



## 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.

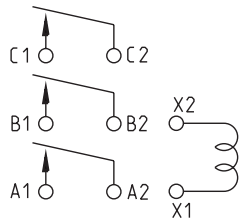




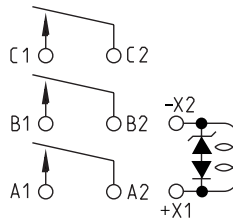
## Coil Characteristics

|                                                                 | 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<br>(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<br>0.55 A @ 400 Hz | —        |
| DC Coil Resistance (±10%)                                       | —                                   | 160 mΩ   |
| Back EMF Suppresses to (Vdc)<br>(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,<br>Reduced Current | 200,000     | 6.3                | 6.3                    | 6.3      | 6.3                        | 6.3      |

## Part Numbers

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

Custom configurations are available. Consult TE.