

iTAC Intelligent Low-voltage Power Distribution Module

Benefit of intelligent switch module in PDU/power panel/cabinet:

1. Monitor power quality and distribute power safely.
2. Low installed costs ---- Fast cordwood installation.
3. Secondary PCB connections, no extra wiring cables across PDU.
4. Very safe maintenance
5. Reduce the delivery date. Quick production speed can satisfy the delivery demand.
6. Reduce the PDU/RPP 's quantity and save space for the substation.
7. Smart power distributing technology improves RPP & PDU factories production capacity and competitiveness.
8. Reduce the management cost and material cost.

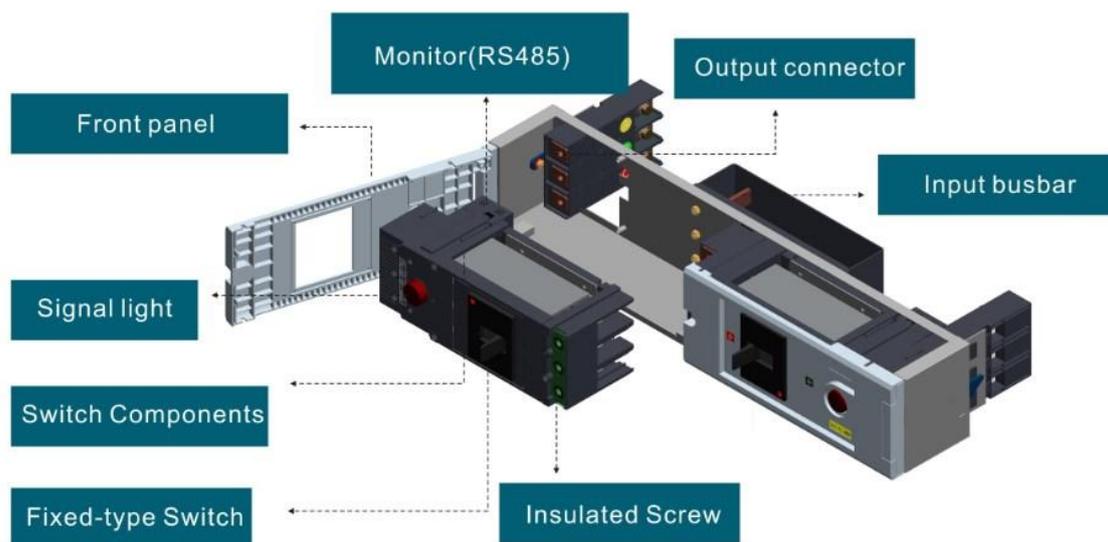


Scope of Application

GQH-SPC low-voltage power distribution system is a modularized power management system made by Ontech for our customers. It is widely applicable to finance, telecommunication, grid scheduling, government, and IT industries for providing high quality AC power and advanced management functions.

Overview GQH-SPC Intelligent modules for power distribution systems

This is a fast switch modular assembly system. Secondary wiring PCB technology is adopted. Maintenance is optimized. The GQH-SPC low-voltage power distribution system is composed of iTAC switch component, cabinet, and display unit, where a feeder switch component is composed of feeder switch (fixed type), current sensor, monitor unit, indicator, and standard plastic or metal pieces. The switch component is produced and tested in accordance with standards, and internal switch, indicator and monitor unit can be replaced in energized state. Standardisation of the whole panel installation helps to improve product quality.



Switch components can be assembled like building blocks with height adjustable. Different specifications of feeder switches can meet different demand for customization. GQH-SPC low-voltage power distribution system is a smart & precise power distribution equipment that integrates low cost and high reliability of fixed type cabinet and maintenance convenience of drawer cabinet, and meets fast delivery demand.

Specifications

Mechanical parameter	Dimension	Height (H)	2260 mm
		Width (W)	800 mm
		Deep (D)	600/800/1000 mm
	Modulus (E)	E=12.5mm	
	Protection Class	IP 20/ 30 / 40	
	Weight	200-250kg (Based on configuration)	
Electric Parameter	Rated insulation voltage (Ui)		690V
	Rated operational voltage (Ue)		Three phase 400V 3P/4P, single phase 230V 1P/+N
	Rated frequency (F)		50Hz/60Hz
	Main bus-bar	rated current (Ie)	4000A
		Rated short-time withstand current (Icw)	80KA
	Distribution busbar	Rated current (Ie)	1600A
Rated short-time withstand current (Icw)		30KA	
Environmental parameter	Environment temperature		-5 °C ~ + 40 °C during 24 hours, the highest average temperature is +35°C
	Relative humidity		It is less than 50% at the highest temperature + 4 0 °C. It allows a higher relative humidity at lower temperature, such as 20 °C can reach 90%
	Altitude		≤2000m (Application needs to reduce capacity above 2000mm)
	Other		Non-dusty environment, without a strong vibration and impact.

Cabinet Assembled by iTAC Switch Components

1. iTAC switch component design facilitates the cabinet assembly: iTAC switch components can be installed like building blocks in a GQH-SPC cabinet, and they can be installed flexibly as you like. An iTAC switch component is composed of two 250A (or below) switches or one 400-630A switch.

2. Please note that when iTAC switch modules are assembled in a panel: iTAC switch components' quantity per cabinet can't exceed the max of the permissible number. For example, the permissible installation height for a 2000mm high cabinet is 132E (1E=12.5mm). The following table shows the height of different switch components. The total height of switch components that will be installed into the cabinet should not exceed 132E.

iTAC 120 smart feeder switch component				
No.	Type	Model	The height of single module	Height(mm)
1	MCB/2P (63A and below)	iTAC123-63A/2P	5E	62.5
2	MCB/3P (63A and below)	iTAC123-63A/3P	6E	75
3	MCCB/3P (250A and below)	iTAC123-250A/3P	11E	137.5
4	MCCB/4P (250A and below)	iTAC123-250A/4P	14E	175
5	MCCB/3P (400A-630A)	iTAC123-630A/3P	19E	237.5
6	MCCB/4P (400A-630A)	iTAC123-630A/4P	24E	300

Application Values of GQH-SPC switch module

1. Improve the production capacity, profitability & competitiveness for the factories as a power distribution solution supplier.

As power distribution automation is more and more popular, the concept of smart power distribution is gradually accepted by everyone.

To provide intelligent power distribution solution is very important to get a tender success. SPC iTAC switch components are composed of pluggable switch base and multifunctional watt-hour meter.

Intelligent power distribution is the most important advantage of SPC. It fully meets the requirement of intelligent power distribution. To employ and install SPC iTAC switch modules into a cabinet are qualified enough to be a power distribution solution supplier.

2. Improve fast delivery capability (for rush orders).

SPC realizes the standardization in design and production and inspection. It has the capability to finish rush orders and meet the customers' urgent demand.

3. Increase the allowable number of switch components in every cabinet and thus reduce the amount of cabinets.

SPC switch modules can save the number of cabinets for users while being installed densely. It is shown in the following table.

		GQH-SPC	GCK
Installation Method		iTAC120 switch module	Drawer-type
Max. of circuits per cabinet	MCCB (100A-250A)	24	9
	MCB (63A2P)	60	36
	MCB (63A3P)	48	36
	MCCB (400A-630A)	4	4

4. Boost technological level

iTAC switch module consists of first and second feeder circuit's connection and intelligent detection. All the production and detection is standardized technique . Therefore, installation of iTAC switch modules saves a lot of work for the users, less difficult to install cabinets, good for boosting technological level.

5. Reduce main and accessory material inventory

When the factory uses iTAC switch modules to install in a power distribution panel, the feeder's main and accessory material is included in iTAC switch modules. The factory does not need to prepare additional main and accessory materials, only prepare iTAC switch modules. Therefore, power distribution panel installation is very simple, greatly reducing the material cost and management cost.

6. Facilitate maintenance

iTAC switch module components employs the patented insulation screws and can be maintained under live electricity. This technology avoids electric shock that is caused by high current connectors.

Main Features

1) Power distribution: As feeder switch components are the main structure of the system, it is very convenient to install and replace and maintain various AC/DC feeder switch components.

2) Standardized production: All feeder switch components of the system are manufactured in accordance with standards.

3) Fast installation: Switch components can be fast installed in a factory or on site if the condition permits.

4) Live Maintenance for the fixed switches: The innovative structural design and accessories protect the safety of maintenance.

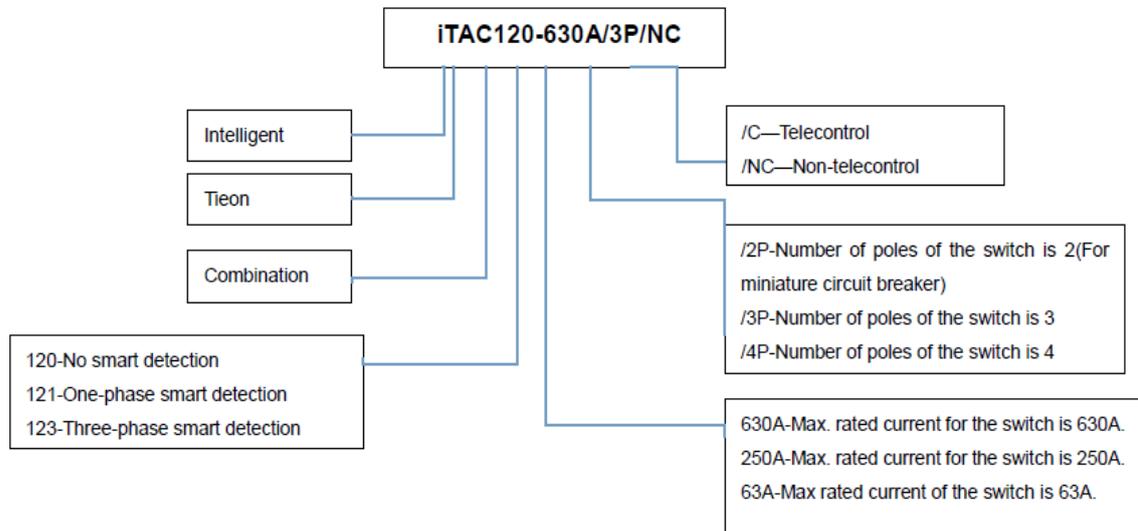
5) Single switch, sensor, or smart circuit can be maintained when other switches work normally.

6) Indicator light can be maintained and replaced under live electricity.

7) Digitalized communication: RS-485 interfaces are deployed in switch components. When the feeder circuits increase, users don't need secondary circuit design and construction, only need communication deployment.

8) Intelligence monitoring: Monitor three-phase current, voltage, power, and electrical degree of each branch feeder.

Telemetry, telecommand, and remote control can be performed.



Relationship between Smart Switch Components and Drawer-type Switch and Plug-in Switch

