

ACCESSORIES

TEMBREAK 2 MCCBs AND SWITCH DISCONNECTORS

Electrical Control Using Internally Mounted Accessories

Electrical control accessories for TemBreak 2 are designed with the installer in mind. Status and alarm contacts, remote tripping coils and undervoltage protection coils are of modular design and convenient to use.



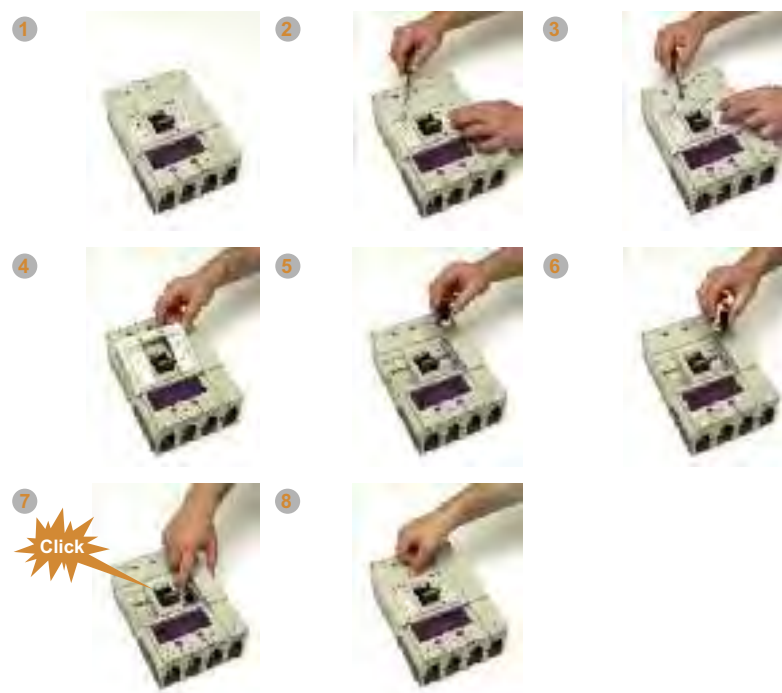
- 1) Heavy-duty auxiliary switch
- 2) Heavy-duty alarm switch
- 3) General-purpose auxiliary switch
- 4) General-purpose alarm switch
- 5) Shunt trip
- 6) Undervoltage trip

- All auxiliary, alarm switches and shunt trips are common up to 1600A. Undervoltage trips are split between two sizes: 125 to 630A and 800 to 1600A.
- All accessories are endurance tested to the same level as MCCBs.
- TemBreak 2 internal accessories are easily **field-installable**.
- All accessories are individually packaged and are supplied with fitting instructions.
- Control wiring is terminated on the accessory screw terminal. Alternatively a terminal block which clips to the side of the MCCB is available.



Installing Accessories in a 4 pole S400 model

The internal accessories can be easily installed in the field without special tools or product training.



Easy field-Installation of Accessories

- Internal accessory can be simply plugged into position.
- No tools are required for this, except a screwdriver to lift the MCCB front cover clips.
- Accessories fit with a firm click when installed correctly.
- Colour coding of accessories helps identification and installation.

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Valid Maximum Accessory Combinations

Frame Reference	TB2 S125 TB2 S250 TB2 S/H/L 250	TB2 H/L400 TB2 E/S 630	TB2 H/L 800 TB2 1000	TB2 1250 TB2 1600
	S125 H125 L125 VS125 ZE125 ** ZS125 ** S160 H160 L160 PVS160 S250 H250 L250 VS250 ZE250 ** ZS250 **	E400 E630 S400 S630 H400 L400 PVS400 VE400	S800 H800 L800 S1000 PVS800	S1250 S1600
General Purpose Auxiliary Switch General Purpose Alarm Switch Shunt Trip				
General Purpose Auxiliary Switch General Purpose Alarm Switch Undervoltage Trip				
Heavy Duty Auxiliary Switch Heavy Duty Alarm Switch Shunt Trip				
Heavy Duty Auxiliary Switch Heavy Duty Alarm Switch Undervoltage Trip				

- Auxiliary Switch
- Alarm Switch
- Shunt Trip
- Undervoltage Trip

- General purpose and heavy duty status indication switches cannot be mixed in the same MCCB.
- It is not possible to install a shunt trip and an undervoltage trip in an MCCB as they occupy the same location. Undervoltage trips can provide remote tripping if necessary by wiring a normally closed contact or pushbutton in series with the protected supply.
- Undervoltage trips with time delays require an external time delay controller which clips to the side of the MCCB.

** Shunt trip and undervoltage cannot be installed in this model.

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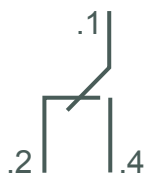
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Status Indication Switches



General Purpose Auxiliary Switch



Terminal Designations and Function of General Purpose Auxiliary Switch

OFF, Trip

General Purpose Auxiliary Switch (AX)

An auxiliary switch electrically indicates the ON or OFF status of the MCCB. The general purpose type is a changeover switch with 3 terminals.

A microcurrent version is available for switching currents as low as 1mA.

Auxiliary switches are colour coded grey. The cable capacity of the terminals is 0.5 to 1.25mm², bare cable.

The general purpose auxiliary switch meets the requirements of IEC 61058-1.



General Purpose Alarm Switch



Terminal Designations and Function of General Purpose Alarm Switch

Trip

General Purpose Alarm Switch (AL)

An alarm switch electrically indicates the TRIP status of the MCCB. The general purpose type is a changeover switch with 3 terminals.

A microcurrent version is available for switching currents as low as 1mA.

Alarm switches are colour coded grey and black. The cable capacity of the terminals is 0.5 to 1.25mm², bare cable

The general purpose alarm switch meets the requirements of IEC 61058-1.

General purpose auxiliaries and alarm switch ratings						
Volts (V)	AC		Volts (V)	DC		Minimum Load
	Amperes (A)			Amperes (A)		
	Resistive Load	Inductive Load		Resistive Load	Inductive Load	
440	-	-	250	-	-	100mA at 15V DC.
240	3	2	125	0.4	0.05	
110	3	2	30	3	2	

Microcurrent versions		
Volts (V)	DC	
	Amperes (A)	
	Resistive Load	
30	0.1	
	1mA at 5V DC and 30V DC.	

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Remote Tripping Devices

Shunt Trip (SHT)

A shunt trip allows an MCCB to be tripped remotely on the application of the rated coil voltage across the shunt trip terminals. TemBreak 2 shunt trips have **continuously rated coils** and are suitable for use in electrical interlocking applications.

The MCCB contacts and toggle will move to the tripped position when the shunt trip is operated.

The permissible voltage range is 85% to 110% for AC or 75% to 125% for DC.

The cable capacity of the terminals is 0.5 to 1.25mm², bare cable. Shunt trips are colour coded grey.



Shunt Trips



Terminal Designations of Shunt Trips

Ratings of Shunt Trips							
Rated Voltage	Voltage AC			Voltage DC			
	100-120	200-240	380-450	24	48	100-120	200-240
Excitation Current (A)	0.014	0.014	0.0065	0.03	0.03	0.011	0.011

Under Voltage Trip (UVT)

An undervoltage trip will trip the breaker automatically when the voltage applied to the terminals of the undervoltage coil drops to between 70% and 35% of its voltage rating. The undervoltage trip prevents the circuit breaker being closed unless a voltage corresponding to at least 85% of its voltage rating is applied across the terminals of the undervoltage coil.

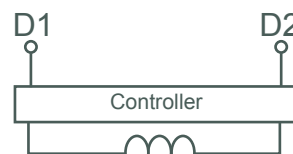
The MCCB contacts and toggle will move to the tripped position when the under-voltage trip operates.

Undervoltage trips with AC operating voltages are available with 500ms time delays. Time-delay units are fitted to the outside of MCCBs.

The cable capacity of the terminals is 0.5 to 1.25mm², bare cable. Undervoltage trips are colour coded grey and black. A UVT controller is required for time delay UVT only.



Undervoltage Trips



Terminal Designations of Undervoltage Trips

Ratings of Undervoltage Trips										
MCCB Model	Rated Voltage	Power supply capacity (VA)						Excitation current (mA)		
		Voltage AC						Voltage DC		
		100-120	200-240	380-450	24	100-120	200-240	24	100-120	200-240
S125, H125, L125, S160, H160, L160, PVS160, 250, H250, L250, E400, S400, H400, L400, E630, S630 VS125, VS250, PVS400		1.4	2.8	2.3	23	10	10			
MCCB Model	Rated Voltage	Voltage AC						Voltage DC		
		100-110	115-120	200-220	230-240	380-415	440-450	24	100-120	200-240
S800, H800, L800, S1000, S1250, S1600, PVS800		1.5	1.6	2.4	2.9	2.1	2.3	29	13	11

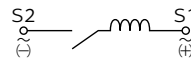
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Remote Tripping Devices

Shunt Trip (SHT)

A shunt trip allows an MCCB to be tripped remotely on the application of the rated coil voltage across the shunt trip terminals. The MCCB contacts and toggle will move to the tripped position when the shunt trip is operated.



Note: Shunt trip is provided with anti-burn switch

The permissible voltage range is 85% to 110% for AC or 75% to 125% for DC.

Ratings of Shunt Trips

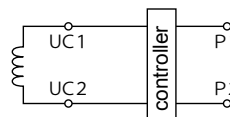
MCCB Model	Excitation Current (A)					
	Voltage AC		Voltage DC			
	100-115	200-480	24	48	100-115	200-230
XS1250ND, XS 1600ND	1.1	0.93	2.52	1.55	0.67	0.35
XS2000ND, XS2500ND						

Under Voltage Trip (UVT)

An undervoltage trip will automatically trip the circuit breaker when the voltage applied to its coil falls below a pre-set value. Remote tripping of the breaker is also possible.

Tripping voltage is 35% 70% of the rated voltage.

Resettable voltage is 85% or less, of the rated voltage.



Note: The UVT controller is installed externally, when provided with AC UVT.

Ratings of Undervoltage Trips

MCCB Model	Power Supply Capacity (VA)			Excitation Current (mA)		
	AC (V)			DC (V)		
	100-120	200-240	380-450	24	100-115	200-240
XS1250-ND, XS 1600ND	5	5	5	22.7	6.0	-
XS2000-ND, XS2500ND						