

XPERT-PLUS

ELECTRICAL POWER METER



DIRECT
ETHERNET
CONNECTION!

DIRECT
E-MAIL
REPORTS!

- ◆ Class 0.5s accuracy for Active energy as per the IS14697.
- ◆ Graphical Display 128x64.
- ◆ Compact 96 X 96 DIN Enclosure.
- ◆ Computed Neutral Current.
- ◆ Measurement of all three types of Power Factors – True, Displacement and Distortion.
- ◆ Harmonic measurement: All six waveforms up to 30th order, even and odd, including THD.
- ◆ Histogram and Tabular display of Harmonic content.
- ◆ Wave shape display for all voltage and currents.
- ◆ Two Relays-individually programmable for Alarm/Trip.
- ◆ On board Ethernet Port supporting TCP/IP protocol and e-mail functionality.
- ◆ Event logging of Sags, Swells and Interruptions as per IEC 61000-4-30.
- ◆ Demand Measurement: Fixed or Sliding for KW, KVA, KVAR and Avg.Amps.
- ◆ RUN Hour (For EB and DG) and ON Hour measurement.
- ◆ Energy Pulse Output LED on the front – selectable for Real/Apparent/Reactive Energy.
- ◆ 3P4W, 3P3W and 1P2W connections.
- ◆ User selectable CT and PT Ratios. 5A or 1A operation, field selectable.

Trinity introduces the XPERT-PLUS, an easy-to-use, accurate and very versatile electrical power meter with innovative features, which is ideal for remote monitoring of electrical installations, Energy accounting and management, Demand Control, tenant billing and Power quality analysis.

The meter has three LEDs in the front, one to calibrate energies, one to indicate the status of RS485 communication and one to indicate load on DG.

Installation and connection

The CT Primary and Secondary, PT Ratio and installation types are site selectable, thus making it possible to use the meter in all types of installations like 3P4W, 3P3W and 1P2W.

Comprehensive Measurement

In addition to basic metering of the previous models, XPERT-PLUS adds support measurement of three energies for EB & DG, demands, logging of minimum-maximum values, all three types of power factors like True, Displacement and Distortion, Phase angle measurements, unbalance percentages and computed neutral current.

Power Quality Analysis as per IEC 61000-4-30 & IEC 61557-12

For Power Quality Analysis - XPERT-PLUS measures individual harmonics for all voltage and current waveforms, both even and odd, up to the 30th order, with THD as per IEC 61557-12. It also records in its non-volatile memory with date and time stamp, 180 Interruption events and 180 SAG/SWELL events, as per IEC 61000-4-30 standard.

Relay Outputs Options

XPERT-PLUS has a 2 Relay output, rated at 3A. These can be used for Alarm/Trip Events. The use of these relay is totally field configurable. XPERT-PLUS to be used as a maximum demand controller.

Communication

RS485

The XPERT-PLUS supports an isolated RS485 port for connection to EMS/SCADA application. RS485 communication indicated by RX/TX LED.

ETHERNET

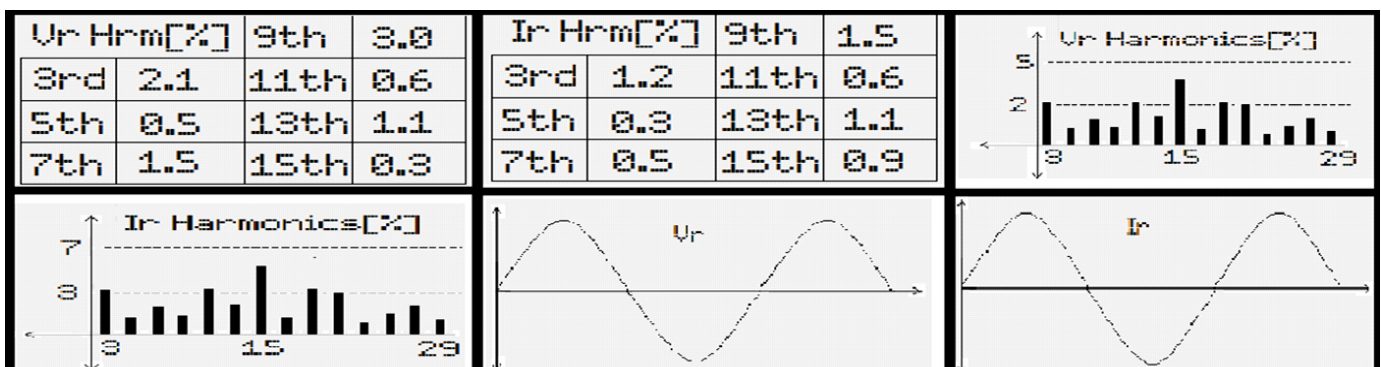
The XPERT-PLUS has a standard Ethernet-TCP/IP connection. The XPERT-PLUS can work as a small Web server. This onboard web server offers quick and easy access to all parameters, without any special software.

XPERT-PLUS also supports e-mail functionality, wherein it sends an electrical summary to programmed e-mail id every fixed interval.

XPERT-PLUS also supports Modbus-RTU protocol over TCP/IP connection.

Other Features

Graphical LC display of 128X64 makes it possible to display Harmonic data in histogram form and waveform of all voltages and currents.



Parameters			
Type	Name	Statistics	
INPUT	Supply	Three Phases and Neutral of a 3P4W system / Three Phases of a 3P3W system / Single Phase and Neutral of a 1P2W System	
	Voltage	Direct Voltage Input : up to 500V L-L, 300V L-N PT Ratio : Site Selectable Burden : 0.5VA	
	Current	Secondary Current Input : 5A or 1A (Site Selectable) CT Primary : Site Selectable Range of Reading : up to 5000A Burden : < 1.0VA Overload : 5ACT → 6ARMS Continuous : 1ACT → 1.2ARMS Continuous	
	Power Supply	Auxiliary Supply : 80 - 270 VAC/DC, 50-60 Hz.	
OUTPUT	Relay	Two. Individually Field Programmable. 3A @ 230 VAC, Resistive Load	
MEASUREMENT	True RMS Basic Parameters	Voltage (Volts L-N & L-L)	Accuracy : 0.5% of Reading.
		Current (Amps IR, IY, IB)	Accuracy : 0.25% of Reading
		Line Frequency	45 to 55 Hz, Accuracy : 0.05% of Reading
	Power	Active Power (P)	Accuracy : 0.5% of Reading (For IPFI > 0.5)
		Reactive Power (Q)	Accuracy : 1.0% of Reading
		Apparent Power (S)	Accuracy : 0.5% of Reading
		Power Factor	For Individual phases and System PF Accuracy : 0.5% of Reading (IPFI ≥ 0.5) Range of Reading : 0.05 to 1.00 Lag/Lead
	Energy	Total Active Energy (KWh)	Range of Reading : 0 to 999999999.9 Accuracy : Class 0.5s as per IS14697
		Total Apparent Energy (KVAh)	Range of Reading : 0 to 999999999.9 Accuracy : 0.5% of Reading
		Total Reactive Energy (KVARh)	Range of Reading : 0 to 999999999.9 Accuracy : 1.0% of Reading
Power Quality	THD and Individual Harmonic For each phase V and A	Class 5.0 as per IEC 61557-12 up to 30th order.	

Type		Name	Statistics	
	Demand	Parameters	KW, KVA, KVAR and Avg.Amps	
		Window	15 minutes or 30 minutes selectable.	
		Mode	Fixed or Sliding selectable.	
		Calculation	Present, Predicted, Maximum Demand and Last Maximum Demand	
MISCELLANEOUS	Dimensions	Bezel	96 X 96 mm	
		Panel Cutout	92 X 92 mm	
		Depth of installation	55 mm	
		Display	128 x 64 Graphical Display	
		Operating temp	0°C to 55°C	
		Weight	354 gms (Approx).	
		Operating Current Range	0.4% to 120% of CT primary	
	Communication	RS485 PORT	Modbus-RTU protocol : 2 – Wires, 9600, 19200, 38400 baud. Parity – None, Stop bit – 1. Isolation : 2.5KV RMS	
		ETHERNET PORT	Modbus-RTU TCP/IP Protocol, Web server, Email(Without SSL)	
	Display update	Instantaneous	1 S	
		Demand	1 S	
		Harmonics	3 S	
		Keypad	Three Keys for navigation and programming of various parameters.	
		Calibration LED.	Red color. 1000 impulses/unit. Selectable: KWh/KVAh/KVARh.	
		Communication LED	Dual color LED. Data Receive – Green LED. Data Transmit – Red LED.	
	<p>* 0.5s accuracy applicable only in 3P4W mode.</p> <p>Note : Some parameters are available only on Modbus – RTU RS485, Modbus – RTU TCP/IP and Web Server, so please refer to the user manual for more details.</p>			

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