ACDC DYNAMICS
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SMART ELECTRICAL SAFETY SUPERVISION & POWER MANAGEMENT SOLUTION
ACDC

**Business Approach**

- Electric Parameter Monitor
- Cloud Server
- Remote Control, Remote Lock, Scheduled Control
- Energy Costs Saving, High Energy Efficiency
- Wi-Fi, Ethernet TCP, Zigbee, LoRa, NB-IoT, GPRS 2G/3G/4G, RS485
- Electric Fault Analysis, Early Warning & Alarm, Data Report

**Features**

**Full Protection**
- Overload, short circuit, earth leakage, surge protection, over/under voltage, arcing fault, phase loss, unbalance, high temperature

**Smart Metering**
- All line including main line and sub-lines have metering function, the accuracy is class 1

**Smart Monitoring**
- Real-Time monitoring: Current, Voltage, Residual Current, Power and Temperature

**Smart Control**
- Remote control by wired or wireless communication

**Smart Timer**
- Scheduling any working scenario in APP and Software platform

**Current & Power Limited**
- The power and current can be limited through the APP or Software platform

**Communication**
- WiFi
- LoRa
- GPRS
- NB-IoT
- Zigbee
- LAN
- RS485

**Protocol**
- Modbus
- UDP
- MQTT
BENEFITS

SMART ELECTRIC SAFETY SUPERVISION

Continuous monitoring of electrical parameters makes it possible to detect electrical faults early and trigger warnings and alarms before any unforeseen events or fault occur.

- Reducing the electrical fault and avoiding untimely trip by more than 60%
- Makes electricity safer and smarter
- Monitors warning and alarm processing status
- Monitors the position of each project
- Warning and alarm information contrast and analysis daily and monthly
- Warning and alarm notice sent through app or sms
- Warning and alarm information exported in excel for record

SMART ENERGY EFFICIENCY MANAGEMENT

Energy efficiency can be a strong factor of competitiveness on the global market. Matismart offers:

- Metering of each load
- Better management of the energy cost center
- Energy saving above 30%
- Replacement of old technology with updated efficient solutions
- Employees’ awareness of responsible use of energy
- Power consumption data contrast and analysis
- One monitoring system for all subsidiaries

SMART CONTROL

Smart control makes life easier

- Remote control
- Remote lock and unlock
- Scheduled control
- Auto recloser
APP MONITORING & MANAGEMENT

CLOUD CONNECTION
- Configure | Control | Monitor from anywhere, any time

LOAD MONITORING
- Voltage | Current | Power | KVA | kWh electrical | Process parameters detect failures automatically

INTEGRATED INSTRUMENTATION
- Electricity | Gas | Water

SAVE ENERGY
- Spend less on energy bills, manpower & maintenance

CUSTOMIZE
- Dashboard | Reports | Screens

GET ALERTED!
- Ensure up time instant SMS & e-mail

BETTER ANALYSIS
- Improved insight dashboards | charts | matrix

WIDE REPORT RANGE
- Support a wide range of file formats such as Excel & PDF
MTS3 SMART IOT BREAKER

A smart electric safety supervision and power management system. Includes both hardware and software, which integrates the latest advanced technologies such as AI, Big Data, IoT and cloud computing. The system raises a pre-alarm before reporting a failure. Features: Online power management, real-time power efficiency monitoring, real-time monitoring of electrical circuit parameters (voltage, current, power KWH, etc.) which identifies where energy savings are required. Save money on power bills through collected data and consumption analysis.

MT61GP SMART IOT BREAKER METER

MT61-GP a smart power meter which includes a hardware-smart metering breaker and software-power energy management platform for utilities and App for end-users. Integrates technologies such as AI, Big Data, IoT and cloud computing.

Effective consumption management, real-time monitoring, on-line payment, fault warning and alarming. Assists utilities to rationally plan energy usage, reduce energy consumption and improve operation environments.

POWER SUPPLY WITH SURGE PROTECTION

- Provides DC power from circuit breaker and communication module
- Provides lightning and surge protection
- Main technical parameters:
  - Input Voltage: 100 - 250VAC
  - Input Current: 3.5A
  - Output Voltage: 12VDC
  - Max for lightning protection: 15kA
  - Working with max. 10pcs RCBO or IMCB

SMART METERING BREAKER - IRCBO

- Full Protection: Earth leakage, overload, short circuit, over/under voltage arcing fault, phase loss, unbalance, high temperature
- Main Technical Parameters:
  - Poles: 2P, 4P
  - Rated Current (A):
  - 10, 16, 20, 25, 32, 40, 50, 63, 80
  - Rated Residual Current: 30mA
  - Curve: C

COMMUNICATION MODULE

- Voltage: 12VDC
- Communication Modes: WiFi, LAN, NB-IoT, GSM/GPRS, Zigbee, LoRA
- Protocol: USB, TCP/IP, Modbus
- Working with max. 24pcs RCBO or IMCB

CONNECTION PIN

Connection is extremely simple and requires no special tools. The modules in one row can be connected by connection pins. Flexible flat cable is used for connection of multi-row in power cabinet.

TECHNICAL SPECIFICATIONS

- Phases: 2P = 2 wires / 3P = 4 wires
- Current (A): 20, 32, 40, 63, 80
- Curve: B, C, D
- Breaking Capacity: 6000A
- Voltage: 110/220VAC
- Accuracy: Class 1
- Active and reactive metering
- Multi-tariff measurements:
  - 4 tariffs (peak, valley, flat & shoulder)
- Data transfer: daily, monthly & quarterly
- Memory: 12 months

WIRED COMMUNICATION

RS485 Protocol: Modbus, MQTT

WIRELESS COMMUNICATION

GPRS/3G, LoRa
NB-IoT, WiFi
MTM5-EL SMART MCB

A smart electric safety supervision and power management system. Includes both hardware and software, which integrates the latest advanced technologies such as AI, Big Data, IoT and cloud computing. The system can realise pre-alarm before loading failure, online power management, real-time power efficiency monitoring, real-time monitoring of electrical circuit parameter (voltage, current, residual current, etc.) and help identify energy savings and further to save energy cost, through analysis of collected data, power consumption analysis.

TECHNICAL SPECIFICATIONS

- Phases: 3P, 4 wires
- Current (A): 125, 250, 400, 630
- Voltage: 380/400V
- Accuracy: Class 1
- Active & reactive metering
- Multianti-tamper functions
- Multi-tariff measurements:
  - 4 tariffs (Peak, value, flat & shoulder)
  - Data frozen: daily, monthly and quarterly
  - Memory: 12 months of monthly data frozen data

WIRED COMMUNICATION

- RS485
- Protocol: Modbus, UDP

WIRELESS COMMUNICATION

- GPRS-4G, Wifi

MT61 SMART RECLOSER

MT61SR is a smart breaker with earth leakage protection and reclosed after an ultimately tripping of the circuit breaker after the device/electrical circuit check.

If a fault is logged, the device sets itself on block condition and signals the fault by means of the front LED indicator. Furthermore, the device integrates multi-protections, fault checking, auto-reclosing and communication together in one. With integration into industry control/SCADA, it may realize remote control, voltage and leakage current monitoring, over/under voltage protection value and leakage current value and delay time setting, historic record and events checking.

The MT61SR smart recloser can be used to carry out the following operations:

- Automatically reclosing
- Select a predefined reclosing program to ensure the safety and availability of installations, depending on the type of installation
- Padlock the automatic recloser

WIRED COMMUNICATION

- RS485
- Protocol: Modbus
**AUTO RECLOSER**

The MT51 & MT53 automatic recloser are designed to automatically reclose the associated protective device after it has tripped. The insulation reclosing mode is used in case of high-sensitivity protection functions, so that the unit is only reclosed when the error that tripped it is resolved. The timed reclosing mode is adopted in the case of lower sensitivities in electrical complex installations, in order to guarantee the continuity of the electric supply. The unit has a locking system that determines the operation in manual or automatic mode (reclosing system enabled). The MT51RA/SA and MT53RA/SA automatic recloser devices are used in conjunction with MCB MM50H, RCBO MR50-32, RCBO050-40, RCCB ML50H. The MT51RB/SA automatic recloser device is used in conjunction with Schneider’s Acti9 MCB, RCBO, RCBO range.

**TECHNICAL SPECIFICATIONS**

To be used in conjunction with MCB, RCCB, RCBO. The device can offer overload, short circuit, earth leakage protection and remote control function. MT51RB/SB can be used in conjunction with Schneider’s Acti9 Range: MCB, RCBO, RCBOs. MT51RA/SA and MT53 can only be used in conjunction with Maxis MCB, RCCB and RCBO.

**PV AUTO RECLOSER**

MT66-PV automatic reclosing breaker is designed for distributed grid-connected PV system. It can monitor the real-time voltage of power from PV, the device will switch off or reclose automatically based on the voltage status from PV side.

**TECHNICAL SPECIFICATIONS**

- Phases: 1P, 2 wires and 3P, 4 wires
- Current (A): 20, 40, 63, 80, 100, 125
- Voltage: 230/400V

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>POWER VOLTAGE FROM PV</th>
<th>INITIAL STATUS</th>
<th>AUTO MODE</th>
<th>AUTO MODE</th>
<th>CONT. HOLDING TIME OF VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>185V &lt; U &lt; 285V</td>
<td>open</td>
<td>close</td>
<td>open</td>
<td>10 seconds</td>
</tr>
<tr>
<td>2</td>
<td>175V = U = 210V</td>
<td>close</td>
<td>close</td>
<td>close</td>
<td>keeping initial status</td>
</tr>
<tr>
<td>3</td>
<td>U=175V</td>
<td>close</td>
<td>open</td>
<td>open</td>
<td>10 seconds</td>
</tr>
<tr>
<td>4</td>
<td>U=185V</td>
<td>open</td>
<td>open</td>
<td>open</td>
<td>keeping initial status</td>
</tr>
<tr>
<td>5</td>
<td>U&lt;290V</td>
<td>close</td>
<td>open</td>
<td>open</td>
<td>10 seconds</td>
</tr>
<tr>
<td>6</td>
<td>U=285V</td>
<td>open</td>
<td>open</td>
<td>open</td>
<td>keeping initial status</td>
</tr>
<tr>
<td>7</td>
<td>U&lt;45V (No Voltage)</td>
<td>close</td>
<td>open</td>
<td>close</td>
<td>10 seconds</td>
</tr>
<tr>
<td>8</td>
<td>Loss Phase (Only for 3 Phase and 4 Wires)</td>
<td>open</td>
<td>open</td>
<td>open</td>
<td>keeping initial status</td>
</tr>
<tr>
<td>9</td>
<td>Loss Phase (Only for 3 Phase and 4 Wires)</td>
<td>close</td>
<td>open</td>
<td>close</td>
<td>10 seconds</td>
</tr>
</tbody>
</table>
**Features**
- Smart power management for home or commercial properties, via app or software platform
- Real-Time consumption information, alarms and safety information
- Historical consumption data for up to 12 months (consumption, voltage and current fluctuations, load fluctuations)
- Remote control of specific circuits or the entire installation
- Over & Under voltage alarms & over voltage protection
- Arc Fault Alarm built in
- Over temperature protection and alarms

**Includes the following modules**
- Power supply x 1, Communication module x 1, Circuit Breakers (Depending on application), RCB0 (Earth Leakage Protection) x 1

**Software platform features**
- Electrical Safety Supervision - Monitoring of electrical circuit parameters in real-time
- Device Location and Status shown on map
- Early warning of developing issues and alarms for faults
- Power management - energy flows and costs for the entire installation are available for analysis.
  Instantaneous and historical data can be used to effect improvements in efficiency and cost reduction.

**6kA Earth Leakage Relay with Overload Protection RCB0**
- 30mA, AC Type, C-Curve

<table>
<thead>
<tr>
<th>AMPS</th>
<th>2 POLE CODE - 3M WIDE</th>
<th>4 POLE CODE - 5M WIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A</td>
<td>MTS3-R2AC30C32</td>
<td>MTS3-R4AC30C32</td>
</tr>
<tr>
<td>63A</td>
<td>MTS3-R2AC30C63</td>
<td>MTS3-R4AC30C63</td>
</tr>
<tr>
<td>80A</td>
<td>MTS3-R2AC30C80</td>
<td>MTS3-R4AC30C80</td>
</tr>
</tbody>
</table>

**6kA Motorized Circuit Breaker C Curve**
- (Din Modules 1M = 17.5mm)

<table>
<thead>
<tr>
<th>AMPS</th>
<th>1 POLE CODE 1.5M WIDE</th>
<th>2 POLE CODE 2.5M WIDE</th>
<th>3 POLE CODE 4M WIDE</th>
<th>4 POLE CODE 5M WIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A</td>
<td>MTS3-M1C10</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>20A</td>
<td>MTS3-M2C20</td>
<td>MTS3-M2C20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>32A</td>
<td>MTS3-M3C32</td>
<td>MTS3-M3C32</td>
<td>MTS3-M3C32</td>
<td>-</td>
</tr>
<tr>
<td>40A</td>
<td>MTS3-M4C40</td>
<td>MTS3-M4C40</td>
<td>MTS3-M4C40</td>
<td>MTS3-M4C40</td>
</tr>
<tr>
<td>63A</td>
<td>MTS3-M6C63</td>
<td>MTS3-M6C63</td>
<td>MTS3-M6C63</td>
<td>MTS3-M6C63</td>
</tr>
<tr>
<td>80A</td>
<td>MTS3-M8C80</td>
<td>MTS3-M8C80</td>
<td>MTS3-M8C80</td>
<td>MTS3-M8C80</td>
</tr>
</tbody>
</table>

**Communication Modules**
- Supports up to 32 devices (RCBO & MCB)

<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTS3-CWF</td>
<td>Ethernet Gateway, WIFI or Wired Networks</td>
</tr>
<tr>
<td>MTS3-CRS</td>
<td>RS485 Serial Communication Gateway</td>
</tr>
<tr>
<td>MTS3-CZB</td>
<td>Zigbee Communication Gateway</td>
</tr>
<tr>
<td>MTS3-CG2</td>
<td>GPRS-2G Cellular Communication Gateway</td>
</tr>
</tbody>
</table>

**Accessories**
- 6-Pin Connector for Adjacent Devices
- 6-Pin Connection Cable for Separated Devices 100mm
- 6-Pin Connection Cable for Separated Devices 200mm

**Power Supply Module c/w Surge Protection**
- Class II Surge Protection. Can power up to 10 devices (RCBO & MCB)

<table>
<thead>
<tr>
<th>CODE</th>
<th>INPUT</th>
<th>OUTPUT VOLTAGE</th>
<th>OUTPUT CURRENT</th>
<th>IN</th>
<th>IMAX</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTS3-P25N</td>
<td>100-200VAC</td>
<td>12VDC</td>
<td>2.5A</td>
<td>10kA</td>
<td>15kA</td>
<td>N</td>
</tr>
<tr>
<td>MTS3-P25D</td>
<td>100-200VAC</td>
<td>12VDC</td>
<td>2.5A</td>
<td>10kA</td>
<td>15kA</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Smartphone application features**
- App home screen timer allows settings for applications e.g. pool pumps & gates.
- View status of smart circuit breaker including temperatures, current, voltage, power and leakage current (for RCBO).
- View current and historical data in text or graphical format by Day/Week/Month.
- Do a remote earth leakage test or schedule the unit to test and report automatically at set times.
- View a log of all alarms and status reports.
- Master switch to power down an entire installation.

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