Technical Specification

Technical specification – Control Cabinet type GAI3 for 3 feeders with motorized switch disconnectors and 2 FPIs

Product code 2RCA047239

Above picture above may include equipment not listed in this specification.
General

The cabinet is made for remote control of 3 switch disconnectors including position indication from switch disconnectors and earthing switches. The cabinet also includes 2 pcs of advanced fault passage indicators. The design also includes a communication gateway using GPRS/3G/LTE. The cabinet is intended to be mounted on wall besides the Ring Main Unit (RMU).

Enclosure

- Painted mild steel cabinet with door (RAL7035 structured powder coating)
  - IP55
  - h=500mm, w=400mm, d=210mm
- 1-point locking mechanism per door with key
- 50W anticondensation heater
- Ventilated cabinet
- Connections to the cabinet:
  - 3 pcs Control cable connectors (bottom side)
  - 1 pcs Power supply connector for aux supply cable up to 3*1,5 mm² (right side)
  - Bushings for sensor cable (bottom side)
  - Bushing for antenna cable (bottom side)

Power supply equipment

- 230VAC power supply
- Surge protection device with auxiliary contact
- AC side protection with MCB C6A
- DC side protected with 1 pcs MCB C10A
- DC motor circuits protected with MCB C6A
- 24 VDC output voltage
- 24V (12 V * 2 in serial), 7Ah sealed valve regulated lead acid batteries
Wiring and terminal blocks

- Terminal blocks (minimum):
  - 2,5 mm² for power supply circuit
  - 1,0 mm² for other circuits

- Wiring (minimum):
  - Control circuits: 1,5 mm²
  - Equipment grounding circuits 4 mm²

Remote control equipment

- 1 pcs ARC600 controller module
  - ARC600A2324NA

- 1 set RIO600 Fault Passage Indication System
  - 1 pcs MOD600APSML07 RIO600 power supply module
  - 1 pcs MOD600FLECMIR RIO600 galvanic communication module with RJ-45 interface
  - 2 pcs MOD600ASIM8F RIO600 sensor input module with fault passage indication that are supporting ABB current and voltage sensors

- Functionality:
  - Communication protocols:
    - IEC 60870-5-104
      - integrated GPRS/3G/LTE modem
      - RJ45 Ethernet port for external modem
    - IEC 60870-5-101
      - DSUB9 serial port for external modem
  - Communication media
    - GPRS/3G/LTE
  - Monitoring of up to 3 objects (Switch Open/Close and Earth switch Open/Close)
  - Control of up to 3 objects (Switch Open/Close)
  - Integrated battery charger and monitoring
  - temperature compensated battery charging
  - Heater control
  - Support of ABB combined and separated current and voltage sensors for 2 bays of 3 including:
3 phase measurements U & I
3 phase advanced fault passage indication (FPI)
  • including multifrequency admittance-based earth-fault detection algorithm (MFA)
    • sensitivity up to 10kohm in symmetrical networks
    • for high impedance earthed, compensated and unearthed networks
  • directional and non-directional overcurrent and earth-fault detection
Current and voltage ranges: 4A-8kA and 480V-48kV
Power measurements: P,Q, S and cos \( \varphi \)
Accuracy of line voltages, currents and active power is < 0.5% and for other power measurements <1%
Active/ reactive energy counters
Detection of the harmonic disturbances (TDD,TDH) up to the 8th harmonics
Peak and average values of measurements

Note

Please note that the antenna and the sensors are not included in the control cabinet scope and needs to be ordered separately.