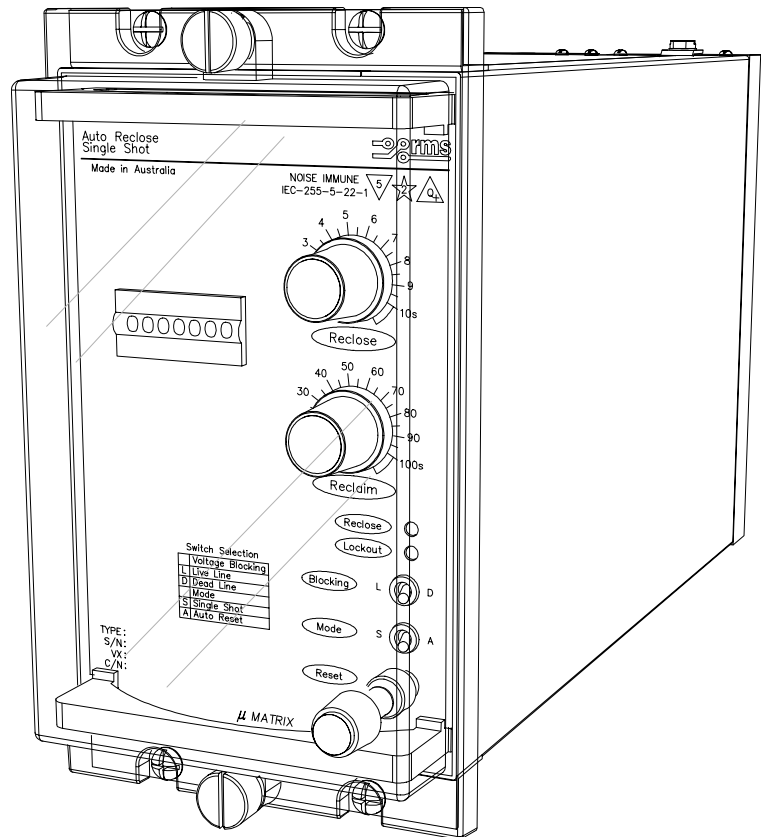


Features

- Shunt initiate input
- Optional series initiate input
- Single shot or auto reset mode selection
- Live line or dead line selection
- CB reclose spring status input to defer auto reclose pulse until fully charged
- Lockout target LED
- Reclose in progress LED
- Optional heavy duty reclose relay contact
- Wide range of auxiliary supply voltages
- Adjustable reclose & reclaim time delays
- Zero stand by burden
- Optional reclose counter
- Simple rugged design
- Size 4M draw out case
- Made in Australia



1B220 depicted in a 4M28 case

Application

Operating records for overhead power lines reveal that most faults are of a transient nature (e.g. lightning induced) & that service interruptions may be minimized by use of automatic reclosing of circuit breakers.

An automatic reclosure of the circuit breaker, after the fault clears, provides improved service continuity & system stability.

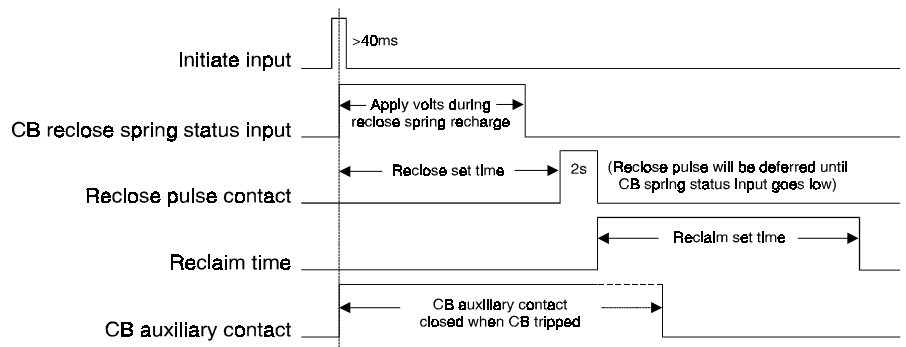
The 1B220 Series Reclose Relay provides for single shot automatic reclosing of circuit breakers, following interruption of supply due to a fault in the system.

Operation

Made in Australia

Initiation of the 1B220, resulting from the circuit breaker tripping, may be via a shunt (voltage input) or optionally specified as a series (current input). After initiation the 1B220 will follow the logic flow shown on the wiring diagram.

The following timing diagram depicts a successful reclose sequence:



The reclose sequence starts with an adjustable reclose time delay ("dead time"), to allow the fault to clear. Provided the CB reclose spring status input is low, a 2s pulsed reclose attempt signal will be output. Once the output pulse is completed, an adjustable reclaim ("lockout"), timer is initiated. The CB auxiliary contact must close before the reclaim timer has expired or else the 1B220 will go to a lockout condition.

If the mode switch is set to AUTO & the CB auxiliary contact has closed before the reclaim timer has expired, the 1B220 will reset & wait for the next initiate pulse. If set to single shot mode the 1B220 will go to a lockout condition. Once in the lockout condition, a reclose sequence cannot be started until either the auxiliary supply is removed or the reset button on the front panel is pressed.



INPUT INITIATION

Shunt Initiate:	Voltage	Auxiliary Supply
	Tolerance	+15% to -25%
	Pulse Length	>40 m Sec
Series Initiate: (Optional)	Current	>1.2 Amp DC
	Pulse Length	>40 m Sec
	Resistance	<0.05 Ohm

AUXILIARY SUPPLY BURDEN

1B220 relays with DC auxiliary supplies have operate burdens less than 8 watt except for the 250V DC version, which has a burden less than 22 watt. 1B220 relays with AC auxiliary supplies have an operate burden of less than 10 VA. All 1B220 relays have a quiescent burden of zero.

CIRCUIT BREAKER AUXILIARY CONTACT

An auxiliary contact on the circuit breaker (closed when the CB is tripped) is required to enable the 1B220 to monitor the operation of the CB.

TIME RANGES

Reclose ("Dead") Time: 0.5 to 10s
 Reclaim Time Delay: 5 to 100s

TIMING ACCURACY

Repeat ± 2% of setting
 Setting ± 5% of max. setting

RECLOSE OPERATION

Switch selection of Single Shot or Auto Reset
 The contact closure output pulse is of 2 second duration.

BLOCKING INPUT

Switch selection of Live Line or Dead Line blocking. Refer to the logic flow chart shown on wiring diagram for operation.
 Voltage input: 110V AC/DC

CB RECLOSE SPRING STATUS INPUT

The CB reclose spring status input is factory set to defer the 2s reclose output pulse as long as a control voltage is applied. This function is used to ensure that the CB will not receive a reclose pulse until after the reclose spring is fully charged. Changing a link on the PCB will invert the logic of this status input.

OPERATION INDICATORS

LED indication of reclose in progress.
 LED indication of lockout relay energized.

OPTIONAL COUNTER (Cumulative)

7 Digit (non reset).

AMBIENT OPERATING TEMPERATURE RANGE

-5 to 55 degrees C.

NOISE IMMUNITY

Withstands the high frequency interference test detailed in IEC 255-22-1.

Technical Data

INSULATION WITHSTAND in accordance with IEC 255-5:

2KV RMS & 1.2/50 5KV impulse between:

- ◆ all input terminals & frame
- ◆ all output terminals & frame
- ◆ all input & output terminals
- ◆ each input group
- ◆ each output group

OUTPUT CONTACTS

Reclose: 2 N/O Schrack contact (6R contacts optional)
 Lockout: 1 N/O Schrack contact

SCHRACK OUTPUT CONTACT RATINGS

Make & carry

30A AC or DC (Limits L/R=40ms & 300V max.) for 0.2s
 20A AC or DC (Limits L/R=40ms & 300V max.) for 0.5s
 5A AC or DC continuously

Break (Limits 5A & 300V max.)

1,250VA AC resistive
 250VA at 0.4PF AC inductive
 75W DC resistive
 30W DC inductive L/R = 40ms
 50W DC inductive L/R = 10ms

Minimum recommended load

0.5W, 10mA or 5V minimum.

6R RELAY CONTACT RATINGS

Make & Carry Continuously

3,000 VA AC resistive with maximums of 660V & 12A
 3,000 W DC resistive with maximums of 660V & 12A

Make & Carry for 3 Seconds

7,500 VA AC resistive with maximums of 660V & 30A
 7,500 W DC resistive with maximums of 660V & 30A

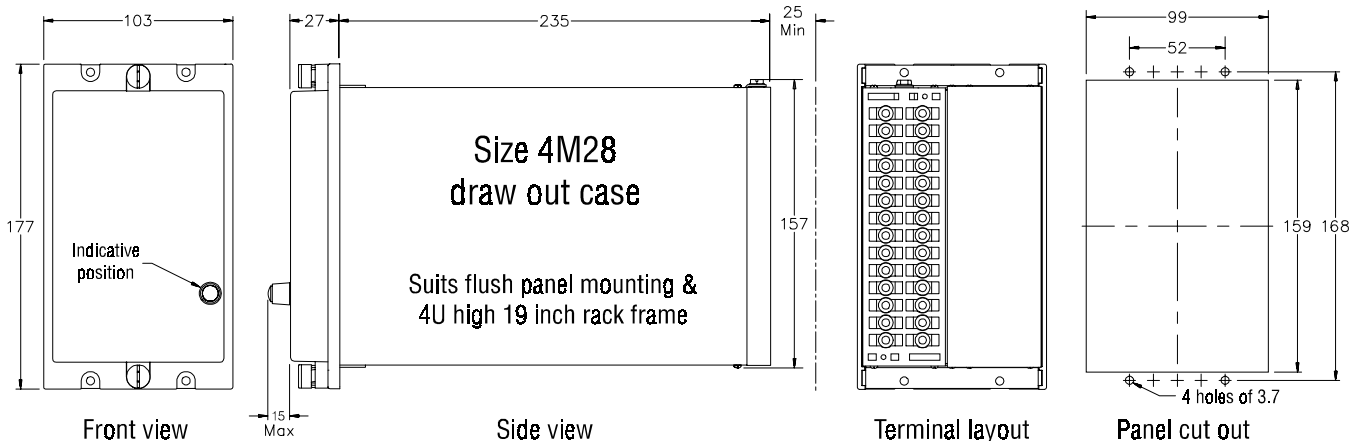
AC Break Capacity

3,000 VA AC resistive with maximums of 660V & 12A

DC Break Capacity (Amps)

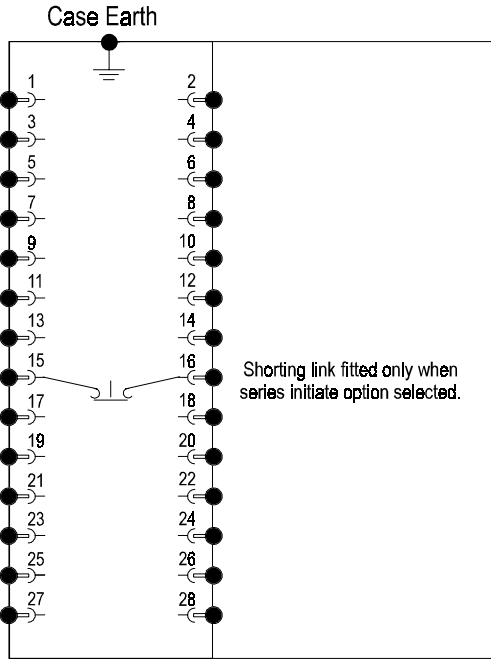
Voltage			24V	48V	125V	250V
Resistive rating	a		12	1.5	0.5	0.25
	b		12	12	10	5
L/R=40ms	Maximum break	a	12	1	0.25	0.15
		b	30	15	5.5	3.5
	1K operations (N3 Rating)	b	12	12	5	2.5

a = Without magnetic blowouts b = With magnetic blowouts



Visit www.rmspl.com.au for the latest product information.

Due to RMS continuous product improvement policy this information is subject to change without notice. 1B220/Issue C/27/11/02/2/3

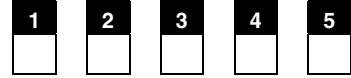


4M28 Case terminations (REAR VIEW)

Ordering Information

Generate the required ordering code as follows: e.g. 1B220 CBABB

1B220



1 AUXILIARY SUPPLY RANGE

- A 32V DC
- B 50V DC
- C 110V DC
- D 125V DC
- E 250V DC

2 COUNTER

- A Not required
- B Required

3 SERIES INITIATE INPUT

- A Not required
- B Required

4 HEAVY DUTY 6R RECLOSE CONTACT (Output 2)

- A Not required
- B Required (1 N/O "a" rated & 1 N/O "b" rated contact)

5 CB RECLOSE SPRING STATUS INPUT

- A Not required

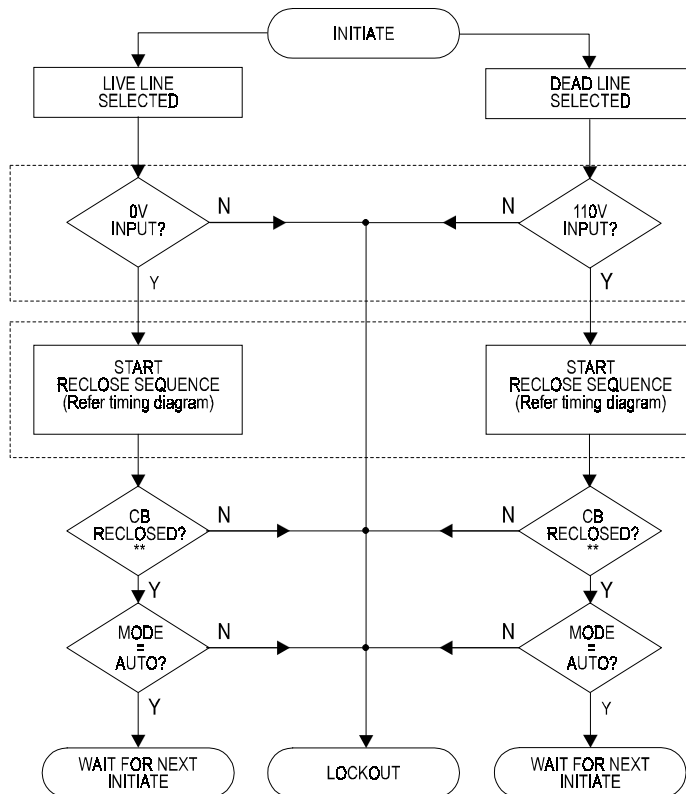
Opto-isolated input

- B 24-80V AC/DC
- C 75-150V AC/DC
- D 150-300V AC/DC

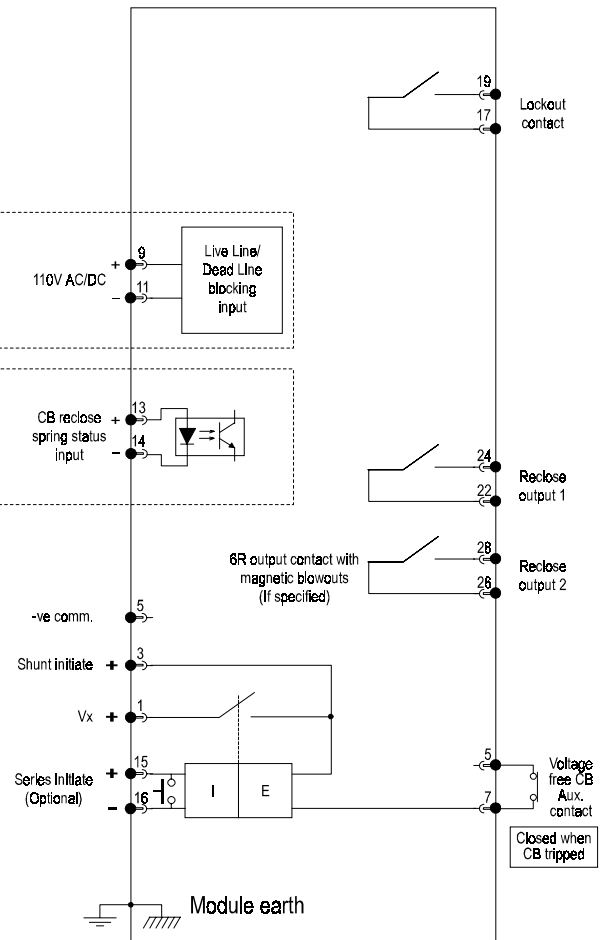
Relay coil input

- E 12V DC
- F 24V DC
- G 48V DC
- H 110V DC

Auto Reclose Logic



** Before reclaim time has expired



1B220 wiring diagram - Relay shown in de-energised condition



Visit www.rmspl.com.au for the latest product information.

Due to RMS continuous product improvement policy this information is subject to change without notice. 1B220/Issue C/27/11/02/3/3

Australian Content

Unless otherwise stated the product(s) quoted are manufactured by RMS at our production facility in Melbourne Australia. Approximately 90% of our sales volume is derived from equipment manufactured in house with a local content close to 90%. Imported components such as semi-conductors are sourced from local suppliers & preference is given for reasonable stock holding to support our build requirements.

Quality Assurance

RMS holds NCSI (NATA Certification Services International), registration number 6869 for the certification of a quality assurance system to AS/NZS ISO9001-1994. Quality plans for all products involve 100% inspection and testing carried out before despatch. Further details on specific test plans, quality policy & procedures may be found in section A4 of the RMS product catalogue.

Product Packaging

Protection relays are supplied in secure individual packing cardboard boxes with moulded styrene inserts suitable for recycling. Each product & packing box is labeled with the product part number, customer name & order details.

Design References

The products & components produced by RMS are based on many years of field experience since Relays Pty Ltd was formed in 1955. A large population of equipment is in service throughout Australia, New Zealand, South Africa & South East Asia attesting to this fact. Specific product & customer reference sites may be provided on application.

Product Warranty

All utility grade protection & auxiliary relay products, unless otherwise stated, are warranted for a period of 24 months from shipment for materials & labour on a return to factory basis. Repair of products damaged through poor application or circumstances outside the product ratings will be carried out at the customers expense.

Standard Conditions of Sale

Unless otherwise agreed RMS Standard Terms & Conditions (QF 907) shall apply to all sales. These are available on request or from our web site.



Relay Monitoring Systems Pty Ltd

6 Anzed Court, Mulgrave, Victoria 3170, AUSTRALIA

Tel: 61 3 9561 0266 Fax: 61 3 9561 0277 Email: rms@rmspl.com.au Web: www.rmspl.com.au