

# V-EA and MA Circuit Breaker Accessories



Accessories can be factory or field mounted on V-EA miniature circuit breakers and MA motor protection switches for enhanced control and monitoring capabilities. Field mounting kits include all necessary parts and instructions. Accessories can be gang mounted on a single breaker (the Auxiliary Switch in the outside position). The mounting arrangement links the internal latch-pins for the tripping mechanisms, ensuring simultaneous trips. Handles are linked to simplify manual resetting.



**FA**

## Shunt Trip

Type/ Cat. No.	Trip/Coil			Approvals
	Voltage AC/DC	Max. Coil Current		
<b>FA12U</b>	12V	1.3A		UL Ⓢ
<b>FA24U</b>	24V	0.6A		UL Ⓢ
<b>FA48U</b>	48-72V	0.2A		UL Ⓢ
<b>FA110U<sup>a</sup></b>	110V	0.25A		UL Ⓢ
<b>FA110U<sup>a</sup></b>	220V	0.5A		UL Ⓢ
<b>FA110U<sup>a</sup></b>	380VAC	0.8A		UL Ⓢ

Std.Pk.: 1  
Unit Weight: 120 grams (0.27 lb.)  
Width: 17.5mm (.689in.)

Coil actuated, the FA Shunt Trip allows electrical remote tripping of a breaker. It is trip-free and the housing and terminal specifications are the same as for V-EA miniature circuit breakers. The Shunt Trip contains its own contacts which break the tripping power circuit when tripped. It is available with trip-coils in most standard control voltages. The device is UL and CSA listed for general use.



**UA**

## Undervoltage Trip

Type/ Cat. No.	Line Voltage 60Hz*
<b>UA120</b>	120VAC
<b>UA208</b>	208VAC
<b>UA240</b>	240VAC
<b>UA277</b>	277VAC
<b>UA415</b>	415VAC
<b>UA480</b>	480VAC

Std.Pk.: 1  
Unit Weight: 70 grams (0.16 lb.)  
Width: 17.5mm (.689in.)

Re-power your system under controlled conditions following a power loss or serious undervoltage. Altech/Sursum UA Undervoltage Trips are coupled to the tripping latch pins of the V-EA or MA to which they are attached, reliably producing trips at the drop-out voltage and preventing resetting when less than 85% line voltage is present. The Undervoltage Trip is provided with at least 6-inch pigtailed of stranded fixture wire for hook-up to the V-EA or MA line terminals.

- Reset-Hold Voltage = 0.85 x V<sub>e</sub>
- Drop-Out Voltage = 0.35 to 0.7 x V<sub>e</sub>

\* Please consult Altech for your 50Hz application needs.

<sup>a</sup>One device with wide voltage range.



**H**

## Auxiliary Switch

Type/ Cat. No.	Approvals	For Use With:
H11U	UL Ⓢ	V-EA, MA
HF111		FI

Std. Pk.: 1  
Unit Weight: 45 grams (0.12 lb.)  
Width: 9mm (.354in.)

Contact Ratings	
H11U	HF111
10A / 220V AC	6A / 230V AC
3A / 110V DC or pulsed	—
1A / 220V DC or pulsed	1A / 220V DC or pulsed
Wire Size (max.)	
4mm <sup>2</sup> (12 AWG)	4mm <sup>2</sup> (12 AWG)

Two isolated, feedthrough Form X and Y contacts are provided: one with the same form as the breaker (HS designation, closed auxiliary contacts when breaker is on and breaker contacts are closed); and one with the opposite form as the breaker (HO designation, closed auxiliary contacts when breaker is tripped and breaker contacts are open). Upper level terminals are metal-stamped "HS" and lower level terminals are stamped "HO", providing clear identification for drawings and physical wiring (line/load on either terminal).

Altech/Sursum H Auxiliary Switch is suitable for logic interrogation and for use as a two-circuit Form C contact. It can also function as an auxiliary switch for control circuits. The H11U is UL and CSA listed for general use.



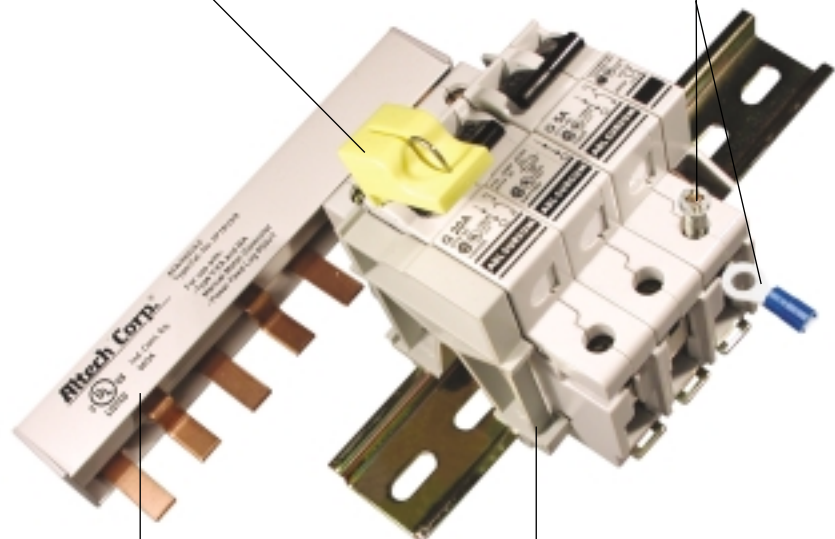
### Lock-out ①

Cat. No. EASS

Prevent inadvertent resetting of the V-EA or MA during maintenance. Fits 1/4" pad lock.

### Ring Tongue Terminals

Available for VE-A and MA series. Please specify when ordering and refer to type designation.



### Busbar Systems

Please see pgs. 32-35 for your busbar needs.

### Cooling Spacer

Cat. No. 15.960

See also Correction Curve, pg. 22.



① V-EA and MA can also be locked in the on and off position by simply using a common lead or meter seal, which gets fed through the hole in the handle and a corresponding hole in the case housing.