

REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	INITIAL RELEASE	27SEP2019	RV	BM

General Specifications

Temperature Rating —

-70°C TO + 125°C

Altitude — 300,000 Feet

Shock* —

Z, Y, & X Enclosures —

200 g for 6 mS

W & M Enclosures (Stud Mtg.) —

100 g for 6 mS

T Enclosure (Socket Mounted in Track) —

50 g for 11 mS

Vibration, Sinusoidal* —

Z, Y, & X Enclosures —

0.12 DA 10 to 70 Hz, 30 g 70-3000Hz

W & M Enclosures (Stud Mtg.) —

0.12 DA 10 to 57 Hz, 20 g 57-3000Hz

T Enclosure (Socket Mounted in Track) —

0.06 DA 10 to 57 Hz, 10 g 57 to 500Hz,

20 g 500 to 3000 Hz

Vibration, Random* —

Z, Y, & X Enclosures —

0.4 g²/Hz 50-2000Hz

T, W & M Enclosures —

0.2 g²/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 — 4 ms or less

Release Time at Nominal

Voltage — 4 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	20 Ω	4.5	0.3	2.5
2	12	DC	95 Ω	9.0	0.75	4.5
3	28	DC	500 Ω	18.0	1.5	7.0
4 (A)	28	DC	500 Ω	18.0	1.5	7.0
5	48	DC	1600 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.

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

*60 Hz loads rated for 10,000 operations

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



The Series FCB-205 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

Product Facts

■ Hermetically Sealed

■ All Welded Construction

■ Balanced Force

■ Permanent Magnet Drive

■ Contacts rated low level to 5 Amps VDC and 115/200 VAC 400 Hz, 3 Phase

■ Weight .54 ounces max. (15.4 grams)

■ Qualified to M83536/1, /2 increased contact pressure in both states over that of a spring return nonpolar design. We also manufacture other forms of the FCB relay:

FCB-405 — 5 Amp 4PDT Relay

HOW TO ORDER

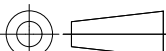
RELAY TYPE

TERMINALS (Socket Pins)

ENCLOSURE (With Flanges)

COIL (28 VDC With Transient Suppression).

FCB-205-A Y 4

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN RV	27SEP2019	TE Connectivity						
		CHK RV	27SEP2019							
DIMENSIONS: INCHES		TOLERANCES UNLESS OTHERWISE SPECIFIED:		NAME FCB-205 SERIES — —						
		0 PLC ± — 1 PLC ± — 2 PLC ± — 3 PLC ± — 4 PLC ± — ANGLES ± —								
MATERIAL —	FINISH —	APVD BM		27SEP2019		SIZE		CAGE CODE	DRAWING NO	RESTRICTED TO
		PRODUCT SPEC —		APPLICATION SPEC —		A3		—	C-FCB-205-SERIES	—
WEIGHT —				CUSTOMER DRAWING		SCALE NTS		SHEET 1 of 2		REV A

REVISIONS					
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	—	SEE SHEET 1	—	—	—

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 "C"
Solder Hook Terminals
Hook Terminals Tin/Lead Plated

Diagram of Solder Hook Terminals showing side and top views with dimensions: .210 (5.33) for hook length, .065 DIA (1.65) for hook diameter, .040 ± .002 Dia Pin (1.02 ± .02) for pin diameter, and 8 Places for pin locations. A blue bead is shown on the top view.

Enclosures
All Enclosures have Cupro-Nickel Cans bright acid tin/lead plated after assembly to terminal headers.
Dimensions: Inches ± .010 (mm ± .25)

Enclosure "T" is for use with track mounted sockets and requires socket pin terminals, but no gasket. The gasket is included in the socket assembly.

CODE "X"

Diagram of Enclosure X showing side and top views with dimensions: .312 (7.92) for pin height, .141 (3.58) for pin diameter, .133 (3.38) for pin spacing, .640 Max (16.26) for total height, .810 Max (20.57) for body width, .320 (8.13) for pin diameter, .1062 (26.92) for pin diameter, .1078 (27.38) for pin diameter, .410 Max (10.4) for pin diameter, and 1.280 Max (32.51) for total width. A blue bead is shown on the top view.

CODE "Z"

Diagram of Enclosure Z showing side and top views with dimensions: .640 Max (16.26) for total height, .810 Max (20.57) for body width, and .410 Max (10.41) for pin diameter.

CODE "W"

Diagram of Enclosure W showing side and top views with dimensions: .810 Max (20.57) for body width, .410 Max (10.41) for pin diameter, .500 (12.7) for pin diameter, .172 (4.37) for pin diameter, .375 (9.52) for pin diameter, .693 Max (17.6) for total height, .032 (.79) for pin diameter, and 4-40 UNC-2A 2 Studs * for pin locations. A blue bead is shown on the top view.

*Metric threads available, To specify use [M] in place of [W]

CODE "Y"

Diagram of Enclosure Y showing side and top views with dimensions: .640 Max (16.26) for total height, .156 (3.96) for pin diameter, .810 Max (20.57) for body width, .025 (.64) for pin diameter, .1078 (27.38) for pin diameter, .1062 (26.92) for pin diameter, .133 (3.38) for pin diameter, .312 (7.92) for pin diameter, .410 Max (10.4) for pin diameter, and 1.280 Max (32.57) for total width. A blue bead is shown on the top view.

CODE "T"

M83536/2-028 (REFERENCE ONLY)

Diagram of Enclosure T showing side and top views with dimensions: .080 ± .005 (2.03 ± .13) for pin diameter, .640 Max (16.26) for total height, .810 Max (20.57) for body width, .158 ± .005 ** (4.01 ± .13) for pin diameter, .055 ± .005 (1.38 ± .13) for pin diameter, .410 Max (10.41) for pin diameter, .055 ± .005 (1.38 ± .13) for pin diameter, .110 ± .005 (2.79 ± .13) for pin diameter, and .110 ± .005 (2.79 ± .13) for pin diameter.

NOTE: FOR USE WITH TRACK MOUNT PER MIL-R-6106/23

** MEASURED FROM SURFACE OF HEADER

Terminal View diagram showing a 2x4 grid of terminals with dimensions: .150 Typ (3.81) for pin height, .075 (1.90) for pin diameter, .075 (1.90) for pin diameter, .150 Typ (3.81) for pin diameter, and .150 Typ (3.81) for pin diameter. A blue bead is shown on the top view.

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.

ALL DIMENSIONS ARE IN INCHES(MM)

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		CHK RV 27SEP2019			
DIMENSIONS: INCHES	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD BM 27SEP2019	NAME		
		PRODUCT SPEC	FCB-205 SERIES		
	0 PLC ± - 1 PLC ± - 2 PLC ± - 3 PLC ± - 4 PLC ± - ANGLES ± -	APPLICATION SPEC	—		
		—	—		
MATERIAL	FINISH	WEIGHT	—	SIZE A3	CAGE CODE
—	—	—	—	—	DRAWING NO
CUSTOMER DRAWING		SCALE NTS	SHEET 2 of 2	REV A	RESTRICTED TO

Mouser Electronics

Authorized Distributor

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[M83536/2-002M](#)