

User activities: Army -  
Navy -  
Air Force -

Review activities: Army -  
Navy - EC  
Air Force - 11

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|  |                           |   |                                     |
|--|---------------------------|---|-------------------------------------|
| INACTIVE FOR NEW DESIGN AFTER 5 JUN 87<br>NO SUPERSEDING STANDARD<br>(FOR NEW DESIGN USE MIL-R-6106/51)  |                           | FED. SUP CLASS<br>5945  |                                     |
|  |                           | LOCATING PIN<br>.093 ±.005 DIA  |                                     |
| 12 PINS, .0625 ±.0010 DIA<br>4 PINS, .040 ±.001 DIA (X1, X2, Y1, ND Y2)<br>GOLD PLATED, MIL-G-45204, TYPE II, CLASS I, UNDERPLATING,<br>NICKEL 50 TO 150 MICROINCHES THICK |                           | Inches      mm<br>.000      0.00<br>.001      0.03<br>.005      0.13<br>.040      1.02<br>.047      1.19<br>.062      1.57<br>.0625      1.59<br>.093      2.36<br>.145      3.86<br>.147      3.73<br>.203      5.16<br>.290      7.37<br>.344      8.74<br>.375      9.53<br>.435      11.05<br>.580      14.73<br>.725      18.42<br>.870      22.10<br>1.500      38.10<br>1.562      39.67<br>1.812      46.02<br>1.844      46.84<br>2.187      55.55 |                                     |
|  |                           | .147 ±.005 DIA<br>3MTG HOLES<br>MATES WITH<br>MS25462   |                                     |
|  |                           | +Y10      Y10      +Y10<br>-Y20      Y20      -Y20<br>D30      D30      D30<br>D10      D10      D10<br>C30      C30      C30<br>C10      C10      C10<br>B30      B30      B30<br>B10      B10      B10<br>A30      A30      A30<br>A10      A10      A10<br>+X1      X1      +X1<br>-X2      X2      -X2<br>CIRCUIT-D1 (NOTE 6)      CIRCUIT-A1 (NOTE 5)      CIRCUIT-AD1 (NOTE 5, 6)   |                                     |
| (F) ENTIRE STANDARD REVISED  |                           |   |                                     |
| P.A.<br><b>AIR FORCE - 85</b><br>Other Cust<br>Navy - AS   | International<br>Interest | TITLE<br>RELAYS, ELECTROMAGNETIC, 10 AMPERES, 4 PDT,<br>TYPE I, MAGNETIC LATCH, SOCKET MOUNTED,<br>HERMETICALLY SEALED  | MILITARY STANDARD<br><b>MS25461</b> |
| Procurement Specification<br><b>MIL-R-6106</b>   | SUPERSEDES:               | PAGE 1 OF 5   |                                     |

DD FORM 1 MAY 73 672  
AMSC N/A

(Coordinated) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

5945-0745-18

REVISED (F) 6 JUN 87

APPROVED 1 Nov 1960

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are  $\pm 0.010$  (0.25 mm).
4. Terminal numbers need not appear on relay headers provided there is affixed to the relay a suitable legible circuit diagram that permanently and positively identifies each terminal location specified herein.
5. The use of diodes on ac relays is optional. Actual application must be shown on label.
6. Relay is magnetically latched in both positions. Caution note to observe polarity must appear on relays with dc coils.
7. In the event of conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
8. Referenced Government documents of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this standard to the extent specified herein.
9. Shock, vibration, and acceleration requirements application with coils de-energized.
10. Pins to be perpendicular to header surface within one degree

TABLE I. Dash numbers and characteristics.

| Dash number<br>MS 25461- | Type | Coil  | Terminal type | Max weight<br>in pounds |
|--------------------------|------|-------|---------------|-------------------------|
| D1                       | I    | dc    | Plug in       | 0.40                    |
| A1                       | I    | ac    | Plug in       | 0.42                    |
| AD1                      | I    | ac-dc | Plug in       | 0.42                    |

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REVISED (F) ENTIRE STANDARD REVISEDP.A.  
**AIR FORCE - 85**  
Other Cust  
Navy - ASInternational  
interestTITLE  
RELAYS, ELECTROMAGNETIC, 10 AMPERES, 4 PDT,  
TYPE I, MAGNETIC LATCH, SOCKET MOUNTED,  
HERMETICALLY SEALED

MILITARY STANDARD

**MS25461**Procurement Specification  
MIL-R-6106

SUPERSEDES:

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TABLE II. Operating characteristics.

| MS part no.<br>MS25461- | Coil data        |                              |                            |       |       |                     |                               |                |                  |                                | Time - (mills)(seconds maximum) |                   |      |     |    |    |    |    |
|-------------------------|------------------|------------------------------|----------------------------|-------|-------|---------------------|-------------------------------|----------------|------------------|--------------------------------|---------------------------------|-------------------|------|-----|----|----|----|----|
|                         | Coil             | Nominal                      |                            | Max   |       | Max pick-up voltage |                               |                | Drop-out voltage | Operate $\frac{3}{\text{---}}$ | Release $\frac{4}{\text{---}}$  | Contact bounce    |      |     |    |    |    |    |
|                         |                  | Volts $\frac{1}{\text{---}}$ | Freq. Hz                   | Res n | Volts | Amperes             | Normal $\frac{3}{\text{---}}$ | High temp test |                  |                                |                                 | Cont current test | Main | Aux | NO | NC | NO | NC |
|                         |                  |                              |                            |       |       |                     |                               |                |                  |                                |                                 |                   |      |     |    |    |    |    |
| D1                      | X1, X2<br>Y1, Y2 | 28                           | dc                         | N/A   | 29    | 0.17                | 18                            | 18             | 19.8             | N/A                            | 25                              | N/A               | 2    | 2   |    |    |    |    |
| A1                      | X1, X2<br>Y1, Y2 | 115                          | 400 $\frac{5}{\text{---}}$ | N/A   | 122   | 0.07                | 90                            | 90             | 95               | N/A                            | 25                              | N/A               | 2    | 2   |    |    |    |    |
| AD1                     | X1, X2<br>Y1, Y2 | 115                          | 400 $\frac{5}{\text{---}}$ | N/A   | 122   | 0.07                | 90                            | 90             | 95               | N/A                            | 25                              | N/A               | 2    | 2   |    |    |    |    |
|                         | Y1, Y2           | 28                           | dc                         | N/A   | 29    | 0.17                | 18                            | 18             | 19.8             | N/A                            | 25                              | N/A               | 2    | 2   |    |    |    |    |

1/ CAUTION: Use of any coil voltage less than nominal coil voltage will compromise the operation of the relay.

2/ Over the temperature range.

3/ With nominal coil voltage.

4/ From nominal coil voltage.

5/ MS25461-A1 and -AD1 may be used on 60 Hz if maximum ambient temperature is limited to +85°C (maximum coil current shall be 0.077 ampere).

FED. SUP CLASS  
5945

PA  
AIR FORCE - 85

Other Cust  
NAVY - AS

International  
Interest

TITLE

RELAYS, ELECTROMAGNETIC, 10 AMPERES, 4 PDT,  
TYPE I, MAGNETIC LATCH, SOCKET MOUNTED,  
HERMETICALLY SEALED

MILITARY STANDARD

MS25461

Procurement Specification  
MIL - R - 6106

SUPERSEDES:

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TABLE III. Rated contact load (amperes per pole) (case grounded).

| Type of load                    | Life operating cycles X 10 <sup>3</sup> | 28 V dc                      |     |     |    | 115 V ac, 1 phase |       |        |       | 115/200 V ac, 3 phase 1/ |       |        |       | See appropriate notes |
|---------------------------------|---|------------------------------|-----|-----|----|-------------------|-------|--------|-------|--------------------------|-------|--------|-------|-----------------------|
|                                 |   | Main                         |     | Aux |    | Main              |       | Aux    |       | Main                     |       | Aux    |       |                       |
|                                 |   | NO                           | NC  | NO  | NC | 400 Hz            | 60 Hz | 400 Hz | 60 Hz | 400 Hz                   | 60 Hz | 400 Hz | 60 Hz |                       |
| Resistive                       | 100                                     | 10                           | 10  |     |    | 10                | 6     |        |       | 10                       | 6     |        |       |                       |
| Inductive                       | 100                                     |                              |     |     |    |                   |       |        |       |                          |       |        |       |                       |
| Inductive                       | 20                                      | 6                            | 6   |     |    | 10                | 4     |        |       | 10                       | 4     |        |       |                       |
| Motor                           | 100                                     | 4                            | 4   |     |    | 4                 | 3     |        |       | 4                        | 3     |        |       |                       |
| Lamp                            | 100                                     | 2                            | 2   |     |    | 2                 | 1.5   |        |       | 2                        | 1.5   |        |       |                       |
| Transfer load                   |   |                              |     |     |    |                   |       |        |       |                          |       |        | 2/    |                       |
| Mechanical life reduced current | 400                                     | 2.5                          | 2.5 |     |    | 2.5               | 2     |        |       | 2.5                      | 2     |        |       |                       |
| Intmd current                   |   | Applicable per specification |     |     |    |                   |       |        |       |                          |       |        |       |                       |

1/ Absence of value indicates relay is not rated for 3-phase applications.  
2/ Transfer load indicates relay suitable for transfer between unsynchronized ac power supplies at rating indicated.

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|  |                           |  |                   |
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|   |   |
|---|---|
| <b>Environmental characteristics</b><br>Temperature range<br>Max altitude rating<br>Shock G-level<br>Duration<br>Max duration contact opening<br>Vibration - sinusoidal<br>G-level<br>Frequency range<br>Acceleration | -70°C to +125°C<br>80,000 ft<br>50 G<br>11 ms<br>10 μs<br>10 G<br>5 - 1500 Hz<br>15 G |
|---|---|

  

|   |  |
|---|--|
| <b>Electrical characteristics</b><br>Insulation resistance, Initial<br>After life or environmental tests<br>Dielectric strength Initial (sea level)<br>Initial After life tests<br>Coil to case<br>Aux contacts<br>All other points<br>Dielectric strength (altitude)<br>Coil to case<br>Aux contacts<br>All other points<br>Max contact drop Initial<br>After life test<br>Overload current<br>Rupture current<br>Duty rating<br>RFI specification<br>(Applicable to coil circuits of ac operated relays)<br>Quality conformance inspection<br>Performance of groups B and C tests are not applicable. | 100 megohms<br>50 megohms<br>1,000 V rms<br>1,000 V rms<br>1,500 V rms<br>1,125 V rms<br>80,000 ft<br>250 V rms<br>350 V rms<br>0.150 volt<br>0.175 volt<br>40 amperes dc,<br>60 amperes ac,<br>50 amperes dc,<br>80 amperes ac<br>Continuous<br>MIL-STD-461 |
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5945

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