



Technical Data Sheet

Alpha 45C



Alpha 45C is a 96mm x 96mm panel mounted kilowatt hour meter it measures active energy with class 1.0 accuracy having 7 digit auto-resetting electro-mechanical counter. The unit provides LED indication for healthy phase, load reverse current. The Alpha 45C is available in three version 3phase 3 wire, 3 phase 4 wire unbalanced load and single phase and is ideal for secondary metering in industrial applications.

Application

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Product Features

- Class 1.0 Accuracy
- Available in 3 phase 4 wire, 3 phase 3 wire and single phase version.
- Led indication: Healthy phase, Reverse Current
- Applicable to Standards IS 13779, IEC 62053-21
- 7 Digit auto-resettable mechanical counter
- True RMS measurement
- Fully programmable CT ratios
- Fully isolated current input
- Built in transient protection
- State of art SMD technology
- Pulse output: one potential free relay contact

LED Indication:

3 phase Voltage status:

The unit contains three green LED, one for each voltage phase. Three illuminated LED's indicate active monitoring of each of the three phases. In case if any one phase voltage is missing the appropriate LED will switch 'OFF'. However the meter will continue to accurately measure energy for the available voltage phases. In case of phase sequence error all three LED will start blinking with a repetition rate of 1Hz.

Reverse connected current transformer :

Three red LED's are provided for each of three phases. Illumination of the red LED indicates a reverse connected CT. The meter will continue to register the energy consumption even if the CT's are reverse connected.

Pulse Indication:

The unit features a red LED pulse indicator which flashes at rate proportional to measured power.

Low back depth:

The instrument has very low back depth (behind the panel) of less than 80 mm in spite of optional features like pulse output

Enclosure Protection for dust and water:

Conforms to IP 54 (front face)

Compliance to International Safety standards

Compliance to International Safety standard IEC 61010-1- 2001

Advantages:

- Since CT ratio is user selectable, a single meter can be used for all application
- Low VA burden
- Tamper proof
- Easy to wire

Technical Specifications

Accuracy:

Active energy (kWh)	Class 1.0
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Input Voltage:

Nominal input voltage (AC RMS)	Three Phase
	Line-Line 110V L-L
	Line-Line 240V L-L
	Line-Line 415V L-L
	Line-Line 440V L-L
	Singal Phase
	110V L-L
	240V L-L

Input Current:

Nominal input current	5A or 1A (To be Specified while ordering)
System CT Primary Ratios :	5A - 9999A or 1A - 9999A (Programmable by thumbwheel switches at the back of meter)
Max Continuous Input Voltage:	For 3 Phase 120% of Nominal Value For single phase 110% of Nominal Value
Start up current	0.2% of the rated current
Max continuous input current	120% of Nominal Value

Pulse output

Pulsed output	Relay contact
Pulse duration	>=40ms

Auxiliary Supply:

AC Auxiliary Supply	Self powered
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VA Burden:

Nominal input voltage burden	< 15 VA per Phase
Nominal input current burden	< 0.2 VA per Phase

Counter:

Counter:	7 digit electro-mechanical counter
Reading resolution	1 per kW.h (for no multiplier)

LED Indication:

LED indicator display:
3 x green: Voltage phase monitoring

3 x red : Reverse connected CT warning.

Pulse indicator	Red LED flashing at a rate proportional to measured power
Multiplier	Indicates counter reading to be multiplied with.

Overload Withstand:

Max short duration Current	20 x Rated value for 0.5 second.
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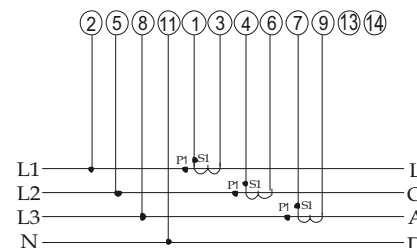
Operating Measuring Ranges

Voltage (AC RMS)	Three Phase
	Line-Line 110V L-L(85V to 130V)
	Line-Line 240V L-L(204V to 276V)
	Line-Line 415V L-L(330V to 470V)
	Line-Line 440V L-L(380V to 495V)
	Singal Phase
	110V L-L(99V to 121V)
	240V L-L(216V to 264V)
Current	5A (0.25A to 6A) 1A (0.05A to 1.2A)
Power Factor	0.5 inductive – 1 – 0.8 capacitive
Power Factor	45Hz to 55 Hz

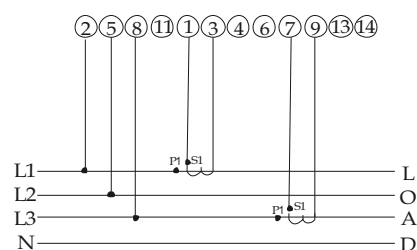
Electrical Connection:

Wiring

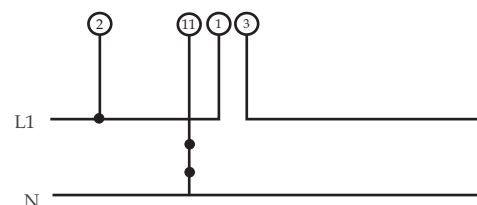
Input connections are made directly to shrouded screw clamp terminals. Numbering is clearly marked on the plastic molding. Choice of cable should meet local regulations. Terminals for both current and voltage inputs will accept up to two 12 AWG diameter cables.



For 3 Phase 4 Wire Unbalanced Load



For 3 Phase 3 Wire Unbalanced Load



For Single Phase

Technical Specifications

Enclosure style:

Enclosure style	96 X 96 DIN Quadratic
Enclosure material	Polycarbonate (Self extinguish & non dripping as per UL 94 V-0)
Terminals	M4 Screw Type
Fixing	4 side clamps

Dimension:

Dimension	96mm high x 96mm wide x 80mm deep
Panel cutout	92mm x 92mm
Weight	320-400 gm

Reference conditions for Accuracy:

Reference temperature	23°C +/- 2°C
Voltage	±1% of Rated Value
Input waveform	Sinusoidal (distortion factor less than 2%)
Input frequency	50 Hz ±0.3%

Applicable Standards:

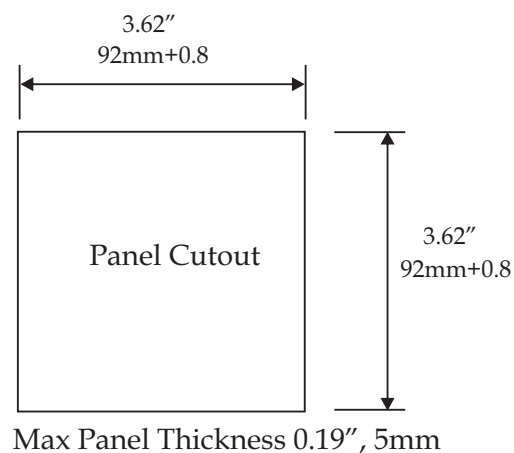
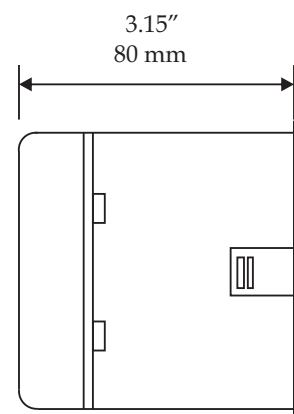
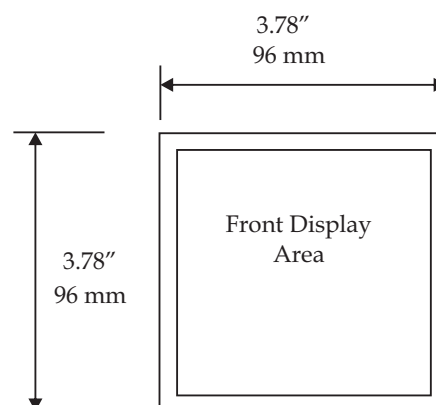
Standard	IS 133779, IEC62053-21 IEC 61010-1- 2001 (CAT III 300V ac rms / Pollution Degree 2)
IP protection	IP54 (Front Only)

Dielectric Strength 2.2 kV AC, 50Hz for 1 minute.

Environmental

Operating temperature	0 to +55°C
Storage temperature	-20 to +65°C

Dimensions Details:



Ordering information

Product Code	PR10-	X	X	X	X	X	X	0	0	0	0	0ST



sifam tinsley
PRECISION INSTRUMENTATION

Sifam Tinsley Instrumentation Inc.

3105, Creekside Village Drive,
Suite No. 801, Kennesaw,
GA 30144 (USA)

E-mail Id : psk@sifamtinsley.com

Web : www.sifamtinsley.com

Contact No. : +1 404 736 4903

Sifam Tinsley Instrumentation Ltd

Unit 1 Warner Drive,
Springwood Industrial Estate
Braintree, Essex, UK, CM72YW

E-mail: sales@sifamtinsley.com

Web: www.sifamtinsley.com/uk

Contact: +44(0)1803615139