

Features

- High sensitivity
- 40-300V DC auxiliary supply Power supply fail relay drops out if the auxiliary supply fails.
- Optional 20-70V DC supply
- Optional mV input range
- Custom front dial calibration range scale
- Two C/O output contacts
- One C/O fail alarm contact
- Current pick up LED indication
- Optional delay timer
- Power healthy LED indication
- Size 2M draw out case

Application

The 2C81 relay may be applied to provide a trip signal to a circuit breaker in a DC system in the event of a short circuit on the downstream side of the CB.

The 2C81 may be specified with instantaneous operating contacts or with an integrated adjustable timer where coordination with other protective devices is required.

DC Current Sensing Relay

2C8



2C81 depicted in a 2M28-S case

Description

Made in Australia

The 2C81 is a DC current measuring relay. The measured input current is derived from a mV drop across a current shunt.

A switchmode power supply provides a very wide auxiliary operating range. A relay fail alarm is provided in the form of a C/O contact which is picked up when the auxiliary supply is healthy.





BURDEN

Auxiliary supply:

(at 110V DC nominal supply) Less than 2W independent of range with output relays picked up.

SENSING INPUT

The mV sensing input range is specified as part of the order code. The front plate current setting range scale is specified as part of the order code.

Scale ration:1.5x or 2x depending on mV scale selectedOverload:2x nominal input continuously

CURRENT SETTING ACCURACY +/-5% of setting

HYSTERISIS

>90% pick up / drop out ratio

OPERATING TIME OF OUTPUT CONTACTS

Time delayed:	Range B:	0.05	to	0.25s
	Range C:	0.1	to	1.0s
Accuracy:	+/-5% of maximum scale			
Repeatability:	+/-2% of setting			

Technical Data

AUXILIARY SUPPLY

40-275V AC / 40-300V DC or 20-70V DC switchmode supply.

 FRONT PANEL INDICATORS

 Power - Green:
 On solid when auxiliary supply healthy

 Current PU - Red:
 On solid when current above setting

OUTPUT CONTACTS 2 C/O self reset contacts

RELAY FAIL ALARM

A C/O alarm contact is maintained in the energized state provided the auxiliary supply is applied & the internal 24V DC rail is within acceptable limits.

OUTPUT CONTACT RATINGS

Carry continuously Make & carry L/R ≤ 40ms & V ≤ 300V

Break capacity $I \le 5A \& V \le 300V$

5A AC or DC 0.5s 20A AC or DC 0.2s 30A AC or DC AC resistive 1,250VA AC inductive 250VA @ PF DC resistive 75W DC inductive 30W @ L/R ≤ 50W @ L/R ≤

Minimum number of operations Minimum recommended load

TRANSIENT OVERVOLTAGE Between all terminals & earth Between independent circuits without damage or flashover

INSULATION COORDINATION Between all terminals & earth Between independent circuits Across normally open contacts

AUXILIARY SUPPLY Allowable breaks / dips in supply Collapse to zero from nominal voltage

HIGH FREQUENCY DISTURBANCE 2.5kV 1MHz common mode 1.0kV 1MHz differential mode

ELECTROSTATIC DISCHARGE 6kV contact discharge

RADIO FREQUENCY INTERFERENCE 10V/m, 80 TO 1,000MHz

FAST TRANSIENT 4kV, 5/50ns, 2.5KHz repetitive

CONDUCTED RFI 10V, 0.15 to 80MHz

TEMPERATURE RANGE Operating: Storage:

HUMIDITY 40 °C & 95% RH non condensing

CASE Size 2M28-S draw out 28 M4 screw terminals Flush panel mount or 4U high 1/8 width 19 inch rack mount

1,250VA 250VA @ PF ≤ 0.4 75W 30W @ L/R ≤ 40ms 50W @ L/R ≤ 10ms 10^6 at maximum load 0.5W limit 10mA / 5V

IEC60255-0-2

IEC60255-5 CLASS III 5kV 1.2/50us 0.5J

5kV 1.2/50us 0.5J

IEC60255-5 CLASS III 2.0kV RMS for 1 minute 2.0kV RMS for 1 minute

1.0kV RMS for 1 minute IEC60255-11

≤ 20ms

IEC60255-22-1 CLASS III

≤ 3% variation

IEC60255-22-2 CLASS III ≤ 5% variation

IEC60255-22-3 ≤ 5% variation

IEC60255-22-4 ≤ 3% variation

IEC60255-22-6 ≤ 5% variation

IEC68-2-1/2 -5 to +55°C -25 to +75°C

IEC68-2-78





Wiring Diagram











2M28 Case terminations (REAR VIEW)

Ordering Information

ORDER CODE

The order code determines the production build in the factory & cannot be changed in the field.

Generate the required order code as follows: e.g. 2C81-BBA 100-150



1 AUXILIARY SUPPLY RANGE

- A 20-70V DC
- B 40-275V AC & 40-300V DC

2 SENSING RANGE

	•=				
A B C D E	50-100mV 100-150mV 100-200mV 250-500mV 500-1,000mV	1:2scale ratio1:1.5scale ratio1:2scale ratio1:2scale ratio1:2scale ratio			
3	INTEGRATED TIM	E DELAY			
Α	Not required				
В	0.05 to 0.25s				
С	0.1 to 1.0s				
4 FRONT DIAL SETTING SCALE ENGRAVING *					
'Bottom end' Amps to 'Top end' Amps					

Note: * The current setting scale ratio is determined by the sensing range selected in order code 2. i.e. Bottom end x Top end must equal the specified scale ratio.





Australian Content

Unless otherwise stated the product(s) quoted are manufactured by RMS at our production facility in Melbourne Australia. Approximately 60% 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 ISO9001-2000. 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 customer's 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.



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