

PORTABLE RTDS[®] SIMULATOR

The Portable RTDS Simulator uses the same proven hardware and software as the full-size RTDS Simulator, packaged in a compact cubicle that is easily picked up and moved from place to place. Like all RTDS Simulators, the Portable provides continuous real time electromagnetic transient simulation and can be used for conducting closed-loop testing of protection and control.

Simulation Capabilities

The Portable is capable of simulating a variety of power systems. Some examples include the Cigre HVDC-SSR benchmark case with a 12-pulse monopolar system and controls, double-ended line protection test systems with twin circuit lines, systems for testing generator controls, distributed generation systems, etc. Seventy-two single-phase nodes can be included in the power systems. Diagrams of these or other sample systems can be provided upon request.

Simulation Hardware

The Portable has 7 card slots and that are typically populated with one Giga-Transceiver Workstation InterFace (GTWIF) card and three PB5 Processor Cards (PB5).

Optionally, one PB5 can be removed and replaced by one or two GTNET cards to provide full IEC 61850 testing capability through the GTNET-GSE firmware option.

Since the GTWIF card includes IRC channels, the Portable can be connected to other racks for larger network simulations.

A GTFPI card is installed in the top drawer of all Portable cubicles and provides external access to low level digital inputs and outputs.

An access hole is provided in the side of the Portable cubicle to allow fibre optic connections to GTIO cards from PB5 cards and IRC connections from the GTWIF to other simulator racks.

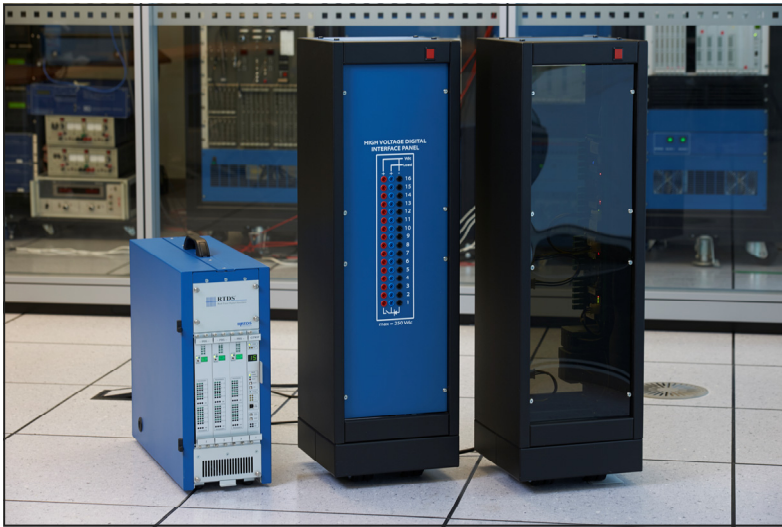
Dimensions

Weight ~ 40 lbs (18 kg)

Dimensions 23" x 8 1/8" x 20"
(58 cm x 21 cm x 51 cm)



Portable I/O Cubicle



Due to the limited capability to mount GTIO cards within the Portable cubicle (there is room for one GTFPI card), a separate I/O cubicle can be provided to house additional GTIO cards. The portable I/O cubicle has a 24 V power supply to run the GTIO cards and casters so that it can easily be moved from place to place. A flight case is also available for the portable I/O cubicle as an optional item.

The portable I/O cubicle contains two DIN rails on which GTIO cards can be installed. The following GTIO cards can be installed in the portable I/O cubicle:

GTAO - (analogue output) optically isolated digital to analogue (d/a) converter card which provides 12 output channels with 16-bit resolution.

GTAI - (analogue input) optically isolated analogue to digital (a/d) converter card that provides 12 input channels with 16-bit resolution.

GTDO - (digital output) optically isolated card that provides 64 digital output channels.

GTDI - (digital input) optically isolated card that provides 64 digital input channels.

GTSYNC - (synchronization card) time synchronization for 1PPS, IEEE 1588, or IRIG-B

250 Vdc Digital Output Interface Panel - 16 dry contact outputs typically used to send status signals (e.g. breaker status) to protection equipment at station level voltages.

Dimensions

Weight ~ 53 lbs (24 kg) without High Voltage panel

~ 60 lbs (27kg) with High voltage panel

Dimensions 12" x 12" x 39" (31 cm x 31 cm x 99 cm)

Total DIN Rail Space 59" (150 cm)

