

TEMBREAK 2 LITE MCCBs AND SWITCH DISCONNECTORS

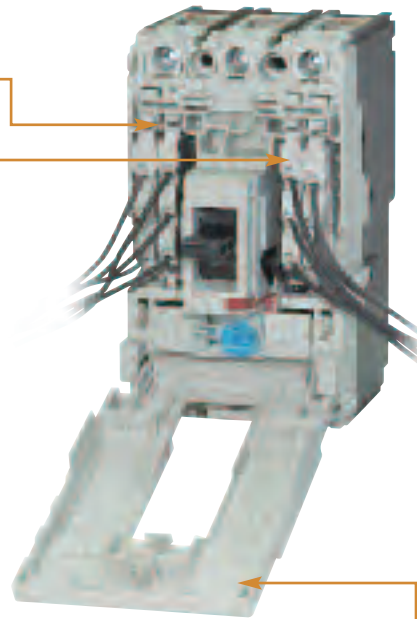
Electrical Control Using Internally Mounted Accessories

Electrical control accessories for the TemBreak 2 Lite range 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.

*Two Alarm Switches
can be installed easily*

*Practical internal accessories can
be installed with one touch*

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



*Unique accessory cover opens
with one screw*

*Secure accessory cover retains
MCCBS name plate*

SECTION 4



Undervoltage Trip



Shunt Trip



Alarm Switch (Left)



Auxiliary Switch

ACCESSORIES

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Connection Diagrams and Terminal Numbers

Accessory	Combination symbol	Connection diagram and terminal No.	Remarks
Shunt trip device (SH)		Without anti-burn switch $C1 \text{---} C2$	Shunt trips are continuous rating without anti-burn switches.
Undervoltage trip device (UV)		For AC/DC $U1 \text{---} U2$	
		$D1 \text{---} D2$	
Auxiliary switch (AX)		$12/AXb1 \quad 14/AXa1$ $11/AXc1$	1pc Aux. SW installed.
		$12/AXb1 \quad 14/AXa1 \quad 22/AXb2 \quad 24/AXa2$ $11/AXc1 \quad 21/AXc2$	2pcs Aux. SW installed.
		$12/AXb1 \quad 14/AXa1 \quad 22/AXb2 \quad 24/AXa2 \quad 32/AXb3 \quad 34/AXa3 \quad 42/AXb4 \quad 44/AXa4$ $11/AXc1 \quad 21/AXc2 \quad 31/AXc3 \quad 41/AXc4$	4pcs Aux. SW installed.
Alarm switch (AL)		$92/ALb1 \quad 94/ALa1$ $91/ALc1$	1pc Alarm. SW installed.
		$92/ALb1 \quad 94/ALa1 \quad 02/ALb2 \quad 04/ALa2$ $91/ALc1 \quad 01/ALc2$	2pcs Alarm. SW installed.

Valid/Maximum Accessory Combinations Moulded Case Circuit Breakers

Type	Number of poles	AX Auxiliary switch	AL Alarm switch	SH Shunt trip	UV Under voltage trip	AX AL	AX SH	AX UV	AL SH	AL UV	AX AL SH	AX AL UV
S160-SCF	2											
E160-SF S160-SCF S160-SF E160-SJ S160-SCJ S160-SJ S160-SN	3-4											
E250-SCF E250-SF S250-SF E250-SCJ S250-SJ E250-SJ S250- N	3-4											

Notes:

①: The two-pole type breaker obtained by modifying a three-pole breaker by removing the conductive part of its central pole is regarded as the same as the three-pole type.

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Status Indication Switches

Ratings of Auxiliary and Alarm (AX/AL)

The applicable load of the switch shall be no larger than the rating and no smaller than the minimum load.

Type of breaker	Standard							For microload ①		
	AC (V)			DC (V)			Minimum load	DC (V)		Minimum load
	Voltage (V)	Current (A)		Voltage (V)	Current (A)			Voltage (V)	Current (A)	
		Resistive load	Inductive load ②		Resistive load	Inductive load ②				
E160-SF, S160-SCF, S160-SF, E160-SJ, S160-SCJ, S160-SJ, S160-SN E250-SCF, E250-SF, S250-SF, E250-SCJ E250-SJ, S250-SJ, S250-SN	480	-	-	250	-	-	DC15V 100mA	30	0.1	DC5V 1mA
	250	3	2	125	0.4	0.05				
	125	3	2	30	3	2				

Note: ① This is a custom-made product. When ordering for this product, specify that it is intended for minute load use.

Note: ② The inductive load means power factor of no smaller than 0.4 and time constant of no larger than 7 ms.

Operation of AX and AL

Switch	Breaker status	[ON]	[OFF]	[TRIP]
Auxiliary switch (AX) status		11/AXc-14/AXa "Closed"	11/AXc-14/AXa "Open"	11/AXc-14/AXa "Open"
		11/AXc-12/AXb "Open"	11/AXc-12/AXb "Closed"	11/AXc-12/AXb "Closed"
Alarm switch (AL) status		91/ALc-94/ALa "Open"	91/ALc-94/ALa "Open"	91/ALc-94/ALa "Closed"
		91/ALc-92/ALb "Closed"	91/ALc-92/ALb "Closed"	91/ALc-92/ALb "Open"

Remote Tripping Devices

Ratings of Shunt Trip (SHT)

Type of breaker	Peak exciting current, A							
	Rated voltage	AC (V)			DC (V)			
		100-120	200-240	380-450	24	48	100-120	200-240
E160-SF, S160-SCF, S160-SF, E160-SJ, S160-SCJ, S160-SJ, S160-SN E250-SCF, E250-SF, S250-SF, E250-SCJ, E250-SJ, S250-SJ, S250-SN	0.014	0.014	0.0065	0.03	0.03	0.011	0.011	

Notes:

① The permissible voltage range is from 85% to 110% of the rated voltage for AC or 75% to 125% thereof for DC.

Ensure that the voltage does not drop or exceed the permissible voltage range when SHT is actuated.

② Breaker contacts usually start opening within 30 ms after the rated voltage is applied to the breaker.