



SEL-3378 Synchrophasor Vector Processor Guideform Specification

The synchronized phasor measurement processing system shall operate as a programmable data concentrator with network access to provide a combination of functions including, but not limited to, simultaneous collection of data from serial- and Ethernet-connected phasor measurement units, correlation and concentration of collected data based on UTC time stamp, and simultaneous transmission of time-aligned IEEE C37.118-2005 synchrophasor messages for as many as six clients.

Throughput Latency. The synchrophasor message throughput latency shall be less than 2 ms.

Processing Speed. The synchronized phasor measurement processing system shall process the synchrophasor data and send commands to external devices in less than 8 ms plus the synchrophasor message time interval.

Programming Interface. The synchronized phasor measurement processing system shall allow the user to program applications using the IEC 61131-3 programming language.

Preprogrammed Functions. The synchronized phasor measurement processing system shall include function blocks to perform power calculation, phase angle difference monitoring, and signal modal analysis.

Measurement Error Detection. The synchronized phasor measurement processing system shall be able to assess the substation topology and state to identify voltage and current measurement errors and assert the corresponding alarms.

Programmable Synchrophasor Message. The synchronized phasor measurement processing system shall allow the user to program a unique synchrophasor message to monitor user-defined internal logic.

Health Monitor. The synchronized phasor measurement processing system shall include constant self-health monitoring.

Environment. The synchronized phasor measurement processor shall be suitable for continuous operation over a temperature range of -40° to $+75^{\circ}\text{C}$.

Warranty. The synchronized phasor measurement processing system shall have a minimum 10-year, worldwide warranty.

