



## CII FC-325 Series Relays

Hermetically Sealed, Non-Latching 25-Amp Relays Featuring Double Make/Break Contact Design, All Welded Enclosure, and MS27418 Qualification

# CII FC-325 Series Relays

Compact, Hermetically Sealed, Non-Latching Relays

FC-325 Series relays from TE Connectivity (TE) are hermetically sealed devices designed for harsh inductive, motor, and lamp load applications in aerospace, defense, and marine markets.

Configured as a 3PST/NO (DM), the double make/break contact design of the CII FC-325 Series relays offer higher capability than comparable relays in the market. It shares the load across two contact sets, resulting in less wear and tear on the relay. This provides stable performance and extends the relay's life. The relay's all welded design creates a reliable alternative to similar solder sealed relays in the market.

**TE Components . . . TE Technology . . . TE Know-how . . .**

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem | Rochester | DEUTSCH  
SEACON Phoenix | LL ROWE | Phoenix Optix | AFP | SEACON

Empower Engineers to Solve Problems, Moving the World Forward.



### RUGGED

- Hermetically sealed
- Corrosion protected metal can
- All welded construction. No solder sealing

### SPACE AND WEIGHT SAVING

- 1.5 inch cube enclosure
- 0.452 lbs

### CAPABLE

- Excellent for switching harsh inductive, motor, and lamp loads
- -70°C to +125°C temperature range
- 80,000 feet altitude rating

### VERSATILE

- 28 Vdc or 115 Vac coils
- Solder hook or terminal block configurations

### QUALIFIED

- Qualified to MS27418 specifications
- Higher current ratings than standard M83536 mid-range relays

### APPLICATIONS

- Launch Systems
- Power Distribution
- Fuel Pumps
- Guidance and Navigation Systems
- Aircraft Galley/Cabin Equipment
- Weapons Systems
- Ground Support Equipment

### MECHANICAL/ENVIRONMENTAL

- **Temperature Range:** -70°C to +125°C
- **Altitude:** 80,000 feet
- **Sinusoidal Vibration:** 10 g/5 to 1000 Hz
- **Shock:** 50 g/11 ms

### ELECTRICAL

#### • Dielectric Strength at Sea Level:

**Coil to Case:** 1250 V<sub>rms</sub>

**All Other Points:** 1500 V<sub>rms</sub>

#### • Dielectric Strength at 80,000 ft (25,000 m): 500 V<sub>rms</sub> (all points)

#### • Insulation Resistance at 500 Vdc:

**Initial:** 100 MΩ min.

**After Life or Environmental Test:** 50 MΩ min.

#### • Contact Voltage Drop at Nominal Current:

**Initial Value:** 150 mV max.

**After Life:** 175 mV max.

### OPERATIONAL

#### • Operate Time at Nominal Voltage:

**AC:** 25 ms max.

**DC:** 20 ms max.

#### • Release Time at Nominal Voltage:

**AC:** 50 ms max.

**DC:** 10 ms max.

#### • Bounce Time at Nominal Voltage: 2 ms max.

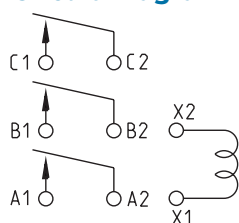




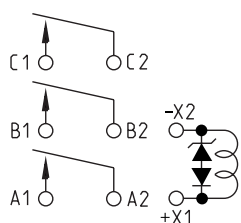
### Coil Characteristics

	AC Coil	DC Coil
Nominal Operating Voltage	115 Vac	28 Vdc
Maximum Operating Voltage	122 Vac	32 Vdc
Maximum Pick-Up Voltage at +125° C	95 Vac	18 Vdc
Maximum Pick-Up Voltage at +125° C (Continuous Current test)	108 Vac	22.5 Vdc
Drop-Out Voltage at +125° C (Amps Max)	5.0 Vac	1.5 Vdc
Coil Current at +25° C	.06 A @ 50/60 Hz 0.55 A @ 400 Hz	—
DC Coil Resistance (±10%)	—	160 Ω
Back EMF Suppresses to (Vdc) (Suppressed Versions)	—	42 Vdc

### Circuit Diagram



DC Nonsuppressed and AC Coils



DC Suppressed Coils

### Contact Characteristics

Load Type	Life Cycles	Current Rating (A)				
		28 Vdc	115 Vac, 1 Phase Power		115/200 Vac, 3 Phase Power	
			400 Hz	50/60 Hz	400 Hz	50/60 Hz
Resistive	50,000	25	25	25	25	25
Inductive	10,000	15	25	25	25	25
Motor	50,000	20	20	12	20	12
Lamp	50,000	10	10	10	10	10
Mechanical Life, Reduced Current	200,000	6.3	6.3	6.3	6.3	6.3

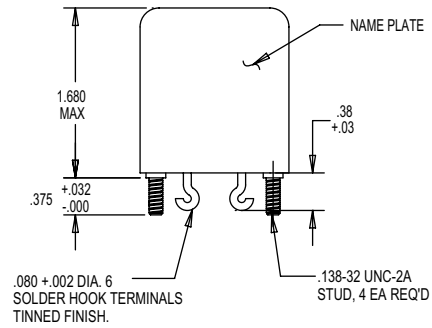
### Part Numbers

Coil	Terminal	Mounting	Mil Spec	MS Part No.	Comml Part No.
28 Vdc	Solder Hook	Stud	MS27418-1B	FC-325-2	FC-325-CW3
	Screw	Bracket	MS27418-2B	FC-325-5	FC-325-SY3
28 Vdc (Suppressed)	Solder Hook	Stud	MS27418-1D	FC-325-7	FC-325-CW4
	Screw	Bracket	MS27418-2D	FC-325-8	FC-325-SY4
115 Vac, 50/60 Hz	Solder Hook	Stud	MS27418-1C	FC-325-3	FC-325-CW9
	Screw	Bracket	MS27418-2C	FC-325-6	FC-325-SY9
115 Vac, 400 Hz	Solder Hook	Stud	MS27418-1A	FC-325-1	FC-325-CW8
	Screw	Bracket	MS27418-2A	FC-325-4	FC-325-SY8

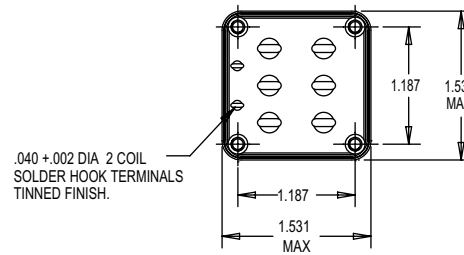
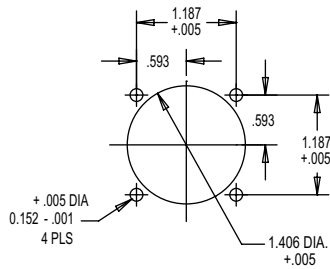
Custom configurations are available. Consult TE.



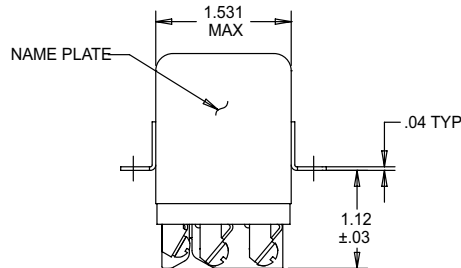
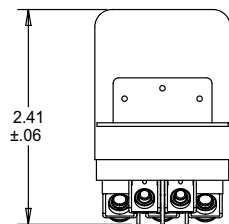
**Dimensions**  
**Solder Hook Terminals**  
 (Shown with Mounting Studs)



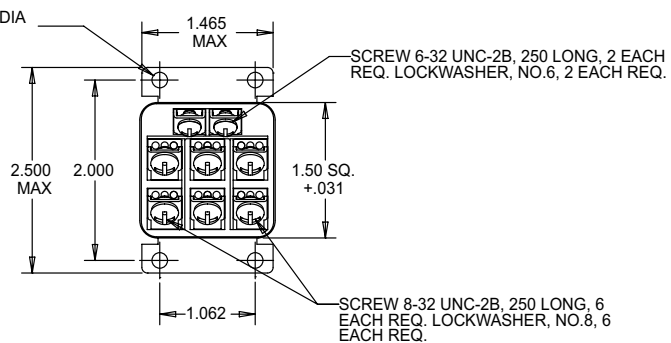
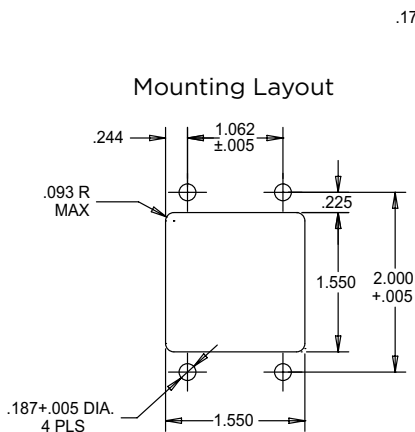
**Mounting Layout**



**Screw Terminals**  
 (Shown with Mounting Bracket)



**Mounting Layout**



Tolerances are ±.010 unless otherwise noted.

## LET'S CONNECT

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Consult TE for the latest dimensions and design specifications.

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