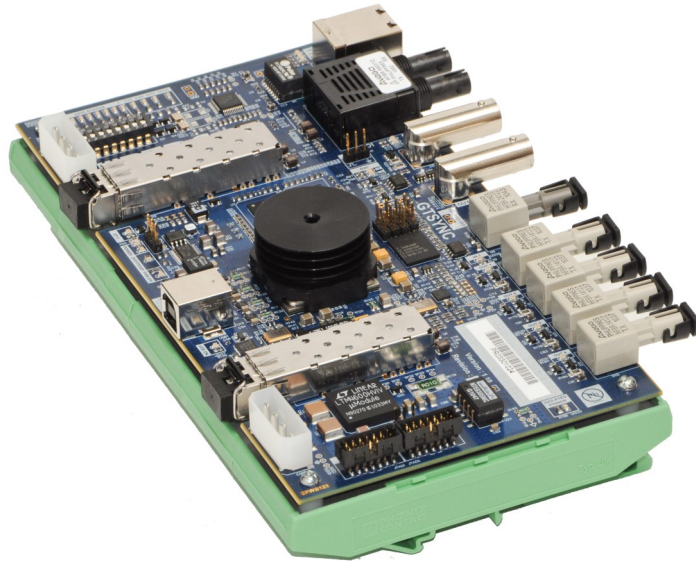


GTSYNC



The clock used to generate the RTDS® Simulator time step has an accuracy of +/- 100 ppm. As such, the phase of signals computed within the Simulator will drift relative to the phase of signals on external equipment that are synchronized to a high-precision time reference.

The GTSYNC Synchronization Card is used to synchronize the simulation time step to an external time reference (e.g. GPS clock) in order to eliminate this undesirable drift. The GTSYNC connects to the dedicated GT port of the NovaCor chassis or of the back of the GTWIF card in rack-based Simulators.

The GTSYNC is capable of using 1 Pulse Per Second (1PPS), IEEE 1588 PTP, or IRIG-B unmodulated signals as the synchronization source. The card supports 1PPS over BNC coax or ST type fiber connectors, IEEE 1588 over RJ45 or fiber, and IRIG-B over a BNC coax connection. The GTSYNC can also act as its own (internal) synchronization source in the absence of these external sources.

Regardless of whether the synchronization source is internal or external, and regardless of the external signal type, the GTSYNC can provide 1PPS or IRIG-B type output.

Applications

Synchronization of the simulation time step to an external time reference is necessary for high-precision applications such as phasor measurement unit (PMU) benchmark testing using the GTNETx2 card and PMU firmware. It is also advantageous for IEC 61850-9-2 Sampled Value (SV) output.