PGT9000

AC Traction Group Protection

Our PGT9000 protection relay protects the traction groups located in electrical railway sub-stations and facilitates the operation of your railway electrical network.

Based on more than 40 years of experience in this field, our PGT9000 relay is part of our 9000 Series designed for monitoring and controlling railway systems.

- High resolution colour touch screen
- Embedded web server
- IEC 61850 ed2 or Modbus servers

- 2x16 A circuit breaker outputs
- 28 configurable digital outputs
- 18 configurable digital inputs
- 16 configurable LEDs

- 48 Vdc to 125 Vdc ±15% power supply
- 19" - 3U - 355mm rack

- Performance
  - Instantaneous tripping time < 30 ms
  - Sampling rate: 6.4 kHz
  - Operating temperature: -5 °C to 55 °C

- Main standards
  - Design according to IEC 60255, EN 50124-1
  - EMC according to IEC 61000-4-*, EN 50121-5
  - Communication according to IEC 61850
  - CE marking according to IEC 60255-27 and IEC 60255-26

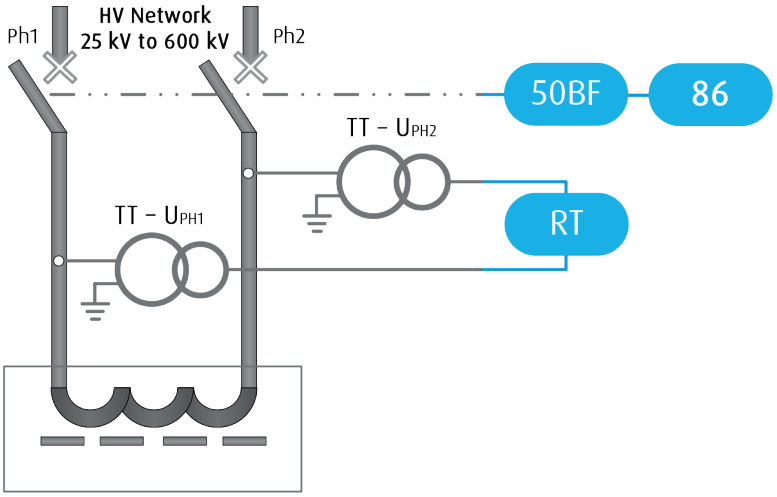
OUR TRADEMARKS

ice EE TECHNIREL

Protection & Control ice
Our energy at your service

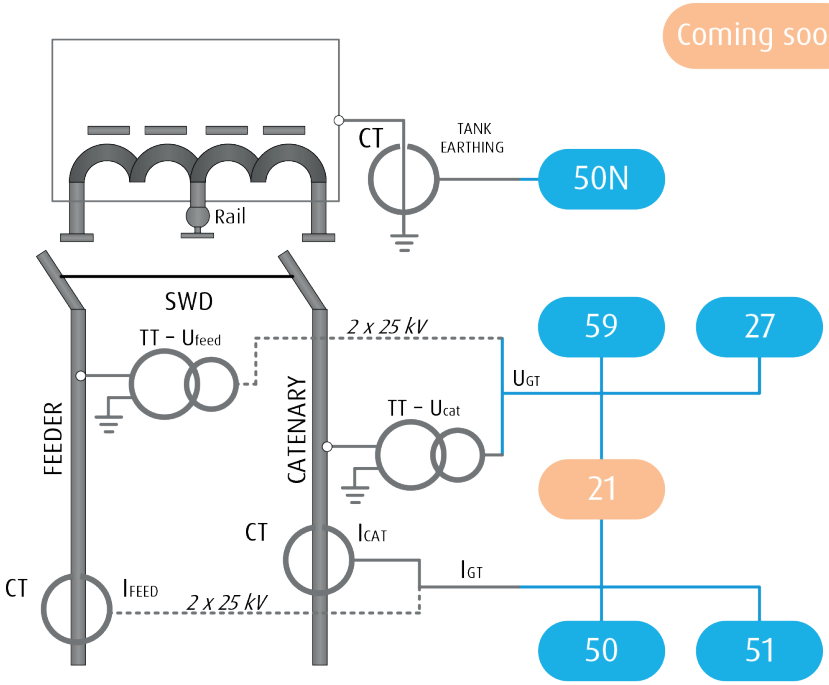
FUNCTIONAL SCHEME

Primary view



Secondary view

Coming soon



NB: [27] / [50] / [51] / [59] functions can work on both side of the transformer.

PROTECTION FUNCTIONS

- **[50] [51]** Overcurrent function
- **[50BF]** Breaker failure function
- **[27]** Undervoltage function
- **[59]** Overvoltage function
- **[50N]** Earth tank function
- **[RT]** Voltage reverse function
- *[21] Underimpedance function*

OPERATING FUNCTIONS

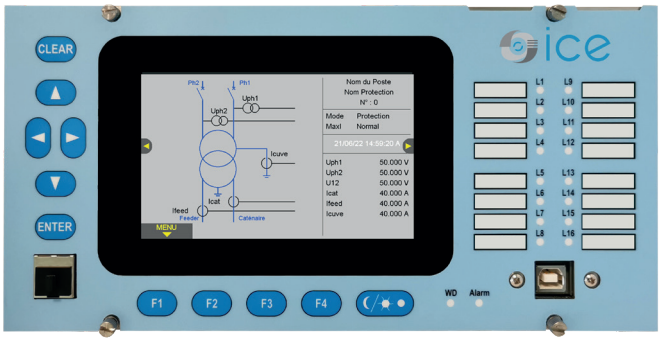
- **[86]** Circuit breaker monitoring
- Disturbance recording
- Logic selectivity

ADVANCED CONNECTIVITY

Compliant with the requirements of the IEC 61850 edition 2 standards, our PGT9000 relay also incorporates the following communication features:

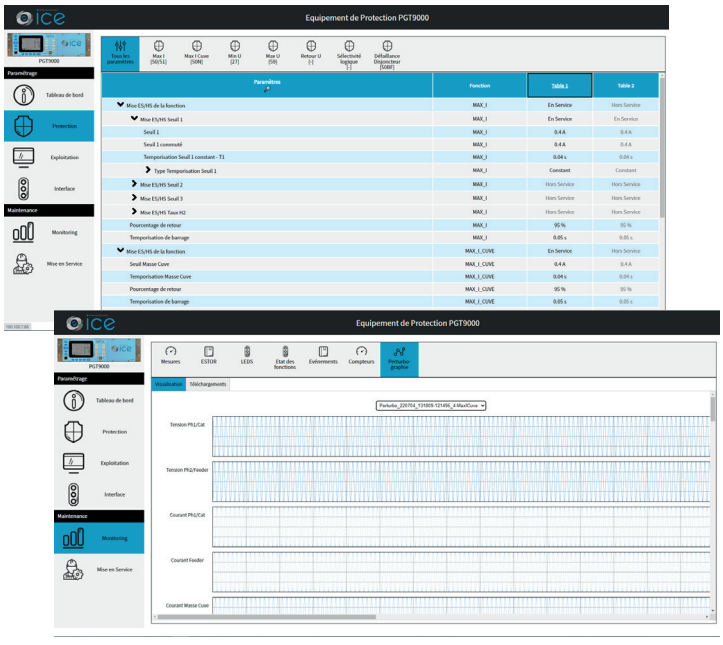
- IEC 61850-8-1 (MMS) and IEC 61850-9-2 (SV) synchronised by PTP 1588 (option)
- Modbus (serial and over TCP/IP) – 2 separate parameter sets
- Https (Configuration by Embedded Web Server)
- Time synchronisation by NTP
- Network redundancy via HSR/PRP (option)
- SFP cage (Ethernet RJ45 reception or optic fibre choice)

ADVANCED CONNECTIVITY



- 800x480 colour touch screen
- Navigation directly from the screen or via the dedicated keys
- 16 configurable LEDs

WEB INTERFACE



- Interface easily accessible with a web browser, locally via the USB type b interface or via the Ethernet port
- Convenient tool that simplifies and speeds up operations of:
  - Diagnostic
  - Setup
  - Equipment commissioning

TECHNICAL CHARACTERISTICS

Current inputs: Catenary, Feeder, Earth tank (3)

- Bi-calibre 1 A-5 A with short-circuiters
- Consumption at In < 0.5 VA
- Withstand a permanent 3 In and 80 In/1 s
- Measurement at ±1% from 0.1 to 4 In and ±5% from 4 to 12 In
- Working frequency: Fnom ± 3 Hz

Voltage inputs: Catenary and Feeder (2)

- Un 100 V or 110 V
- Withstand a permanent 1.5 Un and 1.9 Un/5 s
- Measurement at ±1% from 0.1 to 1.4 Un
- Working frequency: Fnom ± 3 Hz

Digital inputs: 18

- Proofreading of inputs status
- Power supply: 48 Vdc to 125 Vdc ±10%
- Current: ≥ 2mA

CB outputs: 2

- Trip relay
  - DC voltage withstand: 125 Vdc
  - Continuous current: 16 A
  - Breaking capacity: 4,000 VA
- Output control

Digital outputs: 28

- Signalling relays
  - DC voltage: 125 Vdc
  - Continuous current: 6 A
  - Breaking capacity: 1,500 VA
  - Max switching time: 10 ms (activation and deactivation)
- Coil/contact insulation: 4 kV
- Output control

Performance

- Instantaneous tripping time < 30ms
- Sampling rate: 6.4 kHz

Dimensions

- 19" - 3U - 355mm rack

Recordings

- 1,000 events
- 32 disturbance records in COMTRADE format

Communication protocols

- IEC 61850 edition 2
  - IEC 61850-8-1 (GOOSE, MMS)
  - IEC 618509-2 SV with IEEE 1588 PTP sync
- Network redundancy
  - PRP (Parallel Redundancy Protocol)
  - HSR (High-availability Seamless Redundancy)
- Modbus
- Configuration via HTTPS (Embedded Web server)

Power supply

- 48 Vdc to 125 Vdc ±15%

Operating temperature

- From –5 °C to +55 °C

The specifications and drawings given are subject to change and are not binding unless confirmed by our specialists.

Protection & Control ice
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• ISO 19443 : 2018 • ISO 9001 : 2015 • ISO 14001 : 2015 certified •