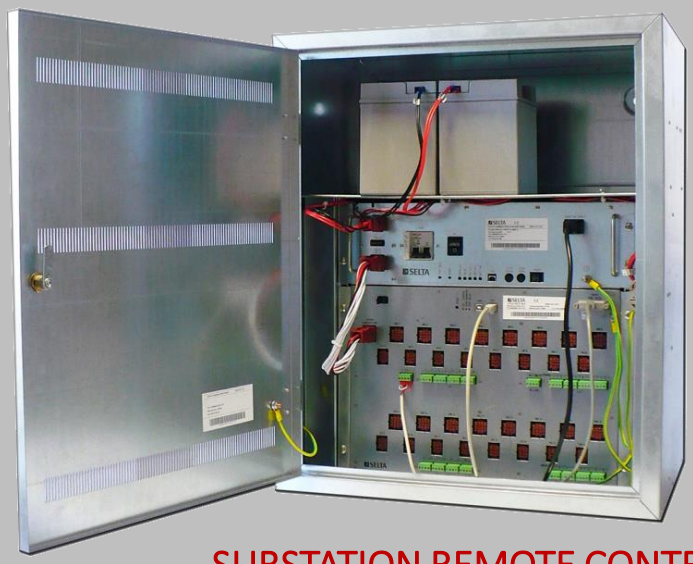


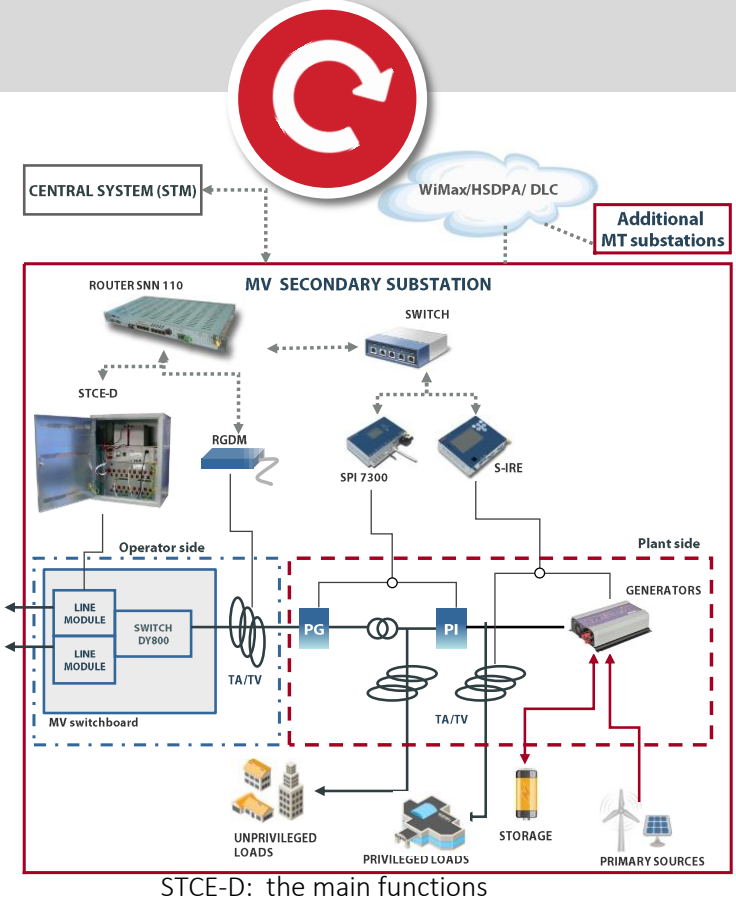
STCE-D

SUBSTATION REMOTE CONTROL EQUIPMENT FOR THE DISTRIBUTION NETWORKS

STCE-D is SELTA's integrated system for peripheral control; the **compact** solution for remote control and monitoring of secondary distribution power stations.
Made for both indoor (cubicle inside **secondary substations**) and outdoor (**pole**) installation, it has been specifically designed to manage a large number of peripheral stations, while still providing best performances.
As the whole STCE family offers, actually, a wide range of features to meet the remote control needs of electrical distribution secondary networks.
It complies with ENEL technical specifications for the new UP equipment of the MV network. In particular it not only conforms to the DX1215 rev. 7 standard, but it extends its functionalities supporting the programmable logic according to **IEC 61131-3** and implementing the **IEC 61850** protocol (server and GOOSE). The latter, especially, allows the management of several innovative functions required by the **Smart Grids**, such as the Selective Logic and the meshed management with petal reclosure on different feeder of the same MV half-busbar in a Primary Substation.

Performances

- QoS improvement
- Reduction of operating costs
- Increasing of the network availability for a better service to end-users
- Maintenance costs optimization through timeliness intervention in emergency.



STCE-D: the main functions

Network architecture

REMOTE CONTROL OF THE SECONDARY SUBSTATION

Remote command and control of the IMswitches

Data collection from the field and dispatching information towards DMS center

MV NETWORK MONITORING

Chronological log of fault current transitions

Detection of analog measurements

Selection of the fault trunk

The information collected is transmitted to a central SCADA system that processes information coming from different controlled peripheral devices and submits them to operators as graphic video pages. From the Centre also commands are sent to the operating organs of the substations (IMS).

DIAGNOSTICS

STCE-D provides control, management and local/remote reporting of working disturbances of the components. This information is displayed through Web Server (HTTPS protocol).

COMMUNICATION

- IEC 60870-5-101

- IEC 60870-5-104

(unbalanced operation mode)

The STCE-D equipment is connected to the centre through one of the following carriers:

Switched telephone network (PSTN)

Analog 4-wire dedicated channels (4W Leased)

GSM and DCS 1800 mobile phone network

GPRS mobile phone network

Satellite network

Radio network

IP network

SOME MORE FEATURES

Synchronization

Configuration and maintenance through dedicated software running on standard PC

Local or remote download of the application software

Probe for room temperature measurement through a PT 100 IEC 60751 sensor

IEC 61850 server with publisher/subscriber and GOOSE messages

Programmable logics according to the IEC 61131standard.

Mechanical solutions

The STCE-D equipment is available in two versions: STCE-D/8 and STCE-D/16.

. The UE 8, UE 16 units and the battery charger power supply can be provided separately.

STCE-D 8

STCE-D/8 consists of UE8, power charger, rack.

- 49 digital inputs
- 16 command outputs
- 9 analog inputs
- 8 digital outputs

The UE8 unit is equipped with 8 IMS interfacing plates, including following components:

- n. 8 male connectors to 9 sockets for the RGs
- n. 8 male connectors to 12 sockets for the IMS connection
- n. 20 cable clamps (1,5 mm2 sect.) for TS (8 double TS available + double TS Substation Door Opening and double TS IMS TR Opening)
- n. 20 cable clamps (1,5 mm2 sect.) for TM (8 TM available + one 4-cable TM T-cab).

STCE-D 16

STCE-D/16: consists of UE16, power charger, rack.

- 89 digital inputs
- 32 command outputs
- 17 analog inputs
- 16 digital outputs

The UE16 unit is equipped with 16 IMS interfacing plates, including following components:

- n. 16 male connectors to 9 sockets for the RGs
- n. 16 male connectors to 12 sockets for the IMS connection
- n. 36 cable clamps (1,5 mm2 sect.) for TS (16 double TS available + double TS Substation Door Opening and double TS IMS TR Opening)
- n. 36 cable clamps (1,5 mm2 sect.) for TM (16 TM available + one 4-cable TM T-cab).

POWER SUPPLY

The STCE-D power supply is provided by the power supply/ battery charger unit, which ensures the operating power to IMS motorized switches, LV circuit breakers, reclosers and fault detectors in the secondary substation..

Technical Features

	STCE-D/8	STCE-D/16
WORKING FEATURES		
Remote signals	49	89
Remote commands	16	32
Remote measures	9	17
Digital outputs	8	16
POWER SUPPLY		
Input Voltage	-24 Vcc positive pole to ground	
Power consumption	20 W	
REMOTE SIGNAL INPUTS		
Incoming policy	mass/open	
Inputs power supply voltage	- 24 Vcc (max. 1mA)	
Scanning period	20 ms	
Allowed resistance	open contact: ≥ 50 kΩ	closed contact : ≤ 150 Ω
GALVANICALLY SEPARATE ANALOG INPUTS		
Input currents	4 ÷ 20 mA, ± 5 mA	
A/D conversion accuracy	≥ 1%	
Scan period	1 s	
USCITE TELECOMANDI		
Output Type	Free polarity contacts, with N.O. (Normally Open) standard	
Rated Voltage	± 24 Vcc	
Overcurrent	5 A	
Maximum load impedance	2 k Ω	
EMC		
ESD	CEI EN 61000-4-2: 2011 Level 3 (+6kV contact, +8kV on air)	
EMC	CEI EN61000-4-3:2007+A1:2009+A2:2011 Level 3 (80 MHz ÷ 1GHz 10 V/m) ENV 50204 : 1996 Level 3 (10 V/m) CEI EN 61000-4-8:1997+A1:2001 Level 5 (100 A/m permanent, 1000 A/m for 1 sec) CEI EN 61000-4-10:1997+A1:2001 Level 4 (30 A/m)	
Power supply Digital I/Os Communication ports	Surge: Level 3 (±2kV / ±1kV) Burst: Level 4 (±4kV)	
COMMUNICATION		
Communication network type	IP, GSM	
Protocols	Server IEC 61850 + Goose Pub/Sub, IEC 60870-5-104, IEC 60870-5-101	
Interfaces	IEEE 802.3 100BaseTX, D-SUB25 RS 232	
DIAGNOSTICS		
Local	3 diagnostic LED	
WEB Server	Local and remote through HTTPS protocol	
ENVIRONMENTAL FEATURES		
Operating temperature	-10 ÷ +55°C	
Storage temperature	-25 ÷ +70°C	
Maximum relative humidity	93% at 40°C	
DIMENSIONS		
Indoor rack	760 x 600 x 400	
Power supply battery charger	133 x 482 x 250	
Remote operations display	177 x 482 x 220	310 x 482 x 220

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