

Add-on auxiliary devices Technical Data

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Extensions

All MCB's (except G20) , RCCB's (except Delta B) & RCBO's are designed to accept the same family of extensions.

The extensions intended to be coupled to a main device are the following:

- Display contacts
- Shunt trip
- Undervoltage release
- Emergency release
- Motor operator
- Panel board switch

Display contacts

The display contact lets you know the real contact position of the associated main device. It is also possible to know whether the associated device has been automatically released or it has been manually operated. The display contacts CA and CB fulfil the requirements of the EN/IEC 62019 & EN 60947-5-1 standards.

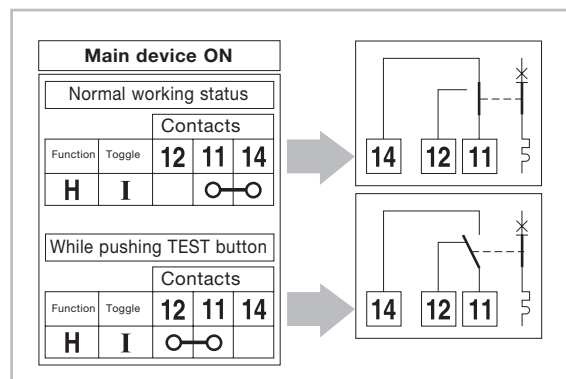
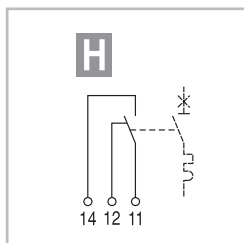
Display contacts				CA / CB	CA G
Contacts				Silver	Gold
Maximum current	AC 14	240 V	A	5	5
		60 V	A	1	1
	DC 12	48 V ≡	A	2	2
		24 V ≡	A	4	4
Minimum application voltage	AC	V	24	12	
	DC	V	24	12	
Minimum application current	AC	mA	10	2	
	DC	mA	200	25	
Short-circuit resistance					
Protected by fuses 6A gG			A	1.000	1.000
Protected by MCB C6 or B6			A	1.000	1.000
Electrical endurance (operations)				10.000	10.000
Terminal capacity	rigid cable		mm ²	1 - 2.5	1 - 2.5
	flexible		mm ²	0.75 - 2.5	0.75 - 2.5
Terminal capacity for 2 rigid cables			mm ²	2 x 1.5	2 x 1.5
Torque			Nm	0.5	0.5

Display contact CA

Function H

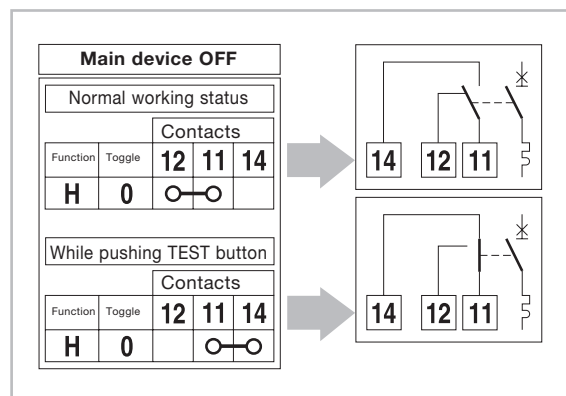
The function H (changeover contact) is intended to provide signalisation of the real status of the associated main device (ON/OFF).

While both devices are in the ON position there is



continuity between terminals 11-14, then when pressing the display contact test button the continuity changes over to terminals 11-12. When released, the contacts change over to the previous position 11-14.

While both devices are in the OFF position there is

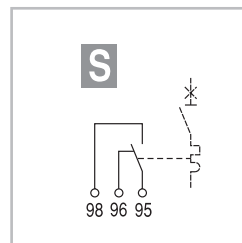


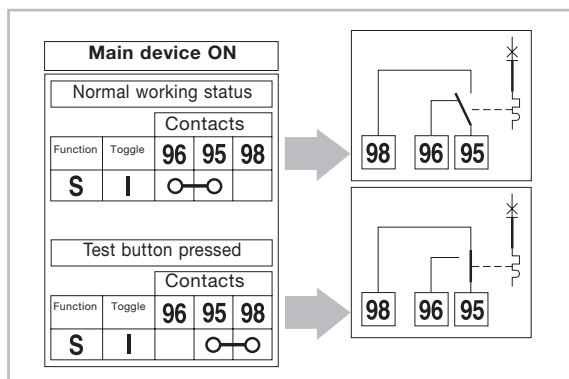
continuity between terminals 11-12, then when you press the display contact test button, the continuity changes over to terminals 11-14. When released, the contacts are change over to the previous position 11-12.

Function S

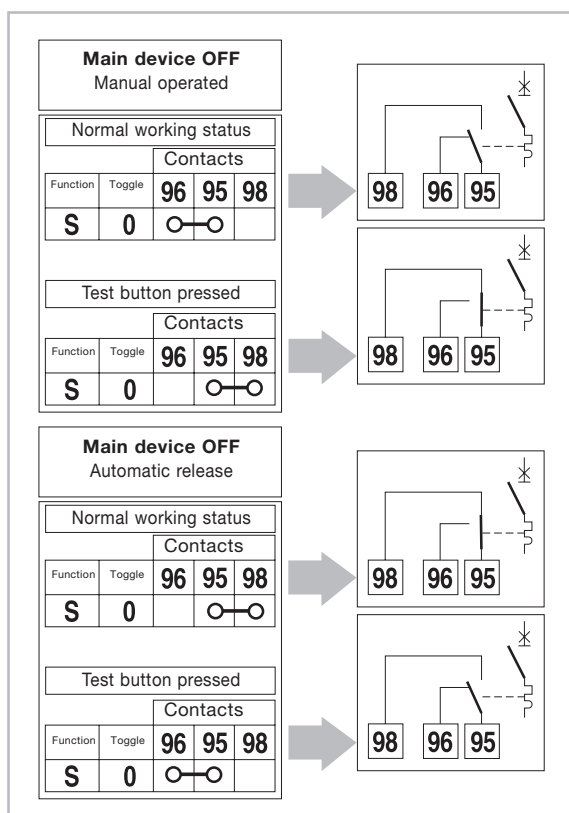
The function S (changeover contact) is intended to provide signalisation of the real status of the associated main device in case it releases automatically only.

The contacts do not change position during manual operation.





While both devices are in the ON position there is continuity between terminals 95-96, then when you press the display contact test button the continuity changes over to terminals 95-98. When released, the contacts change over to the previous position 95-96.



In the case of both devices being in the OFF position, it is needed to identify whether they have been manual operated or it was an automatic release.

Manual operation

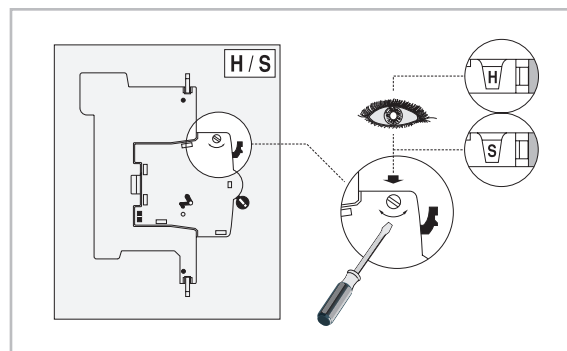
The contact position of the display contact has not changed. There is continuity between terminal 95-96. When pressing the display contact test button, the continuity is changing over to terminals 95-98. When stop pressing, the contacts change over to the previous position 95-96.

Automatic release

The contact position of the display contact has changed. There is continuity between terminals 95-98. When pressing the display contact reset button, the continuity is changing over to terminals 95-96, and it remains in that position even when released.

How to change the function S or H

Can be easily done before coupling it to the main device by using of a screwdriver to rotate the knob placed at the left-hand side of the auxiliary. An indication of the function appears at the window located in the upper shoulder.



- ① For the H function the terminals will be 11-12-14
- ② For the S function the terminals will be 95-96-98

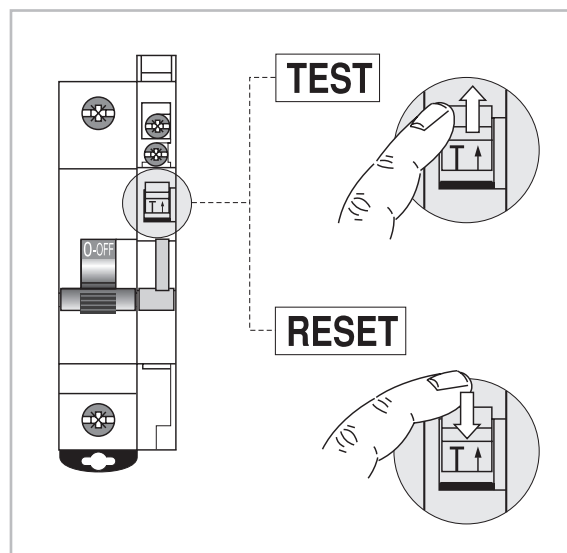
Test & reset function

Test function

Allows testing of the control circuit (unstable changing of contact position) by moving the front button up or down, without effecting the electrical situation (ON/OFF) of the main device.

Reset function

By electrically switching off of the main device (due to overload, short-circuit or earth fault current), the changeover contact switches: a red line appears in the front button (visible indication of electrical fault in the installation). The changeover contact can be reset by pushing the test button down without changing the electrical situation (ON/OFF) of the main device.



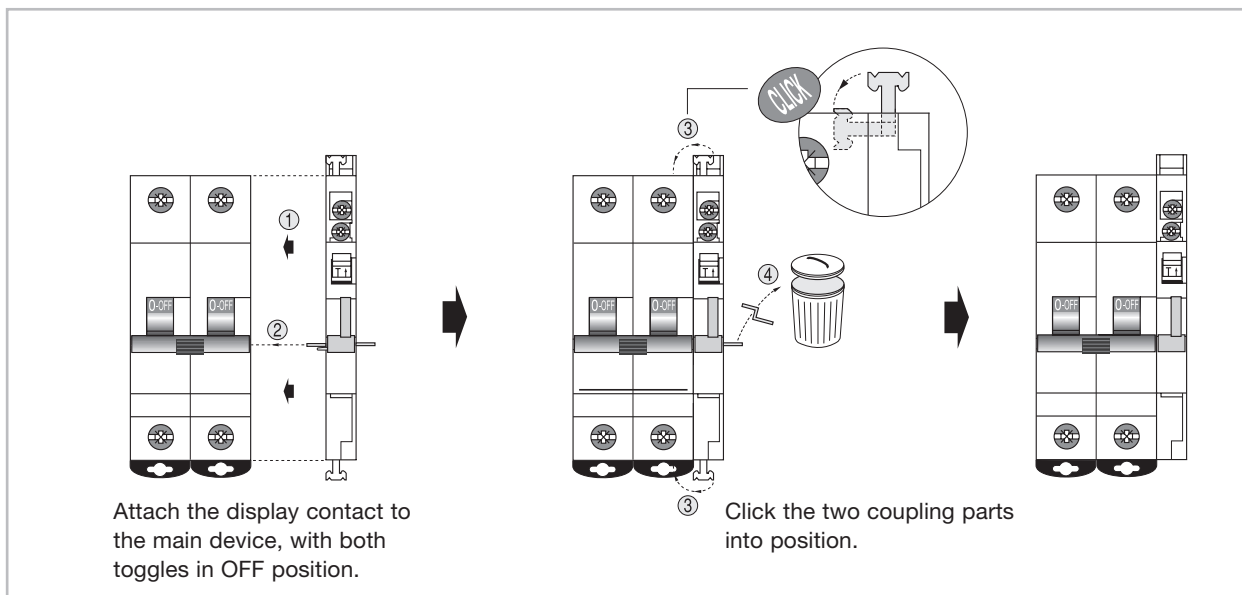
Gold plated contacts

Gold plated contacts are intended to be used in circuits with either low voltage (<24V) or low current (<200mA).

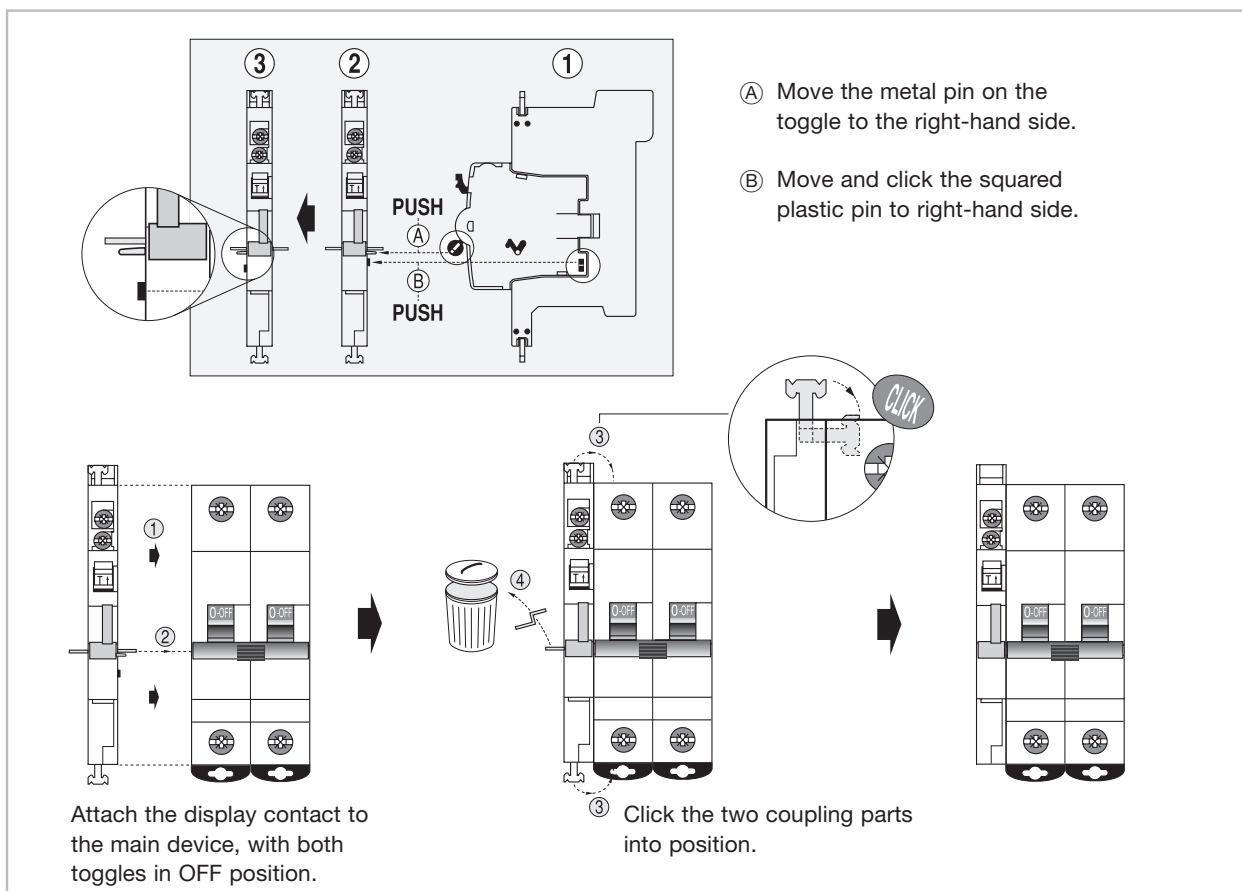
How to couple to the main device

The display contact (CA H and CA S/H) can easily be coupled either to the right or the left-hand side of the main device.

The display contacts are delivered as standard to be coupled on the **right-hand side** of the main device.

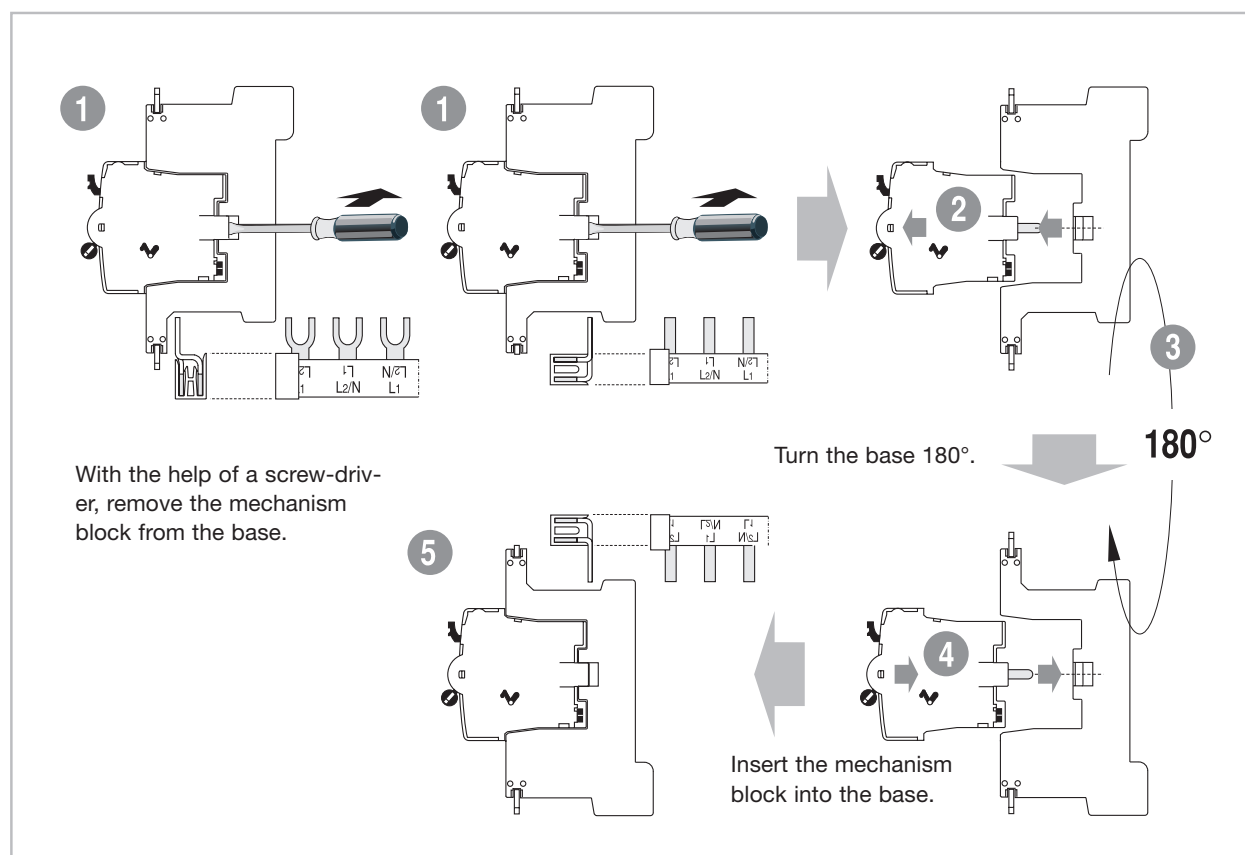


The coupling on the **left-hand side** of any device can be easily done according the following instructions.



The display contact CA allows the passthrough of the PIN or FORK type busbars when they are installed at either the top or bottom terminal of the main device.

The CA display is delivered to allow the busbar passthrough at the bottom terminal. If you need busbar passthrough at the top terminals this can be achieved easily thanks to the innovative system base + contact block which allows the installer of the base position (busbar passthrough at top or bottom terminal).



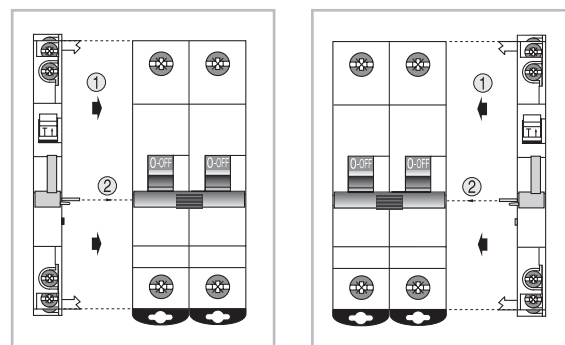
Display contact CB

This device has a double function with one auxiliary contact H (bottom terminals) plus a changeable signal/auxiliary contact S/H (top terminals).

The functions H and S/H work identically to the functions of the CA displays. The CB display contact does not permit the busbar to passthrough. There are two versions: one to be assembled to the right hand side of the main device and another one to be added on the left hand side. Does not permit the stack-on configuration.

How to couple to the main device

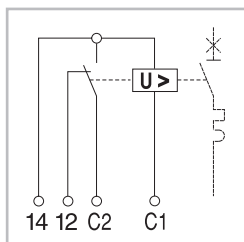
The display contact CB can be easily coupled on the right-hand side (CB SH/HH-R) or on the left-hand side (CB SH/HH-L) by placing the auxiliary contact and the main device one to another with both toggles in the OFF position.



Shunt trip Tele L

The Tele L allows you to switch off any MCB, RCCB, or RCBO by means of push-buttons or any other automatic management processors. A built-in contact in series with the coil prevents burning damage if the voltage remains. A built-in contact provides signalisation of the device status (open/close).

		Tele L 1	Tele L 2
Nominal voltage AC	V	110 to 415	24 to 60
Nominal voltage DC	V	110 to 125	24 to 48
Minimum voltage AC / DC	V	0.85 Un	0.85 Un
Closing current	A	0.3	-
	A	0.6	-
	A	1	-
	A	-	2
	A	-	1
Operating time	ms	10	-
	ms	4	-
	ms	2	-
	ms	-	10
	ms	-	4
Coil impedance	Ω	290	24
Electrical endurance (operations)		2.000	2.000
Terminal capacity rigid cable	mm ²	1 - 2.5	1 - 2.5
flexible cable	mm ²	0.75 - 2.5	0.75 - 2.5
Terminal capacity for 2 rigid cables	mm ²	2 x 1.5	2 x 1.5
Torque	Nm	0.5	0.5



How to couple to the main device

The shunt trip can easily be coupled either to the right or the left-hand side of the main device (see fig. 1 and 2). The shunt trip (Tele L) can be coupled on the right-hand side of the main device (see fig. 1).

Application examples

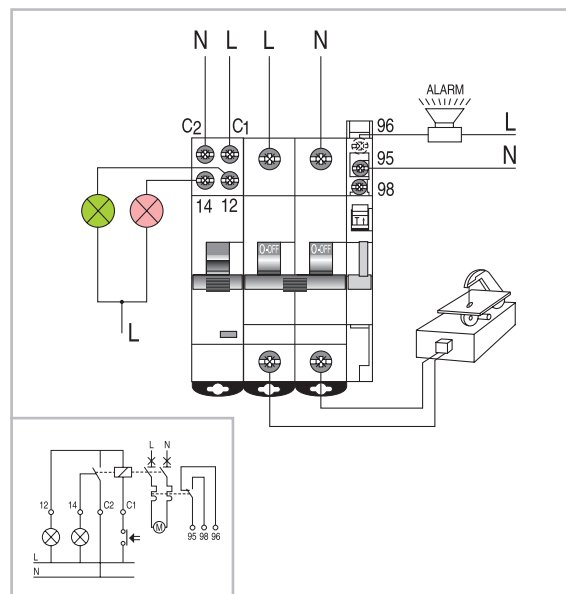
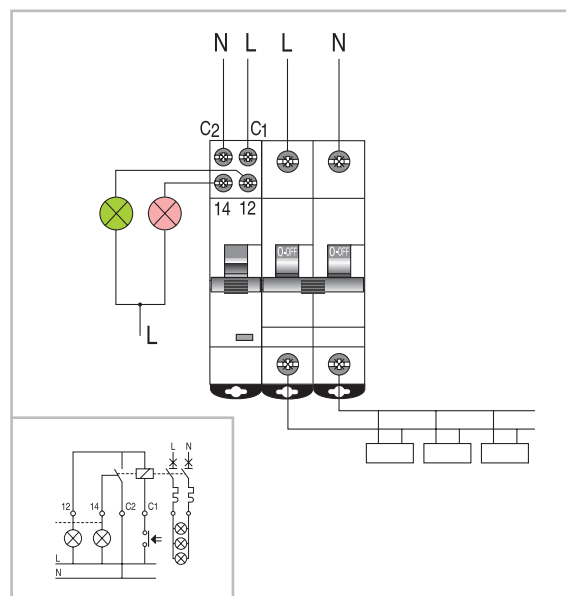
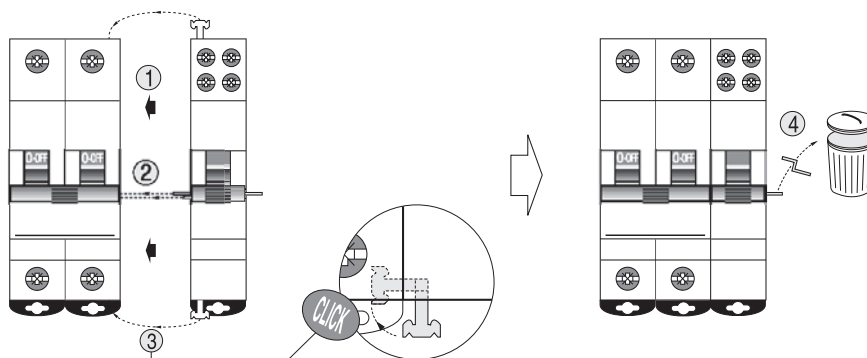


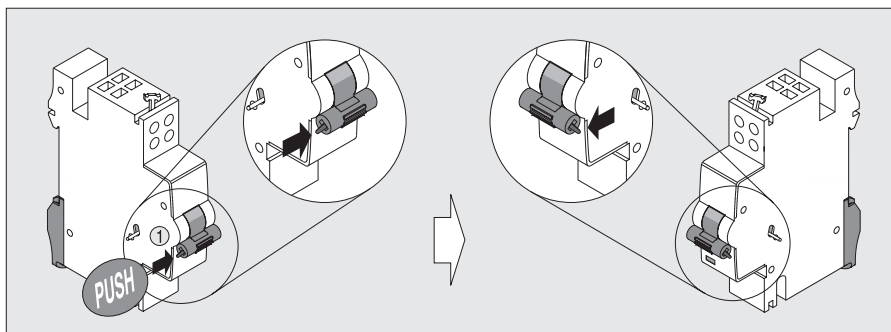
fig.1 To couple on the right-hand side



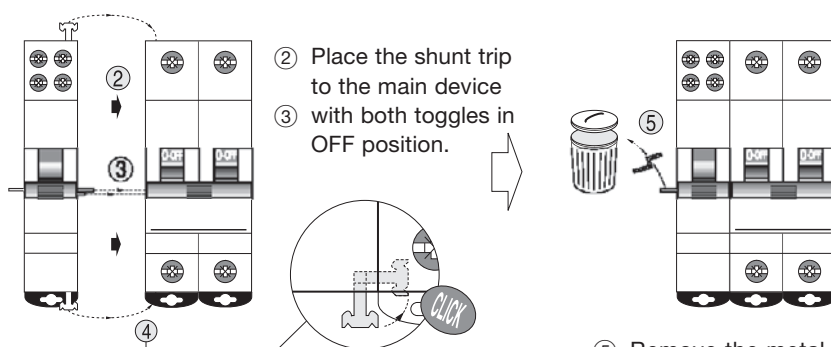
Place the shunt trip next to the main device with both toggles in OFF position.

Lock the coupling clips at the top, bottom and rear into position.

fig.2 To couple on the left-hand side: can be easily done according to the following instructions.



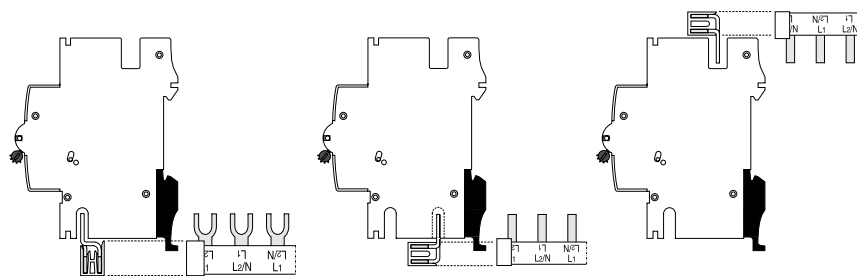
- ① With the help of a screwdriver, push the toggle pin to the right-hand side.



- ④ Lock the coupling parts in top and bottom as well as the coupling part in the back side into position.

- ⑤ Remove the metal pin on the left-hand side.

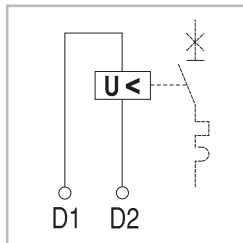
Busbar connection: the shunt trip Tele L allows the use of the PIN or FORK type busbars at the bottom terminals as well as the use of the PIN type busbars at the top terminals.



Undervoltage release Tele U

The Tele U releases the main MCB, RCCB, RCBO or modular switch in case the power supply drops below $0.5 \times U_n$. Time delay adjusting up to 300 ms. The Tele U can be switched on, once the voltage rises over $0.8 \times U_n$.

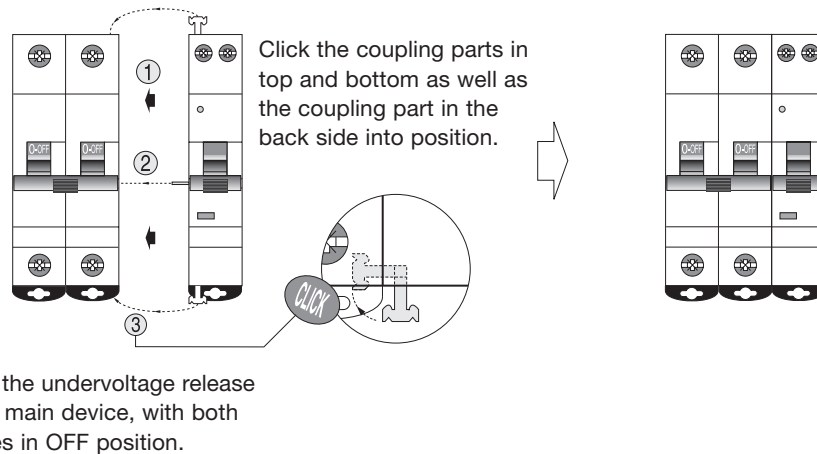
		Tele U 12	Tele U 24	Tele U 48	Tele U 230
Nominal voltage AC / DC	V			48	230
Tripping voltage	V	0.5 Un (±10%)	0.5 Un (±10%)	0.5 Un (±10%)	0.5 Un (±10%)
Tripping time	ms	0 - 300	0 - 300	0 - 300	0 - 300
Power consumption	VA	3	3	3	3
Frequency Hz	Hz	50 - 60	50 - 60	50 - 60	50 - 60
Electrical endurance (operations)		2.000	2.000	2.000	2.000
Terminal capacity rigid cable	mm ²	1 - 2.5	1 - 2.5	1 - 2.5	1 - 2.5
flexible cable	mm ²	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5
Terminal capacity for 2 rigid cables	mm ²	2 x 1.5	2 x 1.5	2 x 1.5	2 x 1.5
Torque	Nm	0.5	0.5	0.5	0.5



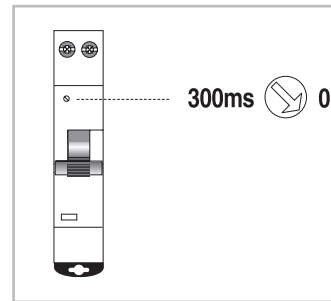
How to couple to the main device

The undervoltage release can easily be coupled either on the right or the left-hand side of the main device. (see fig. 1 and fig. 2).
The undervoltage release is designed to be coupled on the right-hand side of the main device (see fig. 1).

fig.1 To couple on the right-hand side



Time delay selector



In order to avoid unwanted tripping due to microcut in the power supply, it is possible to delay the tripping time of the Tele U from 0 up to 300ms.

Application examples

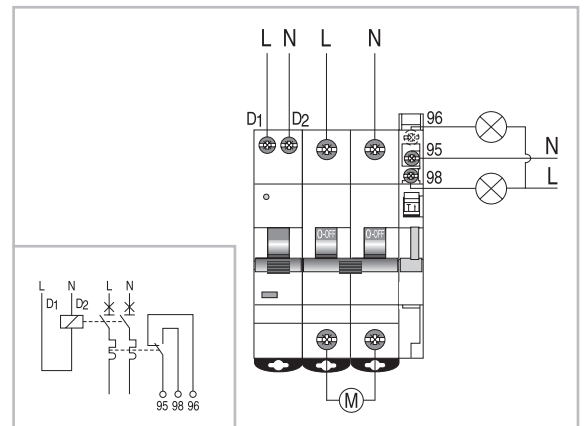
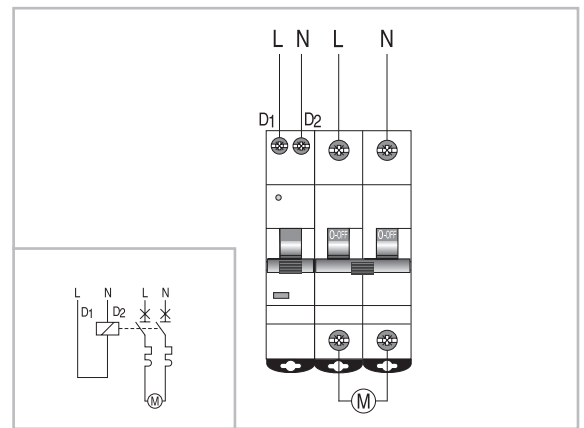
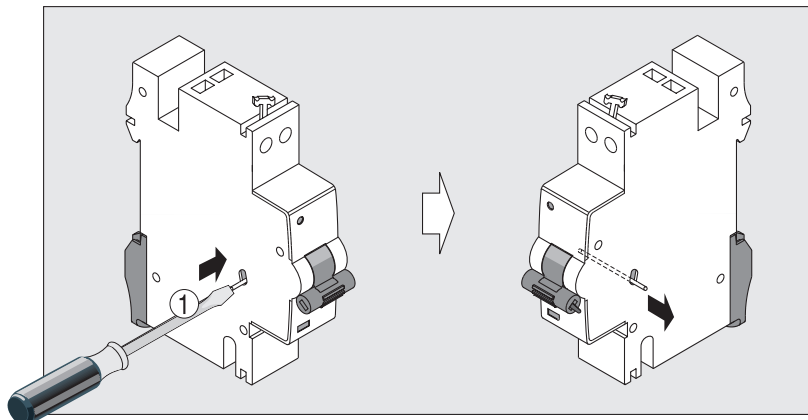
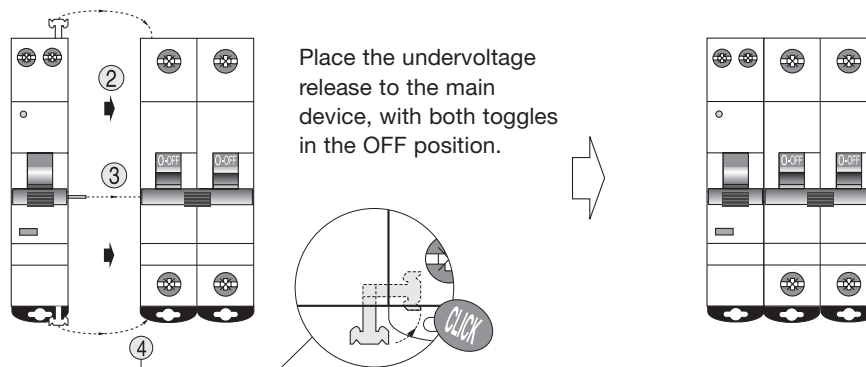


fig.2 To couple on the left-hand side: can be easily done according to the following instructions.

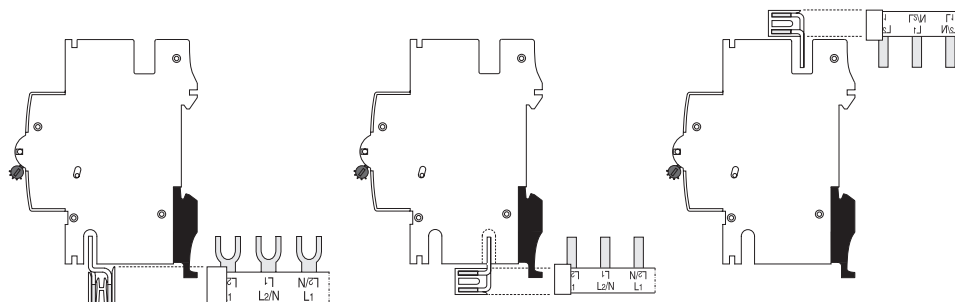


With the help of a screwdriver, push both tripping pin and toggle pin to the right-hand side.



Click the coupling parts in top and bottom as well as the coupling part in the back side into position.

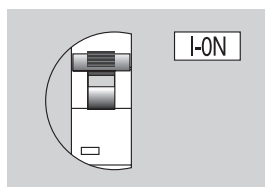
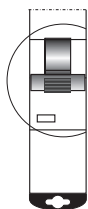
Busbar passthrough: the undervoltage release allows the passthrough of the PIN or FORK type busbars at the bottom terminals as well as the passthrough of the PIN type busbars at the top terminals.



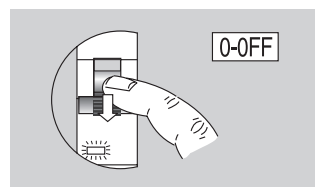
Tripping indicator: provides local information of the device status.

White indicator

Toggle in ON position:
the undervoltage release
is working normally

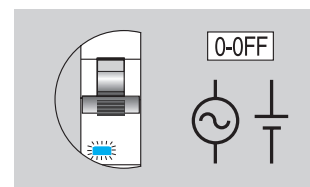


Toggle in OFF position:
the undervoltage release
has been manually operated



Blue indicator

The undervoltage
release has been elec-
trically activated



$$U < 0.5 U_n \pm 10\%$$

Motor operator Tele MP

The Tele M allows to open or close remotely any MCB, RCCB, RCBO or modular switch by means of push-buttons or any other automatic management processor (RCCO, PLC.)

The motor operator has a safety reset function which blocks the I-ON function, in case the main device trips due to a fault in the installation (earth leakage, overcurrent, short-circuit).

To switch on the main device after tripping it is needed first to give the motor operator an impulse in O-OFF, then the motor can be operated normally to switch ON.

Motor driver		
Nominal voltage AC	V	230 ±10%
Frequency	Hz	50
Power consumption	VA	35
Closing time	ms	< 500
Opening time	ms	< 200
Impulse time to open	ms	> 50
Impulse time to close	ms	> 50
Number of operations		120
Working temperature	°C	-25 up to +55
Electrical endurance	operations	20.000
Terminal capacity	rigid cable	mm ² 1 - 2.5
	flexible cable	mm ² 0.75 - 2.5
Terminal capacity for 2 rigid cables	mm ²	2 x 1.5
Torque	Nm	0.5

How to couple to the main device

The motor operator Tele MP can easily be coupled either to the right or the left-hand side of the main device. (see fig.1 and fig.2)

Application example

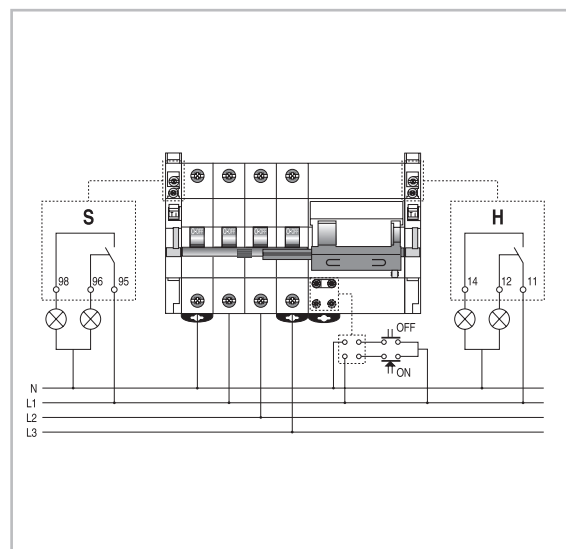
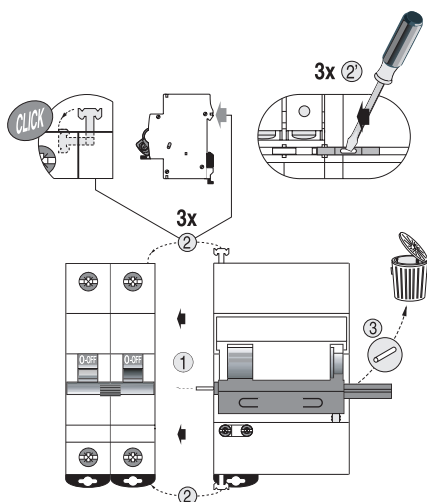


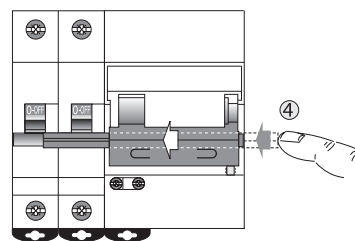
fig.1 To couple on the right-hand side



Place the motor operator next to the main device with both toggles in OFF position.

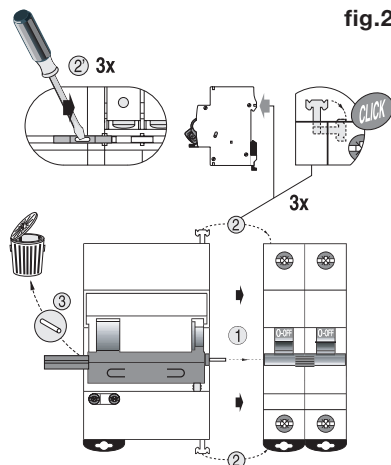
Lock the plastic and metal coupling clips at the top, bottom and rear into position.

Remove the metal pin on the right hand side of the motor.



Push the motor operator toggle over the main device toggle (maximum 1.5 modules).

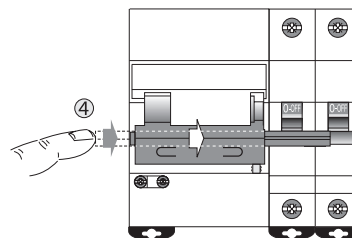
fig.2 To couple on the left-hand side



Place the motor operator next to the main device with both toggles in OFF position.

Lock the plastic and metal coupling clips at the top, bottom and rear into position.

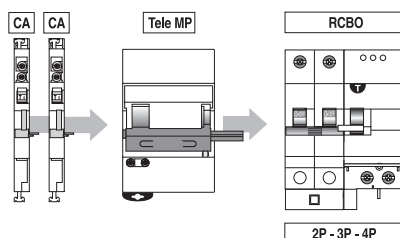
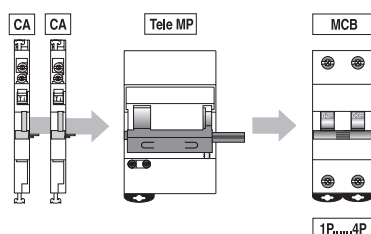
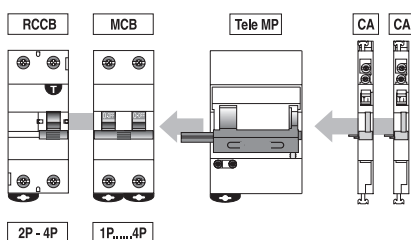
Remove the metal pin on the left-hand side of the motor.



Push the motor operator toggle over the main device toggle (maximum 1.5 modules).

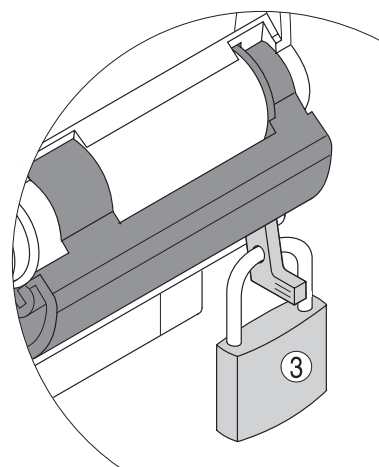
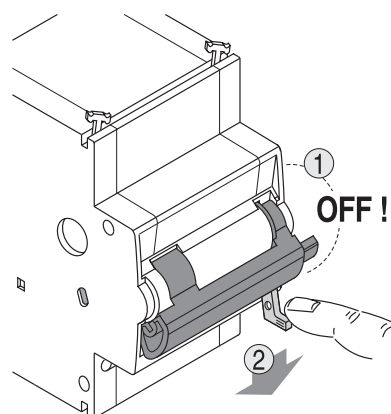
Extensions

Extensions can be added either on the left or the right-hand side of the motor operator according to the following configuration.



Padlocking

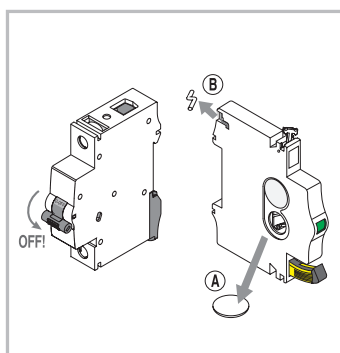
The motor operator can be blocked electrically in the OFF position by means of a safety-sealing handle, which can be locked with one padlock.



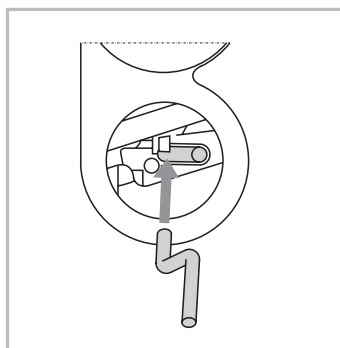
Panel board switch PBS

The panel board switch coupled to a main device is intended to switch off any MCB, RCCB or RCBO in case the front cover of the enclosure is removed. It is a mechanical safety device, which reduces the risk of electric shock in case of manipulation of the panel board.

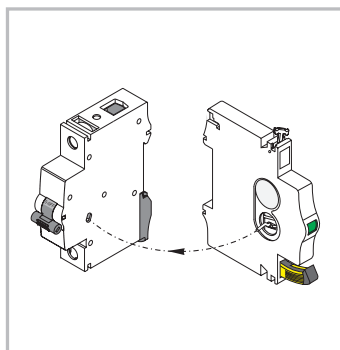
The panel board switch can easily be coupled either to the right or the left-hand side of the main device, according to the following instructions.



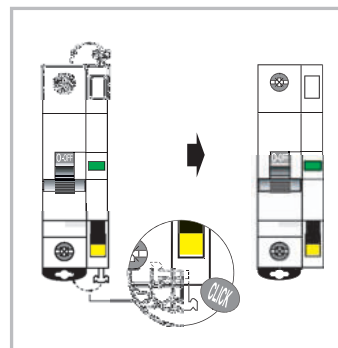
1. (A) Remove the protective cover to gain access to the mechanism.
- (B) Remove the pin from the lodging.



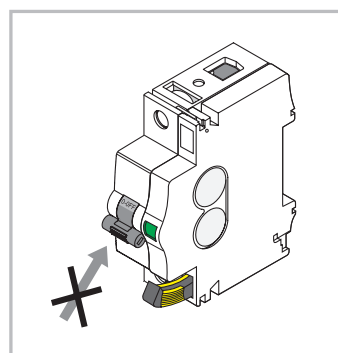
2. Place the pin into position.



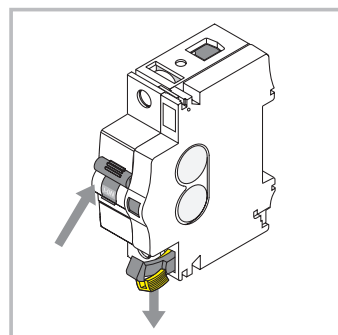
3. Place the panel board switch to the main device with the toggle in OFF position.



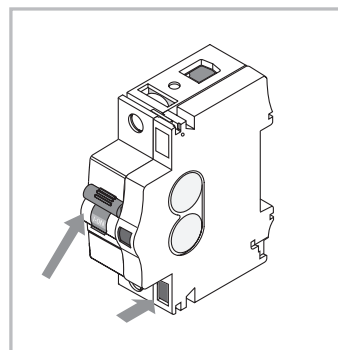
4. Click the two coupling parts into position.



5. The toggle of the main device can not be switched ON, if the button of the panel board switch is not pressed by the enclosure front cover.



6. The main device can be switched ON without the need of placing the enclosure front cover into position, by pulling down the yellow part of the button.



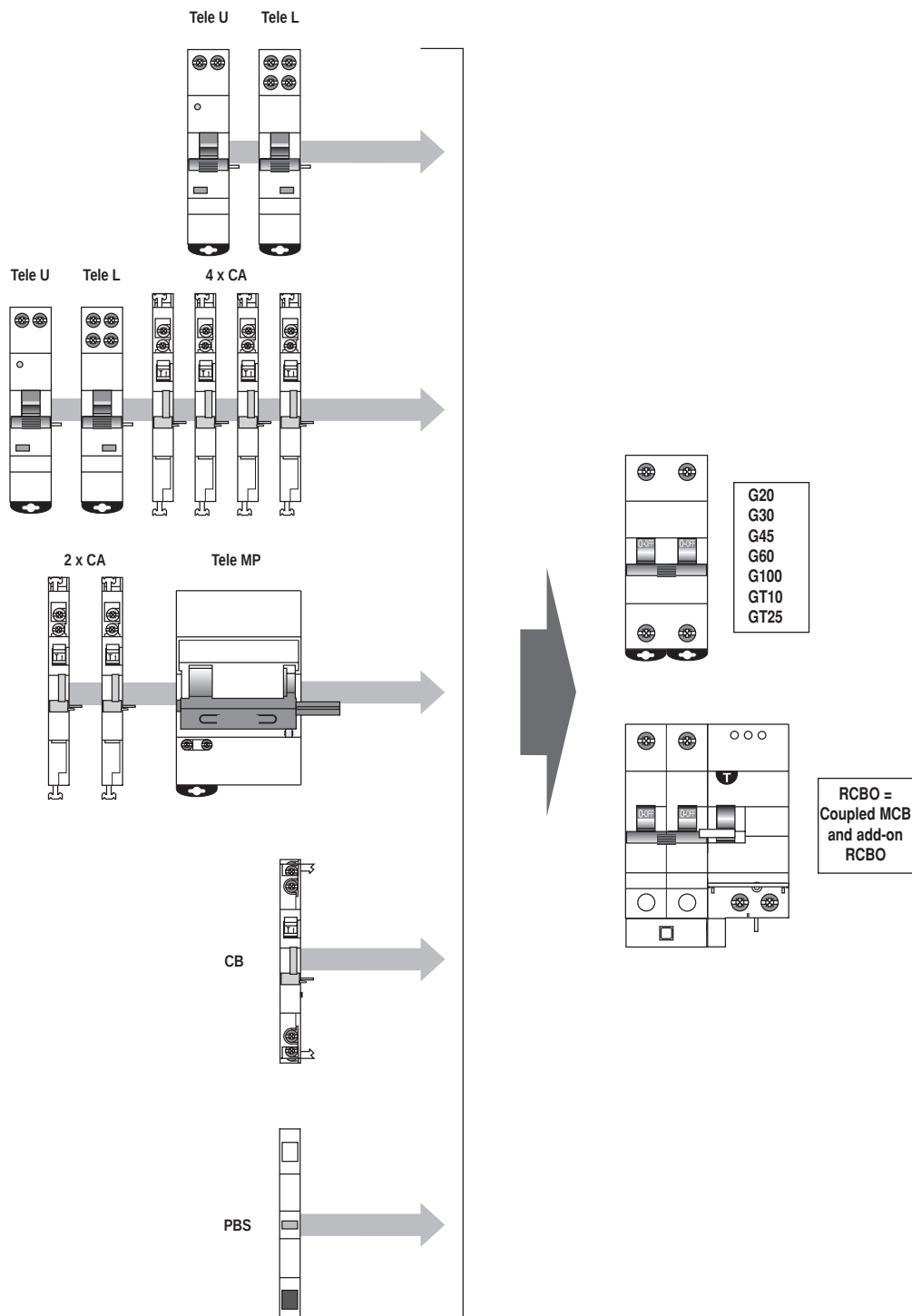
7. The main device can be switched ON normally when the enclosure front cover is placed into the closed position.

Stack-on configuration

To all MCB's, RCCB's and RCBO's it is possible to add extensions alongside taking into consideration the following configuration.

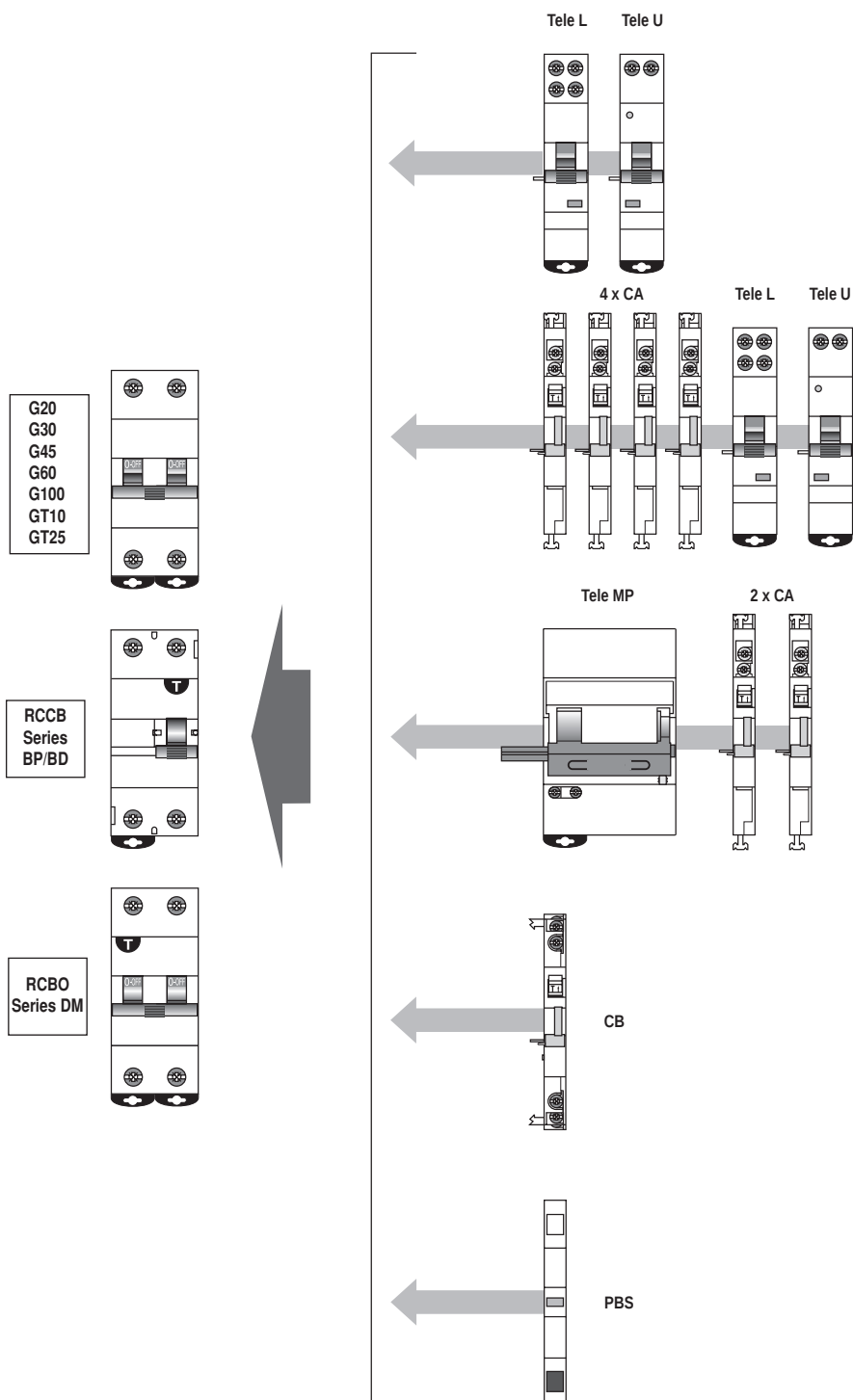
CA	Display contact H or S/H
CB	Display contact H + S/H
Tele L	Shunt trip
Tele U	Undervoltage release
Tele MP	Motor operator
PBS	Panel board switch

Assembly on the left-hand side



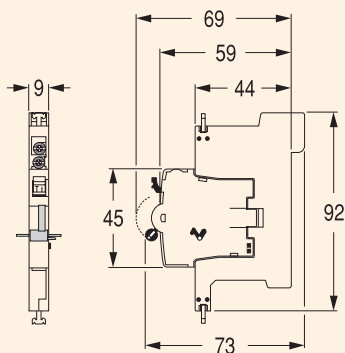
CA	Display contact H or S/H
CB	Display contact H + S/H
Tele L	Shunt trip
Tele U	Undervoltage release
Tele MP	Motor operator
PBS	Panel board switch

Assembly on the right-hand side

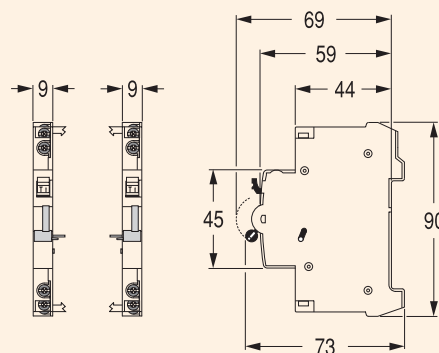


Dimensional drawings

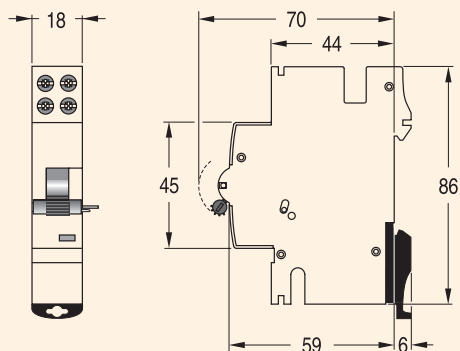
Auxiliary - Series CA



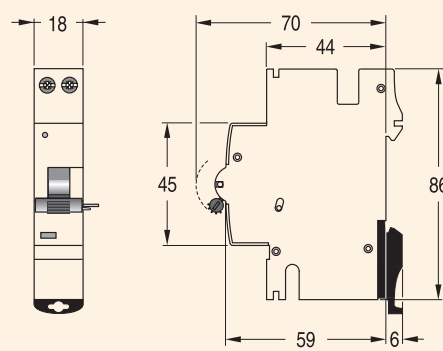
Auxiliary - Series CB



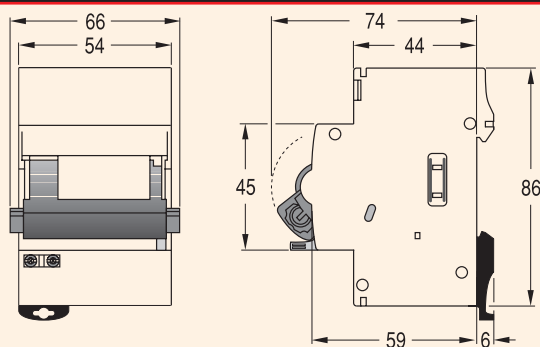
Shunt Trip Tele L



Undervoltage Release Tele U



Motor Driver Tele MP



PBS - Panel board switch

