

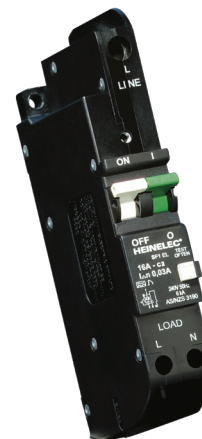
SF1EL RCBO - Combination Residual Current Device & Miniature Circuit Breaker

CBI's new generation Hydraulic Magnetic RCBO Range is used in a variety of circuit protection applications, combining overload, short circuit, & residual current protection in one compact energy efficient unit. Designed to withstand the Harsh Australian environment, this product is tried & tested in applications such as remote mining sites, Australian Antarctic, CBD Commercial sites & used as a safety device in most medical applications.



FEATURES

- AS/NZS 3190 Type II approved (Approval N°: NSW 21007)
- Switches both Active & Neutral conductors
- Overload & short circuit protection
- Shock & Fire Hazard protection
- Suitable for pulsating CD current
- Single phase over-current protection
- IP2X terminals
- 26mm module width
- Current Limited
- High Immunity to transient currents (Peak withstand current 250A, 8120 μ s)
- Special high sensitivity 10mA SF1EL RCBO'S are available for hospital applications & medical equipment
- Complies to AS/N25 3003
- Hydraulic Magnetic Technology
 - Trip point unaffected by ambient temperature
 - Precision circuit breaker, always holds 100% of rated current
 - Immediate resetting after tripping (provided the fault condition has cleared)
 - Mid trip handle position, indicating that the RCBO has tripped
- Optional intergral padlock attachment accepting up to 8mm hasp
- Insulation resistance testing can be done with the handle in the OFF position (No disconnection of the unit is required)



APPLICATION

- Mining & Minerals
- Oil & Gas
- Heavy Industrial
- Multi Storey Complexes
- Hotels & Clubs
- Hospital & Medical Centres
- Schools & Universities
- Electrical office equipment
- Rail & Infrastructure



TECHNICAL DATA

SF1EL RCBO												
STANDARD AMP RATING (A)	SENSITIVITY (mA)	NO OF POLES	EQUIPMENT TYPE	RATED VOLTAGE (V)	OPERATING VOLTAGE (V)	RATED BREAKING CAPACITY (kA)	MOUNTING OPTIONS	FREQUENCY	MECHANISM	TRIPPING CURVES (STANDARD)	OPERATING TEMPERATURE	STORAGE TEMPERATURE
6A to 40A	10 & 30mA Models	1 + N	RCBO Combined Residual Current device & miniature circuit breaker	240V	110V to 240V (50/60 Hz)	6kA	Clip tray or surface mount	50 to 60 Hz	Hydraulic Magnetic & RCD	Curve 1 & Curve 2	-25°C to +60°C	-40°C to +80°C

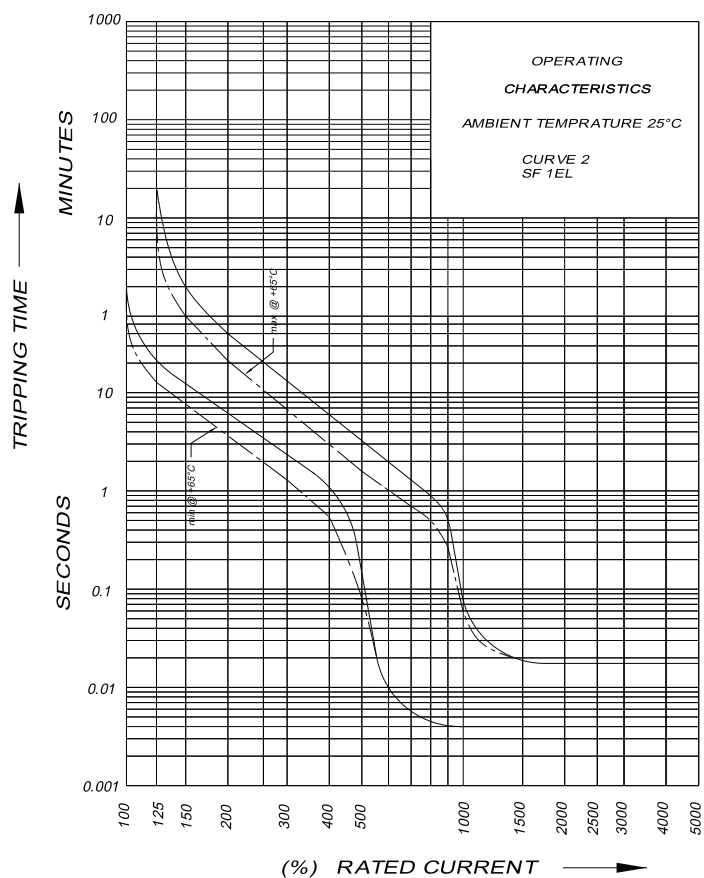
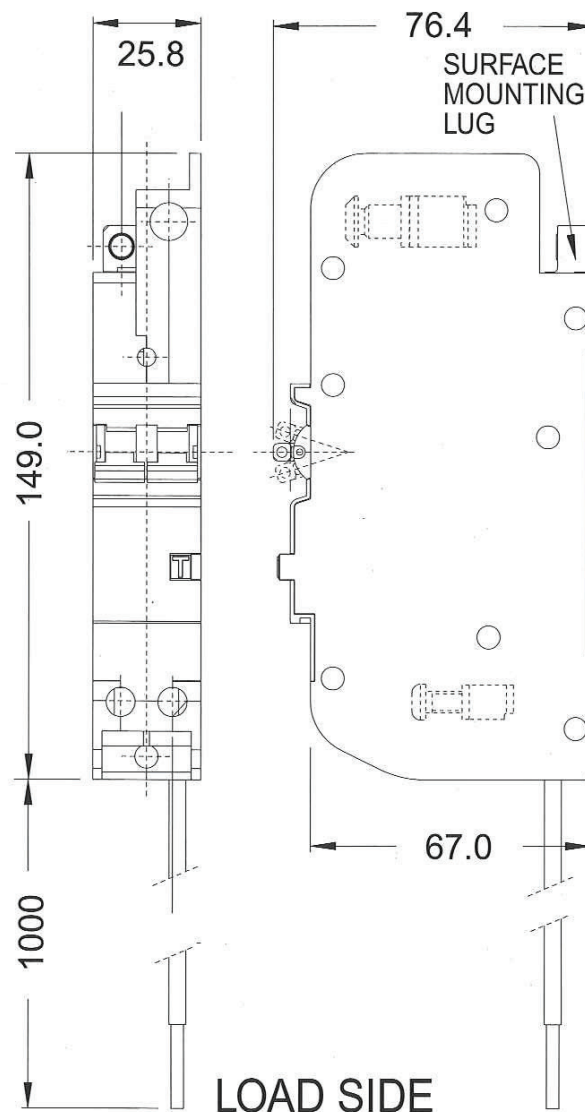
TIME DELAY DATA

SF1EL RCBO						
STD CURVE CODES	PERCENTAGE OF RATED CURRENT (In) TRIP TIME IN SECONDS					
	LIMITS	125%	200%	300%	500%	1000%
	Min	25	7	2.5	0.15	0.004
	Max	600	40	15	3	0.06

DIMENSIONAL DETAILS

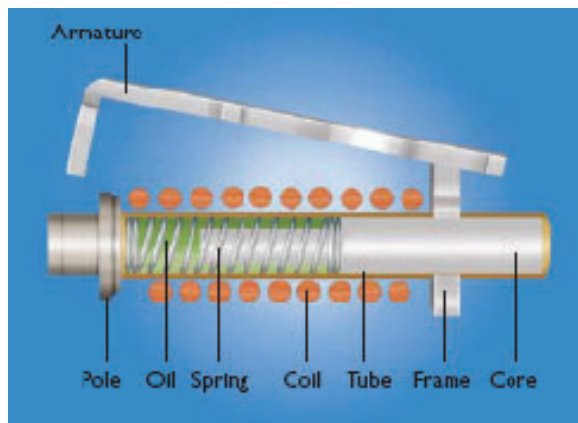


LINE SIDE



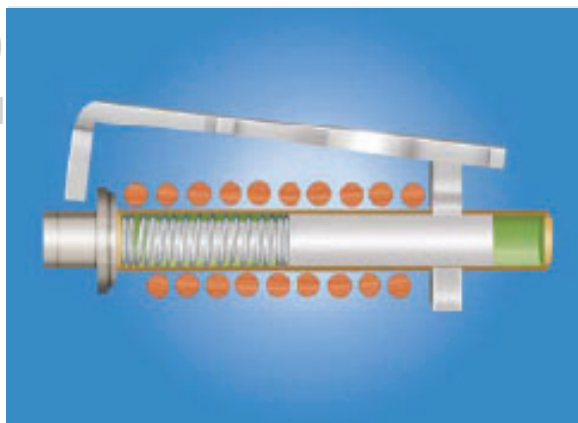
HYDRAULIC MAGNETIC PRINCIPLES OF OPERATION

1



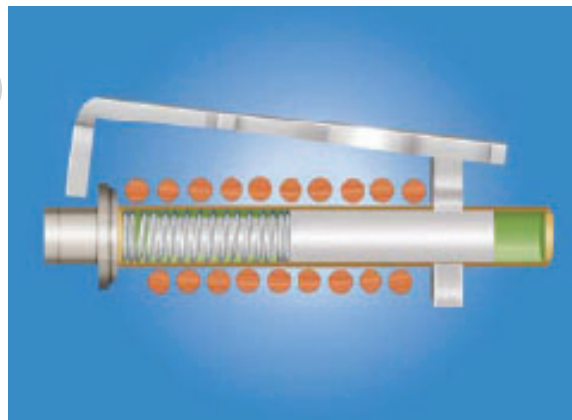
It operates on the magnetic force produced by the load current flowing through a solenoid coil. The coil is wound around a hermetically sealed tube containing an iron core, a spring and dampening fluid. At currents below the circuit breaker rating the magnetic flux in the solenoid is insufficient to attract the core to the pole piece due to the opposing spring pressure. When an overload occurs, the magnetic flux in the solenoid produces sufficient magnetic attraction to overcome the spring force and the core moves towards the pole.

2

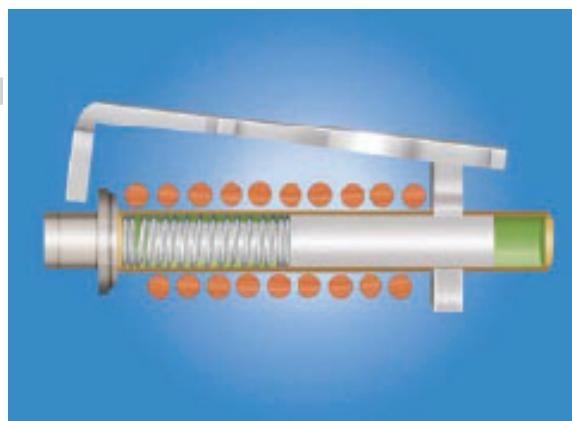


The fluid, creating a time delay inversely proportional to the current dampens the speed of movement. If the overload is of short duration - such as during start up of motors - the core returns to its rest position when the overload disappears.

3



4



If an overload persists, the core reaches the pole piece with a delay particular to that current. In so doing the reluctance of the magnetic circuit drops so that the armature is attracted to the pole face with sufficient force to collapse the latch mechanism and trip the breaker. The contacts separate, the current stops flowing and the core returns to the reset position.

At high overload values or short circuit, the magnetic flux produced by the coil is sufficient to attract the armature to the pole face and trip the breaker even though the core has not moved. This is referred to as the 'instantaneous trip' characteristic of the circuit breaker.

The circuit breaker may be immediately reclosed after tripping, provided the fault has been cleared, as there is no cooling down time required. Its principle of operation allows for a variety of time/current characteristics to be tailored to individual requirements.

HEAD OFFICE

MELBOURNE
90 Fairbank Road,
Clayton South VIC 3169

T +61 3 9590 3500
F +61 3 9551 1051
E headoffice@cbi-electric.com.au

SALES OFFICES

VIC / SA
T 1800 770 870
F 1300 509 263
E sales@cbi-electric.com.au

QLD
T 1800 770 870
F 1300 509 263
E sales@cbi-electric.com.au

NSW
T 1800 770 870
F 1300 509 263
E sales@cbi-electric.com.au

WA
T 1800 770 870
F 1300 509 263
E wa@cbi-electric.com.au

AGENTS

TASMANIA - Electrical Agencies
T +61 3 6273 1855
F +61 3 6273 1158
E elecag@bigpond.com