

MILITARY SPECIFICATION SHEET

CIRCUIT BREAKERS, MAGNETIC, UNSEALED,
TRIP-FREE, FOUR POLE, FRONT MOUNTED AUXILIARY CONTACTS
(1 TO 100 AMPERES)

INACTIVE FOR NEW DESIGN AFTER
30 SEPTEMBER 1997 AND IS NO LONGER USED,
EXCEPT FOR REPLACEMENT PURPOSES.

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein
shall consist of this specification sheet and [MIL-PRF-55629](#).

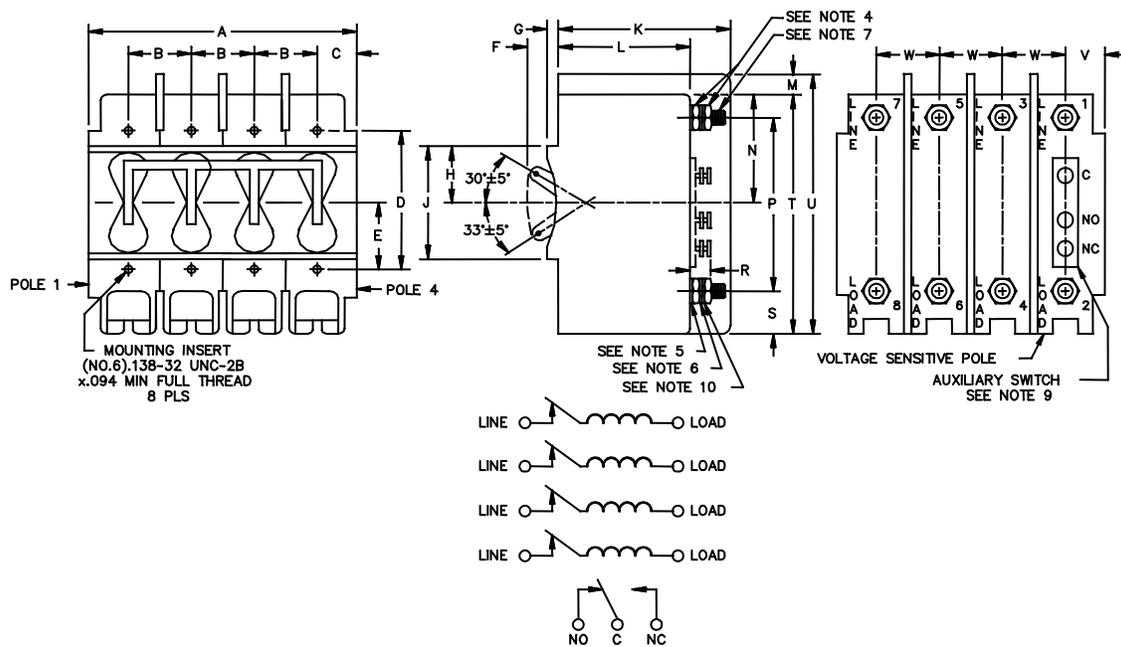


FIGURE 1. Dimensions and configurations.

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Ltr	Inches		mm	
	Min	Max	Min	Max
A	4.134	4.154	105.00	105.51
B	1.016	1.036	25.81	26.31
C	.503	.523	12.78	13.28
D	2.740	2.760	69.60	70.10
E	1.365	1.385	34.67	35.18
F	---	.730	---	18.54
G	.210	.230	5.33	5.84
H	1.115	1.135	28.32	28.83
J	2.245	2.265	57.02	57.53
K	3.460	3.580	87.88	90.93
L	2.600	2.620	66.04	66.55
M	---	.385	---	9.78
N	2.146	2.166	54.51	55.02
P	3.480	3.614	88.39	91.80
R	---	.530	---	13.46
S	.740	.760	18.80	19.30
T	4.740	4.760	120.40	120.90
U	5.115	5.135	129.92	130.43
V	.483	.543	12.27	13.79
W	.996	1.056	25.30	26.82

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.010 inch (.254 mm).
4. NUT-HEX: (0-50 amperes) .190-32 UNF-2B, .308 ± 0.005 across flats, .109 ± 0.010 thick.
(51-100 amperes) .250-20 UNC-2B, .438 or .375 ± 0.016 across flats, .156 ± 0.016 thick.
Material: Brass (ASTM-B121/B121M or equivalent), Tin Plated (ASTM-B545 or equivalent) or Stainless Steel.
5. Lockwasher, internal or external tooth, for 0-50 amperes, NASM35333-107 or MS35335-88 and for 51 - 100 amperes, NASM35333-108 or MS35335-89, or equivalent.
6. Washer - Flat: (0-50 amperes) .370 ± 0.002 , OD, .197 ID, .032 ± 0.005 thick.
(51-100 amperes) .500 ± 0.016 OD, .281 ± 0.016 ID, .035 ± 0.005 thick.
Material: Brass (ASTM-B121/B121M or equivalent), Tin Plated (ASTM-B545 or equivalent) or Stainless Steel.
7. Stud: (0-50 amperes) .190-32 UNF-2A, .625 ± 0.062 long.
(51-100 amperes) .250-20 UNC-2A, .750 ± 0.062 long.
8. Configuration optional providing overall dimensions are not exceeded.
9. Auxiliary contact terminals shall provide for soldered connections, shall be located on the back side of the circuit breaker (same surface as shown) and shall be of the double turret stop type, and capable of accepting two No. 18 AWG wires.
10. Locker, Split: (0-50 amperes) NASM35338-138 or equivalent.
(51-100 amperes) NASM35338-139 or equivalent.

FIGURE 1. Dimensions and configurations - Continued.

REQUIREMENTS

Dimensions and configuration: See figure 1.

Current ratings: See table I.

Minimum resistance or impedance of voltage sensitive pole at +25°C: DC, 10 ohms; 60 Hz, 26 ohms; 400 Hz, 125 ohms.

Voltage ratings:

- a. For current sensitive poles, see table II.
- b. Pole one is a voltage sensitive pole. The trip voltage (nominal values) shall be designated with a letter A, B, C, D, E, F, G, H, I, J, or K as shown on the following:

<u>Voltage designators</u>	<u>Trip volts and frequency</u>	
A	5 V	DC
B	12 V	"
C	24 V	"
D	50 V	"
E	10 V	60 Hz
F	24 V	"
G	120 V	"
H	240 V	"
I	24 V	400 Hz
J	120 V	"
K	240 V	"

Tripping time shall be 30 milliseconds, maximum.

Tripping-time delays: See table II.

Terminal and mounting hardware: See figure 1.

Auxiliary contact terminals: Contact capacity shall be 5 amperes to 250 volts 60/400 Hz resistive and inductive, 1 ampere resistive and 0.25 ampere inductive at 50 V dc and 5 amperes resistive and 3 amperes inductive at 30 V dc.

Actuator strength: 40 pounds.

Actuator operating force: 16 pounds, maximum.

Shock:

- a. [MIL-STD-202, method 213, test condition I](#).
- b. 60 G's for 21 ms.

Interrupting capacities: 5,000 amperes at 125 V dc and 240 V ac, 60 Hz and 400 Hz in accordance with the applicable requirements of [UL489](#). Interrupt test is not performed at 400 Hz.

High inrush. Applicable to time delay characteristics K, L, N, P, R, and S.

Vibration: Energized current shall be 80 percent of rated current and the frequency range shall be 10 to 55 Hz.

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TABLE I. Part numbering code letters and parameters.

Current rating		Voltage frequency and tripping time delay code letter from table II	Resistance or impedance ohms (max)	Current rating		Voltage frequency and tripping time delay code letter from table II	Resistance or impedance ohms (max)
(am-peres)	Code letter			(am-peres)	Code letter		
1	A	K, L, or M	2.0 at dc	30	I	K, L, or M	.005 at dc
1	A	N, P, or Q	2.20 at 60 Hz	30	I	N, P, or Q	.005 at 60 Hz
1	A	R, S, or T	6.4 at 400 Hz	30	I	R, S, or T	.010 at 400 Hz
2	B	K, L, or M	.5 at dc	35	J	K, L, or M	.004 at dc
2	B	N, P, or Q	.52 at 60 Hz	35	J	N, P, or Q	.004 at 60 Hz
2	B	R, S, or T	2.0 at 400 Hz	35	J	R, S, or T	.008 at 400 Hz
5	C	K, L, or M	.08 at dc	40	K	K, L, or M	.0035 at dc
5	C	N, P, or Q	.102 at 60 Hz	40	K	N, P, or Q	.0035 at 60 Hz
5	C	R, S, or T	.372 at 400 Hz	40	K	R, S, or T	.006 at 400 Hz
7	D	K, L, or M	.04 at dc	50	L	K, L, or M	.003 at dc
7	D	N, P, or Q	.048 at 60 Hz	50	L	N, P, or Q	.003 at 60 Hz
7	D	R, S, or T	.216 at 400 Hz	50	L	R, S, or T	.005 at 400 Hz
10	E	K, L, or M	.018 at dc	60	M	K, L, or M	.0027 at dc
10	E	N, P, or Q	.02 at 60 Hz	60	M	N, P, or Q	.0027 at 60 Hz
10	E	R, S, or T	.1 at 400 Hz	60	M	R, S, or T	.004 at 400 Hz
15	F	K, L, or M	.01 at dc	70	N	K, L, or M	.0024 at dc
15	F	N, P, or Q	.011 at 60 Hz	70	N	N, P, or Q	.0024 at 60 Hz
15	F	R, S, or T	.045 at 400 Hz	70	N	R, S, or T	.0035 at 400 Hz
20	G	K, L, or M	.007 at dc	80	P	K, L, or M	.0022 at dc
20	G	N, P, or Q	.007 at 60 Hz	80	P	N, P, or Q	.0022 at 60 Hz
20	G	R, S, or T	.022 at 400 Hz	80	P	R, S, or T	.003 at 400 Hz
25	H	K, L, or M	.006 at dc	100	Q	K, L, or M	.002 at dc
25	H	N, P, or Q	.006 at 60 Hz	100	Q	N, P, or Q	.002 at 60 Hz
25	H	R, S, or T	.015 at 400 Hz	100	Q	R, S, or T	.0025 at 400 Hz

TABLE II. Tripping-time delay. 1/

Time delay percent rated current	Tripping-time delay at 25°C ±2°C (tripping time in seconds)											
	125 V dc						240 V , 60 Hz <u>2/</u>					
	K		L		M		N		P		Q	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
100	no trip one hour		no trip one hour		no trip one hour		no trip one hour		no trip one hour		no trip one hour	
125	1,000	120	120	8	10	.44	880	100	90	13	7.0	.80
150	360	60	60	5.9	4.0	.25	500	48	37	6	3.0	.40
200	110	22	21	2.5	1.5	.13	200	20	10.5	2.1	1.0	.15
400	16	4	4.0	0.5	.35	.03	30	4	1.84	.46	.25	.032
600	7	0.7	1.7	.19	.2	Inst	9	.9	.9	.03	.15	.019
800	4	inst	.65	Inst	.16	Inst	5	.025	.6	Inst	.11	Inst
1,000	2.75	inst	.35	Inst	.12	Inst	2.75	.020	.51	Inst	.095	Inst
1,800 <u>3/</u>	no trip		no trip		N/A		no trip		no trip		N/A	

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TABLE II. Tripping-time delay - Continued. 1/

Time delay percent rated current	Tripping-time delay at 25°C ±2°C (tripping time in seconds)					
	240 V , 400 Hz					
	R		S		T	
	Max	Min	Max	Min	Max	Min
100	no trip one hour		no trip one hour		no trip one hour	
125	---	---	---	---	---	---
150	450	80	40.0	9.5	4.0	.6
200	195	35	17.0	3.8	1.5	.23
400	22	4.3	2.2	.35	.16	.03
600	7	.025	1.3	.02	.07	Inst
800	.09	Inst	.50	Inst	.06	Inst
1,000	.05	Inst	.055	Inst	.06	Inst
1,800 <u>3/</u>	no trip		no trip		N/A	

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TABLE II. Tripping-time delay - Continued. 1/

Time delay percent rated current	Tripping-time delay at high and low temperature (tripping time in seconds) <u>4/</u>											
	125 V dc						240 V , 60 Hz					
	K		L		M		N		P		Q	
	-40° Max	+85° Min	-40° Max	+85° Min	-40° Max	+85° Min	-40° Max	+85° Min	-40° Max	+85° Min	-40° Max	+85° Min
200	1,000	5	100	.5	5	.03	1,000	5	100	.3	5	.03

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TABLE II. Tripping-time delay - Continued. 1/

Time delay percent rated current	Tripping-time delay at 25°C ±2°C (tripping time in seconds) <u>4/</u>					
	240 V , 400 Hz					
	R		S		T	
	-40° Max	+85° Min	-40° Max	+85° Min	-40° Max	+85° Min
200	1,000	5	100	.3	20	.03

- 1/ Circuit breakers shall not trip at 100 percent of rated current but must trip at 125 percent or 150 percent of rated current as applicable. Between 100 percent and 125 or 150 percent, they may trip. Instantaneous is defined as less than 15 milliseconds.
- 2/ May be used to a maximum of 480 volts with adequate back-up protection with a maximum of four times the current rating, but not to exceed 225 amperes.
- 3/ High inrush test shall be performed using one alternation which has a peak value of 1,800 percent of rated current. 400 Hz and dc relays are subjected to a 400 Hz waveform; 60 Hz delays shall be subjected to a 60 Hz waveform.
- 4/ High and low test temperature tolerances are ±2°C.

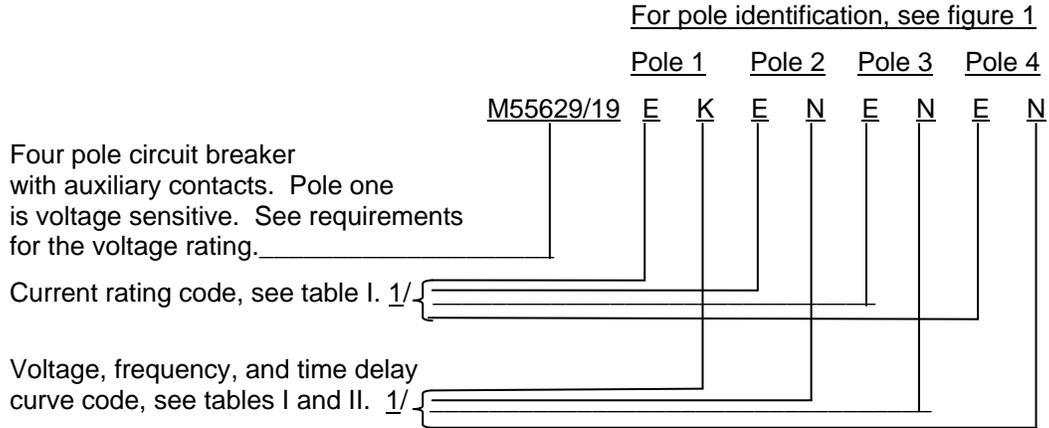
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VERIFICATION:

Qualification inspection: Not applicable.

Conformance inspection: Group A tests of [MIL-PRF-55629](#).

Part or Identifying Number (PIN): The military PIN consists of the prefix M55629/19 and six code letters selected from tables I and II as shown in the following example.



On-off marking shall be visible with the trim or cover in place.

Marking. Circuit breakers shall be marked with commercial PIN. Unit packs shall be marked in accordance with [MIL-STD-129](#) with the following:

- a. PIN.
- b. Current rating, voltage, and operating frequency.
- c. Supplier's name or code symbol and date code.

^{1/} Poles 1, 2, 3, and 4, respectively, shall be coded in ascending order of current rating code letter. If two or more poles have identical current ratings, those poles shall be coded in ascending order of voltage, frequency, and time delay code letter.

TABLE III. Supersession and substitution data.

Circuit breakers covered by this specification sheet are substitutable for the manufacturer's PINs as shown below. This information in no way implies that the manufacturer's PIN is substitutable for the military PIN.

Superseding military PIN	Superseded manufacturers PIN	
M55629/19XXXXX	CAGE 81541	CAGE 74193
	Type 219-4	Type CD4
	The complete PIN consists of the type (above) plus identification codes for comparable mounting, terminal configuration, internal connections, voltage, frequency, time delay, and current rating, with or without auxiliary switch, high-inrush feature, or UL listing, or recognition.	

Reference documents. In addition to [MIL-PRF-55629](#), this document references the following:

[ASTM-B121/B121M](#) [ASTM-B545](#) [MIL-STD-129](#) [MIL-STD-202](#) [UL489](#)

The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:
 Army - CR
 Navy - EC
 Air Force - 85
 DLA - CC

Preparing activity:
 Army - CR

 Agent
 DLA - CC

Review activities:
 Army - AV, CR4, MI
 Navy - AS, MC, OS
 Air Force - 19, 99

(Project 5925-2010-019)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil>.