Technical Specification

Our reference

Date

Page

5.11.2018

1 (4)

Doc Id

1MRS759071

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

Product code 2RCA047238

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

- Fibre-glass reinforced polyester cabinet with door (RAL7035)
  - IP55
  - h=515mm, w=415mm, d=230mm (UCP540)
- 3-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

- 1pcs 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 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:
o 3 phase measurements U & I
o 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
o Current and voltage ranges : 4A-8kA and 480V-48kV
o Power measurements: P,Q, S and cos \( \phi \)
o Accuracy of line voltages, currents and active power is < 0.5% and for other power measurements <1%
o Active/ reactive energy counters
o Detection of the harmonic disturbances (TDD,TDH) up to the 8th harmonics
o 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.