
- Designed for use in substation or industrial environments – transport case provided for rugged protection.
- Switchable inputs between current and voltage – allows phase angle of any combination of two power signals to be measured giving broad application capability.
- Local calibration.

## INCLUDED ACCESORIES



Test lead set, 4 x 2 m (6.5 ft)

## ORDERING INFORMATION

Item	Art. No.
<b>PAM410</b>	
Incl. Test lead set (GA-00082), mains adapter (battery charger) and transport case	BP-39090

### Postal address

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### PAM410\_DS\_en\_V04a

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