Electrical Load Manager & Demand Controller

GOBLIN PLUS

FEATURES:

- 480 x 272 (RGB) smart colour TFT display (Touch)
- Accuracy Class 0.5 (as per IS14697)
- Four Relay contacts, individually field programmable for alarm parameter
- RS485 MODBUS-RTU Connectivity
- On board 16 MB of non-volatile memory for data logging
- Phase Wise Distortion and Displacement PF
- Demand Measurement: Fixed or Sliding for KW, KVA, KVAR and I_{AVG}
- Individual Harmonics up to 30th for voltage and current with THD
- Measures Neutral current
- Import/Export functionality for Energy
- Interruption Date and Time for 180 Events
- Sag and Swell Value, Date and Time for 180 Events
- Min – Max Data with Date and Time
- USB port for downloading data (Device Mode). Directly accepts pen-drive to transfer logged data (Host mode)

The digital power meter GOBLIN PLUS is a micro-controller based unit which not only measures a host of electrical parameters to display them on a 480 x 272 (RGB) smart TFT display (Touch), but also acts as a comprehensive load managing device due to its four numbers of output relay contacts. These outputs are individually field programmable for both the parameter on which to generate alarm as well as the values on which to activate alarm and deactivate it. In addition to this flexibility in terms of load management, the meter also has RS485 port. RS485 supports MODBUS RTU protocol for connections to EMS/SCADA.

The meter has four LEDs in the front, two to calibrate energies, one to indicate the status of RS485 communication and one to indicate DG Status.

GOBLIN PLUS is a versatile meter, with all the features needed to implement a robust electrical load management system. It can be configured to suit most control and communication needs.

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, GOBLIN 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 measurement, unbalance percentage and measured neutral current.

Power Quality Analysis as per IEC 610004-4-30 & IEC 61557-12

For Power Quality Analysis - GOBLIN 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 Output Options

GOBLIN PLUS has four output relays, which can be used to manage loads. All relays are programmable for alarm parameter, value on which to close and open with the product's ability to measure demand accurately, this can be used as an excellent Maximum Demand Controller.

Communication

RS485

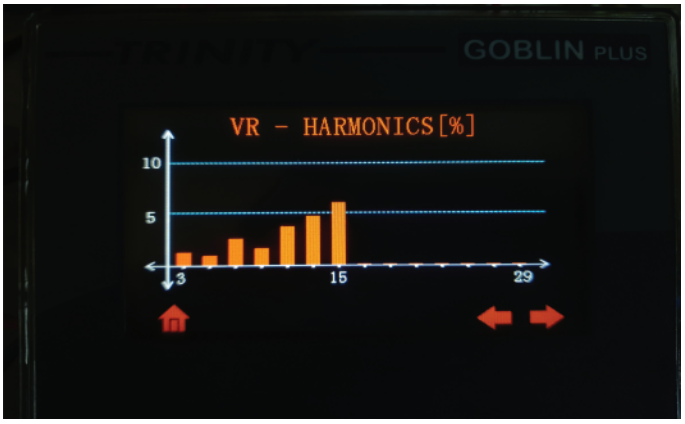
The GOBLIN PLUS supports an isolated RS485 port for connection to EMS/SCADA application. RS485 communication status is indicated by RX/TX LED on the front of the unit.

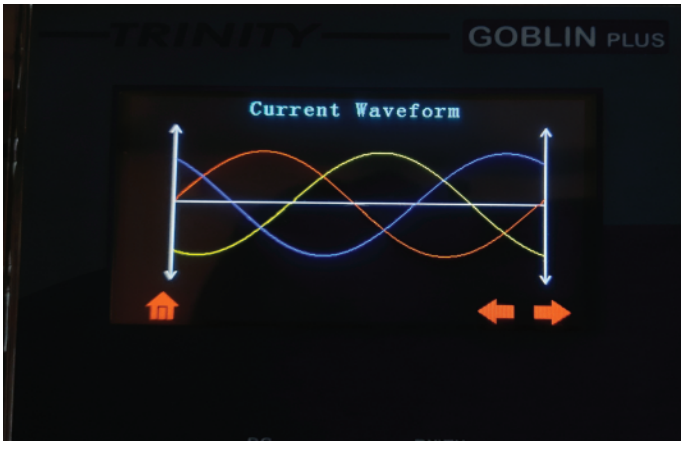
USB PORT

The GOBLIN PLUS can download the logged data directly into a USB Pen-Drive or though a cable to a utility software on a laptop.

Other Features

480 x 272 (RGB) smart colour TFT display (Touch) makes it possible to display Harmonic data in histogram form and waveform of all voltages and currents, in addition to providing an intuitive and easy-to-operate GUI.





TECHNICAL DETAILS:

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 8000A Burden : < 1.0VA Overload : 5A CT -> 6A RMS Continuous : 1A CT -> 1.2A RMS Continuous
	Power Supply	Auxiliary Supply : 80 - 270 VAC/DC, 50-60 Hz

TYPE		NAME	STATISTICS
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 Active Energy (KWh)	Range of Reading : 0 to 999999999.9 Accuracy : 0.5% of Reading
		Total Apparent Energy (KVAh)	Range of Reading : 0 to 999999999.9 Accuracy : 0.1% 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.
	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 (Import & Export – For Power Parameter Only)
MISCELLANEOUS	Dimensions	Bezel	144 X 144 mm
		Panel Cutout	138 X 138 mm
		Depth of installation	55 mm
		Display	Smart Touch TFT (480x272 RGB)
		Operating temp	0°C to 55°C
		Weight	0.64 Kgs (Approx.)
		Operating Current Range	0.4% to 120% of CT primary
	Communication	RS485 Port	Connection : Two Wire Isolation : 2.5KV RMS Protocol : Modbus-RTU Baudrate : 9600, 19200, 38400 Parity : None Stop bit : 1
		Data Logging Buffer	16 MB, Non-Volatile memory, can hold 35172 records
		Logging Duration	Site selectable from 1 minute to 60 minutes
		USB (Pen Drive)	For downloading logged data
	Display update	Instantaneous	1 S
		Demand	1 S
		Harmonics	3 S
		Calibration LED.	Red color. 1000 impulses/unit
		Communication LED	Dual color LED. Data Receive – Green LED Data Transmit – Red LED
		DG LED	Red color LED DG ON – LED ON DG OFF – LED OFF
		* 0.5s accuracy applicable only in 3P4W mode. *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.	

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