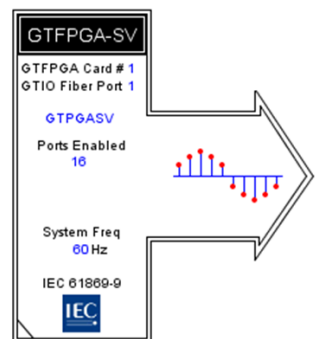
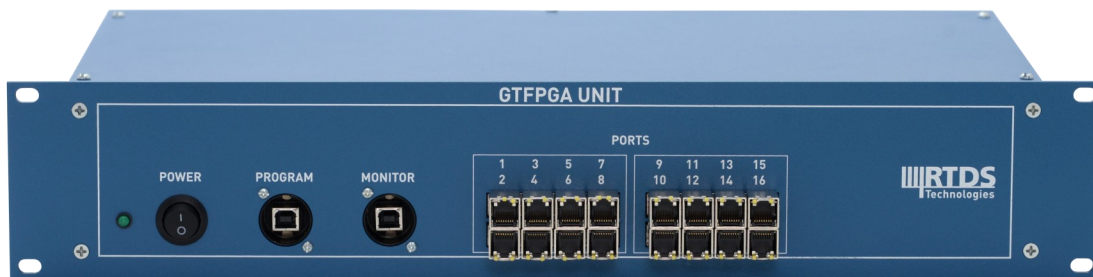


GTFPGA-SV

IEC 61850 Sampled Values Streaming via GTFPGA Unit

The GTFPGA-SV component provides IEC 61850-9-2LE and IEC 61869-9 Sampled Values (SV) communications using the GTFPGA Unit hardware. The use of dedicated FPGA-based hardware significantly increases the number of SV data streams that can be output from the RTDS® Simulator.

The GTFPGA Unit is connected to the RTDS Simulator via a fiber optic cable, which runs from the rear of the GTFPGA Unit to a NovaCor™ chassis or rack-mounted PB5 Processor Card participating in the simulation. It can be connected to external IEDs through the sixteen Ethernet ports on the front of the GTFPGA Unit.



Sampled Value Transmission Capabilities

When using IEC 61850-9-2LE configuration, the GTFPGA Unit is able to simultaneously transmit up to:

- 16 data streams for up to 4 current and 4 voltage channels, at a rate of 80 samples/cycle (1 ASDU) or 256 samples/cycle (8 ASDU)

When using IEC 61869-9 configuration, based on the Chinese National Standard for SV merging units, the GTFPGA is able to simultaneously transmit up to :

- 16 data streams for up to 24 quantities, at a rate of 80 samples/cycle (1 ASDU), 96 samples/cycle (1 ASDU), or 4,800 Hz (2 ASDU)
- 16 data streams for up to 9 quantities, at a rate of 256 samples/cycle (8 ASDU) or 14,400 Hz (6 ADSU)

In IEC 61869-9 mode, the quantities can be currents, voltages, or time-delay. The time-delay channel is the first channel in a Chinese National Standard merging unit SV data stream.

RTDS Simulator Requirements for using GTFPGA-SV

The GTFPGA-SV component can be used with RSCAD Version 5.0 or higher.

The GTSYNC Synchronization Card is required when using the GTFPGA-SV component. The GTSYNC synchronizes the SV timestamps to an external 1PPS signal from a synchronized time source.

When being used for SV, the GTFPGA Unit cannot be connected to GPC cards or older processor cards, and is only compatible with the NovaCor and PB5 based simulators.

Learn more at www.rtds.com, or contact us:

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