SIEMENS

Ingenuity for life

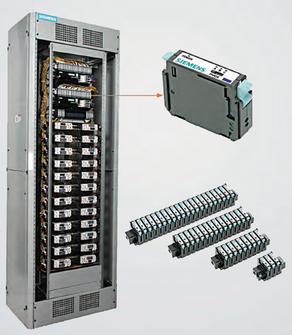
Web enabled Enterprise level energy management software WinPM.Net

Application features:
- Web enabled – Safari, Chrome, and IE compatible
- Standard and custom reports/graphics
- Utilizes SQL Server database
- Third party integration
- Waveform Capture and Analysis
- Extensive Integrated Alarming
- OPC and other protocol support

Web enabled energy management software Powermanager

Application features:
- PAC series meters, SEM3, 3VA/3WL/ 3VL breakers
- Standard Modbus device support
- Integrated graphics, reports, alarming and trending
- Web enabled

SEM3 – Branch Circuit Monitoring



Application features:
- Web Enabled configuration with real time data
- 0.2% and 1.0% accuracy metering
- Completely modular design
- Meter one, two or three pole loads
- Monitor 50A to 2000A loads
- Solid or Split Core milliamp CTs
- 45 Meters per Controller
- Email, Alarms, Trending, Load Summary, Event & Data Logging
- Embedded into Siemens PBDs, SWBDs and BusPlugs
- Wall mount enclosures for external retrofit applications
- Multi-Protocol support (Modbus RTU, Modbus TCP, BACnet MSTP, BACnet IP, SNMP, SMTP, and NTP)

	PAC 2200	PAC 3120	MD Meter	SEM3	PAC 3200T	PAC 3220	PAC 4200	9410	9810
Power, Energy and Demand									
Voltage/current: per phase, average	■	■	■	■	■	■	■	■	■
Voltage/current: unbalance	■	■		■	■	■	■	■	■
Power: real(kW), reactive(kVAR), apparent(kVA), power factor, frequency	■	■	■	■	■	■	■	■	■
Energy: bi-directional, import, export	■	■		■	■	■	■	■	■
Energy kWh: total, net	■	■	■	■	■	■	■	■	■
Demand: block, sliding window	■	■	■	■	■	■	■	■	■
Demand: thermal predicted								■	■
Power Quality Analysis									
Sag(Dip)/Swell disturbances monitoring								■	■
Voltage disturbance direction detection								■	■
High speed transient capture									10MHz
Harmonics (individual, even, odd, total) up to		THD only			THD only	THD only	63rd	63rd	63rd
Sampling rate, maximum samples/cycle	135K	135K		60	135K	135K	204	256	1024
Flicker, harmonics to EN50160, IEC 6100-4-7 / 4-15								■	■
Configurable for IEEE 519-2014, SEMI/ITIC									■
Data and Waveform Logs									
Triggered by setpoint, schedule, or external signal								■	■
Sequence-of-event logs or alarm logs, variable log depth				■			■	■	■
Minimum/maximum logs		■			■	■	■	■	■
Onboard Historical logging Memory	3)	3)		8 GB (6 months)	3)	3)	4)	320 MB	2 GB
Email data and event logs				■					
Waveform recording								■	■
Waveform in COMTRADE format with FTP								■	■
GPS time synchronization	NTP / SNTP			NTP	NTP / SNTP	NTP / SNTP	SNTP	NTP / SNTP	NTP / SNTP
Time-stamps, resolution in seconds	± 1sec			1 min	± 1sec	± 1sec	± 0.1sec	± 1 millisecond	± 1 millisecond
Time synchronization - IEEE1588/IEC615888/PTP								■	■
Communication Ports, Protocols and I/O									
( ) = Optional									
USB ports			1						2 (Not activated)
RS-485-only ports	(1)	1	1	1		(1)	(1)	1	2
Ethernet ports	(1)		(1)	1	1	2	1	2 (UTP)	2 (UTP)
PROFIBUS ports						(1)	(1)		
PROFINET ports						(2)	(2)		
Modbus RTU Slave on serial	(■)	■	■	■		(■)	(■)	■	■
Modbus RTU Master on serial ports								■	■
Modbus/TCP on Ethernet ports	(■)		■	■	■	■	■	■	■
Modbus TCP Master over Ethernet								■	■
BACnet MS/TP			■	■					
BACnet IP on Ethernet ports			■	■					
SNMP				■				■	■
DNP 3								■	■
IEC 61850								■	■
DHCP	(■)			■	■	■	■	■ (IP v4/ IP v6)	■ (IP v4/ IP v6)
RSTP								■	■
Secure protocols (HTTPS, SFTP, SSH, Secure Modbus)								HTTPS	HTTPS
Ethernet Gateway: 31 other meters accessible via RS-485							(■)	■	■
Multiple masters over Ethernet	3		2	4	3	3	3	8	8
On-board web server - Realtime, Trending	(■)			■ (CSV output download)	■	■	■	■	■
On-board web server - Waveform display								■	■
Analog inputs						(1)	(1)	(16)	(16)
Analog outputs								(8)	(8)
Digital status/counter inputs (standard/optional add-ons)	1	2		2 / (44)	1	2 / (8)	2 / (8)	3 /(24)	8 /(24)
Digital relay outputs (control/pulse)	1	2	1	1	1	2 / (4)	2 / (4)	1/(8)	4 FA/2RO (8RO) 1)
Integrated display	B/W	B/W	B/W	Optional Color		B/W	B/W	COLOR	COLOR
Setpoints, Alarming and Control									
Setpoints, minimum response time		■	■	■	■	■	■	½ cycle	½ cycle
Math, logic, trig, log, linearization formulas		and/or, > <		Grouping	and/or, > <	and/or, > <	and/or, > <	■	■
Multi-condition alarms		■			■	■	■	■	■
Email on alarm								■	■
Revenue Metering									
ANSI C12.1 accuracy compliant	1.0							■	■
ANSI C12.20		0.5	0.2	0.2			0.2	0.2 2)	0.2
EN50160 Compliance Reporting								■	■ (Ed4)
IEC61577-12 accuracy compliant	1.0	0.5			0.5	0.5			
IEC 61000-4-30 Class A/S								■ (Class S Meter)	■ (Class A Ed3)
IEC 62053-22 replaces IEC 60687 0.2S compliant	■	■		■		■	■	■	■ (0.1S)
IEC 62053-23, 24 compliant for Reactive Energy accuracy	■	■				■	■	■	■ (0.2S)
IEC 62586-1 (new Power Quality standard)									■
IEC 60687 accuracy class compliant	■ (1.0)	■ (0.5)		■ (0.2)			■ (0.2)	■ (0.2)	■ (0.2)
ANSI class 10, IEC 1/10 (1A nominal, 10A max)								■	■
ANSI class 20, IEC 5/20 (5A nominal, 20A max)								■	■
Time-of-use	■	■			■	■	■	■	■
Software Interface									
Native devices in software	Powermanager	Powermanager	Powermanager	Powermanager/ WinPM.Net	Powermanager	Powermanager	Powermanager/ WinPM.Net	WinPM.Net	WinPM.Net
Software support 3rd party integration	Modbus TCP or RTU	Modbus RTU	ModbusTCP, Modbus RTU, BACnet IP, BACnet MSTP	ModbusTCP, Modbus RTU, BACnet IP, BACnet MSTP	Modbus TCP	Modbus TCP or Modbus RTU	Modbus TCP or Modbus RTU	Modbus TCP or Modbus RTU	Modbus TCP or Modbus RTU

Some Features are optional, Refer to datasheets for allowable port configurations. Products meet or exceed the accuracy requirements of the standards listed; due to form factors, not all ANSI/IEC compliance tests may apply. Some products certified by third party laboratory.

1) FA - Form A contact output, RO - Relay output.
2) This meter is 0.2S compliant at 5A nominal CT, and 0.5S compliant at 1A nominal CT.
3) Load profile kWh/day for 63 days. kWh/month for 24 months.
4) Load profile kWh/15min values for 40 days.

Intelligent Software and Metering Devices

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