ENERGY AUTOMATION PRODUCTS

SIPROTEC DigitalTwin

Innovative solution for virtual testing of SIPROTEC 5 protection devices
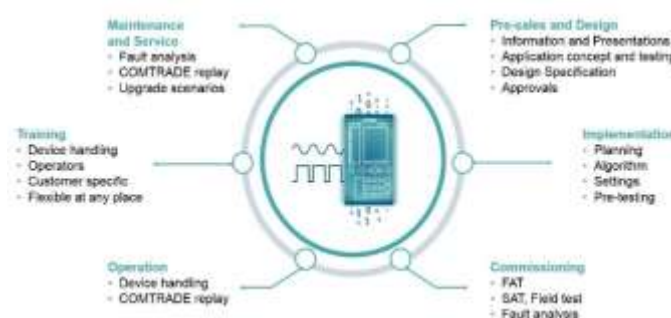
Description

The SIPROTEC DigitalTwin is the real time digital replica of a physical SIPROTEC 5 device including algorithm, functionality, and communication interfaces.

The new innovative cloud based SIPROTEC DigitalTwin offers comprehensive test of your SIPROTEC 5 devices as part of the energy automation system with high efficiency, performance, security, and availability 24/7 from everywhere without any hardware.

Application Scenarios – SIPROTEC DigitalTwin:

- Front display visualization and operation (menu navigation, function keys, ...)
- Injection of currents, voltages, binary inputs, e.g. for protection trips
- Test of protection functions, automation logics and customer specific applications
- Substation communication to SICAM A8000, SICAM PAS/SCC and 3rd party SCADA with the Ethernet protocols IEC 61850, DNP3, Modbus TCP, IEC 60870-5-104
- PMU and Power Quality system like SICAM PQS, SIGUARD PDP or PQ Advisor Compact
- IoT-Applications SICAM GridEdge or SIPROTEC Dashboard
- IEC 61850 GOOSE communication between devices e.g. interlockings
- Fault analysis e.g. replay of records
- Cybersecurity Function (Syslog, RADIUS, LDAP)
- Individual and intuitive Training of SIPROTEC 5

Application Areas
Saves time, increases quality throughout the entire lifecycle of your system.

Customer benefits

Testing of the energy automation system within minutes, without hardware and without additional effort.

- Faster energization of new systems thanks to shorter project lifetimes
- Reduced OPEX with shorter outages for higher availability thanks to better pre-testing (incl. patches)
- Reduced CAPEX in test equipment
- Fast and remote support and fault analysis by easily reproducing the behavior of products and systems
- Flexible, continuous, and personalized training in virtual test environment based on real system conditions

SIEMENS

Testing of the device

- Injection of static currents and voltages
- Simulation of binary inputs and analog units
- Device Operation (Display, LED)

Protection Testing

- With static inputs
- With COMTRADE replay
- With State Sequencer

Cybersecurity

- Windows Server
- Security Log
- Role based access control

Remote Apps

Use your applications fully integrated as remote desktop in the web-browser:

- DIGSI 5
- Web UI
- SIPROTEC Tools and more

Communication

- SCADA Systems
- Ethernet substation protocols
- Protection data interface
- Teleprotection interface
- Web UI
- IoT Connectivity / GridEdge

IEC 61850 communication

- GOOSE, MMS and Interlockings
- SCADA system
- Process bus communication