sifam tinsley
PRECISION INSTRUMENTATION

Alpha 5 Volts
Amps, Frequency and Hours Run
Multi-function Meter Alpha Series
www.sifamtinsley.co.uk

DATASHEET Issue 1.0

Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

ALPHA 5

Volts, Amps, Frequency and Hours Run Multi-function Meter

SUBJECT TO CHANGE WITHOUT NOTICE
This datasheet superseded all previous versions – please keep for future reference

Alpha Series

Features

- True RMS Measurement
- Onsite Programmable
- Limit Switch Output
- Low Back Depth
- 3 Line Ultra Bright LED Display
- Run Hour / On Hour indication

Alpha 5 measures important electrical parameters in 3 phase 4 Wire, 3 phase 3 Wire and 1 phase (single phase) unbalanced Networks which replaces the need for multiple analogue panel meters. The Alpha 5 measures electrical parameters such as AC Voltage, AC Current, Frequency plus hours run and many more (please see table of displayed parameters on page 4). The instrument also has an optional limit switch (Relay Contact) for setting thresholds/alarms.

Applications:

- Distribution Panels
- Electrical load monitoring
- Genset, Test Benches and Laboratories
- Motor Control Panels

Product Features

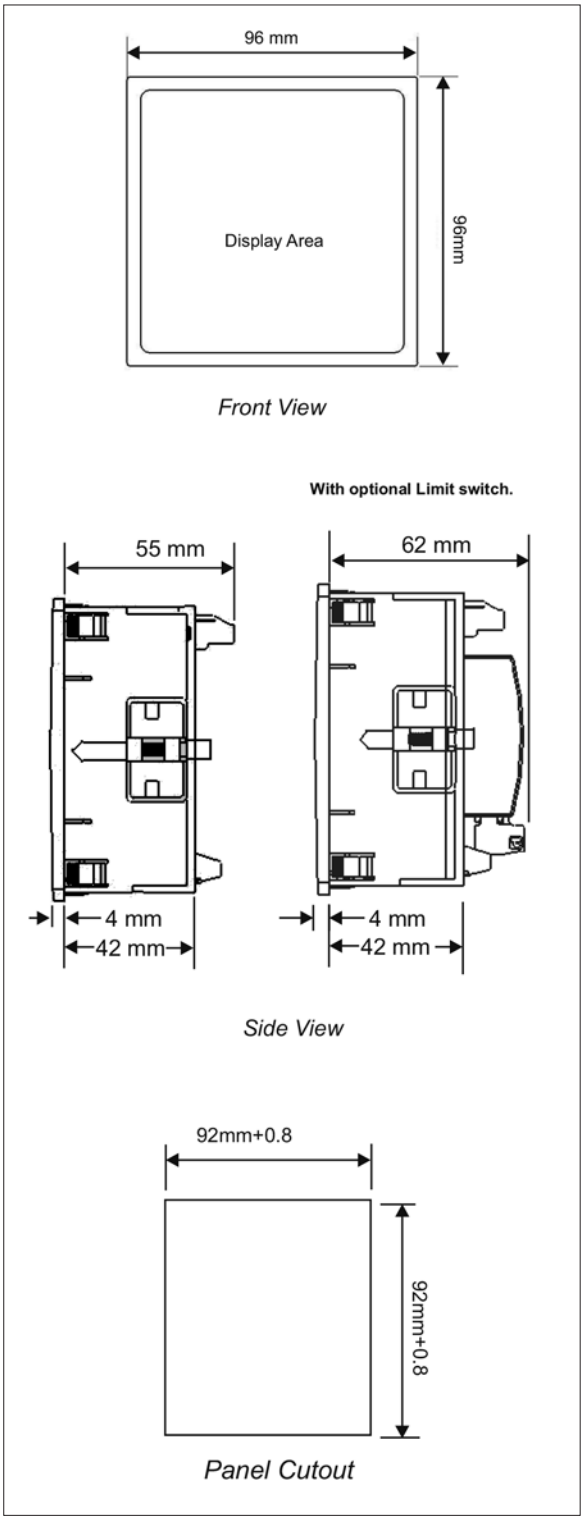
True RMS measurement
Measures distorted waveform up to 15th Harmonic.
Onsite programmable
Onsite Programable System Configuration 3PH4W / 3PH3W and Single phase.
Onsite Programable CT ratios and PT ratios
Limit Switch (Optional)
Potential free, very fast acting relay contact configurable as limit (alarm) switch. The instrument will trip the relay if the programmed parameter exceeds the programmed Trip Limits.
3 line 3 digits Ultra Bright LED display
Simultaneous display of 3 different parameters.
Run Hour, ON Hour, Number of Interruptions
Run Hour records the number of hours load is connected. ON Hour is the period for which the auxiliary supply is ON. Number of Interruptions indicates the number of times the Auxiliary Supply was interrupted.
RPM Measurement
The instrument display Rotation per minutes for generator applications. Number of poles can be set on site depending upon application requirement.

Storage of Parameters possible
The instrument stores minimum and maximum values for System Voltage, System Current, Run Hour, ON Hour & number of Interrupts. Every 60 sec stored values are updated.
Low Back Depth
The instrument has very low back depth (behind the panel) of less than 55 mm.
Parameter Screen recall
In case of power failure, the instrument memorizes the last displayed screen.
Onsite selection of Auto scroll / Fixed Screen
User can set the display in auto scrolling mode or fixed screen mode locally via front panel keys by entering into Programming mode.
Enclosure Protection for dust and water
Conforms to IP 54 (front face) as per IEC60529
Compliance to International Safety standards
Compliance to International Safety standard
IEC 61010-1- 2010
EMC Compatibility
Compliance to International standard IEC 61326

Technical Specifications

Input Voltage:	
Nominal input voltage (AC RMS)	100 VL-L - 500 VL-L (57.7 VL-N - 290VL-N)
System PT primary values	100 VLL to 799 kVLL programmable on site.
System PT secondary values	100 VLL to 500 VLL programmable on site.
Max continuous input voltage	120% of Nominal value
Input Current:	
Nominal input current	1A / 5A AC RMS
System CT primary values	From 1A up to 799 kA programmable on site.
System CT secondary values	1A / 5A Programmable at site.
Max continuous input current	120% of Nominal value
Auxiliary Supply:	
External Aux	40 V – 300V AC-DC (± 5 %) or 20 V – 40V AC / 20 V – 60V DC
Aux supply frequency	45 to 65 Hz range
VA Burden:	
Nominal input voltage burden	< 0.3 VA approx. per phase
Nominal input current burden	< 0.2 VA approx. per phase
Auxiliary Supply burden	< 4 VA approx
Operating Measuring Ranges:	
Current	5... 120% of Nominal value
Voltage	10... 120% of Nominal value
Frequency	45 - 65 Hz
Reference Condition for Accuracy:	
Reference Temperature	23°C +/- 2°C
Input Frequency	50/60 Hz ±2%
Current	10... 100% of Nominal value
Voltage	20... 100% of Nominal value
Auxiliary Supply Voltage	Nominal Value ±1%
Auxiliary Supply Frequency	Nominal Value ±1%
Accuracy:	
Voltage	±1.0% of Nominal Value
Current	±1.0% of Nominal Value
Frequency	±0.5% of Mid Frequency

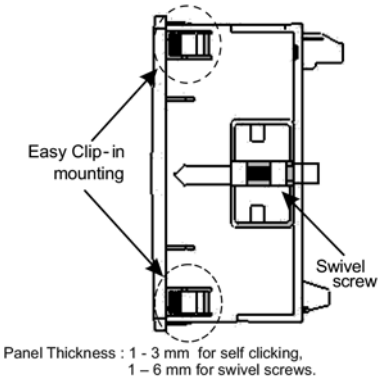
Dimension Details



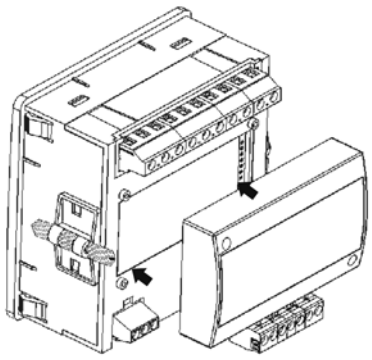
Technical Specifications

Overload Withstand:	
Voltage	2 x Nominal value for 1 second, repeated 10 times at 10 second intervals
Current	20x Nominal value for 1 second, repeated 5 times at 5 min intervals
Influence of Variations:	
Temperature coefficient	0.05%/°C
Display update rate:	
Response time to step input	1 sec approx.
Applicable Standards:	
EMC	IEC 61326
Immunity	IEC 61000-4-3. 10V/m min – Level 3 industrial Low level
Safety	IEC 61010-1-2010 , Permanently connected use
IP for water & dust	IEC60529
Pollution degree	2
Installation category	III
High Voltage Test	3.3 kV AC, 50Hz for 1 minute between all Electrical circuits
Environmental	
Operating temperature	-10 to +55°C
Storage temperature	-20 to +65°C
Relative humidity	0... 90% non condensing
Warm up time	Minimum 3 minute
Shock	15g in 3 planes
Vibration 1	0... 150 ... 10 Hz, 0.15mm amplitude
Interfaces	
Relay(Optional)	240 VAC ,5 A Configured as Limit Switch

Installation

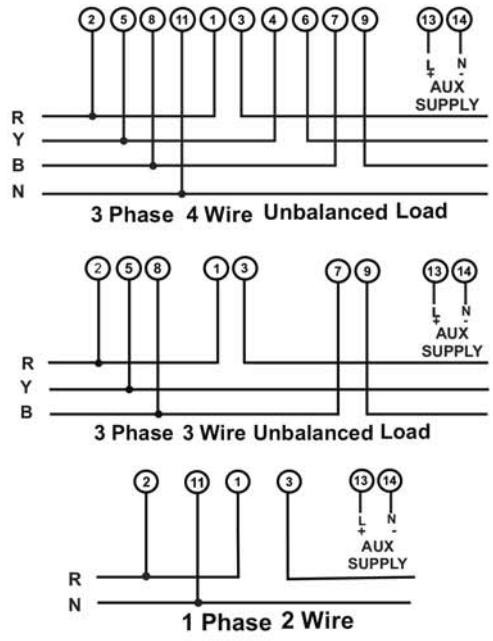


Easy Clip in Installation on Panel.



Optional Limit Switch pluggable module.

Electrical Connection



Display Parameter:

Sr No	Parameter	3 Phase 4 Wire	3 Phase 3 Wire	Single Phase 2W
1.	System Voltage	✓	✓	×
2.	Voltage R–N	✓	×	✓
3.	Voltage Y–N	✓	×	×
4.	Voltage B–N	✓	×	×
5.	Voltage R–Y	✓	✓	×
6.	Voltage Y–B	✓	✓	×
7.	Voltage B–R	✓	✓	×
8.	System Current	✓	✓	×
9.	Current R	✓	✓	✓
10.	Current Y	✓	✓	×
11.	Current B	✓	✓	×
12.	Frequency	✓	✓	✓
13.	RPM	✓	✓	✓
14.	Max (System Voltage / System Current)	✓	✓	✓
15.	Min (System Voltage / System Current)	✓	✓	✓
16.	Run Hour	✓	✓	✓
17.	On Hour	✓	✓	✓
18.	Number of Auxiliary Interruptions	✓	✓	✓

✓- Available × - Not available

Ordering Information:

Alpha 5 VAF **Product code** **AP05-**	**X**	**X**	**Code** **XX**	**X**	**000000**
Alpha 5, Volts, Amps and Frequency, 96X96mm					
System Type (Connection network)					
1 Phase	1				
3 Phase (programmable as 4 Wire or 3 Wire on site)	3				
System Input					
100-500V LL, 1 or 5 Amps AC (programmable)		1			
Auxiliary Supply Voltage					
40 - 300 V AC DC + 5%			EA		
20 - 40 V AC / 20 - 60 V DC			LA		
Optional Output					
With Limit/Relay Output				L	
Without Limit/Relay Output				Z	

Order Code Example:

Alpha 5

AP05– 31EAL 000000 = Alpha 5, three Phase, 100-500V LL, 1 or 5 Amps AC, Auxiliary (40V – 300V AC/DC + 5%), with Limit/Relay Output.

Contact

Sifam Tinsley Instrumentation Ltd

1 Warner Drive
Springwood Industrial Estate
Braintree, Essex
CM7 2YW

Tel: 01376 335271
E-mail: sales@sifamtinsley.com

www.sifamtinsley.co.uk