



ACCURATE ELECTRONICS INC

PO BOX 1654 97075-1654 8687 SW HALL BLVD 97008 BEAVERTON OR USA 503.641.0118 FAX 503.646.3903

WWW.ACCURATE.ORG

Practice Section 10306400 Rev A

CIRCUIT BREAKER PANEL, D.C. MODEL 10306400



1.02 The Circuit Breaker Panels are designed for a variety of voltage levels and configurations. The panel was designed to accept Standard D style circuit breakers in a flexible set up designated by the end user which allows for large power feed distribution of up to XXX amps per breaker.

1.03 The panel is available for use in a 19" relay rack and is 5.25" in height.

1.04 The Standard D circuit breakers control and protect commercial and industrial lighting, transformers, and power supplies. The breakers have precise time delays and are able to interrupt high inductive or other current loads of up to XXX amperes.

2. FEATURES

2.01 The panel is configured for use with five (5) double-pole circuit breakers and twelve (12) single-pole circuit breakers OR twenty-two (22) single-pole circuit breakers.

2.02 Positions 1-5 are used for the double-pole breakers. The remaining positions are used for the single-pole breakers.

2.03 Wires for five (5) double-pole and twenty-two (22) single-pole breakers are provided with the panel. The wires are utilized to connect the LINE side of each circuit breaker to the negative bus of the panel.

2.04 Supplied wires are #8 AWG stranded, tinned, 600V, 105 deg C, U.L. Style 1028.

2.05 Wiring in the field for each protect component is attached to the LOAD contact of the breaker and to the RETURN BUS of the panel.

3. SPECIFICATIONS

3.01 Electrical

MAX Input Current:	40A
Number of Circuit Breakers:	5 double-pole and 12 single-pole or 22 single-pole
Number of Primary Power Connectors:	22

3.02 Environmental

Operating Temperature:	0 - 65° C
Humidity:	up to 95% R.H. / no condensation

3.03 Physical

Panel Dimensions:	17.300"W x 5.220"H x 3.675"D 43.942 cmW x 4.445 cmH x 18.288 cmD
Mounting Depths:	Flush
Mounting Width:	18.31" W x 5.22"H (46.507 cmW x 13.26cmH)
Weight:	10.00 lb. / 4.536 kg.
Finish:	black anodized / white lettering
Mounting Hardware:	(4) 12/24 x 3/4 flat phillips (4) #12 hex nuts, (4) #12 flat washers

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1. GENERAL

1.01 This practice provides application, specification, circuit and mechanical description, maintenance, installation, and warranty information relating to Accurate Electronics' Circuit Breaker Panel, D.C., Model 10306400.



4. CIRCUIT DESCRIPTION

4.01 See FIGURE 1.

5. MECHANICAL OUTLINE

5.01 See FIGURE 2.

6. INSTALLATION

6.01 Four (4) 12/24 x 3/4 phillips screws, four (4) #12 hex nuts and four (4) #12 flat washer are furnished with each shelf to mount it firmly to the relay rack.

6.02 The mounting ears allow for the shelf to be mounted flush in 19" wide relay racks. Please see FIGURE 2.

7. INSTALL CIRCUIT BREAKERS

7.01 Insert provided #8 AWG wire into LINE side of circuit breaker, thread the other end thru bottom rear window and attach to lug on "NEGATIVE BUS" at bottom of the rear panel.

7.02 Thread LOAD wire to "RETURN BUS" and attach to lug at top of the rear panel.

7.03 Install circuit breaker on C-Rail entered thru front of panel by angling top of breaker forward and clipping the breaker onto bottom of C-Rail, and then push to complete attachment.

8. STANDARD D BREAKER INFORMATION

8.01 On overloads exceeding XX% of rating the time delay is bypassed, operating the breaker instantly, allowing for the interrupt of currents of as much as 25,000 amps at 65 VDC.

8.02 Standard D units are insensitive to changes in ambient temperatures and thus can be loaded to the rated capacities. Nuisance tripping of the units are eliminated.

8.03 The Standard D circuit breakers are UL-listed (UL 489) and are available in the 1 and 2-pole models with a choice of fast, medium, or slow response times allowing to match accurately the load conditions.

8.04 The Standard D units are available with auxiliary switch for signaling, or with back-connected series trip, relay or shunt options, in addition to the standard series-trip configuration.

STANDARD D BREAKER SPECIFICATIONS:

Model Numbers: Single-pole:
Double-pole:

Standard Current Ratings:
100, 125, 150, 175, 200, 225 and 250 amperes

Standard MAX Voltages:
GJ1 - 125 VDC
GJ2 - 125, 250VDC

Special Current Ratings:
Any integral rating between 100 and 250A

Interrupting Capacities:
DC 1-pole - 10,000A at 125VDC and 160VDC
DC 1-pole - 25,000A at 65VDC
DC 2-pole - 10,000A at 125 / 250VDC

Terminal Types:
Front connected, pressure wire terminals accepting copper or aluminum wires in sizes from 6 - 250 MCM.

Multi-pole Trip Construction:

Multi-pole breakers (2-pole) incorporate true common trip construction. When an overload condition occurs on any pole, the mechanism of that pole actuates an internal tripper bar which is connected to and operates all pole simultaneously. Thus an overload condition on any pole causes all poles to trip.

MISCELLANEOUS:

Current Rating: 10A
Materials: contacts; nickel plated brass
Handle: rocker
Poles: single-pole
Trip: series trip
Delay: fast 50/60 Hz (general purpose)
See table 2.
Body Color: black
Rocker Color: white
Markings: horizontal "OFF / ON"
Terminals: 0.250 x 0.351, (Male, "quick-connect")

Trip Free - will trip open on overload, even when forcibly held on. This prevents operator from damaging the circuit by holding the handle in the ON position.

Trip Indication - the operation handle moves freely and positively to the OFF position on overload.

Ambient Temperature - operates normally in temperatures between -40 degrees C and +80 degrees C.

Insulation Resistance - not less than 100 megaohms at 500VDC.

Dielectric Strength - withstands 1500 volts, 600Hz for sixty (60) seconds or 1800VAC for one (1) second between all electrically isolated terminals.

Endurance - designed for mechanical life in excess of 50,000 operations.

Short Circuit Interrupting Capacity - 1000 amperes at 125VAC.

Handle and Body Material - the handle and upper body material is polycarbonate and the lower body is PET.

Shock - withstands 100G without tripping while carrying full rated current per MIL-STD-202, Method 213, Test Condition 1.

Vibration - withstands 10G without tripping while carrying full rated current per MIL-STD-202, Method 204, Test Condition A.

9. TESTING AND TROUBLESHOOTING

9.01 The shelf should be thoroughly physically inspected before mounting, however, to ensure that there are no bent or broken connector pins or other visible defects. If trouble is encountered in an operational shelf, ensure that all modules are seated properly and operating correctly and that all wiring is correct. If a shelf is suspected of being defective, a new one should be substituted and the tested conducted again. If the substitute operates correctly, the original should be considered defective and returned to Accurate Electronics for repair or replacement as directed below. We strongly recommend that no internal (component-level) testing or repairs be attempted on Accurate Electronics' equipment. Unauthorized testing or repairs may void its warranty. Note: If equipment must be marked defective or bad, we recommend that it be done on a piece of tape or on a removable stick-on label.



TECHNICAL ASSISTANCE

9.02 Contact Accurate Electronics, Inc. 503.641.0118, FAX: 503.646.3903; Mail: PO Box 1654, Beaverton OR 97075-1654.

RETURN PROCEDURE (FOR REPAIR)

9.03 To return equipment for repair, first contact Accurate Electronics, Inc. Enclose an explanation of the malfunction, your company's name and address, the name of a person to contact for further information, and the purchase order number for the transaction. Accurate Electronics will inspect, repair, and retest the equipment so that it meets its original performance specifications and then ship the equipment back to you. If the equipment is in warranty, no invoice will be issued.

10. MAINTENANCE

10.01 No preventive maintenance is required. General care is recommended.

11. WARRANTY

11.01 All Accurate Electronics Inc. products carry a full FIVE (5) YEAR warranty on materials and workmanship. See WARRANTY in front of catalog.

11.02 If a situation arises that is not covered in the checklist, contact Accurate Customer Service as follows (telephone number are given below):

Contact Accurate Electronic Customer Service

11.03 If a product is diagnosed a defective, follow the replacement procedure in paragraph 11.04 when a critical service outage exists (e.g., when a system of a critical circuit is down and no spares are available). If the situation is not critical, follow the repair and return procedure in paragraph 11.05.

Replacement

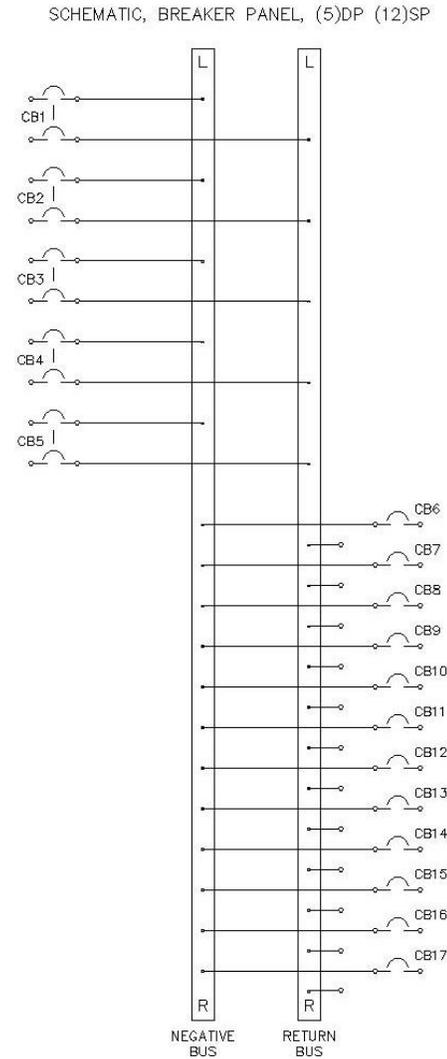
11.04 To obtain a replacement, notify Accurate Electronics. Be sure to provide all relevant information, including the part number that indicates the issue of the product in question. Upon notification, we shall ship a replacement product to you. If the product in question is in warranty, the replacement will be shipped at no charge. Pack the defective product in the replacement product's carton, sign the packing slip included with the replacement, and enclose it with the defective product (this is your return authorization). Affix the preaddressed label provided with the replacement product to the carton being returned, and ship the module prepaid to Accurate Electronics.

Repair and Return

11.05 Return the defective product, shipment prepaid, to Accurate Electronics Inc. :

ACCURATE ELECTRONICS INC.
ATTN: REPAIR AND RETURN
8687 SW HALL BLVD. #100
BEAVERTON, OREGON 97008 USA

FIGURE 1. Circuit Description.



BREAKER PANEL IS CONFIGURED FOR (5) DOUBLE POLE BREAKERS AND (12) SINGLE POLE BREAKERS OR (22) SINGLE POLE BREAKERS. POSITIONS 1 THRU 5 ARE USED FOR DOUBLE POLE BREAKERS, POSITIONS 6 THRU 17 ARE USED FOR SINGLE POLE BREAKERS. WIRES FOR (5) DOUBLE POLE BREAKERS AND (22) SINGLE POLE BREAKERS ARE PROVIDED WITH PANEL. ALL WIRES ARE #8 AWG STRANDED, TINNED, 600V, 105°C, STYLE 1028

