ezPAC™
SA300

SATEC
Powerful Solutions
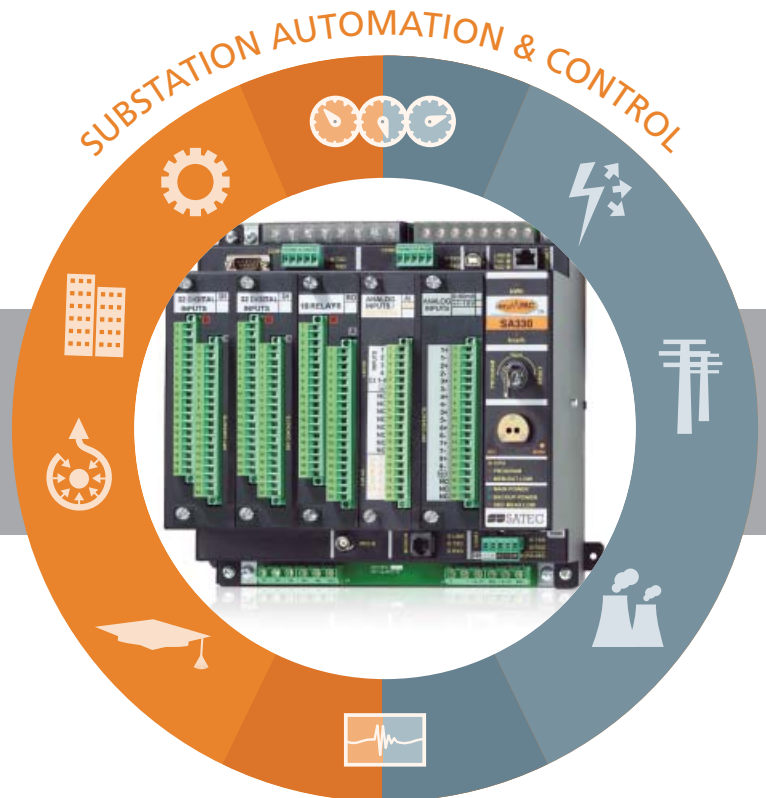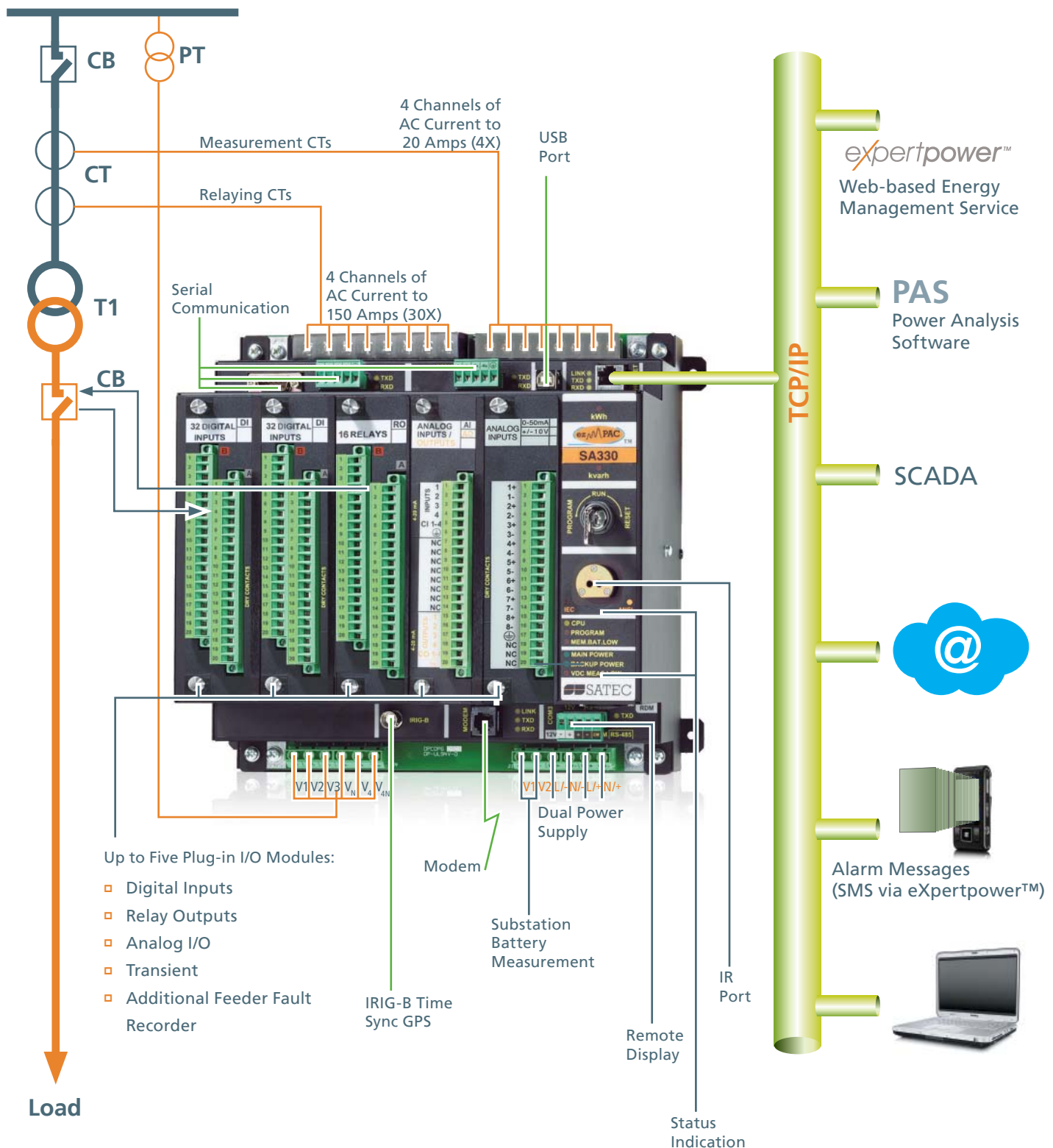
POWER QUALITY ANALYZER

FAULT RECORDER

MULTI-FUNCTIONAL POWER METER

CONTROL & ALARM FUNCTIONS

The Add-On Automation Solution

CB

PT

Measurement CTs

CT

Relaying CTs

T1

Serial Communication

CB

4 Channels of AC Current to 20 Amps (4X)

USB Port

4 Channels of AC Current to 150 Amps (30X)

32 DIGITAL INPUTS — DI

32 DIGITAL INPUTS — DI

16 RELAYS — RO

ANALOG INPUTS / OUTPUTS — AI AO

ANALOG INPUTS

ez PAC SA330

SATEC

V1 V2 V3 V$_N$ V$_4$ V$_{4N}$

IRIG-B

MODEM

COM3 — RS-485

V1 V2 L/- N/- L/+ N/+

Load

Up to Five Plug-in I/O Modules:

- Digital Inputs
- Relay Outputs
- Analog I/O
- Transient
- Additional Feeder Fault Recorder

Modem

IRIG-B Time Sync GPS

Dual Power Supply

Substation Battery Measurement

Remote Display

IR Port

Status Indication

TCP/IP

expertpower™
Web-based Energy Management Service

PAS
Power Analysis Software

SCADA

@

Alarm Messages (SMS via eXpertpower™)

ezPAC™ SA300 Series

The ezPAC™ SA300 is a part of SATEC's Power Intelligence Unit (PIU) Family Series, combining an advanced power analysis and control device.

The SA300 Series is a fusion of many Intelligent Electronic Devices (IEDs) incorporated into a single powerful unit. It consolidates 6 functions to provide a complete solution for both substations and industrial automation:

- Revenue Metering
- Power Quality
- Distributed Fault Recorder
- Sequence of Events (SOE)
- Backup Protection equipment
- Control devices

The unique modular expansion chassis of the ezPAC™ SA300 series ensures meeting the needs of today and the future by selecting different plug-in options for multiple applications. The modular I/O design enables a custom-made product according to each customer's specific needs.

A Unique Solution for Utilities & Industrial Sector

- Substation Automation
- Power Quality Analyzer (IEEE1159 / EN50160 / GOST 13109)
- Disturbance Fault Recording
- Distance to Fault Calculations
- Precise Sequence Of Events (SOE) Recorder

Substation Automation

SATEC's ezPAC™ SA300 Power Intelligence Unit is an ideal cost effective means of automating an electrical substation. The ezPAC™ can be installed at a fraction of the cost and time involved in replacing protection relays. By adding one ezPAC™ device on each feeder circuit, ALL the information needed for substation automation is provided. The ezPAC™ extends the life expectancy of electromechanical relays for many years by providing the information lacking in electromechanical devices without interfering in the protection scheme.

The ezPAC™ is a low cost upgrade, with minimal panel and wiring adjustments. The modular I/O design guarantees a custom-made product fitting any application need.

Relay Target Information

Get all of the information available from a digital relay without replacing the electromechanical one.

Add-On Protective Relaying Backup

- Under / over frequency relay
- Automatic load shed & restore (0.01 Hz. with adjustable time delay)
- Reclosing relay

- Multi-shot automatic reclosing
- Synchro-check and LLDB/LBDL supervision
- Permit / block reclose
- Phase angle, slip frequency, LLDB/LBDL control
- Time overcurrent relay backup
- Back up prime TOC relay curve with up to 32 current magnitude and duration setpoints
- Communication protocols
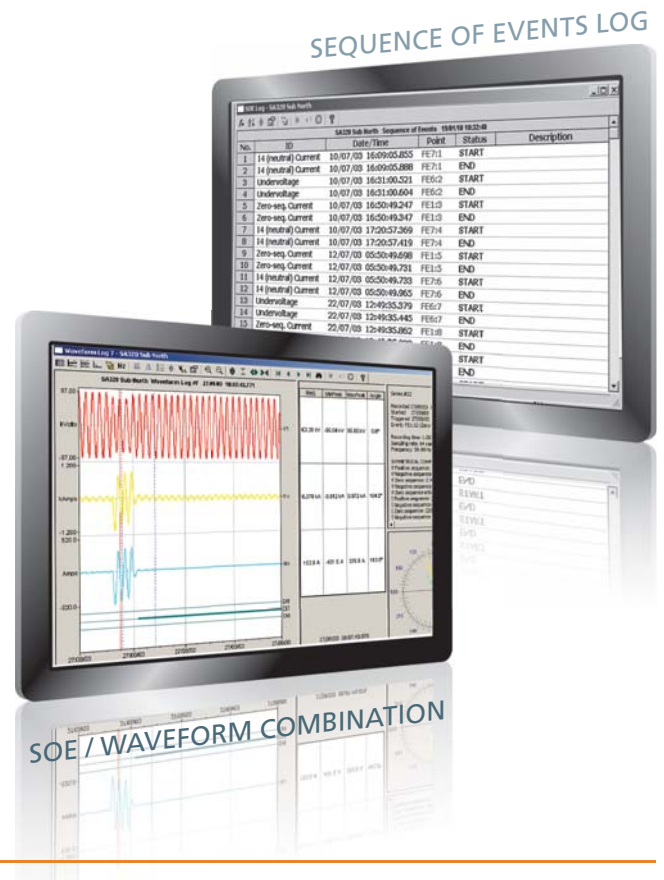 - Modbus, DNP3.0
  - IEC 61850

Sequence of Events

Designed for an electrical utility substation or industrial environment, to record contact openings or closings of field devices such as electromechanical and microprocessor controlled relays.

The Sequence Of Events (SOE) Recorder can log four types of events: digital input events, relay output events, fault events and setpoint events.

When displaying the SOE Log reports, PAS (see pg. 7) establishes links between the event and other database records where it finds a relationship between the recorded data and the event.

Each input point is programmable to be normally open or normally closed. Programmable status words and a 96 alphanumeric character descriptor for each input point is provided. De-bounce times for nuisance chattering of contacts are programmable from 1 to 256 msec in groups of eight. Wet or dry contacts can be mixed for up to 160 discrete inputs.

SEQUENCE OF EVENTS LOG

SOE / WAVEFORM COMBINATION

Fault Recorder

FAULT WAVEFORM ANALYSIS

DISTANCE TO FAULT

The fault recorder provides 4 measured and recorded currents (including measured neutral current). The event log is complemented by waveform recording.

- IRIG-B time synchronization
- Up to 20 min. of continuous recording with 1 GB memory
- Programmable fault thresholds and hysteresis
- Up to 150 amps fault currents (30 x In)
- Zero-sequence currents and voltages
- Current and voltage unbalance
- Under-voltage, neutral current
- Ready-for-use fault reports—fault currents magnitude and duration, coincident volts magnitude, fault waveforms and RMS trace
- Distance to fault calculation
- Multi-feeder (up to 3) fault recorder
- Waveforms from 2 separate locations (via PAS)

Power Quality Recorder

Cutting Edge Power Quality Analyzer & Recorder

The ezPAC™ is among the most advanced power quality analyzers and recorders on the market. The instrument is a product of SATEC's 20 years of experience in the creation of power quality instruments. The ezPAC™ is designed to fully comply with the most demanding industry standard, IEC 61000-4-30 Class A. It provides power quality reports and statistics according to EN50160, complimented by comprehensive power quality event/data log with waveforms available for detailed Power Quality event analysis. Redundant power supply allows full readiness for any power quality event, including major dips and interruptions. The individual harmonics and inter-harmonics are analyzed according to IEC 61000-4-7. The instrument also supports directional power harmonics analysis. The flicker is measured and analyzed according to IEC 61000-4-15.

HARMONIC SPECTRUM

ITI (CBEMA) CURVE

EN50160 COMPLIANCE REPORT

WAVEFORM ANALYSIS
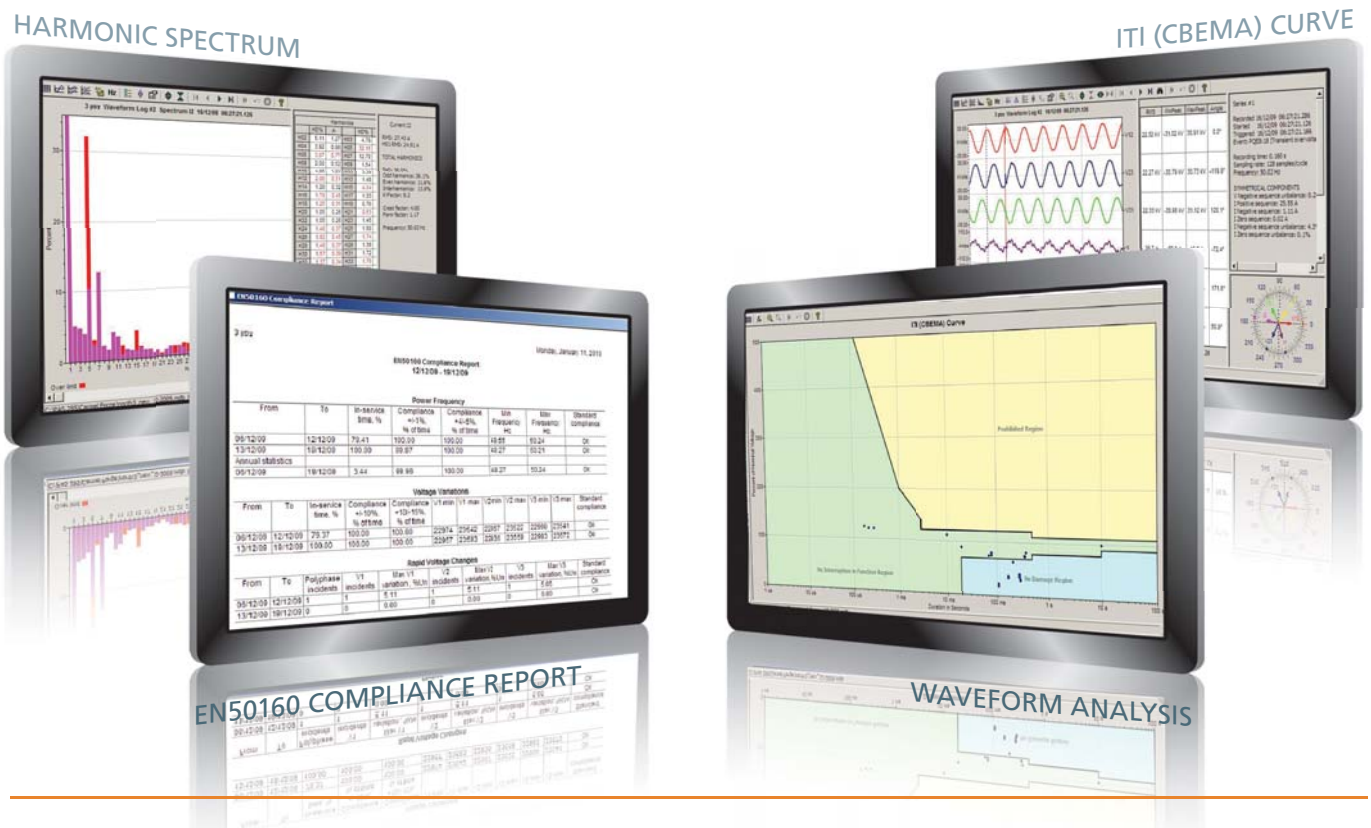
- Power Quality analysis and reading according to IEC 61000-4-30 Class A
  - Sags/swells (dips/overvoltages), interruptions, frequency variations
  - Flicker, voltage unbalance, harmonic and interharmonic voltages
  - Programmable thresholds and hysteresis
- Built-in EN50160 statistics & reports
- Redundant auxiliary power supply for recording major dips & interruptions
- Harmonics & interharmonics according to IEC 61000-4-7
  - Harmonic & interharmonic volts and amps

- Directional power harmonics and power factor phasors
- Voltage and current THD coefficients
- Currents TDD coefficients and K-Factors
- Symmetrical components
- Flicker measurement according to IEC 61000-4-15
- Waveform recording
  - Selectable sampling rate up to 256 samples/cycle
- Power Quality event recorder
- Event recorder for logging internal diagnostic events, control events and I/O operations
- Waveform & data recorder

Transient Recorder

The ezPAC™ provides state-of-the-art fast transient recording capability. Transient pulses as short as 20μs at 50 Hz (17μs at 60 Hz) can be reliably recorded and analyzed. The ezPAC™ can record such short pulses by a separate electronic channel with a sampling rate of 1024 samples/cycle. The transient amplitude is recorded relative to the ground in accordance with the strict definitions of power quality standards (EN50160). The instrument can measure transient pulses with an amplitude of up to 2 kV (withstands up to 6 kV). Four voltage waveforms (3 phases & neutral relative to the ground)

SHORT TRANSIENT EVENTS VIA PAS
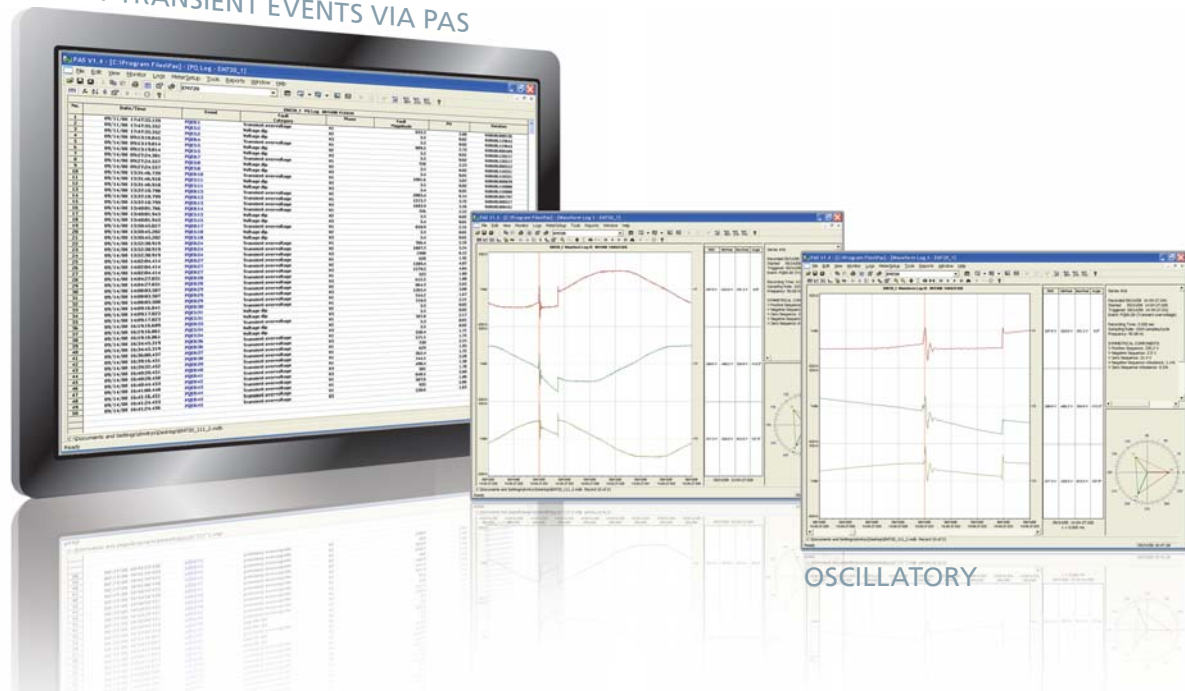
OSCILLATORY

eXpertpower™

POWER QUALITY LOG

The ezPAC™ SA300 is supported by eXpertpower™, SATEC's web-based energy management service.

eXpertpower™ collects, archives, and analyzes energy and Power Quality data while allowing multiple users to view this data in reports, tables, graphs, waveforms, and charts. eXpertpower™ introduces a mechanism for identifying, following-up and solving power system problems, from anywhere, anytime—via the web. It also enables effective creation and implementation of the customer's energy saving plan.
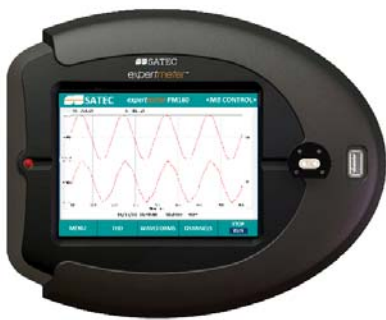
On the basis of raw data provided by the ezPAC™, eXpertpower™ provides the following features:

- Automatic billing
- Bill comparison
- Power Quality event log and waveforms
- Power Quality reports and statistics (complies with EN50160)
- Weekly/monthly analysis to follow up energy saving plans
- Reports and trend monitoring
- Real time data monitoring
- Alarms via cellular phone, pager and e-mail
- Export to PDF for reports and billing

HMI Remote Display Modules

The ezPAC™ SA300 series offers you a choice of three display options: our new color TFT Touch Panel LCD graphical display for local monitoring and setup, a multi-parameter LED display or a standard LED display.

The ezPAC™ display modules have a fast RS485 port and communicate with the SA300 series through the Modbus RTU protocol. Remote displays can be located at distances of up to 1.2 km from the device. Dual panel mounting: Round 4"; Square 96x96 DIN

TFT Touch Panel

The eXpertmeter™ Series high-resolution graphical display enables viewing all online data, stored data, and real-time waveforms.

Intelligent Remote Console – IRC

- Smart console – 5.7 inch TFT Color Display with Touch Panel, combining conservative and up-to-date technologies
- Multiple-device monitoring, interactive menu
- Heavy duty graphic display, withstanding wide temperature range environment

LED Remote Consoles – RDM

Both modules have digital six-digit windows with bright LEDs well suited for direct sunlight applications.

RDMLED—3 Windows Super-Bright LED Display

This module allows the user to view real-time RMS and Harmonics measurements, status indication parameters, and perform basic setup operations when installing and servicing the device.

RDM312—12 Windows Super-Bright LED Display

The RDM312 is a panel mounted module allowing the user to simultaneously view 12 real-time RMS measurements: 3 phase volts and amps, neutral current, active reactive and apparent power, power factor and frequency.

PAS—Power Analysis Software

PAS is SATEC's application and set-up software tool for use with all SATEC instruments. The multi-purpose PAS software provides the following features:

- Direct data access for status monitoring and analysis
- Simple off-line instrument set-up
- Automatic polling of devices
- Power Quality characterization
- Automatic Power Quality reports
- EN50160 Power Quality statistics
- Waveforms from 2 separate locations

- Flexible TOU settings
- Control / alarm setpoints
- Extensive graphic and report capabilities
- Sophisticated analysis functions: event/data logs, trends, waveforms, harmonic spectrum, harmonics power direction, phasor diagrams
- Easy export to spreadsheets, Word and Excel
- Export to COMTRADE and PQDIF formats
- Instrument firmware upgrade

Technical Specifications

Fast Data Logging Recorder

- From ½ cycle RMS to 2-hour envelopes
- Programmable post fault on any internal and/or external trigger condition

Waveform Capture

- Provides simultaneous capture for all voltage and current channels with choice of samples rate, up to 1024 with transient option. Selectable pre-fault / post-fault recording length. Disturbance capture recording up to several minutes
- Special module for transient capture (<20μ sec.)

Harmonic Analyzer

- Total Harmonic distortion for Voltage and Current and up to the 63rd individual harmonic for V, I, P, Q
- Including directional power harmonics (Load or Source), V-I angle, K factor, vector diagram and symmetrical components

Multi-Function Power & Energy Meter

- Real time cycle-by-cycle measurement of high accuracy, true RMS voltage, current, power, demand and energy with continuous sampling of 32, 64, 128, 256 samples per cycle
- Revenue accurate meter
- Meets IEC62053-22 Class 0.2S or ANSII C12.20 (Class 0.2S)
- Advanced Time Of Use (TOU) feature (16 Energy sources include external digital pulses, up to 4 seasons, 4 daily profiles, 8 Tariffs, flexible automatic calendar) for any complex billing scheme. KYZ or KY output and LED indication for calibration and test

External Time Synchronization

- Provides 1 msec time resolution via IRIG-B time code input or satellite clock for common time base
- As an SNTP client, it can accept periodic synchronization of the meter clock from an SNTP server

Wide Range Voltage and Current Inputs

- Four 6kV impulse galvanic isolated AC voltage inputs
- Wide range application up to 690V
- Up to 8 galvanic isolated AC current inputs
- Combination of metering (10A/IEC or 20A/ANSI) and extended input range up to 3000% (150A) for fault current measurements
- Module up to 8 Additional current inputs
- DC voltage input—station battery monitoring (up to 300VDC)

Communication Platforms for Any Need

- 3 independent universal serial communication ports: RS232, RS422/485, up to 115200 bps (Modbus RTU/ASCII and DNP3.0 protocols)
- Ethernet 10/100 Base-T port (Modbus/TCP and DNP3.0/TCP protocols)
- IEC 61850 communication protocol for substation automation control
- USB 1.1 port (Modbus protocol 12 Mbps) for fast local communications and data retrieving
- Embedded 56K modem for communication through public telephone lines (Modbus RTU/ASCII and DNP3.0 protocols)
- Infrared port (Modbus RTU/ASCII and DNP3.0 protocols)
- Master/Slave protocol support

Digital & Analog I/O Options

- 5 expansion slots for a wide range of plug-in modules:
  - DI: 32 high speed digital Inputs, up to 5 modules
  - RO: 16 dry contact relay outputs, up to 4 modules
  - AI: 8 analog inputs / 8 fast analog input
  - AI/AO: mixed analog input and output module
- Multi-feeder monitoring current measurement using external split core CT
- Transients measurement module

Logging, Recording and Programming

- Programmable controller—up to 128 control setpoints, up to 8 conditions OR, AND, arithmetical functions logic, extensive triggers, programmable thresholds and delays, relay control, event-driven data recording
- 8 fast waveform recorders—simultaneous 8-channel AC, one DC: up to 160 digital inputs in a single plot
- Sampling rate 32, 64, 128 or 256 samples per cycle; up to 20 pre-fault cycles
- 1-ms resolution for digital inputs; up to 20 min. of continuous recording with 1 GB memory
- 16 fast Data Recorders (16 parameters on each data log): From ½ cycle RMS to 2 hours RMS envelopes; up to 20 pre/post-fault cycles; programmable data logs on a periodic basis and on internal or external trigger
- Precise Energy and Power Demand Meter. Flexible multi-tariff TOU, 16 summary energy and demand registers for substation energy management, accumulation of energy pulses from external Kwh meters, block and sliding demands
- 32 digital internal counters
- 16 internal programmable timers (1/2 cycle to 24 hours)

Input Ratings

3 AC Voltage Inputs: V1, V2, V3, VN

- Direct input and input via PT up to 828V AC line-to-line, up to 480V AC line-to-neutral
- Burden for 400V: <0.35 VA
- Burden for 120V: <0.03 VA
- Overvoltage withstand: 1000V AC continuous, 2500V AC for 1 sec.
- Galvanic impulse isolation: 6kV

Auxiliary AC Voltage Inputs: V4, V4N

- Direct input and input via PT up to 480V AC
- Burden for 400V: <0.35 VA
- Burden for 120V: <0.03 VA
- Overvoltage withstand: 1000V AC continuous, 2500V AC for 1 sec.
- Galvanic impulse isolation: 6kV

Standard AC Current Inputs: I1, I2, I3, I4

- Input via CT with 5A secondary
- Operating range: continuous 20A RMS ANSI or 10A IEC
- Fault currents: up to 150A RMS (30x) for 3 sec. 100 RMS for 10 sec.
- Burden: <0.15 VA
- Overload withstand: 20A RMS continuous, 400A for 1 sec.

Input via CT with 1A Secondary

- Operating range: continuous 4A RMS or 2A RMS fault currents; up to 30A RMS for 3 sec.
- Burden: <0.02 VA
- Overload withstand: 4A RMS continuous, 80A for 1 sec.
- Wire size: 10 AWG (1.5 to 3.5 mm^2). Terminals pitch: 10 mm.

Second AC Current Inputs: I5, I6, I7, I8

- Input via CT with 5A or 1A secondary
- Operating range and burden as standard AC current input

VDC Voltage Input

- Operating range: 2-290V DC
- Burden: <0.2 W, Accuracy: +/- 0.5%
- Galvanic isolation: 3250V AC for 1 min.
- Wire size: 10 AWG (up to 6mm^2). Terminals pitch: 9.5 mm

Power Supplies (Main & Redundancy)

- Isolation: galvanically isolated
- Option 120/230V AC-110/220V DC: rated input 85-265V AC 50/60 Hz
- 88-290V DC, Burden 20W
- 12V DC option: rated input 9.6-19V DC
- 24V DC option: rated input 19-37V DC
- 12V DC option: rated input 37-72V DC

Communication Ports

COM1

- Serial EIA RS232 optically isolated port
- Connector type: DB9 male
- Serial EIA RS422/RS485 optically isolated port
- Connector type: removable, captured wire, 5 terminals
- Wire size: up to 12 AWG (up to 2.5 mm^2). Baud rate: up to 115,200 bps.
- Supported protocols: Modbus RTU/ASCII, DNP3.0

COM2/3

- Serial EIA RS422/RS485 optically isolated port
- Connector type: removable, captured wire, 5 terminals
- Baud rate: up to 115,200 bps.
- Supported protocols: Modbus RTU/ASCII, DNP3.0

USB Port

- Non-isolated USB 1.1 port
- Wire type: standard USB cable, max. length 2 meters
- Supported protocols: Modbus RTU

Ethernet Port

- Transformer-isolated 10/100 Base-T port
- Connector type: RJ45 modular
- Supported protocols: Modbus TCP (port 502), DNP3.0/ TCP (port 20000), IEC 61850
- Number of simultaneous connections (sockets): 5

Modem Port

- Transformer-isolated internal 56K modem
- Connector type: RJ11
- Supported Protocols: Modbus RTU/ASCII, DNP 3.0

Infrared Port

- Optional optical IEC/ANSII head

Real-Time Clock

- Accuracy: maximum error 5 seconds per month @ 25°C

Log Memory

- Standard onboard memory: 1 GB

IRIG-B Port

- Optically isolated IRIG-B Port
- Time code signal: unmodulated (pulse-width coded)
- Connector type: BNC
- Recommended cable: 51 Ohm low loss – RG58A/U (Belden 8219 or equivalent), TNC connector
- Recommended GPS time code generator: Masterclock GPS-200A

Measurement Specifications

Parameter	Full Scale@ Input Range	Accuracy			Range
		% Reading	% FS	Conditions	
Voltage V1-V4	400V x PT ratio @ 690V	0.2	0.02	10% to 115% FS	0 to 999.99 kV Starting 0.6% FSU
Fault current I1- I4	CT	2.0		400%-3000% FS	0 to 9999.99A
SA300 Line current I5- I8	CT	0.2 0.2 0.2	0.01 0.01	ANSI C12.20: 1%-120% FS 120%-400% FS IEC687: 1%-200% FS	0 to 9999.99A
DC Voltage	220V		0.3	10% - 120% FS	0 to 290V DC
Active power	0.36xPTxCT @ 120V 1.2xPTxCT @ 690V	0.2 0.2	0.01 0.01	|PF| ≥ 0.5 and ⊕	-2,000,000 kW to +2,000,000 kW
Reactive power	0.36xPTxCT @ 120V 1.2xPTxCT @ 690V	0.2 0.3	0.015 0.015	|PF| ≥ 0.9 and ⊕	-2,000,000 kvar to +2,000,000 kvar
Apparent power	0.36xPTxCT @ 120V 1.2xPTxCT @ 690V	0.2 0.2	0.01 0.01	|PF| ≥ 0.5 and ⊕	0 to 2,000,000 kVA
Power factor	1.000		0.35	|PF| ≥ 0.5, I ≥ 2% FSI	-0.999 to +1.000
Frequency		0.02			40.00 up to 70.00 Hz
Total Harmonic Distortion, THD V(I), %V$_f$ (%I$_f$)	100	1.5	0.2	THD ≥ 1% FS, V ≥ 10% FSV I ≥ 10% FSI	0 to 999.99
Total Demand Distortion, TDD, %	100		1.5	TDD ≥1% FS, I ≥ 10% FSI	0 to 100
Active Energy Import & Export		Class 0.2 ANSI C12.20-1998, Current class 20 Class 0.2s IEC62053-22:2003			0 to 999,999.999 MWh
Reactive Energy Import & Export		As Reactive Power			0 to 999,999.999 Mvarh
Apparent Energy		Class 0.2 under conditions as per ANSI C12.20-1998 Class 0.2 under conditions as per IEC62053-22:2003			0 to 999,999.999 MVAh
Volt-Hours		Class 0.2		20%-120% FS	0 to 999,999.999 kVh
Ampere-Hours		Class 0.2		10%-200% FS	0 to 999,999.999 kAh
Symmetrical Components	Voltage FS	1.0		10%-120% FS	As voltage
	Current FS	1.0		10%-200% FS	As current
	Current FS	3.0		200%-300% FS	
Phasor angles		1 degree			

Key:

PT	External potential transformer ratio
CT	Primary current rating of external current transformer
FSV	Voltage full scale
FSI	Current full scale
Vf	Fundamental voltage
If	Fundamental current
⊕	@ 50% to 120% of voltage FS and 2% to 200% of current FS

Notes:

1. Accuracy is expressed as ± (percentage of full scale) ± 1 digit. This does not include inaccuracies introduced by the user's potential and current transformers. Accuracy calculated at 1 second average.
2. Specifications assumed: voltage and current waveforms with THD ≤ 5% for kvar and PF; reference operating temperature: 20°C-26°C.
3. Measurement errror is typically less than the maximum error indicated here.

Environmental Conditions

- Operating temperature: -20°C-60°C / -4°F-140°F
- Storage temperature: -25°C-80°C / -13°F-80°F
- Humidity: 0-95% non-condensing

Overall Dimensions

- Height 284.00 mm / 11.181"
- Width 255.24 mm / 10.05"
- Depth 185.00 mm / 7.28"
- Weight 5.0 kg / 11.02 Lb

Plug-In Modules

The unique modular design of the ezPAC™ SA300 ensures its adaptation to the changing needs of today and tomorrow, through a selection of numerous plug-in options for multiple customer applications.

DI 32
Digital Inputs

RO 16
Relay Outputs

AI/AO
Mixed Analog
Input / Output

FAI/AI
Fast Analog Input

Standard Compliance

EMC: 89/336/EEC as amended by 92/31/EEC and 93/68/EEC

LVD: 72/23/EEC as amended by 93/68/EEC and 93/465/EEC

Harmonized standards to which conformity is declared:

EN55011:1991; EN50082-1:1992; EN61010-1:1993;A2/1995

ANSI C37.90.1 1989 Surge Withstand Capability (SWC)

EN50081-2 Generic Emission Standard - Industrial Environment

EN50082-2 Generic Immunity Standard - Industrial Environment

EN55022:1994 Class A

EN61000-4-2

ENV50140:1983

ENV50204:1995 (900MHz)

ENV 50141:1993

EN31000-4-4:1995

EN61000-4-8:1993

ezPAC™ SA300 SERIES ORDER STRING

MODELS

SA320 - Power Quality Model	**SA320**
SA330 - Premium Model	**SA330**

OPTIONS—Basic Chassis

ACCURACY AND POWER QUALITY STANDARD

ANSI C12.20—IEEE1159 Full Power Quality American Standard	**A IEEE**
IEC62053-22—EN50160 Full Power Quality European Standard	**E EN**
IEEE1159 - Full Power Quality Standard + Fast Analog Input	**IEEEF**
Russian Standard GOST 13109	**GOST**

CURRENT INPUTS

5 Ampere	**5**
1 Ampere	**1**

POWER SUPPLY—MAIN

85-265V AC and 88-290V DC (Standard)	**ACDC**
9.6-19V DC	**1DC**
19-37V DC	**2DC**
37-72V DC	**3DC**

POWER SUPPLY—BACKUP

85-265V AC and 88-290V DC (Standard)	**BACDC**
9.6-19V DC	**B1DC**
19-37 DC	**B2DC**
37-72V DC	**B3DC**

DIGITAL INPUT MODULE (16 INPUTS)

DRY CONTACTS (Standard)	**DRC**
24V DC	**V24**
48V DC	**V48**
125V DC	**V125**
250V DC	**V250**

MODEM

No Modem	**0**
Modem	**MO**

INFRA-RED PORT

No IR Port	**0**
IR Port	**IR**

COMMUNICATION STANDARD

IEC61850 (SISCO)	**IEC**

OPTIONAL PLUG-IN MODULES

ANALOG INPUT / OUTPUT MODULE (4 INPUTS / 4 OUTPUTS)	**AIO**
+/- 1mA (0+/-1)	**A1**
0-20mA (0-10-20)	**A2**
0-1 mA (0-0.5-1)	**A3**
4-20mA (4-12-20)	**A4**
FAST ANALOG INPUT	**AIF**
0-50 mA	**5**
0-75mA	**7**
+/- 10V	**V**
RELAY MODULE (8 RELAYS)	**RLY**
Relays - 8	**R8**
Relays - 16	**R16**
DIGITAL INPUT MODULE (16 OR 32) AT LEAST 1 OF THE FOLLOWING	**DI**
DI16 DRY CONTACTS (standard)	**DRC**
DI16 24V DC	**V24**
DI16 48V DC	**V48**
DI16 125V DC	**V125**
DI16 250V DC	**V250**
DI32 Dry Contacts	**BDRC**
DI32 24V DC	**B24**
DI32 48V DC	**B48**
DI32 125V DC	**B125**
DI32 250V DC	**B250**

AIO [   ] X [ ]

AIF [   ] X [ ]

RLY [   ] X [ ]

DI [   ] X [ ]