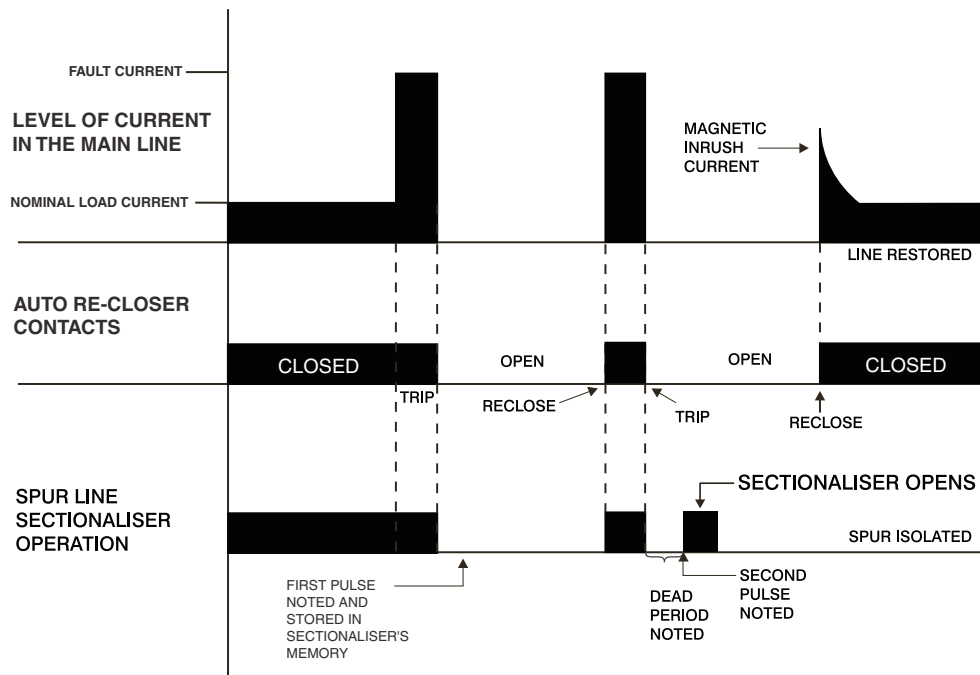


ASL - Automatic Sectionalising Links



Sectionalising Isolating a Spur-Line Fault

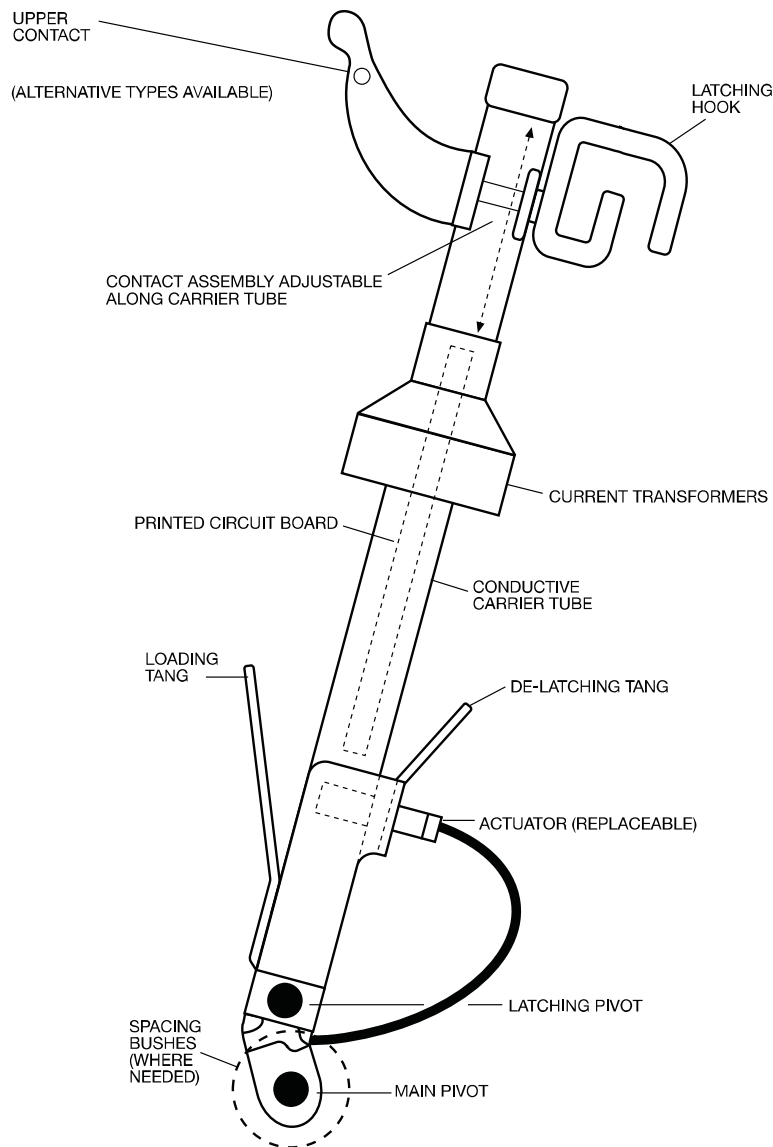
Operation is accomplished by discharging a capacitor into a small chemical actuator (or 'striker') which unlatches the carrier tube and causes it to swing down. The ASL is reset by fitting a replacement actuator and re-inserting the carrier into its mount.

The logic circuit is designed to inhibit response to transformer magnetising inrush current surges and induced current waves resulting from electrical storms. Therefore, in practice any spur line fault condition which persists for a time of several seconds will operate the ASL, so isolating the spur as illustrated above. Any transient or 'no damage' current will be ignored.

Operational Sequence

The logic circuit on the printed circuit board within the ASL is powered by a small current transformer mounted on the outside of the conductive carrier tube. Under normal load conditions the printed circuit board remains inert. However, should the line current increase above a certain pre-set value (the pick-up current) the logic circuit activates. The upstream auto re-closer then opens, temporarily removing the fault from the line. The logic circuit, powered by an internal capacitor, stores the incident for around 25 seconds (the 'reclaim' time). When the upstream device re-closes, some three to ten seconds later, if the fault current is no longer in evidence, the ASL will ignore the incident and eventually reverts to an inert state again. However if the fault current (i.e. a current above the pick-up value) is still present, the logic circuit will decide that this represents a permanent fault on the spur line and will prepare to de-latch. The logic circuit is however, inhibited from operating the latch mechanism until the upstream recloser has tripped for the second time and the line current has fallen to a value of less than 300mA (the 'hold-off' current) for a period of at least 0.1 second. The ASL thus operates during the dead time of the upstream protective device and does so quietly, without sparks or ionised gas emission and without contact erosion.

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Mounting Arrangements

The contact assemblies of the ASL are adjustable to allow for use with a variety of types of expulsion fuse mount. Alternative upper contact assemblies are available. These can be either fitted to the ASL during manufacture or may be provided loose as conversion kits. ASLs can also be provided complete with suitable 'fuse mounts' where required.

Applications

The ASL must be used in conjunction with either an upstream circuit breaker having multi-shot reclose facility or an auto-recloser. In either case the dead time of the device must be appreciably less than the 25 second ASL reclaim time.

The most useful pick-up current setting is likely to be 100A. This will allow protection of spur line loads totalling up to 1000kVA 3-phase (11kV).

Where the total load is smaller and greater sensitivity to low level faults is required, one of the alternative lower settings can be supplied. It should be noted that the recommended pick-up current setting is approximately twice the value of the maximum load current of the connected downstream transformers.

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Additional information

- Response time: At inception <50ms
- Weight: 1.6kg
- Maximum recommended mounting height: 10 metres
- Hold off current: >300mA
- The three-phase version is available to suit Moris Line Equipment mounts only, ref. BR1T

Mounting References

Cooper Bussmann Reference	Suitable for Mount Type	Actuator Part Number
BR1	S & E Line Equipment, pre. 1967	4772968BS
BR2	Brush Power (1967 - 1987)	4772968BS
BR3	Hawker Switchgear	4772968BS
BR5	J & P (GEC)	4772964BS
BR1M	Morris Line Equipment	4772968BS
BR1T	Morris Line Triple Pole Unit	4772968BS
C	Universal USA, NEMA	4772968BS
	Replacement pack of 100 grease sachets	4772717BS

Ordering Codes

For example: 15ASL100BR1-2

Symbol					Meaning
Rating Voltage	Product Type	Pick-up Current in Amps	Mounting Arrangements	Number of Shots	
15					Sectionaliser to be used in 15kV cut-outs
	ASL				Automatic Sectionalising Link (ASL)
		100			The pick-up current will be set at 100 Amps
			BR1		Details the contact arrangement for a given fuse mount. (See mounting references in the table above)
				2	Details the number of current pulses, or shots, the unit will accept before operating either 1, 2 or 3 multi.
15	ASL	100	BR1	2	Total Part Number