REVISIONS

LT	DESCRIPTION	DATE	APPROVED
A	Changed voltage requirements in 3.2 and added table IV. Editorial changes throughout.	10 NOV 1986	Ivan R. Jones
B	Added horizontal marking to figure 1.	8 APR 1987	Ivan R. Jones
C	Update document references, Replace 6.4.	10 JUL 2000	Kendall Cottongim
D	Delete P/N and substitute PIN, editorial changes, update to latest DSCC DWG format.	19 JUN 2003	Kendall Cottongim
E	Update to latest DSCC DWG format.	3 MAR 2008	Michael Radecki
F	Update to latest DLA Land and Maritime drawing format.	9 OCT 2014	Michael Radecki

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
DEFENSE LOGISTICS AGENCY
DEFENSE SUPPLY CENTER COLUMBUS
COLUMBUS, OHIO 43216-5000

Prepared in accordance with ASME Y14.100

REV																						
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REV STATUS OF PAGES	**REV**		F	F	F	F	F	F	F	F	F											
	PAGES		1	2	3	4	5	6	7	8	9											

PMIC N/A	**PREPARED BY** Dan McGrath	**DESIGN ACTIVITY** **DEFENSE ELECTRONIC SUPPLY CENTER** **DAYTON, OHIO 45444-5000**
Original date of drawing 27 June 1986	**CHECKED BY** Dan McGrath	**TITLE** **CIRCUIT BREAKERS, MAGNETIC, ILLUMINATED ROCKER TYPE, AUXILIARY CONTACTS, TRIP-FREE, SERIES TRIP, DOUBLE POLE (0.05 TO 20.0 AMPERES)**
	APPROVED BY Clarence Brizius	
	SIZE **A** / **CODE IDENT. NO.** **14933**	**DWG NO.** **86095**
	REV F	**PAGE** 1 **OF** 9

1. SCOPE

1.1 Scope. This drawing describes the requirements for a family of circuit breakers with illuminated handles for use in overcurrent protection.

1.2 Part or Identifying Number (PIN). The complete PIN is as follows:

86095-	-001	B	1
Drawing number	Dash number	Color (See 3.10)	Handle (see 3.11)

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-PRF-39019 - Circuit Breakers, Magnetic, Low-Power, Sealed, Trip-Free, General Specification for

MIL-PRF-55629 - Circuit Breakers, Magnetic, Unsealed or Panel Seal, Trip Free, General Specification for.

(Copies of these documents are available online at http://quicksearch.dla.mil or https://assist.dla.mil or from DLA Document Services, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Interface and physical dimensions. The individual item requirements shall be as specified herein and table I, table II, and table III.

3.2 Voltage and frequency rating. For dash numbers 001 through 038, the voltage and frequency rating shall be 50 V dc, maximum and 240 V ac, maximum at 60 or 400 Hz. For dash numbers 039 through 044, the voltage and frequency rating shall be 32 V dc, maximum and 120 V ac, maximum at 60 or 400 Hz.

3.3 Current rating. See table I.

3.4 Interface and physical dimension requirements. See figure 1 and table I.

3.5 Time delay. Time delay shall be in accordance with table I, table II, and table III.

3.6 Endurance. Endurance shall be in accordance with MIL-PRF-39019.

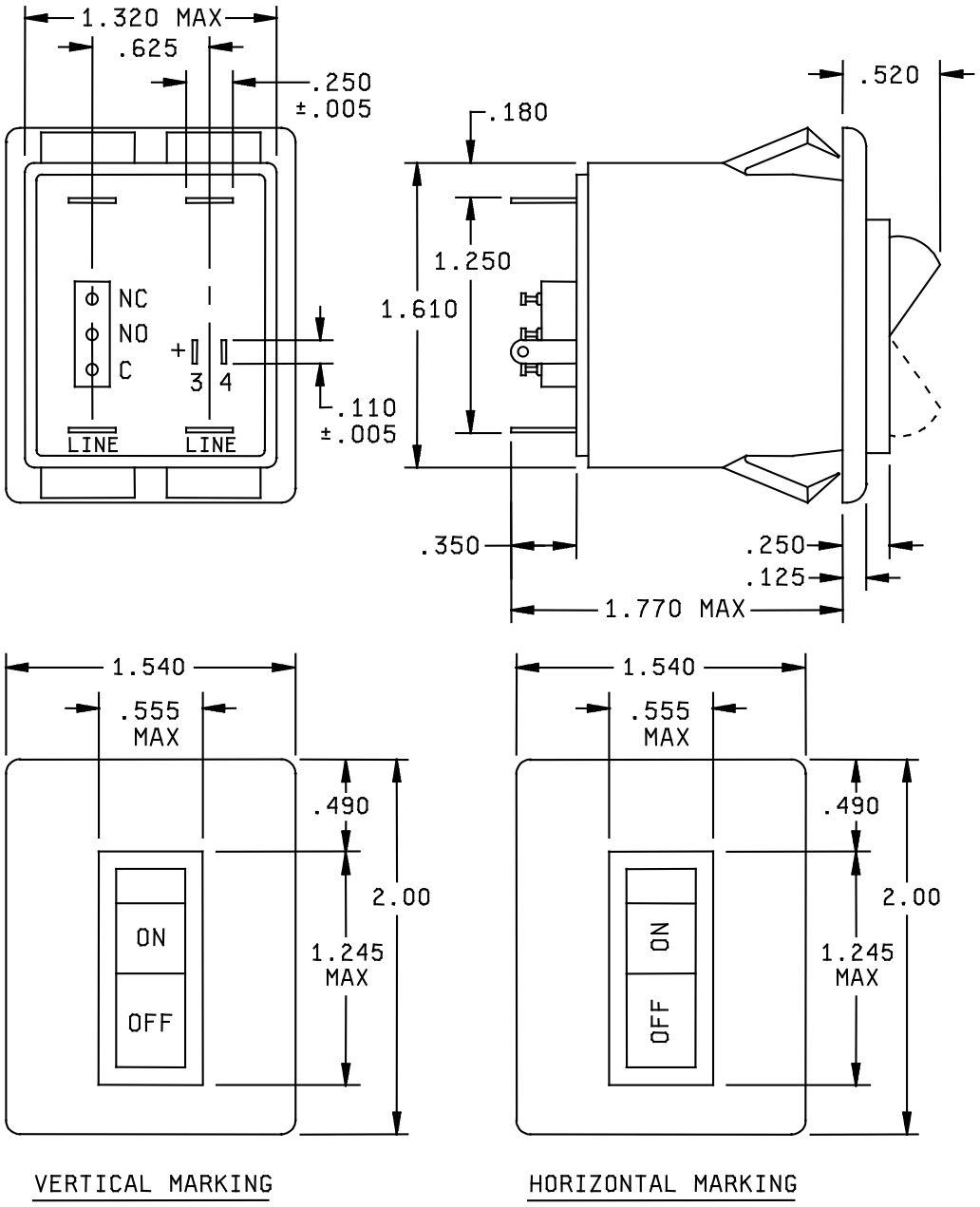
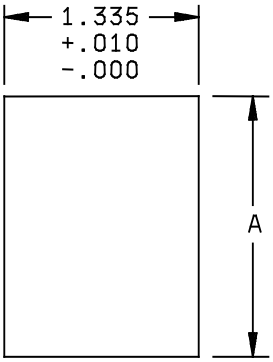


FIGURE 1. Dimensions and configuration.

DEFENSE ELECTRONIC SUPPLY CENTER DAYTON, OHIO	SIZE A	CODE IDENT NO. 14933	DWG NO. 86095
		REV F	PAGE 3



PANEL CUTOUT

PANEL THICKNESS	.062	.093	.125
DIMENSION "A"	1.775	1.810	1.850

FRONT SNAP-IN MOUNT(STD)

Inches	mm	Inches	mm
.000	0.00	.555	14.10
.005	0.13	.625	15.88
.010	0.25	1.245	31.62
.062	1.57	1.250	31.75
.093	2.36	1.320	33.53
.110	2.79	1.335	33.91
.125	3.18	1.540	39.12
.180	4.57	1.610	40.89
.250	6.35	1.770	44.96
.350	8.89	1.775	45.06
.490	12.45	1.810	45.97
.520	13.20	1.850	46.99
		2.00	50.8

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.030 (0.76 mm).

FIGURE 1. Dimensions and configuration - Continued.

TABLE I. Circuit breaker dash number and applicable characteristics.

P/N 86095	Current rating (amps)	Time delay 1/	Resistance or impedance (ohms - max) 2/			P/N 86095	Current rating (amps)	Time delay 1/	Resistance or impedance (ohms - max) 2/		
			DC	60 Hz	400 Hz				DC	60 Hz	400 Hz
001	0.05	A	680.0	690.0	710.0	023	4.0	A	0.10	0.10	0.12
002	0.05	B	680.0	690.0	710.0	024	4.0	B	0.10	0.10	0.12
003	0.1	A	150.0	170.0	180.0	025	5.0	A	0.061	0.063	0.072
004	0.1	B	150.0	170.0	180.0	026	5.0	B	0.061	0.063	0.072
005	0.25	A	20.0	26.0	27.0	027	6.0	A	0.042	0.043	0.050
006	0.25	B	20.0	26.0	27.0	028	6.0	B	0.042	0.043	0.050
007	0.5	A	5.4	6.0	6.6	029	7.0	A	0.036	0.036	0.040
008	0.5	B	5.4	6.0	6.6	030	7.0	B	0.036	0.036	0.040
009	0.75	A	2.5	2.7	2.8	031	7.5	A	0.031	0.031	0.038
010	0.75	B	2.5	2.7	2.8	032	7.5	B	0.031	0.031	0.038
011	1.0	A	1.35	1.5	1.61	033	8.0	A	0.027	0.027	0.035
012	1.0	B	1.35	1.5	1.61	034	8.0	B	0.027	0.027	0.035
013	1.25	A	0.9	1.0	1.1	035	9.0	A	0.022	0.022	0.028
014	1.25	B	0.9	1.0	1.1	036	9.0	B	0.022	0.022	0.028
015	1.5	A	0.65	0.70	0.75	037	10.0	A	0.018	0.021	0.024
016	1.5	B	0.65	0.70	0.75	038	10.0	B	0.018	0.021	0.024
017	2.0	A	0.40	0.40	0.50	039	12.5	A	0.012	0.013	0.015
018	2.0	B	0.40	0.40	0.50	040	12.5	B	0.012	0.013	0.015
019	2.5	A	0.25	0.25	0.27	041	15.0	A	0.009	0.009	0.010
020	2.5	B	0.25	0.25	0.27	042	15.0	B	0.009	0.009	0.010
021	3.0	A	0.15	0.15	0.17	043	20.0	A	0.006	0.006	0.007
022	3.0	B	0.15	0.15	0.17	044	20.0	B	0.006	0.006	0.007

1/ All dash numbers include inertial delay with the time delay.
2/ The corresponding maximum wattage losses, which in no case shall exceed 3.0 watts, may be calculated as I^2R or I^2Z.

TABLE II. Calibration tripping times (seconds) at 25°C ±2°C.

Percent of rated current	Time delay A (fast)		Time delay B (slow)	
	Min	Max	Min	Max
100	No trip 1 hour	No trip 1 hour	No trip 1 hour	No trip 1 hour
135	0.2	7.0	3.0	60.0
200	0.055	0.95	0.5	9.0
400	Inst 1/	0.24	Inst 1/	1.75
600	Inst 1/	0.13	Inst 1/	0.6
800	Inst 1/	0.06	Inst 1/	0.1 2/
800 at 60Hz 3/	No trip	No trip	No trip	No trip
1,400 at 400 Hz 4/	No trip	No trip	No trip	No trip

1/ (Inst) instantaneous is defined as less than 0.015 second.
2/ This time is extended to 0.3 second for dc and 400 Hz.
3/ 800 percent peak, one 1/2 sine pulse at 60 Hz.
4/ 1,400 percent peak, one 1/2 sine pulse at 400 Hz.

TABLE III. High and low temperature tripping times (seconds).

Percent of rated current	Time delay A (fast)		Time delay B (slow)	
	-40°C ±2°C	+100°C ±2°C	-40°C ±2°C	+100°C ±2°C
	Min	Max	Min	Max
100	No trip 1 hour	No trip 1 hour	No trip 1 hour	No trip 1 hour
135	400.0	0.10	500.0	0.4
150	800.0	---	1000.0	---
200	5.0	0.015	25.0	0.04
400	0.7	Inst 1/	10.0	Inst 1/
500	0.5	Inst 1/	2.0	Inst 1/
800	0.06	Inst 1/	0.1 2/	Inst 1/
800 at 60 Hz 3/	No trip	No trip	No trip	No trip
1,400 at 400 Hz 4/	No trip	No trip	No trip	No trip

1/ (Inst) instantaneous is defined as less than 0.015 second.
2/ This time is extended to 0.3 second for dc and 400 Hz.
3/ 800 percent peak, one 1/2 sine pulse at 60 Hz.
4/ 1,400 percent peak, one 1/2 sine pulse at 400 Hz.

3.7 Resistance or impedance. See table I.

3.8 Interrupting capacity. Interrupting capacity shall be in accordance with MIL-PRF-39019.

3.9 Dielectric withstanding voltage. Dielectric withstanding voltage shall be in accordance with MIL-PRF-39019.

3.10 Color. The color of the circuit breaker shall be specified in the PIN according to the following designations: B-black, W-white, G-gray.

3.11 Handle. The handle of the circuit breaker shall be specified in the PIN according to the following designations: 1-white (neon illuminated, vertical marking), 2-white (red LED illuminated, vertical marking), 3-black (red LED illuminated, vertical marking), 4-white (neon illuminated, horizontal marking), 5-white (red LED illuminated, horizontal marking), 6-black (red LED illuminated, horizontal marking).

3.12 Vibration. Vibration shall be in accordance with MIL-PRF-55629.

3.13 Shock. Shock shall be in accordance with MIL-PRF-55629.

3.14 Insulation resistance. Insulation resistance shall be in accordance with MIL-PRF-39019.

3.15 Auxiliary contacts. Auxiliary contacts shall be 5 amperes maximum at 250 V ac or 28 V dc.

3.16 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.17 Manufacturer eligibility. To be eligible for listing as an approved source of supply, a manufacturer shall be listed on the MIL-PRF-55629 Qualified Product List for at least one part, or perform the Group A inspection specified herein on a sample of parts agreed upon by the manufacturer and DSCC-VA.

3.18 Certificate of compliance. A certificate of compliance shall be required from a manufacturer requesting to be an approved source of supply.

3.19 Marking. Marking shall be as specified in MIL-PRF-55629, except the DSCC drawing PIN in accordance with 1.2 herein shall be used instead of the military part number.

3.20 Workmanship. Parts shall be free of flash pits, voids, and excessive mild marks. Visible parting line is acceptable.

4. VERIFICATION

4.1 Conformance inspection.

4.1.1 Inspection of product for delivery. Inspection of product for delivery shall consist of group A inspections of MIL-PRF-55629.

4.1.2 Certification. The acquiring activity, at its discretion, may accept a certificate of compliance with group A requirements in lieu of performing group A tests (see 6.2c).

4.1.3 Inspection of packaging. Inspection of packaging shall be in accordance with MIL-PRF-55629.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service or Defense Agency, or within the military service's system command. Packaging data retrieval is available from the managing Military Departments or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Devices conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The acquisition document should specify the following:

a. Complete PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data with each shipment of parts by the manufacturer.

c. Whether the manufacturer performs the group A tests or provides certification of compliance with group A requirements.

d. Requirements for notification of change of product to the contracting activity, if applicable.

e. Requirements for packaging and packing.

6.3 Application information for illuminated handle.

6.3.1 Neon bulb. A neon bulb is provided when specified for 120 V ac and 250 V ac operation (see 1.2 and 3.11). For operation at 120 V ac, a 33,000-ohm, 1/2-watt external resistor is required. At 250 V ac, a 100,000-ohm, 1-watt external resistor is required.

6.3.2 Red LED. A LED with 750 feet lumens at 20 mA is provided in the center of the handle when specified (see 1.2 and 3.11). Maximum power dissipation at 25°C is 180 mW. Continuous forward current is 40 mA. Forward voltage, typical, is 1.6 volt at 20 mA. Reverse current, typical, is 100 nA at 3.0 volts. An external resistor; 1/2 watt minimum, will be required to limit current to these values. This external resistor will not be supplied by the circuit breaker manufacturer and should be selected in accordance with table IV.

TABLE IV. External resistor.

Resistance value	Operating voltage (dc)
270	4.0 to 7.9
820	8.0 to 15.9
1,500	16.0 to 23.9
2,700	24.0 to 32.0

6.4 Users of record. Coordination of this document for future revisions is coordinated only with the approved source(s) of supply and the users of record of this document. Requests to be added as a recorded user of this drawing may be achieved online at CircuitProtect@dla.mil or if in writing to: DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614) 692-0548 or DSN 850-0548

6.5 Approved source(s) of supply. Approved source(s) of supply are listed herein. Additional sources will be added as they become available. Assistance in the use of this drawing may be obtained online at CircuitProtect@dla.mil, or by contacting DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, OH 43218-3990 or by telephone (614)-692-0548 or DSN 850-0548.

DLA Land and Maritime drawing PIN 86095 1/	Vendor similar designation or type number CAGE 81541	Vendor name and address
001	203-86095-001XX	Sensata Technologies, Incorporated 529 Pleasant Street Attleboro, MA 02703-2421 Phone number: (508)-236-3800 Facsimile number: (508) 236-1598 E-mail: cmbinfoppp@sensata.com Uniform Resource Locator (URL): http://www.airpax.net/
002	203-86095-002XX	
003	203-86095-003XX	
004	203-86095-004XX	
005	203-86095-005XX	
006	203-86095-006XX	
007	203-86095-007XX	
008	203-86095-008XX	
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041	203-86095-041XX	
042	203-86095-042XX	
043	203-86095-043XX	
044	203-86095-044XX	

1/ Parts must be purchased to this DLA Land and Maritime PIN to assure that all performance requirements and tests are met.