

TeSys Giga - Frame 5, 6 55 to 250 kW



Motor
circuit
breakers

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TeSys Power

Giga - Frame 5, 6 Motor circuit breakers - Thermal-magnetic

Product references

PB120633_4rps



GV5P220F

Thermal-magnetic circuit breakers Frame 5 with screw clamp terminals up to 110 kW ⁽¹⁾

Control by direct rotary handle

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Thermal setting range (Ir)	Reference	Weight
400/415 V			500 V			660/690 V					
P	Icu	Ics ⁽²⁾	P	Icu	Ics ⁽²⁾	P	Icu	Ics ⁽²⁾	A		kg
kW	kA	%	kW	kA	%	kW	kA	%			
55...75	36	100	75...90	30	100	90... 110	8	100	70...150	GV5P150F	2.4
	70	100		50	100		10	100			
90...110	36	100	110	30	100	110...132	8	100	100...220	GV5P220F	2.6
	70	100		50	100		10	100			

⁽¹⁾ Breakers have to be used with suitable rating of contactors, as defined in section A6.

⁽²⁾ As % of Icu.

PB120633_4rps



GV6P320F

Thermal-magnetic circuit breakers Frame 6 with screw clamp terminals up to 250 kW ⁽¹⁾

Control by direct rotary handle

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Thermal setting range (Ir)	Reference	Weight
400/415 V			500 V			660/690 V					
P	Icu	Ics ⁽²⁾	P	Icu	Ics ⁽²⁾	P	Icu	Ics ⁽²⁾	A		kg
kW	kA	%	kW	kA	%	kW	kA	%			
132...160	36	100	160...200	25	100	200...250	10	100	160...320	GV6P320F	6.5
	70	100		50	100		10	100			
200...250	36	100	250...315	25	100	315...400	10	100	250...500	GV6P500F	6.7
	70	100		50	100		10	100			

⁽¹⁾ Breakers have to be used with suitable rating of contactors, as defined in section A6.

⁽²⁾ As % of Icu.



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Thermal-magnetic circuit breakers Frame 5/6 with screw clamp terminals ⁽¹⁾

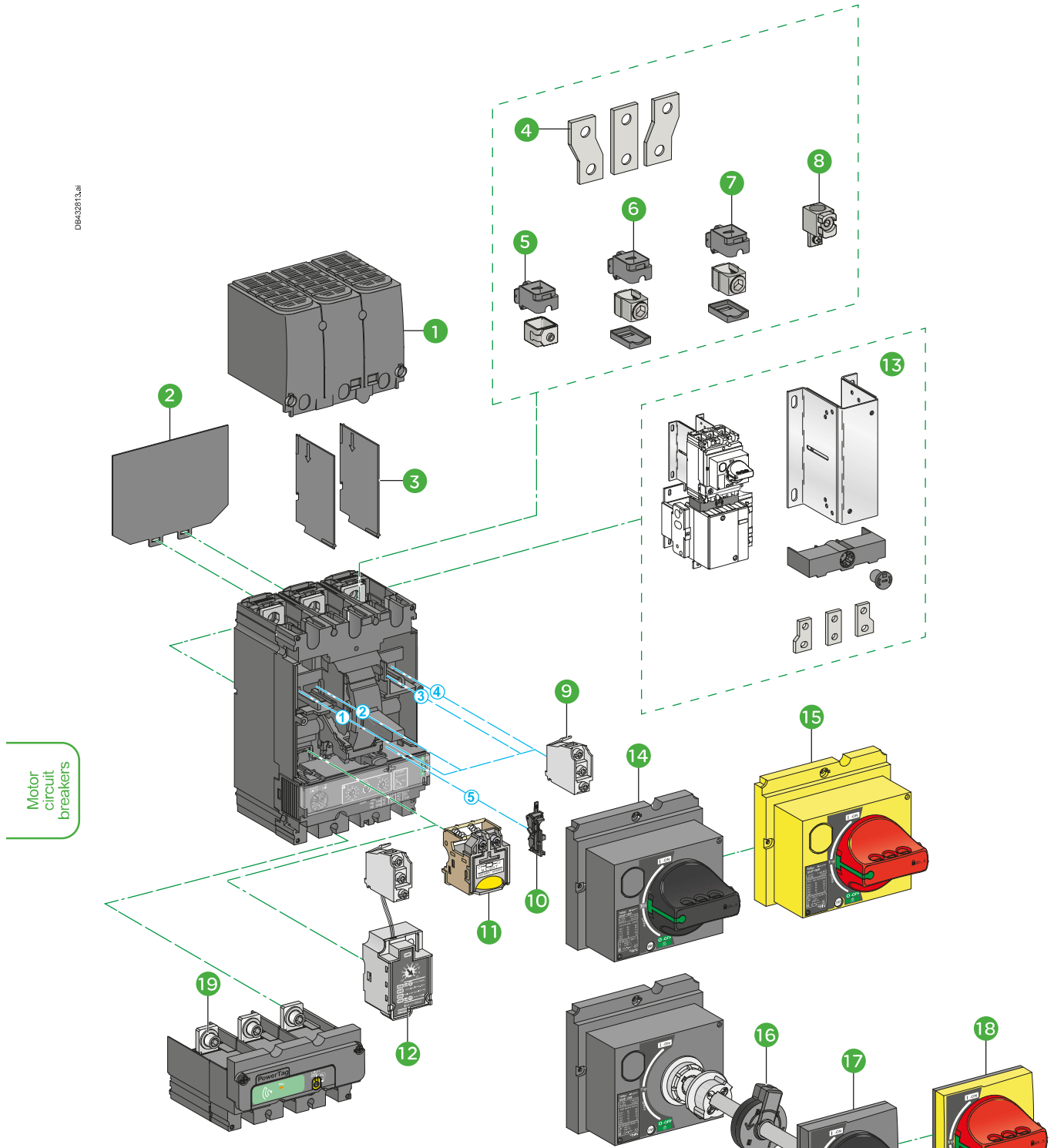
Control by direct rotary handle

Thermal setting	3-Phase			Standard breaking capacity	High breaking capacity
	230 V	460 V	575 V		
A	HP	HP	HP	Reference	Reference
90...150	50	100	150	GV5P150F	GV5P150H
133...220	75	150	200	GV5P220F	GV5P220H
160...320	125	250	300	GV6P320F	GV6P320H
250...500	150	350	500	GV6P500F	GV6P500H

⁽¹⁾ Breakers have to be used with suitable rating of contactors, as defined in section A6.

Frame 5 Motor circuit breaker - Add-on blocks and accessories

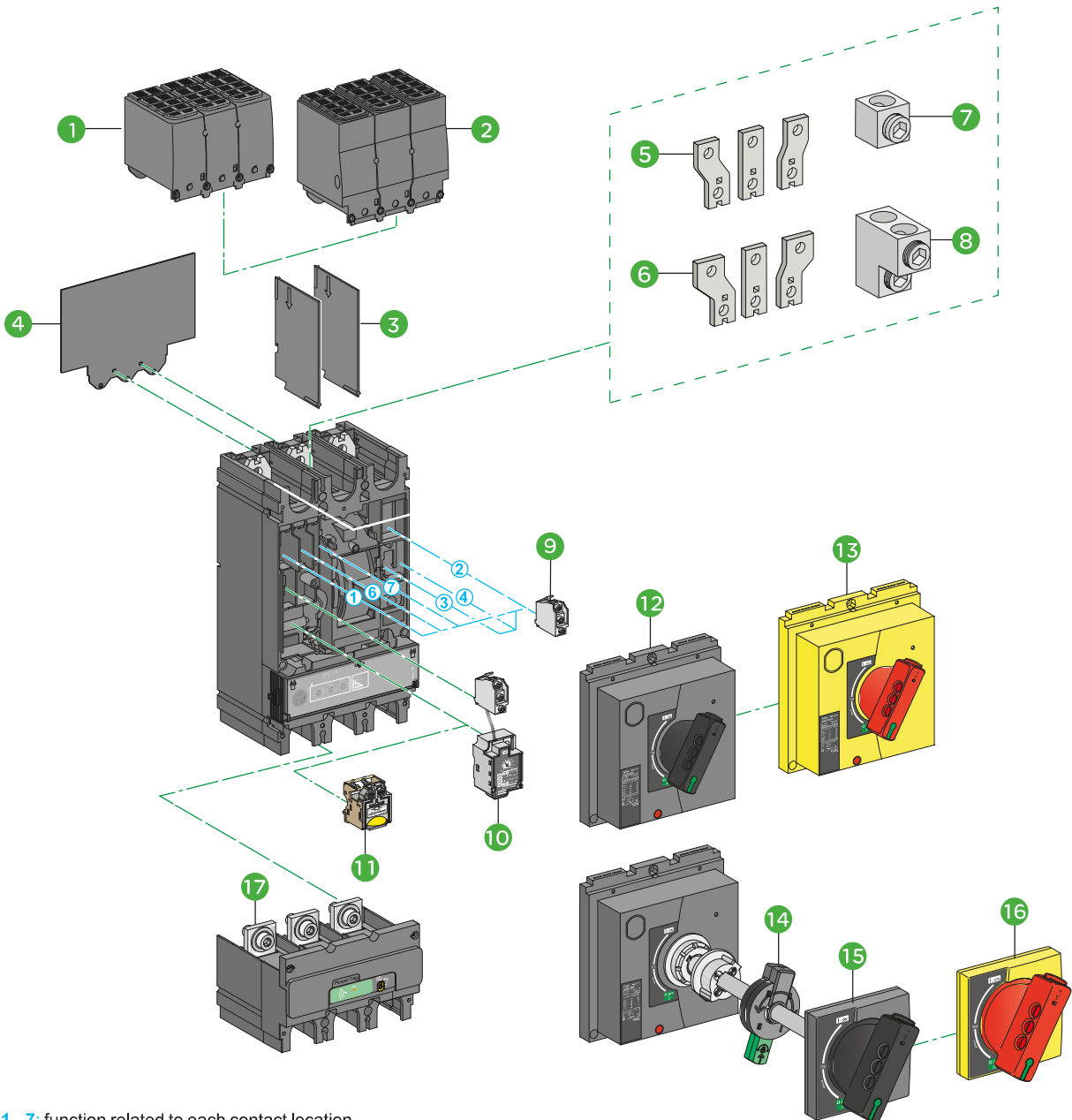
DB420113.ai



1...5: function related to each contact location, please refer to B6/54.

- 1 Terminal shield **GV7AC01**
- 2 Insulating screen **GV7AC05**
- 3 Interphase barriers **GV7AC04**
- 4 Spreaders 45 mm **GV7AC03**
- 5 Steel connector **GV7AC021** (1,5-95 mm²)
- 6 Aluminum connector **LV429227** (25-95 mm²)
- 7 Aluminum connector **GV7AC022** (120-185 mm²)
- 8 Aluminum connector **LV429244** (120-240 mm²)
- 9 OF, SD, or SDE indication contacts **29450** (standard) / **29452** (for low level)
- 10 SDE adapter **LV429451**
- 11 UVR or SHT voltage release **LV42940** / **LV42938**
- 12 SDTAM thermal fault module **LV429424**
- 13 Combination kit for connector **GV7AC06** / **GV7AC08**
- 14 Direct rotary handle black **GV5AP03** (shipped with the device)
- 15 Direct rotary handle red on yellow bezel **GV7AP04**
- 16 Open door shaft operator **LV426937**
- 17 Extended rotary handle black **GV7AP01**
- 18 Extended rotary handle red on yellow bezel **GV7AP02**
- 19 PowerTag M250 wireless energy sensor **LV434020**

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Motor circuit breakers

1...7: function related to each contact location, please refer to B6/54.

- 1 Terminal shield 45 mm LV432593
- 2 Terminal shield 52.5 mm LV432595
- 3 Interphase barriers LV432570
- 4 Insulating screen LV432578
- 5 Spreader 52.5 mm LV432490
- 6 Spreader 70 mm LV432492
- 7 Aluminum connector LV432479 (1 x 35-300 mm²)
- 8 Aluminum connector LV432481 (2 x 35-300 mm²)
- 9 OF, SD, or SDE indication contacts 29450 (standard) / 29452 (for low level)
- 10 SDTAM thermal fault module LV429424
- 11 UVR or SHT voltage releases LV42940●/ LV42938●
- 12 Direct rotary handle black GV6AP03 (shipped with the device)
- 13 Direct rotary handle red on yellow bezel LV432599
- 14 Open door shaft operator LV426937
- 15 Extended rotary handle black LV432598
- 16 Extended rotary handle red on yellow bezel LV432600
- 17 PowerTag M630 wireless energy sensor LV434022

Add-on auxiliary contacts - OF contacts

These allow remote indication of the circuit breaker contact states. They can be used for signalling, electrical locking, relaying, etc. They are available in two versions: standard and low level. They include a terminal block and the auxiliary circuits leave the circuit breaker through a hole provided for this purpose. They perform the following functions, depending on where they are located in the circuit breaker:

Location	Function	Application
1 and/or 4 (GV5) 1 and/or 4, 6, 7 (GV6)	C/O contact	Indicates the position of the circuit breaker poles.
2	Trip indication	Indicates that the circuit breaker has tripped due to an overload, a short-circuit, a differential fault or the operation of a voltage trip (undervoltage or shunt trip), or of the "push to trip" test button. It resets when the circuit breaker is reset.
3	Electrical fault indication	Indicates that the circuit breaker has tripped due to an overload, a short-circuit or a differential fault. It resets when the circuit breaker is reset.
5	Adapter for electrical fault indication	This accessory is mandatory for GV5 to provide electrical fault indication.

Type	Reference
Standard	29450
Low level	29452
Adapter for electrical fault indication	LV429451

Thermal fault module - SDTAM

GV5/ GV6 can be equipped with thermal fault module. This module have:

- a contact to indicate overload fault in the circuit-breaker
- a contact to open the contactor. In the event of overload or phase unbalance, this output is activated 400 ms before circuit-breaker tripping to open the contactor and avoid circuit breaker tripping.

Voltage	Reference
24...415 V AC/DC	LV429424 ⁽¹⁾

Electric trips

These allow the circuit breaker to be tripped via an electrical control signal.

- Undervoltage release (UVR) - LV42940●
- Trips the circuit breaker when the control voltage drops below 35 % of its rated voltage.
- Between 35 % and 70 % of the rated voltage opening is possible but not guaranteed.
- Above 70 % of the rated voltage, opening does not take place.
- Continuous duty rated coil.
- Circuit breaker closing is possible only if the voltage exceeds 85 % of the rated voltage.
- Shunt trip (SHT) - LV42938●
- Trips the circuit breaker when the control voltage rises above 0.7 times the rated voltage.
- Impulse type ≥ 20 ms or maintained control signals.
- Operation (LV42940● or LV42938●)
- When the circuit breaker has been tripped by an UVR or by a SHT, it must be reset either locally.
- Tripping has priority over manual closing: if a tripping order is present, manual action does not result in closing, even temporarily, of the contacts.
- Durability: 50 % of the mechanical durability of the circuit breaker.

Type	Voltage	Reference
Undervoltage trip	220...240 V, 50/60 Hz	LV429407
Shunt trip	110...130 V, 50/60 Hz	LV429386
	220...240 V, 50/60 Hz	LV429387

⁽¹⁾ LV429429 takes the place of the UVR/SHT electric trip coil and an auxiliary contact (C/O contact 1).



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Giga - Frame 5, 6 Motor circuit breakers - Accessories

Product references



PB120641.jpg
LV432479



PB120642.jpg
LV432490



PB120643.jpg
LV432593



PB120644.jpg
GV7AC04



PB120640.jpg
GV6AP03



PB120645.jpg
LV432599



PB120646.jpg
GV7AP02

Cabling accessories

Cable connectors: The connectors for Frame 5 snap directly on to the device terminals or are secured by clips to right-angle and straight terminal extensions as well as spreaders. Frame 6 connectors are screwed directly to the device terminals.

Spreaders: Spreaders may be used to increase the pitch from 35 mm to 45 mm for Frame 5. The 45 mm pitch can be increased to 52.5 or 70 mm for Frame 6.

Long terminal shields: They are used for front connection with cables or insulated bars. They comprise two parts assembled with captive screws, forming an IP40 cover. The top part is equipped with sliding grids with break marks for precise adaptation to cables or insulated bars. The rear part completely blocks off the connection zone. Partially cut squares can be removed to adapt to all types of connection for cables with lugs or copper bars. Long terminal shields may be mounted upstream and downstream of the breaker.

Phase barriers: These interphase barriers are used for maximum insulation at the power-connection points.

Insulating screens: These are fitted at the rear of the device which provides insulation. Their use is mandatory for devices with spreaders, installed on backplates, when terminal shields are not used.

Frame 5 Combination kits: These kits allow link between the circuit breaker and the contactor. The cover provides protection against direct finger contact. The kit comprises links, a protective shield and a depth adjustable metal bracket for the breaker.

Description	Application	Sold in lots of	Unit reference GV5	Unit reference GV6
Steel connectors (set of 3)	1.5...95 mm ² ≤ 150 A	1	GV7AC021	–
Aluminium connectors (set of 3)	25...95 mm ² ≤ 220 A	1	LV429227	
	120...185 mm ² ≤ 220 A	1	GV7AC022	
	120...240 mm ² ≤ 220 A	1	LV429244	
	35...300 mm ²	1		LV432479
Spreader 3-pole ⁽¹⁾	2 x 35...300 mm ²	1		LV432481
	35...45 mm pole pitch	1	GV7AC03	
	52.5 mm pole pitch	1		LV432490
Long terminal shield (IP40) ⁽¹⁾	70 mm pole pitch	1		LV432492
	35 mm pole pitch	1	GV7AC01	
	45 mm pole pitch	1		LV432593
Phase barriers (set of 6)	52.5 mm pole pitch	1		LV432595
		1	GV7AC04	LV432570
Insulating screens (set of 2)	45 mm	1	GV7AC05	
	70 mm			LV432578

Combination Kits ⁽²⁾				
For contactor LC1F115...F185	Connection kits between breaker and contactor	1	GV7AC06	
For contactor LC1D115 and D150		1	GV7AC08	

Direct rotary handle

The circuit breaker is always supplied direct rotary handle (black handle, black plate) as standard and it provides IP40 protection. The other type handles can be used by replacing this direct rotary handle. It includes a device for locking the circuit breaker in the O (Off) position by means of up to 3 padlocks with a shackle diameter of 5 to 8 mm (padlocks not included). A MCC conversion accessory allows the direct rotary handle to be mounted on the enclosure door. In this case, the door cannot be opened if the circuit breaker is in the "ON" position. Circuit breaker closing is inhibited if the enclosure door is open and prevents the device from being closed if the door is open.

Description	Type	Sold in lots of	Unit reference GV5	Unit reference GV6
Direct rotary handle	Black handle, black legend plate	1	GV5AP03	GV6AP03
	Red handle, yellow legend plate	1	GV7AP04	LV432599
MCC conversion accessory	Four mounting direct rotary handle on enclosure door	1	GV7AP05	LV432606

Extended rotary handle

Allows to operate a circuit breaker from the front of the switch board, which's installed in the back of an enclosure, which provides IP55 protection. It comprises:

- a unit which is screwed onto the front accessory cover of the circuit breaker,
- an assembly (handle mechanism and front plate) to be fitted on the enclosure door,
- an extension shaft which must be adjusted.
- The distance minimum and maximum distances between the mounting surface and the door are
 - 185...600 mm for Frame 5
 - 209...600 mm for Frame 6

It includes a device for locking the circuit breaker in the O (Off) position by means of up to 3 padlocks with a shackle diameter of 5 to 8 mm (padlocks not included) and disables opening enclosure door.

Description	Type	Sold in lots of	Unit reference GV5	Unit reference GV6
Extended rotary handle	Black handle, black legend plate	1	GV7AP01	LV432598
	Red handle, yellow legend plate	1	GV7AP02	LV432600

⁽¹⁾ Terminal shields cannot be used together with spreaders.

⁽²⁾ The kit comprises links, a protective shield and a depth adjustable metal bracket for the breaker.



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Front extended rotary handles (cont.)

Operation when door is opened

An open door shaft operator can be used to operate the circuit breaker when door is opened. This accessory complies with UL508 A.

The indication of the three positions OFF (O), ON (I) and tripped (Trip) is visible on the circuit breaker.

The circuit breaker itself may be locked in OFF position when the door is opened by 1 padlock / lockout hasp, shackle Ø4-8 mm.



LV426937
Open door shaft operator

Description	Reference
Open door shaft operator	LV426937
Laser tool	GVAPL01



GVAPL01 Laser tool

Other accessories

Bag of 6 tamper seals + 6 cover caps (1 large, 5 small) for screw heads	LV429375
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LVA429375
Sealing accessories

PowerTag Measurement module

Wireless-communication module

PowerTag is directly mounted on the bottom side of the circuit breaker.

It provides capability to measure energy, monitor voltage loss, and trigger alarms.

It then delivers useful data to a concentrator for monitoring and diagnosis of the associated circuit breaker.

In addition to monitoring and alarming, PowerTag solution provides a complete knowledge of real time electrical values with a rich and accurate data transfer every 5 seconds.

PowerTag energy sensors can be quickly and easily installed in new or existing panels at any time. Compared to traditional metering solutions, installation time and commissioning are much shorter with no wiring, hence an error proof high density solution and a built-in class 1 accuracy.

Functions

PowerTag energy sensor measures the following values in accordance with the IEC 61557-12 standard:

- Energy (4 quadrants):
 - Active energy (Wh): total and partial, delivered and received
 - Active energy per phase (Wh): total
 - Reactive energy (VARh): partial, delivered and received
- Power:
 - Active power (W): total and per phase
 - Reactive power (VAR): total
 - Apparent power (VA): total
- Voltages (V): phase-to-phase (U12, U23, U31) and phase-to-neutral (V1N, V2N, V3N)
- Currents (A): per phase (I1, I2, I3)
- Frequency
- Power factor
- Voltage loss alarm:
 - PowerTag energy sensor sends a "voltage loss" alarm and the current-per-phase value before being de-energized
 - At "voltage loss", PowerTag adds an overload alarm if the current is higher than the rated current of the associated protective device.

Note: functions listed above depend on concentrators/gateways.

Description	Reference
PowerTag M250 3P: suitable for Frame 5 up to 220 A	LV434020
PowerTag M630 3P: suitable for Frame 6 up to 500 A	LV434022

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LV434020, LV434022