



ENERGRID
SMART TECHNOLOGIES

SOLTC™ – Smart On-load Tap Changer

Realtime transformer adjustment without service interruption

SOLTC™ (Smart On-Load Tap Changer) is an MV/LV transformer solution with on-load tap changing for public substations, which allows LV voltage stabilisation without interrupting power supply to consumers.

Automatic voltage regulation (AVR)

- 3-phase LV voltage measurement
- OLTC stepping in case of limit value exceedance
- Goal: maintaining 230/400 V voltage despite load and grid fluctuations
- Configurable: terminal voltage-based regulation, loss-minimising optimisation.





SOLTC – Technical Specifications

Terminal voltage-based (smart) operation

- control based on data from remote sensors / smart meters
- real-time data feedback for substation control
- goal: **improvement of the voltage profile of the entire LV grid** (not only at the transformer output)

Real-time measurement and monitoring

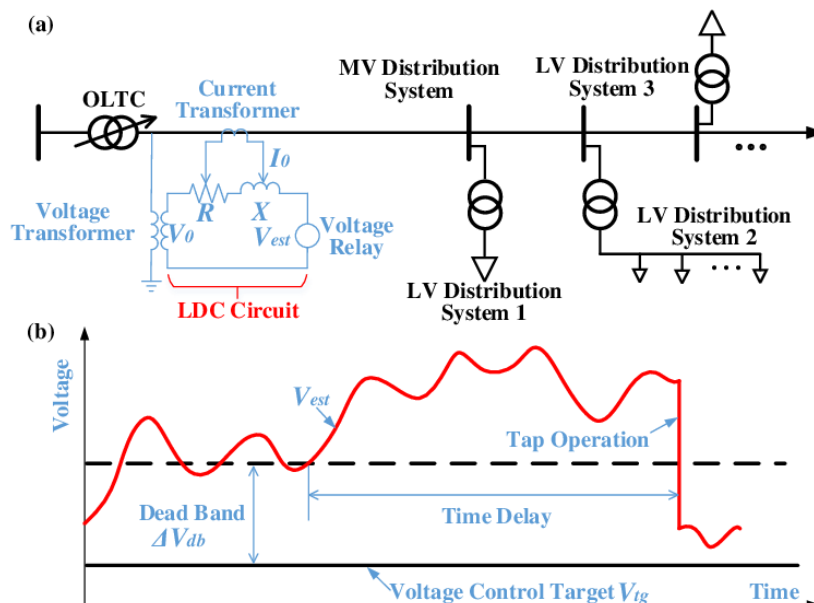
- MV/LV voltage, current, and power measurement
- temperature and operating status monitoring
- fault detection: overvoltage, short circuit.

Remote monitoring and control (SCADA)

- OLTC remote monitoring and parametrisation
- intervention without on-site presence.

Data collection and logging

- average phase voltages
- number of OLTC / switching operations
- event logging: voltage, current, and other problems.





ENERGRID
SMART TECHNOLOGIES

We produce SOLTC transformers within the following specification ranges:

- Standard: IEC 60076
- Installation: outdoor
- Number of phases: 3
- Nominal power: 50–1000 kVA
- Primary/secondary voltage: 6–24 kV / 0.4–0.42 kV
- Frequency: 50 Hz
- Vector group: Dyn5
- Cooling: ONAN
- Tapping factor / steps: $\pm 1.74\% \times 4$ (-4, +4 steps)
- Short-circuit impedance: 4–6 %
- No-load loss: 74.6–818 W
- Full load loss: 731.07–6425 W
- Primary rated current: 1.31–26.21 A
- Secondary rated current: 68.74–1374 A
- Noise level: < 60 dB(A)
- Total weight (with oil): 804.8–4139 kg (oil: 295–1172 kg)
- Dimensions (H×W×L): 1574–1641 × 859–1270 × 1324–1527mm