### Power, Energy and Demand

<table>
<thead>
<tr>
<th>Voltage/Current, phase, average</th>
<th>Voltage/Current: unbalance</th>
<th>Power: real (kW), reactive (kVAR), apparent (kVA), power factor, frequency,</th>
<th>Energy: bi-directional, import, export</th>
<th>Energy kWh: total, net</th>
<th>Demand: block, sliding window</th>
<th>Demand: thermal predicted</th>
</tr>
</thead>
</table>

#### High speed transient capture

- 17ps @ 60Hz
- 20ps @ 50Hz

#### 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

#### Waveform recording

- Waveform in COMTRADE format with FTP

#### GPS time synchronization

- Time-stamps, resolution in seconds

### Communication Ports, Protocols and I/O

<table>
<thead>
<tr>
<th>(T = Optional)</th>
<th>USB ports</th>
<th>Ethernet ports</th>
<th>PROFIBUS ports</th>
<th>PROFINET ports</th>
<th>Modbus RTU Slave on serial</th>
<th>Modbus RTU Master on serial ports</th>
<th>Modbus TCP on Ethernet ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-485-only ports</td>
<td>2 (Not activated)</td>
<td>1</td>
<td>1</td>
<td>(1)</td>
<td>(1)</td>
<td>2 (UTP)</td>
<td>2 (UTP)</td>
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<tr>
<td>Ethernet ports</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>2 (UTP)</td>
<td>2 (UTP)</td>
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<tr>
<td>PROFIBUS ports</td>
<td>(1)</td>
<td>(1)</td>
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<tr>
<td>PROFINET ports</td>
<td>(2)</td>
<td>(2)</td>
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<td>Modbus RTU Slave on serial</td>
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</tbody>
</table>

### Secure protocols

- HTTP
- HTTPS
- SFTP
- SSH
- Secure Modbus

### 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

### Application features:

- PAC series meters, SEM3, 3VA/3W/3V breakers
- Standard Modbus device support
- Integrated graphics, reports, alarming and trending
- Web enabled

### SEM3 – Branch Circuit Monitoring