FCB-405 Series, 5 Amperes, 4PDT



Product Facts

- **Hermetically Sealed**
- **All Welded Construction**
- **Balanced Force**
- **Permanent Magnet Drive**
- **Contacts rated low level to 5 Amps 28 VDC and 115/200 VAC 400 Hz, 3 Phase**
- **Weight .93 ounces max. (26.4 grams)**
- **Qualified to M83536/5 & /6**

The Series FCB-405 relay is a polarized single-side stable design, where the flux from a permanent magnet provides the armature holding force in the deactivated state, and its flux path is switched and combined with the coil flux in the operated state. This results in appreciably increased contact pressure in both states over that of a spring return nonpolar design. We also manufacture other versions of this relay:

FCB-205 — 5 Amp DPDT Relay

Contact Rating — Amperes Ratings Are Continuous Duty

Type of Load	Life (Min.) Cycles x 10^3	28 VDC	115VAC 400Hz	115/200VAC 400Hz-3Ø
Resistive	100	5	5	5
Inductive	20	3	5	5
Motor	100	2	3	3
Lamp	100	1	1	1

Low Level Switching Capability: With contacts operating a load of 10 to 50 microamperes at 10 to 50 millivolts, the contact resistance miss detection level shall be 100 ohms max. Cycling rate is 1 to 12 per second, for 100,000 operations.

Overload Current — 20 AMPS DC, 30 AMPS 400Hz
Rupture Current — 25 AMPS DC, 40 AMPS 400Hz
Contact Make Bounce —1.0 MILLISECOND AT NOMINAL VOLTAGE
Max. Contact Drop at 5 Amps — INITIAL 0.100 VOLTS
End of Life — 0.125 VOLTS

General Specifications

Temperature Rating —
-70˚C TO + 125˚C

Altitude — 300,000 Feet

Shock* —
Z & Y Enclosures —
200 g for 6 mS
W, X & M Enclosures —
100 g for 6 mS
T Enclosure (In Track) —
50 g for 11 mS

Vibration, Sinusoidal* —
Z & Y Enclosures —
30 g 70-3000Hz
W, X & M Enclosures —
20 g 70-3000Hz
T Enclosure (Socket Mounted in Track) —
20 g 500-3000 Hz

Vibration, Random* —
Z & Y Enclosures —
0.4 g^2/Hz 50-2000Hz
T, W, X & M Enclosures —
0.2 g^2/Hz 50-2000Hz

Dielectric Strength —
At Sea Level —
All circuits to ground and circuit to circuit — 1000 V rms
Coil to ground — 1000 V rms
At 80,000 Feet — 250 V rms

Insulation Resistance —
Initial (500 VDC) — 100 MΩ Min.
After Life or Environmental Tests —
50 MΩ Min.

Operate Time at Nominal Voltage — 6 ms or less

Release Time at Nominal Voltage — 6 ms or less

* Max. contact opening under vibration or shock 10 microseconds

Coil Data

Coil Code	Nominal Voltages	Freq. Hz	DC Res. (B)	Over Temperature Range		
				Pickup or Below Volts	Dropout or Above Volts	Must Hold Voltage (C)
1	6	DC	25 Ω	4.5	0.3	2.5
2	12	DC	78 Ω	9.0	0.75	4.5
3	28	DC	400 Ω	18.0	1.5	7.0
4 (A)	28	DC	400 Ω	18.0	1.5	7.0
5	48	DC	1275 Ω	36.0	2.5	14.0

A. CODE 4 COILS HAVE BACK EMF SUPPRESSION TO 42 VOLTS MAX.
B. DC COIL RESISTANCE ± 10% AT 25˚C
C. RELAY WILL STAY IN PICKED-UP STATE DOWN TO MUST HOLD VOLTAGES SHOWN.
D. MAX. OVERVOLTAGE: 6 & 12 VDC COILS 120% OF NOMINAL; ALL OTHERS 110% OF NOMINAL.

Catalog 5-1773450-5
Revised 3-13

www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

FCB-405 Series, 5 Amperes, 4PDT (Continued)

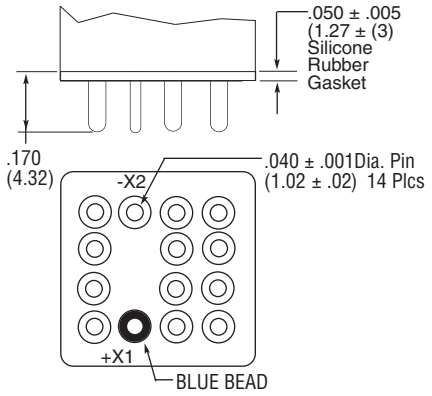
Below are shown the standard terminal types and the enclosures available. Specify the assembly as indicated under How To Order. Dimensions are shown in inches ± .010 and (Millimeters ± .25).

Terminals

CODE "A"

Socket Pins - All DC Coils

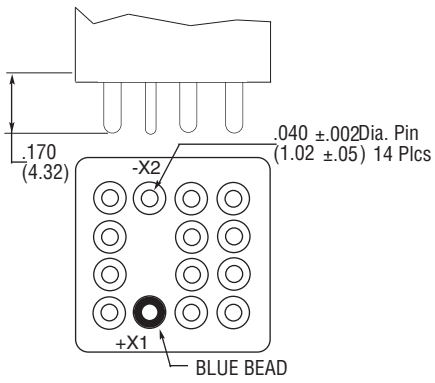
PIN TERMINALS ARE GOLD PLATED



CODE "B"

Solder Pin Terminals

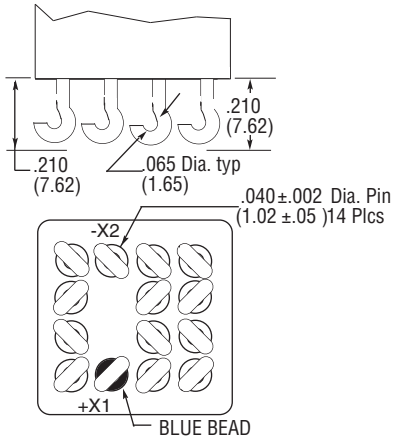
PIN TERMINALS TIN/LEAD PLATED



CODE "C"

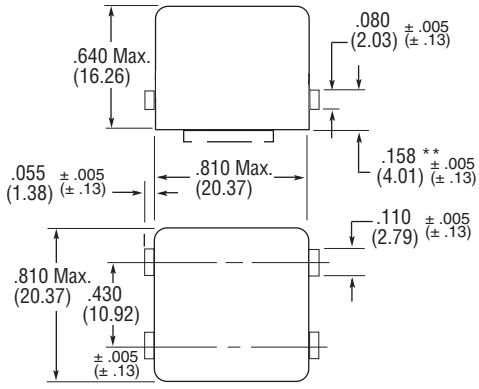
Solder Hook Terminals

HOOK TERMINALS TIN/LEAD PLATED



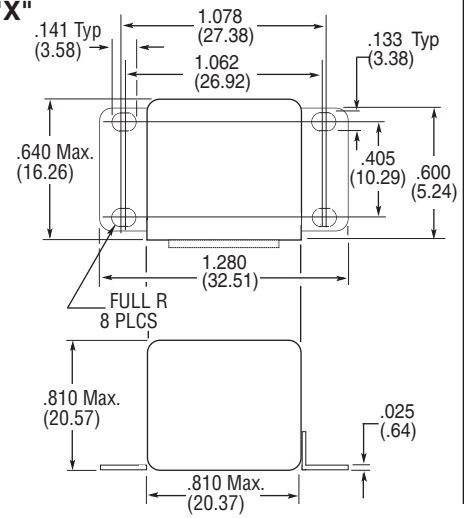
CODE "T"

M83536/6-025
(REFERENCE ONLY)



** Measured from surface of header

CODE "X"



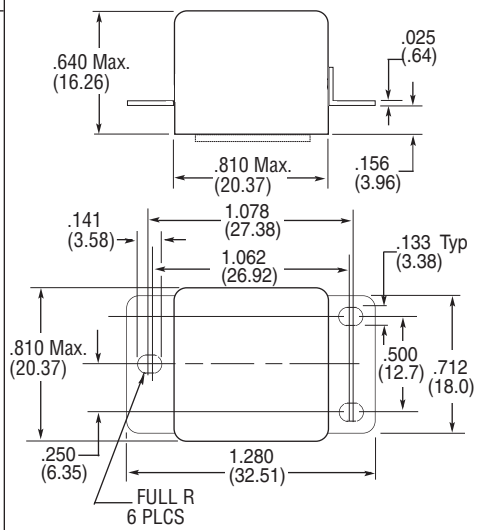
Enclosures

All Enclosures have cupro-Nickel cans bright acid tin/lead plated after assembly to terminal headers.

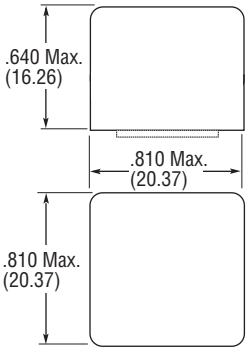
Dimensions: Inches ± .010 (mm ± .25)

Code "T" used only with track-mounted Sockets. Requires code "A" pin terminals. Gasket is included in the socket assembly.

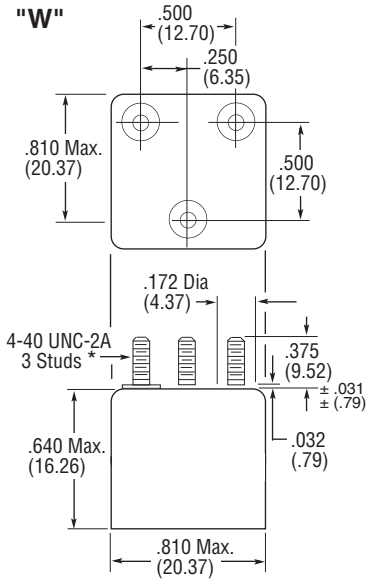
CODE "Y"



CODE "Z"



CODE "W"



Catalog 5-1773450-5
Revised 3-13

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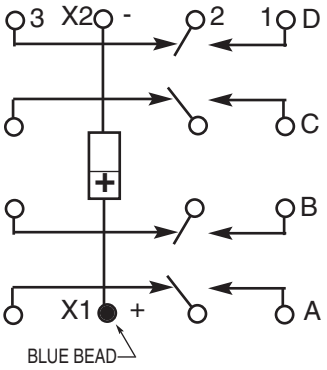
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For additional support numbers please visit www.te.com

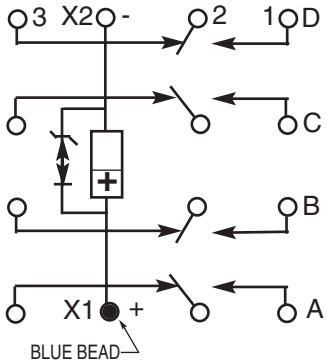
FCB-405 Series, 5 Amperes, 4PDT (Continued)

Terminal Wiring

DC Coils



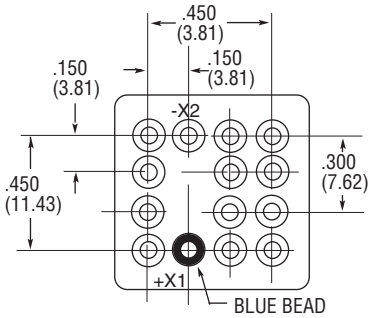
DC Coils with Transient Suppression



NOTE: Polarity must be observed with DC coil supply. Relay is polarized with a permanent magnet and will not operate or be damaged by reverse polarity.

Diodes used in transient suppression and in AC rectifier circuits have peak inverse voltage rating of 600 VDC minimum. Zener diodes have a minimum rating of 1 watt.

Terminal designations are for reference only and do not appear on the header.



TERMINAL VIEW

HOW TO ORDER

FCB-405-A Y 4

RELAY TYPE

TERMINALS (Socket Pins)

ENCLOSURE (With Flanges)

COIL (28 VDC With Transient Suppression).

* The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

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3-1393225-0 3631B101LL CPF0402B37K4E1 917696-1 936348-1 SBCHE154R7K 175977-2 2834055-1
U5254-000005-030PA SMW73R0JT 1-794222-0 3430B2F51RTDF 650075-000 ROX05SJ18R 1-962915-1
1393431-1 CRGCQ2010J3K3 MPT100C18RF TE50BR39J 1743455-2 1969656-1 2377783-2