

ABB LoadBreak AutoLink LoadBreak Electronic Sectionalizer

The New LoadBreak AutoLink (LB AutoLink) adds to the function of automatic sectionalizing, the manual opening operation under load, in overhead medium voltage lines and without the need to open the upstream device. Only a simple hookstick is needed to operate the LB AutoLink. Both the number of counts and the actuating current can be reconfigured by user as many times as necessary, according to the particular requirements of coordination. These features translate into a greater network flexibility and reliable independence of the branches.

Description

The LB AutoLink includes, in its cutout body, an arc chute that confines and extinguishes the arc that appears when the sectionalizer is manually opened under load conditions. This loadbreak arc chute is also used on ABB loadbreak fuse cutouts around the world.

The LB AutoLink sectionalizer is fitted with a copper hollow tube that houses an electronic circuit board. This electronic board discriminates permanent from temporary faults, and determines the mechanical opening of the device if the fault current is permanent.

The setting module is placed under the tube's upper contact cap. Through this module, the operator can manually configure or reconfigure the actuating current and the number of counts to obtain the desired combination for the system protection. The LB AutoLink is immune as well, to inrush currents.

Operation

The LB AutoLink is placed in overhead network branches, downstream of a recloser (or recloser switch). When the value of the current is at least 10% above the preset actuating current, the LB AutoLink starts counting the opening operations of the recloser. Once it reaches the preset count (1 to 4 opening operations of the recloser), the LB AutoLink opens and isolates the circuit in the branch during the dead line time.

When a temporary fault occurs, the upstream recloser detects the fault and opens, attempting to clear the fault. The LB AutoLink also detects the fault and counts an opening operation of the upstream recloser. Then the recloser closes, and as the fault is temporary, it is cleared. Thirty seconds later, if no fault events occur, the AutoLink resets the count to zero. Finally, both the upstream device and the LB AutoLink remains connected and the circuit in service.

When a permanent fault occurs, the continuous reclosing operations do not clear the fault. However, as the LB AutoLink detects the fault current, it counts the opening operations and, when it reaches the preset count, the LB AutoLink opens



the line with permanent fault, during the recloser opening time. After the operation of the LB AutoLink, the circuit is restored by manually resetting (with no tools) the actuating arm and repositioning the device. No spare parts are required.

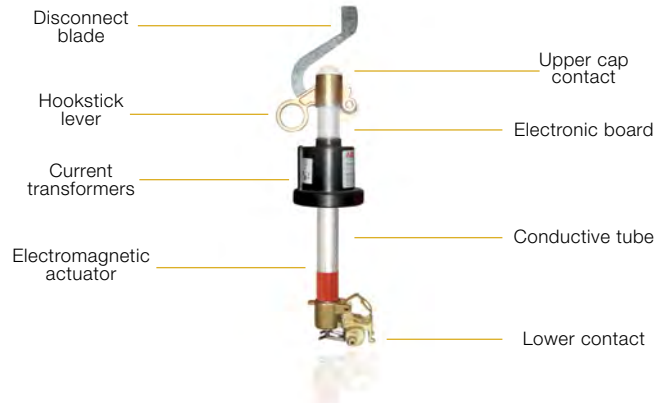
Application

The LB AutoLink coordinates perfectly with medium voltage distribution networks. The actuating current and counts of any single LB AutoLink can be reset to the different configurations of the network as many times as necessary, allowing a proper coordination in current and future protection combinations. The use of the LB AutoLink in branch and service connections, instead of the fuse cutouts, allows better coordination in the event of faults, thus decreasing both operating costs and the number of power outages.

Additionally, the LB AutoLink, unlike any standard sectionalizer, allows manual opening of the lines within maintenance work or under contingencies, without the need of previous isolation of the main line. This feature simplifies the work and increases the safety of the personnel.

LB AutoLink benefits

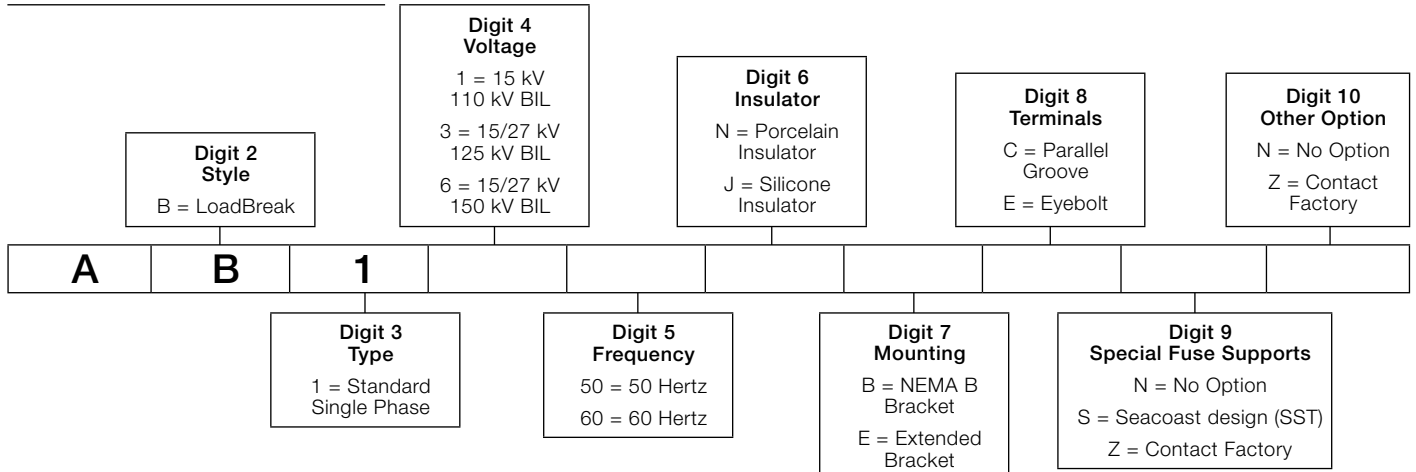
- Improves network reliability
- Grants greater safety to the personnel
- Isolates temporary faults preventing extensive outages
- Reduces replacement of fuses
- Reduces operating costs
- Field configurable as many times as needed between 6 and 215 A, and from 1 to 4 counts
- Detects inrush current
- Does not require hook stick with loadbreak accessory
- Does not require an auxiliary power source



Technical Specifications

Model		AB11	AB13	AB16
Rated Voltage	kV	15	15/27	15/27
Rated Power frequency dry withstand voltage (60 s)	kV	50	60	60
Rated Power frequency wet withstand voltage (10 s)	kV	45	50	50
Insulation Level (BIL)	kV	110	125	150
Insulator		Porcelain or Silicone	Silicone	Porcelain
Frequency	Hz	50 / 60	50 / 60	50 / 60
Nominal Current	A	200	200	200
Manual Load Break	A	200	200	200
Actuating current	A	6 – 215	6 - 215	6 – 215
Number of counts before operation	#	1 – 4	1 - 4	1 – 4
Short time current, 1 s (rms value)	kA rms	4	4	4
Asymmetrical Initial (Peak)	kA	10	10	10
Dead line detection	mA	< 200	< 200	< 200
Memory resetting time	sec	30	30	30
Maximum memory time with dead line	min	3,5	3,5	3,5

Ordering instructions



Applicable Standards

The LB AutoLink sectionalizer was designed and tested to meet ANSI/IEEE C37.63 standard.
 Duty test: capable of non automatic closing into 4,18 kA peak short-circuit current at 15 kV.

ABB S.A.

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