Remote Controlled Circuit Breaker (RCCB)

Single Phase
- 28 VDC
- 115/200 VAC 400 Hz

Three Phase
- 115/200 VAC 400 Hz
- Three Phase Only

Qualified

Qualified to demanding performance parameters of MIL- PRF - 83383 standard.

Use as a Relay, Circuit Breaker, Or Both

RCCBs combine the best attributes of a circuit breaker and a relay. Automatically protects the wires and the load device during circuit/load breakdown, but allows the flight deck control of the load during normal operation.

Weight and Cost Savings

In distributed-load applications, RCCBs are a more efficient power distribution solution promoting cost and weight savings through the elimination of long runs of heavy cables associated with the conventional relay - flight deck circuit protector method. Control of the RCCB requires only one #22 AWG control wire from the ICU on the flight deck to the RCCB.

Cockpit Space Savings

An RCCB system removes the presence of large circuit breakers from the cockpit while permitting remote On/Off operation from the flight deck. Combine Eaton RCCB with Indicator Control Unit (ICU) model #1500-053-05.

PERFORMANCE DATA

Rupture Levels	3600 A (115 VAC or 28VDC for 1Pole and 115VAC for 3 Pole)
Endurance (Resistive & Inductive(Motor)	50,000 Cycles
Endurance (Motor)	5-50A: 50,000 cycles; 60-100A: 25,000 cycles
Endurance (Lamp)	5-25A: 50,000 cycles; 35-50A: 25,000 cycles; 60-100A: no rating
Dielectric Strength	1500V, 60Hz, MIL-STD-202, method 301, 0.5 MA max
Insulation Resistance	100 mega ohm min, MIL-STD-202, method 302
Thermal Temperature Range	-54°C to 71°C (-65°F to 160°F). MIL-STD-202, Method 107
Vibration	10G's to 2000 Hz. Exceeds MIL-STD-202, Method 204, Condition C, 10 microseconds max. chatter
Shock	25G's. MIL-STD-202, Method 213, 10 microseconds max. chatter
Altitude	50,000 ft.
EMI Requirements	MIL-STD-461, Requirements CS114 and RE102 over the frequency range of 14 KHz to 400 MHz and RE102 limits for Aircraft and Space Systems.
EMI/RFI Susceptibility and Generation	MIL-STD-461, Class 1D
Moisture Resistance	MIL-STD-202, method 106
Salt Spray Resistance	MIL-STD-202, method 101, Condition B
Sand and Dust Resistance	MIL-STD-202, method 110, Condition A
Fungus Resistance	MIL-HDBK-454, Guideline 4
Explosion Proof	MIL-STD-202, method 109
Weight (Standard)	5-25A: 318 grams (0.703 lbs.); 35-50A: 325 grams (0.719 lbs.); 60-100A: 332 grams (0.734 lbs.)
Weight (w/ Auxiliary Contacts)	5-25A: 332 grams (0.734 lbs.); 35-50A: 339 grams (0.750 lbs.); 60-100A: 346 grams (0.766 lbs.)

OVERLOAD CALIBRATION DATA

	@ 25°C		@ +71°C		@ -54°C		
Specification Table	MIN	MAX	MIN	MAX	MIN	MAX	**Test Time Parameters**
Must Hold	115%		115%		115%		% for 1 Hour
Must Trip		138%		138%		150%	% Within 1 Hour

ORDERING INFORMATION

		Single Pole Single Throw (Double Break Contacts)				Three Pole Single Throw (Double Break Contacts)	
		Standard		w/ Auxiliary Contacts		w/ Auxiliary Contacts	
AMPERE RATING		MS P/N	EATON P/N	MS P/N	EATON P/N	MS P/N	EATON P/N
5		M83383/01-01	SM600BA5N1	M83383/02-01	SM600BA5A1		**
7.5			**		**		**
10		M83383/01-03	SM600BA10N1	M83383/02-03	SM600BA10A1	M83383/04-03	SM601BA10A1
15		M83383/01-04	SM600BA15N1	M83383/02-04	SM600BA15A1		SM601BA15A1
20		M83383/01-05	SM600BA20N1	M83383/02-05	SM600BA20A1	M83383/04-05	SM601BA20A1
25		M83383/01-06	SM600BA25N1	M83383/02-06	SM600BA25A1		SM601BA25A1
35		M83383/01-07	SM600BA35N1	M83383/02-07	SM600BA35A1	M83383/04-07	SM601BA35A1
40		M83383/01-08	SM600BA40N1	M83383/02-08	SM600BA40A1	M83383/04-08	SM601BA40A1
50		M83383/01-09	SM600BA50N1	M83383/02-09	SM600BA50A1		SM601BA50A1
60	*	M83383/01-10	SM600BA60N1	M83383/02-10	SM600BA60A1	M83383/04-10	SM601BA60A1
75	*	M83383/01-11	SM600BA75N1	M83383/02-11	SM600BA75A1		
80	*		**		**		
100	*	M83383/01-13	SM600BA100N1	M83383/02-13	SM600BA100A1		

All Ampere Ratings equal to Rated Contact Loads (Resistive, Inductive, Motor, and Lamp) except as noted.
* No Lamp Load Rating
** Contact Business Unit
Note: Contact Business unit on Alternate Amperages, Trip Times, Control Configurations, Grounding, Auxiliary Switches, Mounting Systems, etc.

OVERLOAD CALIBRATION DATA - *SINGLE POLE*

AMPERE RATING	200% Trip Times -54°C to +71°C		400% Trip Times -54°C to +71°C		1000% Trip Times -54°C to +71°C	
	MIN	MAX	MIN	MAX	MIN	MAX
AMPERES	SECONDS	SECONDS	SECONDS	SECONDS	SECONDS	SECONDS
5	7	40	1.2	6.4	0.3	1.2
7.5	11	40	2.4	6.8	0.33	1.1
10	12	42	2.8	8.5	0.42	1.05
15	13	45	1.7	8.3	0.35	1.2
20	14	46	2.9	7.6	0.4	1.15
25	15	50	2.6	8.7	0.4	1.3
35	16	55	2.8	8.3	0.35	1.3
40	16	55	2.9	9.2	0.36	1.3
50	13	55	2.9	10	0.4	1.25
60	13	60	2.6	13	0.26	1.8
75	13	60	2.5	13	0.26	1.8
80	14	60	2.7	12.5	0.3	2
100	17	63	3.5	13	0.38	1.9

OVERLOAD CALIBRATION DATA - *THREE POLE*

AMPERE RATING	200% Trip Times -54°C to +71°C		400% Trip Times -54°C to +71°C		1000% Trip Times -54°C to +71°C	
	MIN	MAX	MIN	MAX	MIN	MAX
AMPERES	SECONDS	SECONDS	SECONDS	SECONDS	SECONDS	SECONDS
10	12	80	2.8	11	0.42	1.3
15	13	80	1.7	10	0.35	1.2
20	14	80	2.9	9.6	0.4	1.15
25	15	80	2.6	10	0.4	1.3
35	16	80	2.8	11	0.35	1.3
40	16	80	2.6	10	0.36	1.3
50	13	80	2.9	10	0.4	1.25
60	13	80	2.4	16	0.26	1.8

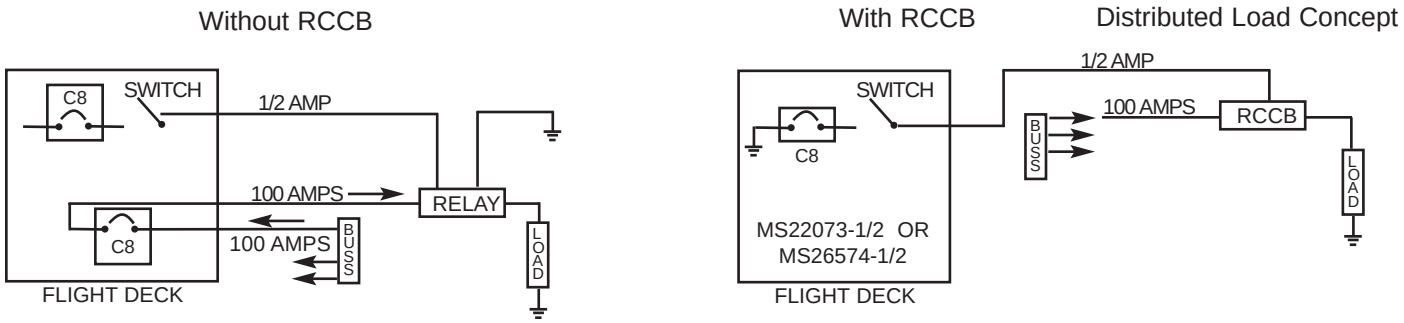
TRIP CURVE

Contact business unit for trip curve.

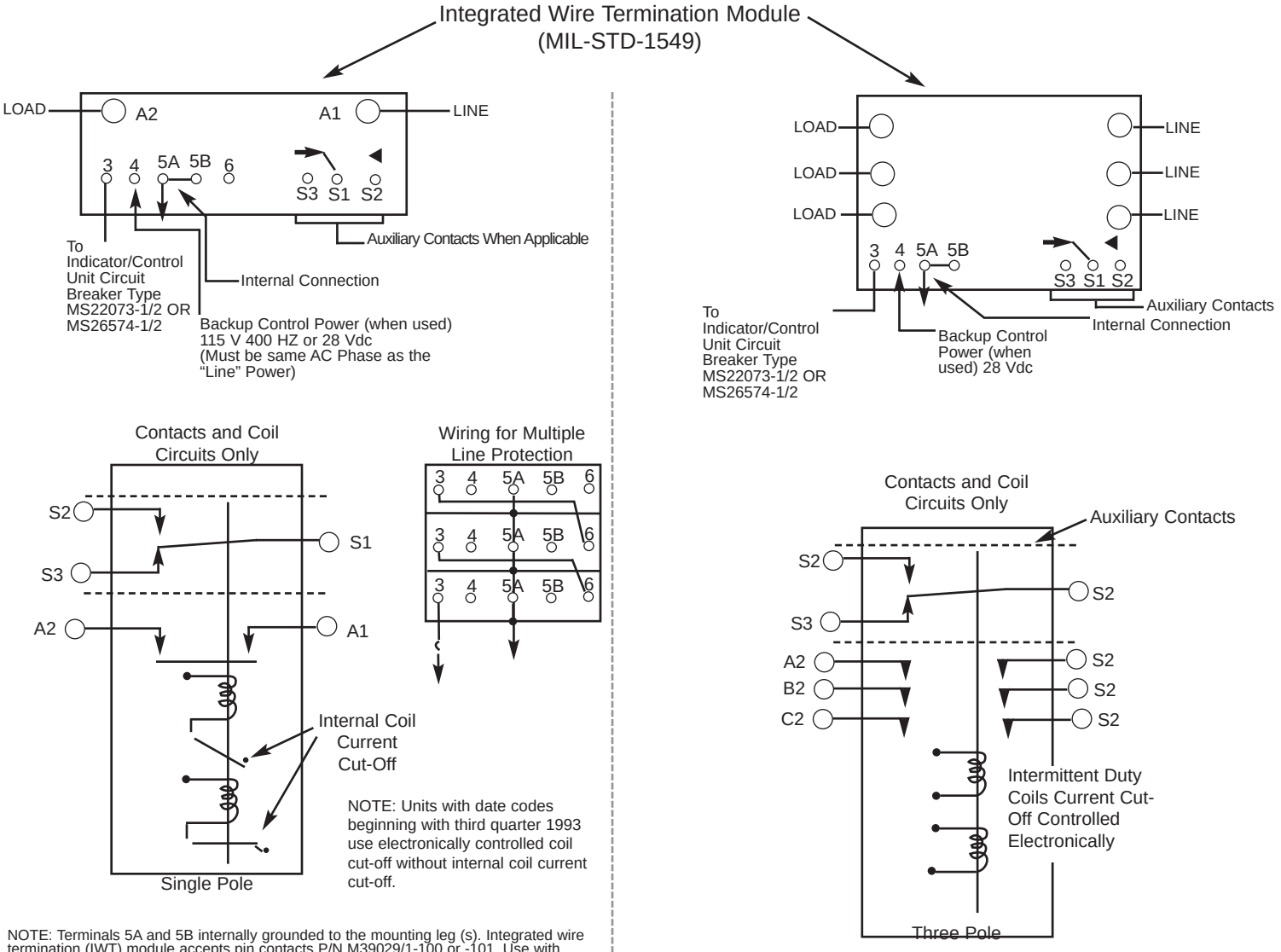
Remote Controlled Circuit Breaker (RCCB)
1 Pole and 3 Pole

Engineering Data

Application Note



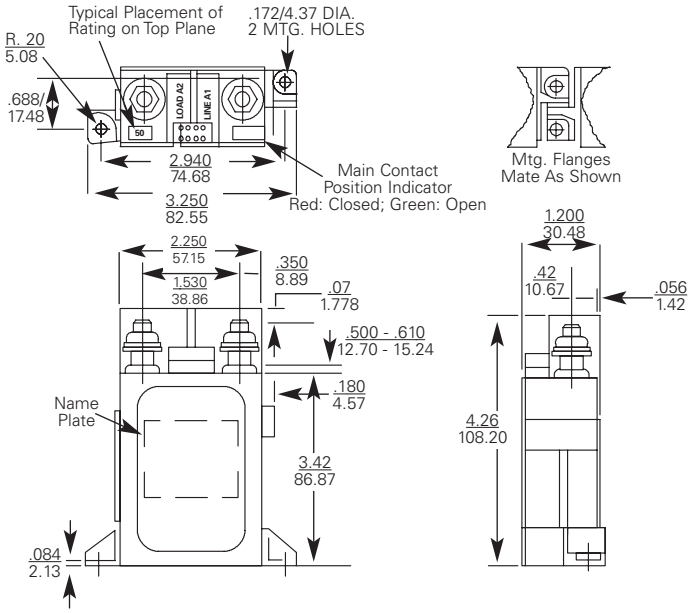
Typical Wiring Diagram



NOTE: Terminals 5A and 5B internally grounded to the mounting leg (s). Integrated wire termination (IWT) module accepts pin contacts P/N M39029/1-100 or -101. Use with insertion/extraction tool M81969/14-02.

Engineering Data

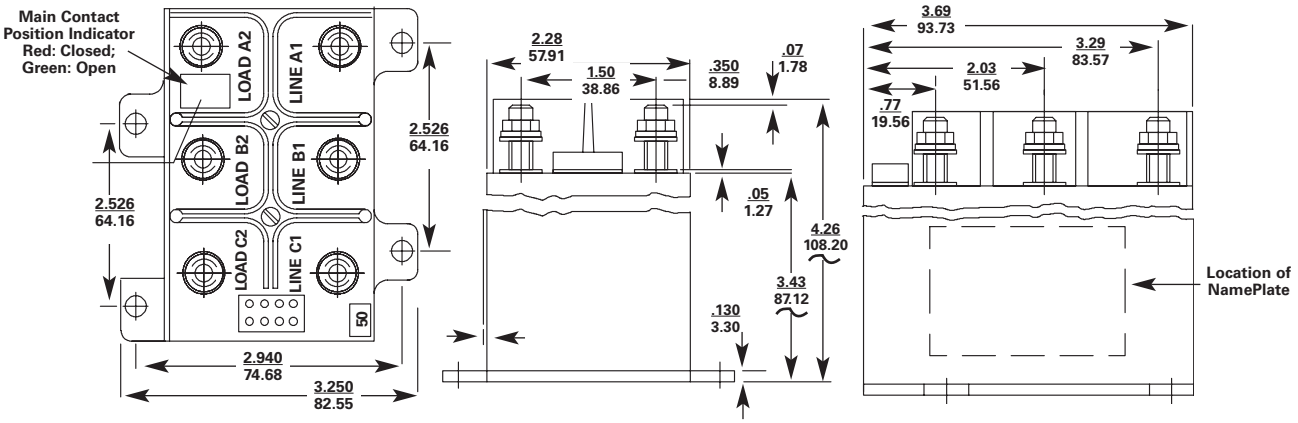
Approximate Dimensions - 1 Pole



Options

- Special application auxiliary switches
- Unique grounding
- Power sources
- Other current ratings
- Control via systems other than I/CU
- Low level auxiliary contacts available
- Data Bus/Interface capability available
- Electronically held coil

3Pole



Coil Operate Current/Set And Trip Time RCCB

Circuits	Nominal System Voltage	I/CU Set Current @ Nom Voltage (Mulliamp)	Set Coil Current @ Nom Voltage Pulse	MAX. Set Time		*I/CU. Trip Current Nominal					MAX. Standby Current Milliamp
				Nominal Voltage & Room Temp.	Most Adverse Condition - MIN. Voltage 71°C. Ambient	71°C & Nominal Voltage	-54°C & Nominal Voltage	Room Temp. Nominal Voltage	71°C & Nominal Voltage	-54°C & Nominal Voltage	
1 Pole	28 Vdc (18 Volts MIN.)	2	3.0 AMP MAX	20 Millisec	35 Millisec	1.4 AMP	1.9 AMP	1.6 AMP	0.9 AMP ***	2.1 AMP	10
	115 Vac 400 Hz (104 V. MIN.	2	10 AMP MAX	15 Millisec	30 Millisec	6.8 AMP **	6.3 AMP **	8.6 AMP **	6.1 AMP **	7.0 AMP **	10
3 Pole	28 Vdc (18 Volts MIN.)	2	7.0 AMP MAX	20 Millisec	35 Millisec	1.5 AMP	2.0 AMP	1.7 AMP	0.9 AMP ***	2.2 AMP	10
	115 Vac 400 Hz (104 V. MIN.)	2	13.0 AMP MAX	15 Millisec	30 Millisec	4.3 AMP **	3.3 AMP **	4.5 AMP **	4.0 AMP **	3.1 AMP **	10

* MAX. I/CU. Line Impedance 7.5
** Average Half-Wave Rectified DC Current
Current Decreases w/Time so that I^2t
***Absolute Min. Value from -54° to +71°C