



POWER ENERGY & POWER QUALITY MONITORING SOLUTIONS

ABOUT US

Atandra Energy Pvt. Ltd., based in Chennai, India, is built on a platform of over 35 years of experience in the area of Power and Energy Management.

LEADING BRAND

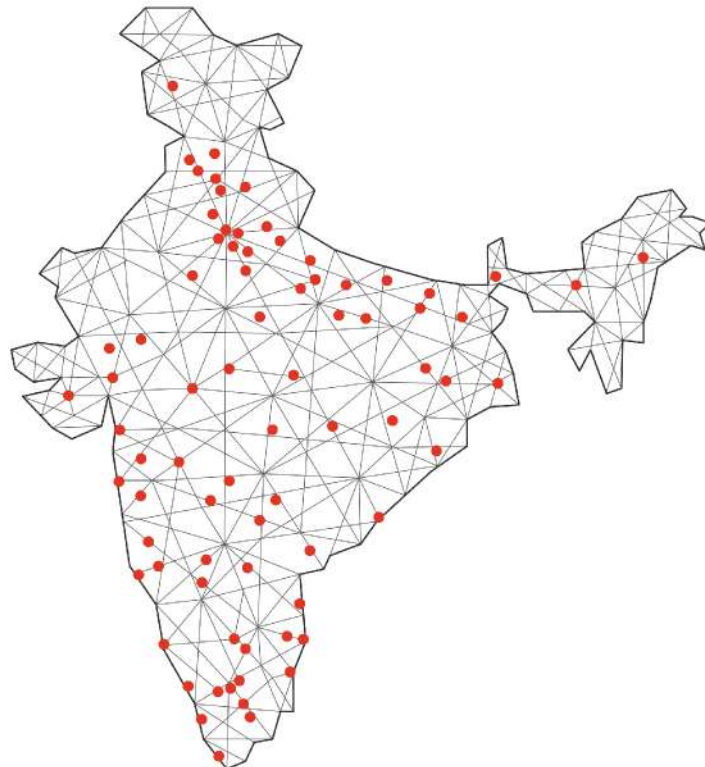
We offer solutions to industrial and commercial establishments under our popular brand KRYKARD. With over 4,00,000 installations of Power Conditioners and over 1,50,000 installations of Portable and Panel Load Managers, KRYKARD is one of the leading brands in India, in Energy Management.

OUR FACILITIES

- An ISO 9001:2015 Certified factory
- CE Certified Power Conditioning Products
- R&D departments for Embedded designs, Power Electronics and Electro magnetics
- A Software Development department to design, develop and customise Energy Management Software.

With over 300 employees and a network of 75+ locations across India, we are equipped to reach and service the needs of our customers.

OUR SALES/SERVICE LOCATIONS IN INDIA



Ahmedabad | Bengaluru | Bhopal | Bhubaneshwar | Chandigarh | Chennai | Coimbatore | Delhi | Goa | Gurugram | Guwahati | Hyderabad
Indore | Jaipur | Kanpur | Kochi | Kolkata | Lucknow | Mangaluru | Mumbai | Patna | Pune | Thiruvananthapuram | Visakapatnam

...and 50+ more locations!



DiGi 520
Panel Load Manager

Salient Features

- Accuracy class 0.5s as per IEC 62053-22
- True RMS upto 63rd harmonics
- Voltage input up to 400V
- SMPS power supply
- 3 line bright LCD display
- PT & CT programmable
- Password protection
- Load Management Module (Optional)
- 2 status input (DI) (Optional)
- 2 relay output (250 Vac / 5A) for alarms (Optional)
- Small size (72 x 72mm)

Measurements

- Voltage - 3U, 3V, 3 Phase Voltage Angle, Unbalance (On Communication)
- Current - 3I, In, 3 Phase Current Angle, Unbalance (On Communication)
- Powers - kW, kVA, kVAR - phase wise and total
- PF-phase-wise and total
- Frequency
- Energy - kWh, kVAh, kVAh
- THD - V & I
- Min & Max - VL-L, VL-N, I, kW (On Communication)
- Demand: I & Total kW



DiGi 620
Panel Load Manager

Salient Features

- Accuracy Class 0.5s as per IEC 62053-22
- True RMS upto 63rd harmonics
- Voltage input upto 400V
- SMPS power supply
- PT & CT programmable
- Password protection
- Load Management Module (Optional)
- RS-485 port with Modbus RTU protocol
- 2 Digital Inputs as standard
- Optional - Ethernet Port with Modbus TCP/IP protocol
- Real-time-clock

Measurements

- Voltage - 3U, 3V, 3 Phase Voltage Angle, Unbalance (On Communication)
- Current - 3I, In, 3 Phase Current Angle, Unbalance (On Communication)
- Powers - kW, kVA, kVAR - phase wise and total
- PF - phase wise and total
- Frequency
- kWh, kVAh, kVAh, Import & Export Energy for kWh & kVarh
- Demand for I, kW, kVAR, & kVA
- THD V & I
- Dual Energy (optional)



DiGi 720
Panel Load Manager

Salient Features

- Class 0.5s & 0.2s accuracy as per IEC 62053-22
- ToU - 4 tariff rates, 8 periods and 2 lists of tariff rate
- Real-time-clock
- Sampling rate @ 128 samples/cycle - excellent accuracy even on non-linear waveforms
- Voltage input upto 480V
- SMPS power supply
- 4 line back-lit LCD display
- PT & CT programmable
- Password protection
- 2 Digital Outputs as standard for set-point alarms
- 3 Digital inputs as standard
- 8MB Memory for data logging & event recording (Optional)
- 2 Analog Outputs (4-20mA) (Optional)
- 2 Analog Inputs (4-20mA) (Optional)
- Ethernet Port with Modbus TCP/IP protocol (Optional)

Measurements

- Voltage - 3U, 3V, Unbalance
- Current - 3I, In, Unbalance
- Powers - kW, kVA, kVAR - phase wise and total
- PF - phase-wise and total
- Frequency
- kWh Export / Import on display,
- Quadrant Energy Data on communication
- kVAh
- Demand & Max Demand - kW, kVA, kVAR, I
- THD - V & I
- Individual harmonics on V & I upto 31st order
- Harmonic Energy (2nd to 13th)
- Min & Max Is rms - V, I, F, kW, kVAR
- K-Factor, Crest Factor

FEATURES / PARAMETERS	DiGi 520	DiGi 620	DiGi 720
Display	LCD	LCD	LCD
Single phase or Three phase	3	3	3
Real-time parameter			
3V, 3U, Hz	Yes	Yes	Yes
3I, In	Yes	Yes	Yes
kW, kVA, kVA _r , PF - phase wise and total	Yes	Yes	Yes
kWh, kVA _r h, kVAh	Yes	Yes	Yes
Demand	Yes (I & kW)	Yes	Yes
Unbalance Voltage/Current	Yes (On Communication)	Yes (On Communication)	Yes (On Communication)
Angle - Voltage/ Current	Yes	Yes	No
THD	Yes	Yes	Yes
Individual Harmonics	No	Yes (On Communication upto 63rd Order)	Yes (Upto 31st Order)
K-Factor, CF	No	Yes (On Communication)	Yes
Min, Max - 1s (V&I)	Yes (On Communication)	Yes (On Communication)	Yes
TOU	No	Yes (On Communication)	Yes
Harmonic Energy	No	No	Yes (Upto the 13th Order)
Load Management Module	Yes (On Communication)	Yes (On Communication)	No
CT / PT Programming	Yes	Yes	Yes
Digital Inputs	Optional	Yes(2 DI)	Yes(3 DI)
Digital Outputs	Optional	Optional	Yes(2 DO)
Accuracy	Class 0.5s	Class 0.5s	Class 0.5s / Class 0.2s
Data Recording	No	No	Optional
Analog Inputs and Outputs	No	No	Optional
RS485 - Modbus Protocol	Yes	Yes	Yes
Ethernet TCP/IP	No	Optional	Optional



PLM R90
Single Phase DC
Energy Meter

Salient Features

- Real-time measurements of DC V, I, kW, kWh
- High accuracy: Class 0.5
- LED indicates pulse output
- RS485 port, MODBUS-RTU or DL/T645 protocol (optional)
- 35mm DIN rail installing, standard DIN ED5002

Measurements

- Measures and displays V, I, P, kWh



PLM R91
Single Phase Din-Rail
Energy Meter

Salient Features

- 35mm DIN installing, in accordance with Standard DIN ED5002
- Measure and display V, I, P, kWh value
- High accuracy, active energy accuracy up to class I
- 6 + 1 digits LCD display (999999.9 kWh)
- Passive pulse output, output signal is in accordance with Standard DIN43864
- LED indicates pulse output
- Password protection
- Key-press for local parameter setting
- RS485 communication port, Modbus-RTU or DTL645 protocol (Optional)
- Small size: 100x36x65 mm
- Standard: IEC62053-2I

Measurements

- Measures and displays V, I, P, PF, F, kWh, kVAh

FEATURES / PARAMETERS	PLM R90	PLM R91
Display	LCD	LCD
Single phase or Three phase	1	1
Real-time parameter		
V, I, P, kWh	Yes	Yes
Hz, kW, kVA, PF		Yes
kVA		Yes (On Communication)
kWh, kVAh, kVArh		Yes
Pulse Output		Yes
Current Range		63A
RS485 - Modbus RTU		Yes
Accuracy		Class 1



PLM R93
Three Phase Din Rail
Energy Meter

Salient Features

- kWh accuracy class 1.0 as per IEC 62053-21.
- Suitable for 230V, 3ph-4w system.
- 7+1 digits LCD display(9999999.9 kWh)
- 2 LED pulse indicators for kWh and kVArh)
- LCD display for phase sequence error indication
- 3 keys for programming and scrolling the display parameters.
- 35 mm DIN Rail, Installation Standard- DIN Ed5002
- High temperature resistant materials
- RS 485 port with MODBUS RTU protocol
- Light weight

Measurements

- Measures and displays V, I, P, PF, F, kWh, kVArh, Multi-tariff energy value
- kVAh and kVA available on communications
- Records historical data of
 - Present day data with 15 minute time interval
 - Last 31 days of every month's cumulative data
 - Last 12 months of every month's cumulative data
 - Last 10 years of every year's cumulative data

FEATURES / PARAMETERS	PLM R93
Display	LCD
Single phase or Three phase	3
Real-time parameter	
3V, 3I, Hz	Yes
3U	Yes (On Communication)
kW, PF	Yes
kVA	Yes (On Communication)
kWh, kVArh	Yes
kWh Import/Export	Yes
kVArh Import/Export	Yes
TOU	Yes
Current Range	63A
Pulse Output	Yes
Accuracy	Class 1.0
RS485 - Modbus Protocol	Yes



Multy4
AC Multi-Channel
Energy Meter

Salient Features

- Accuracy Class 1.0 as per IEC 62053-21 (Accuracy includes CT Errors)
- 75mm (width) x 94mm (height) x 62mm (depth)
- Voltage input up to 500V
- CT Primary Programmable
- 2kV Isolation
- Password Protection
- Backlit custom LCD display
- Load Management Module
- Special high-accuracy CT supplied with the meter

Measurements

Common for all channels:

- Voltages - L-N and L-L (C)
- Frequency
- Voltage Min and Max - L-N and L-L (C)

For each of the 4 channels:

- Currents - Line
- Max Currents - Phase-wise (C)
- Power Factor - phase and total
- kW, kVA, kVA_r - Phase and total
- kWh - Phase wise and total
- kVAh - Phase wise and total

FEATURES / PARAMETERS	Multi4
Display	LCD
Single phase or Three phase	4 x 3 Phase / 12 x 1 Phase
Real-time parameter	
3V, 3U, Hz	Yes
3I	Yes
kW, kVA, kVA _r , PF - phase wise and total	Yes
kWh, kVA _r h, kVAh	Yes
Min, Max - 1s (V&I)	Yes (On Communication)
Load Management Module	Yes (On Communication)
CT / PT Programming	Yes (CT Programmable)
Accuracy	Class 1.0
RS485 - Modbus Protocol	Yes

Salient Features

- Multifunction Power Meter
- Class 0.2s high accuracy energy measurement
- Power quality analysis, Harmonic analysis & Flicker analysis
- Data Logger: Bulk memory for Data and Event recording
- Capture 20 μ s transient and records Pre & Post Events

Measurements

- Class A Power Quality Measurement: Harmonic and Inter-Harmonic, Voltage deviation, Frequency deviation, Unbalance, Sag / Swell and Flicker, Transient disturbances, EN50160 statistics
- 4 Quadrant Energy Measurements
- Harmonic analysis upto 63rd order
- Fast Transient Detection: Captures 1024 samples/Cycle, Min. transient disturbance records for 20 μ s
- PQ Events: Captures Voltage Sag / Swell, Rapid Voltage Change



**0.2s Class
PQ & Harmonic Meter**

Interface



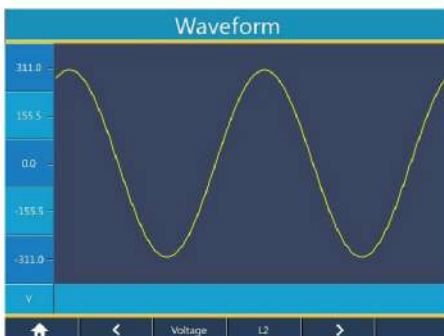
Home Page

Phase Voltage			
	Value	Min. Value	Max. Value
L1-N	2.200 kV	274.3 V	2.211 kV
L2-N	THD-V 0.00% PF 0.999 Frequency 50.00Hz	275.3 V	2.201 kV
L3-N	2.200 kV	272.9 V	2.201 kV
Ln	22.00 kV	2.732 kV	22.01 kV

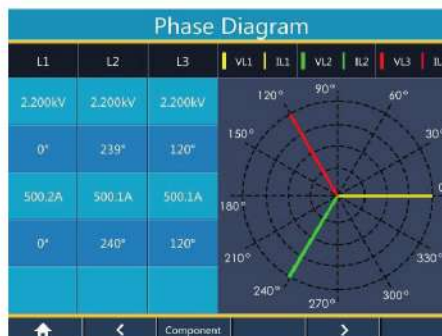
Real-time Monitoring

Evaluation Report			
	2018-01-02 00:00 - 2018-01-03 00:00 (P 1/28)		Conclusion
1	Frequency		Qualified
2	Supply		Qualified
3	Flicker		Qualified
4	Harmonics		Qualified
5	Rapid Voltage Change		Qualified
6	Transient overvoltage		Qualified
7	Range (%)	Tolerance (%)	Pass (%)
8	99.0 - 101.0	99.50	100.00
9	100.00	100.00	100.00
10	Qualified	Qualified	Qualified
Range of Frequency: 49.997Hz - 50.000Hz			

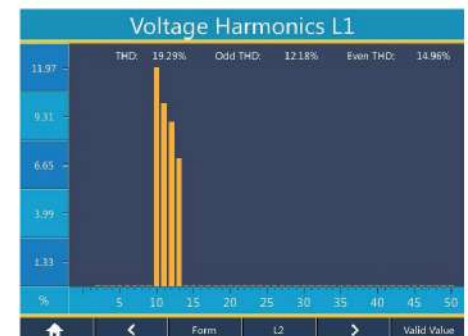
Evaluation Report



Real-time Waveform



Vector Analysis



63rd Real-time Harmonic Analysis

Specifications

Auxiliary Supply			
Rated Power Supply Voltage	AC85~265V, DC100~300V		
Power Consumption	<10W		
AC Input			
	Input Voltage		Input Current
Rated Voltage/Current	0~400V (400V L-N / 690V L-L) [OR] 0~63V (63V L-N / 110V L-L)		5A [OR] 1A (Programmable)
Overload	120% Continuous; 400% for 1s		200% Continuous; 500% for 1s
Power Consumption	<0.1VA/Phase		<0.5VA/Phase@5A, <0.1VA/Phase@1A
Accuracy			
Voltage	±0.1%	Frequency	±0.01Hz
Current	±0.1%	Harmonic	Class A
Active / Apparent Power	±0.2%	Voltage Unbalance Rate	±0.1% Class A
Reactive Power	±0.1%	Current Unbalance Rate	±0.5% Class A
Active Energy	Class 0.2s (IEC 62053-22)	Voltage Deviation	±0.1%
Reactive Energy	Class 2 (IEC 62053-23)	Frequency Deviation	±0.01Hz
Power Factor	±0.5%	Flicker	±5%
Environment			
Operating Temperature	-10°C to +55°C		
Storage Temperature	-40°C~+85°C		
Humidity	5%~95%		
IP Index	Front: IP52; Side & Back: IP30		
Measure Mode	3 phase 4 wire, 3 phase 3 wire		
DI / DO			
DI	8 Channel, time resolution 1ms		
RO1-RO4	Relay, action / return time: <10ms		
DO1-DO2	Breaking Capacity: 250VA/30 Vdc, 0.2A, L/R=20ms Max. Voltage 30 Vdc Max. Current 50mA		
Communication			
RS485 port	2 Port, 2400-38400bps, Modbus-RTU protocol		
Ethernet Port	1 port, Modbus TCP IP (Optional IEC61850)		
Display			
Liquid Crystal Display	Color screen		
Resolution (pixels)	640*480		
Real-time Waveform	Device interface displays real-time waveforms		

Salient Features

- IEC 61000-4-30 Class-A Ed:3 Certified
- 0.2S Class Accuracy for Power & Energy
- Upto 16GB Extendable Memory
- 360 Samples / Cycle
- View Event Waveforms directly in Meter Screen
- High Resolution Graphical Display
- GPS Time Synchronization

Measurements

- Instantaneous Values – Present TRMS, Associated Min/Max values
- Power & Energy – Individual Phase, Total, Mean Value, Trend, Load Profiles
- Harmonics – THD, I TDD, Upto 50th Order, Interharmonics
- Phasor Diagram – Voltage & Current Phasors
- Event Waveforms – Voltage, Current & Power (pre - 1sec, post - 5 sec)
- User Defined Threshold Events
- PQ Statistics – Event Wise Statistical Data
- System Imbalance – Sequential Components (Zero, Positive & Negative)



0.2s Class as per IEC 62053-22

Specifications

Inputs			
Voltage	Nominal Voltage: 57.7 ... 400 VLN, 100 ... 693 V		
	Maximum: 480 VLN, 832 VLL (sinusoidal)		
	Overload Capacity: 480 VLN, 832 VLL permanent		
Current	Nominal Current: 1 ... 5 A (max. 7.5 A)		
	Maximum: 7.5 A		
	Overload capacity: 10 A permanent; 100 A, 5x1 s, interval 300 s		
Nominal Frequency	42 ... 50 ... 58 Hz, 50.5 ... 60 ... 69.5 Hz		
Sampling Rate	18 kHz		
Types of Connections			
Connection Mode	Single phase or split phase (2-phase system)	3 or 4-wire balanced load	3-wire balanced load [2U, 1I]
	3-wire unbalanced load, Aron connection	3 or 4-wire unbalanced load	4-wire unbalanced load, Open-Y
I / O Interface			
Analog Outputs (optional)	Linearisation: Linear		
	Range: ± 20 mA (24 mA max.), bipolar		
	Accuracy: ± 0.2 % von 20 mA		
	Burden: ≤ 500 Ω (max. 10 V/20 mA)		
Relays (optional)	Contacts: Changeover contact		
	Load capacity: 250 Vac, 2 A, 500 VA; 30 Vdc, 2 A, 60 W		
Digital Inputs Passive	Nominal Voltage: 12/24 Vdc (30 V max.)		
Digital Inputs Active (optional)	Open circuit Voltage: ≤ 15 V		
Digital Outputs (2, Standard)	Nominal Voltage: 12/24 Vdc (30 V max.)		
Temperature Inputs (optional)	Number of channels: 2		
	Measurement sensor: Pt100 / PTC; 2-wire		

I / O Interface			
Fault Current Monitoring for Grounded Systems (optional)	Number of measuring channels: 2 (2 measurement ranges each)		
	Measurement range	Measuring transformer	Alarm limit
	1 (1A) with Earth Current measurement	1/1 up to 1/1000 A	30 mA up to 1000 A
	2 (2mA) RCM with connection monitoring	Residual Current transformer 500/1 up to 1000/1 A	30 mA up to 1 A
Accuracy			
Voltage	0.1%	Imbalance U, I	±0.5 %
Current	0.1%	Harmonic	±0.5 %
Power	0.1	THD U, I	±0.5 %
Power Factor	±0.1°	Active Energy	Class 0.2S (IEC/EN 62 053-22)
Frequency	±0.01 Hz	Reactive Energy	Class 0.5S (IEC/EN 62 053-24)
Interfaces			
Ethernet (Standard)	Physics: Ethernet 100Base TX; RJ45 socket		
	Mode: 10/100 MBit/s, full/half duplex, autonegotiation		
	Protocols: Modbus/TCP, http, NTP (time synchronisation)		
IEC61850 (optional)	Physics: Ethernet 100Base TX; RJ45 socket		
	Mode: 10/100 MBit/s, full/half duplex, auto negotiation		
	Protocols: Modbus/TCP, http, NTP (time synchronisation)		
PROFINET IO (optional)	Conformance class: CC-B		
	Physics: Ethernet 100BaseTX, RJ45-Buchsen, 2 ports		
	Mode: 10/100 Mbit/s, full/half duplex, auto-negotiation		
	Protocol: PROFINET, LLDP, SNMP		
MODBUS/RTU (optional)	Physics: RS-485, max. 1200 m (4000 ft)		
	Baud rate: 9.6 to 115.2 kBaud		
Time Reference (Internal clock)	Clock accuracy: ± 2 minutes/month (15 to 30°C)		
	Synchronisation: via NTP server or GPS		
Environment & Safety			
Operating Temperature	Without UPS: -10 up to 15 up to 30 up to + 55 °C; With UPS: 0 up to 15 up to 30 up to + 35 °C		
Storage Temperature	-25 to +70 °C		
Temperature Influence	0.5 x basic uncertainty per 10 K		
Long-term Drift	0.5 x basic uncertainty per year		
Others	Application group II (IEC/EN 60 688)		
Relative Air Humidity	<95 % without condensation		
Operating Altitude	≤2000 m above NN		
Protection Class	II (protective insulation, Voltage inputs via protective impedance)		
Pollution Degree	2		
Protection	IP54 (front), IP30 (housing), IP20 (terminals)		
Measurement Category	U: 600 V CAT III, I: 300 V CAT III		
Mechanical			
Housing Material	Polycarbonate (Makrolon)		
Flammability Class	V-0 according UL94, self-extinguishing, not dripping, free of halogen		
Weight	800 gm		

Salient Features

- Direct measurement up to 690V, CATIII
- Color display – 3.5" or 5.0" TFT (model dependent)
- Web server for real time meters, setup, reporting (requires Ethernet)
- Limit & condition monitoring with alarming
- Harmonic analysis in accordance with IEC 61000-4-7
- System imbalance monitoring
- Ethernet, RS485, Modbus, Profinet, IEC 61850 (model/option dependent)
- Standard Digital I/O. Optional Analog outputs, Relays, Digital inputs
- Temperature monitoring (optional)
- Fault detection (optional)
- Compatible with SmartCollect software or your own software (via Modbus & other protocols)
- UL and CE Compliant. 3 Year Warranty

Measurements

- Input channels voltage / current: 3/3 & 4/4
- Instantaneous values of U, I, IMS, P, Q, S, PF, LF, QF
- Extended reactive power analysis
- Imbalance analysis
- Neutral current Measured / Calculated
- Measures: V, I, W (P), VA (S), VAR (Q), PF, Demand, Energy, process parameters & much more
- PQ Disturbance recorder, 1/2 cycle RMS values per IEC 61000-4-30 (model/option dependent)

Models available:
AM1000, AM2000, AM3000



0.2s Class as per
(IEC 62053-21/22)

Specifications

Inputs			
Voltage	57.7 to 400 V _{LN} (UL: 347V _{LN}), 100...693 V _{LL} (UL: 600V _{LL})		
	Maximum: 480 V _{LN} , 832 V _{LL} (sinusoidal)		
	Impedance: 1.54 MΩ per phase		
	Overload Capacity: Continuous: 480 V _{LN} , 832 V _{LL} (PQ3K); 520 V _{LN} , 900 V _{LL} (PQ5K)		
Current	Nominal Current: 1 ... 5 A (max. 7.5 A)		
	Maximum: 7.5 A		
	Overload capacity: 480 V _{LN} , 832 V _{LL} continuous; 800 V _{LN} , 1386 V _{LL} , 10 x 1 s, interval 10s		
Nominal Frequency	42 ... 50 ... 58 Hz, 50.5 ... 60 ... 69.5 Hz		
Sampling Rate	18 kHz		
Types of Connections			
Connection Mode	Single phase or split phase (2-phase system)	3 or 4-wire balanced load	Only AM1000/AM3000: 3-wire balanced load [2U, 1I]
	3-wire unbalanced load, Aron connection	3 or 4-wire unbalanced load	4-wire unbalanced load, Open-Y
I / O Interface			
Analog Outputs (optional)	Linearisation: Linear, kinked		
	Range: ±20mA (24mA max.), bipolar		
	Accuracy: ±0.2% of 20mA		
	Burden: ≤ 500Ω (max. 10 V/20mA)		
Relays (optional)	Contacts: Changeover contact		
	Load capacity: 250 V AC, 2 A, 500 VA; 30 V DC, 2 A, 60W		
Digital Inputs Passive	Nominal Voltage: 12/24 Vdc (30 V max.)		
Digital Inputs Active (optional)	Open circuit Voltage: ≤ 15 V		

I / O Interface			
Digital Outputs (2, Standard)	Nominal Voltage: 12/24 Vdc (30 V max.); Nominal Current: 50mA (60mA max.)		
Temperature Inputs (optional)	Number of channels: 2		
	Measurement sensor: Pt100 / PTC; 2-wire		
Accuracy			
Voltage & Current	AM1000/2000: 0.2%; AM3000: 0.1%	Imbalance U, I	±0.5 %
Power	AM1000/2000: 0.5%; AM3000: 0.2%	Harmonic, THD U, I & Current	±0.5 %
Power Factor	AM1000/2000: 0.2°; AM3000: 0.2°	Active Energy	AM1000/2000: 0.5S; AM3000: 0.2S
Frequency	±0.01Hz	Reactive Energy	AM1000/2000: 0.5S; AM3000: 0.5S)
Interfaces			
Ethernet: Standard (AM3000), Optional (AM1000/AM2000)	Physics: Ethernet 100Base TX; RJ45 socket		
	Mode: 10/100 MBit/s, full/half duplex, autonegotiation		
	Protocols: Modbus/TCP, http, https, NTP, IPv4, IPv6		
IEC61850 (optional)	Physics: Ethernet 100Base TX; RJ45 socket, 2 ports		
	Mode: 10/100 MBit/s, full/half duplex, autonegotiation		
	Protocols: IEC61850, NTP		
PROFINET IO (optional)	Conformance class: CC-B		
	Physics: Ethernet 100BaseTX, RJ45-Buchsen, 2 ports		
	Mode: 10/100 Mbit/s, full/half duplex, auto-negotiation		
	Protocol: PROFINET, LLDP, SNMP		
MODBUS/RTU: Standard (AM2000), Optional (AM1000 /AM3000)	Physics: RS-485, max. 1200 m (4000 ft)		
	Baud rate: 9.6 to 115.2 kBaud		
Time Reference (Internal clock)	Clock accuracy: ± 2 minutes/month (15 to 30°C)		
	Synchronisation: via NTP server or GPS		
Environment & Safety			
Operating Temperature	Without UPS: -10 to + 55 °C; With UPS: 0 up to + 35 °C		
Storage Temperature	-25 to +70 °C		
Temperature Influence	0.5 x basic uncertainty per 10 K		
Long-term Drift	0.5 x basic uncertainty per year		
Others	Application group II (IEC/EN 60 688)		
Relative Air Humidity	<95 % without condensation		
Operating Altitude	≤2000 m above NN		
Protection Class	II (protective insulation, Voltage inputs via protective impedance)		
Pollution Degree	2		
Protection	IP54 (front), IP30 (housing), IP20 (terminals)		
Measurement Category	U: 600 V CAT III, I: 300 V CAT III		
Mechanical			
Installation Position	Control panel installation		
Housing Material	Polycarbonate (Makrolon)		
Flammability Class	V-0 according UL94, self-extinguishing, not dripping, free of halogen		
Weight	800 g (AM2000/AM3000), 400 g (AM1000)		

Salient Features

- 4 models available to meet any circuit connection need
- IEC 61000-4-30 Class A Edition 3 compliant
- DNP3 and Modbus communications
- For new monitoring systems
- Add to existing 61000 system
- Direct replacement for the 61000 (61STD)
 - Reuse all mounting hardware, pods, etc.
- Compatible with PQView DE
- Memory - 4GB internal flash

Measurements

- Peak, Oscillatory & Negative transients
- Notching, Intermittent switching & Harmonics



Specifications

Voltage	
Channels	(4), differential inputs, AC/DC
Sampling	512 samples/cycle, 16 bit A/D, synchronous sampling
Range	1-600 Vac/dc
Full Scale Accuracy	0-600V, +/-0.1% of reading, <40V +/-0.5%FS
Frequency	50Hz, 60Hz
Harmonics	Per IEC 61000-4-7, individual harmonics to the 127th
Input Impedance	10MΩ to ground
Current	
Channels	(4), differential inputs, AC/DC
Sampling	512 samples/cycle, 16 bit A/D
Range	Model & CT dependent. 1.5Vrms FS, 5A or 1A
Accuracy	0.1% reading. Does not include CT
Harmonics	Per IEC 61000-4-7, individual harmonics to the 63rd
Digital Input (Optional)	
Range	0 – 200 Vdc
Sampling	1kHz sampling, Edge or level triggered
Logic	Programmed by user (active high or active low)
Time Stamped	Time stamped to the millisecond
Terminals	Screw terminals
Communications	
Standard	RJ45 TCP/IP Ethernet, USB; Optional - 3G/4G cellular
Protocols	XML, Modbus TCP, DNP3
Time Synchronization	NTP, optional internal GPS or IRIG-B
Instrument Power	
AC Range	90 to 250 Vac 50/60Hz
DC Range	100 to 300 Vdc
Battery	15 minute internal UPS (user replaceable battery)
Environmental	
Operating Temperature	0 to 55°C
Humidity	5 to 95%, non-condensing. Indoor use only

Salient Features

- High-speed Data Acquisition - for real-time datawatch
- Supports Modbus RTU and Modbus TCP/IP
- Alarm Capture - Multiple alarms can be captured
- Data Storage – extremely useful in distributed large networks
- Built-in clock
- AutoSync - of missed data after connectivity is restored
- Efficient Data Transfer – transfers efficiently to Server Database
- Less burden on LAN – significantly reduced traffic on the LAN network.
- Increased Network Reliability
- Cloud Compatible
- 2 or 4 RS-485 Ports
- SG - 2P | Ethernet Port
- 1 GPRS Port
- 8 GB Memory
- Alarm Capture Module
- 32 Devices per RS-485 port
- Modbus RTU and Modbus TCP/IP



Specifications

Inputs	
Isolation	(4), differential inputs, AC/DC
Impulse withstand Voltage	6kV (peak)
Display	
Indication	Run, Fault, Alarm
Display (SG - 4P)	1.3" OLED display
Auxiliary Supply (SG - 4P)	
Rating	18 to 36 Vdc
Power Consumption	<5W
Auxiliary Supply (SG - 2P)	
Rating	85 to 265 Vac
Power Consumption	<5W
General Specifications	
Temperature	Operating: -10°C to +55°C ; Storage: -40°C to +70°C
Humidity	<5% to 95% RH non-condensing
Mechanical Specifications	
Case	PC/ABS Plastic FR Grade
Installation	DIN rail
Ports	
485 Ports	Modbus RTU Master - 4800bps to 115200bps
Ethernet	10/100M Ethernet - RJ45 connector
SIM Port	1 port (GSM)

ALENSOFT

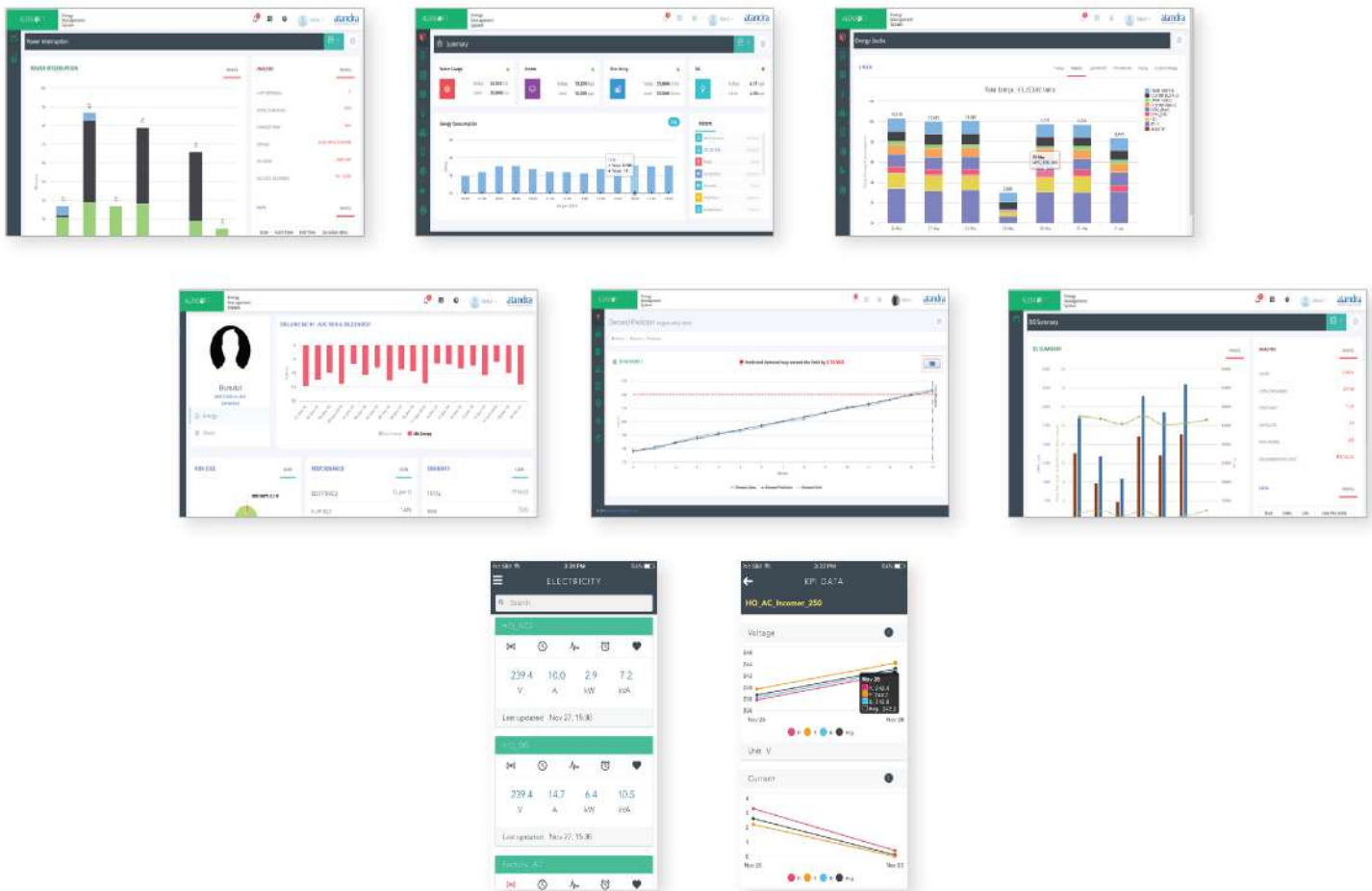
Energy & Resource Management System

The ALENSOFT is an Energy & Resource Management solution for large enterprises with a network of distributed factories or a single large facility, that enables them to be aware of and in control of their energy and resource costs. It helps significantly in the areas of energy efficiency, better system & resource utilisation, improving specific energy norms and improving quality of maintenance. KPIs that help measure sustainability norms and compliances, as well as deviations, are an integral part of the system.

ALENSOFT is a very simple, intuitive and dashboard driven energy management software platform that strives to make energy management simpler. ALENSOFT is built on over 25 years of experience that enables key personnel across the hierarchy to take charge with timely and accurate information.



- **A new way of visualising data:** ALENSOFT presents data in easy to view dashboards. Critical information & deviations are visible at a single glance.
- **Advanced notifications and alerts:** Alerts and notifications can be programmed across the network. Alerts are application specific as well, so that you get a better perspective about each alert.
- **No limitations on data:** There are no tag or parameters limitations. All data from all devices connected is available in real-time and over time.
- **A wide variety of reports & views:** ALENSOFT has over 40 types of reports and views that help you get a better grasp of your entire factory or facility. Auto email and auto save features are also available.





GET your data

- Get data from all your energy & resources consuming points
- Monitor and get alerts in real-time



SET your targets

- Set targets for each consumption point
- Match targets with industry or facility norms
- Connect cost parameters to each target



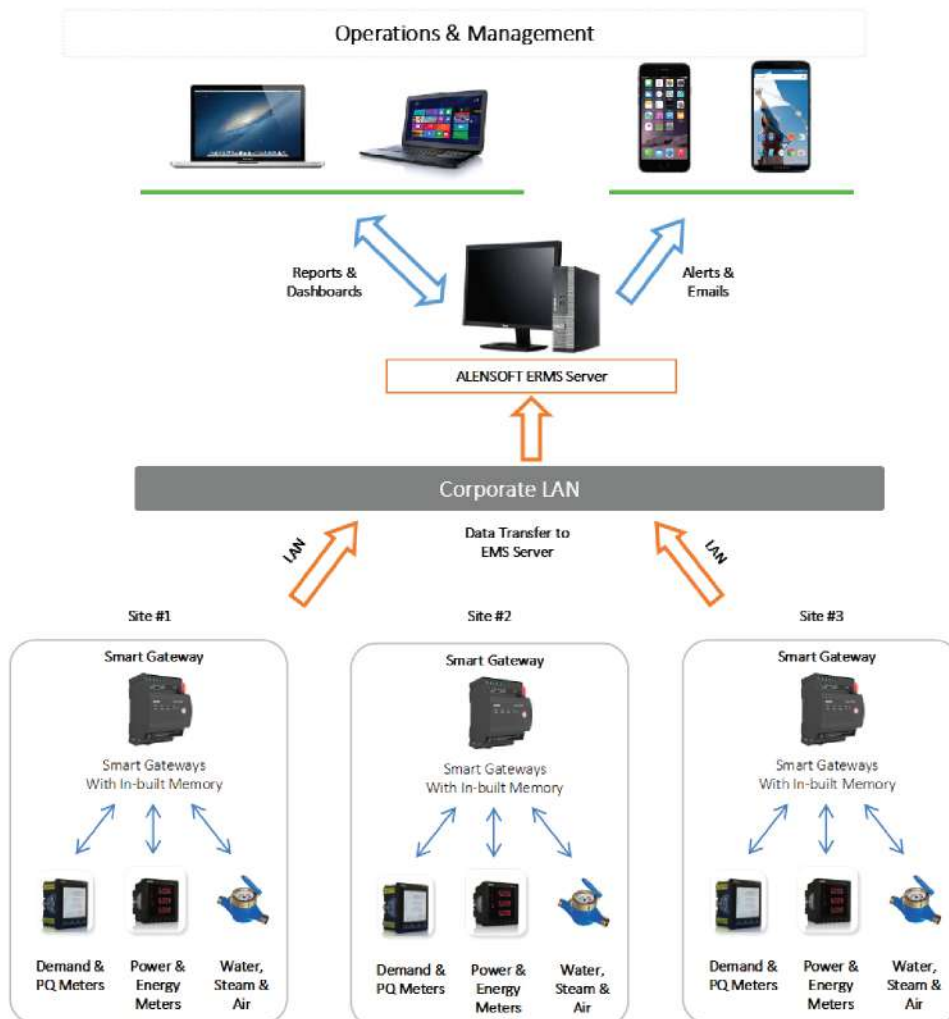
SAVE your energy

- Measure deviations from targets to qualify each opportunity as a gain or a loss
- Each gain or loss can be seen in terms of rupees earned or lost for true RoI analysis
- Qualify the effect of energy saving actions by showcasing the gains achieved



REVIEW your results

- Refine the targets by analysing the actual performance to raise the bar
- Create new energy saving opportunities



atandra

measure. protect. conserve

Atandra Energy Private Limited **(ISO 9001:2015 Certified Company)**

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