

APPLICABLE SOCKET:
[S402](#)

Time delay relay (on operate, on release or repeat cycle timer)

Adjustable timing delay and programmable function

Contact arrangement **2 solid state outputs**
Power supply **Direct current**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **0.25mAmps / 28 Vdc**
Weight **< 70 grams**
Dimensions of case **44mm x 25.7mm x 26mm max**

Tin plated hermetically sealed metal can.

CONTACT ELECTRICAL CHARACTERISTICS

Output Current

250 mA inductive at + 25° C

NUMBERING SYSTEM

| | | | | | | |
|-------------------------------|--------|---|---|---|---|---|
| | FLS402 | - | B | 4 | A | 1 |
| Basic series designation | _____ | | | | | |
| 1-Mounting Styles (A,B,C,D,J) | _____ | | | | | |
| 2-Terminal Types (1,2,4) | _____ | | | | | |
| 3-Temperature Range (A,B) | _____ | | | | | |
| 4-Accuracy (1,2,3) | _____ | | | | | |



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AMERICAS
6900 Orangethorpe Ave.
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Buena Park, CA 90622

EUROPE
2 Rue Goethe
57430 Sarralbe
France

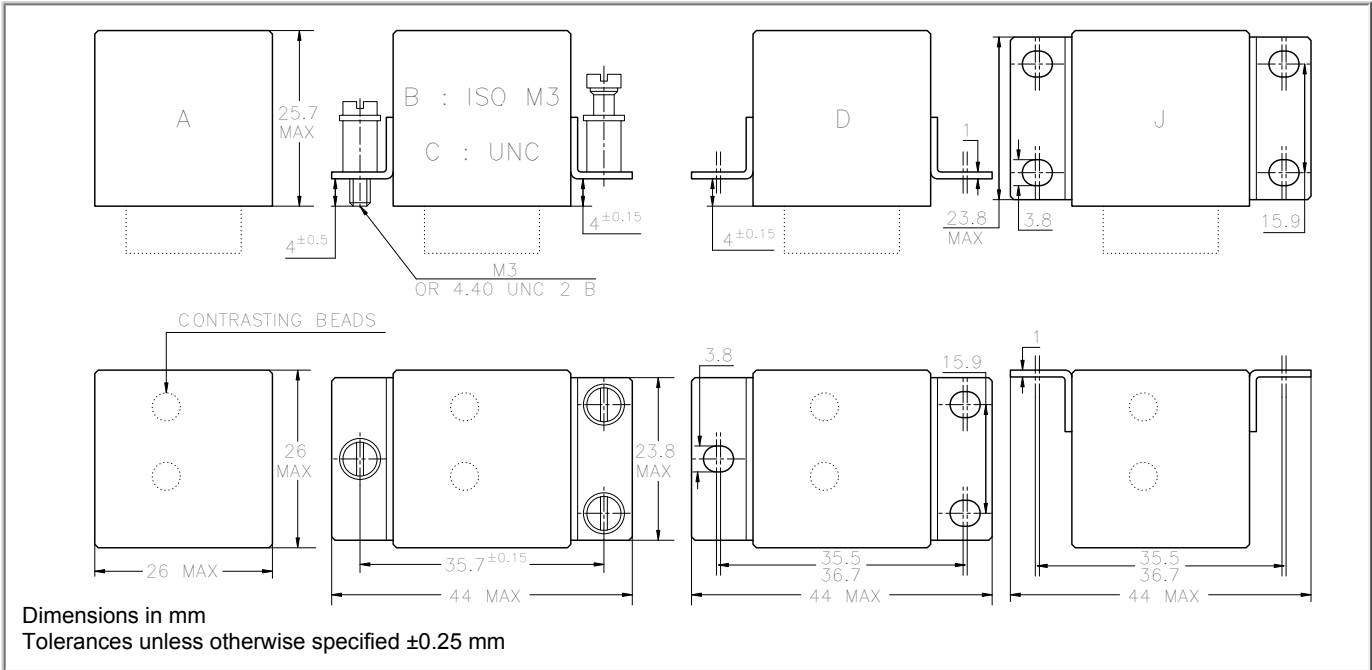
ASIA
Units 602-603 6/F Lakeside 1
No.8 Science Park West Avenue
Phase Two, Hong Kong Science Park
Pak Shek Kok, Tai Po, N.T.
Hong Kong

Tel: (01) 714-736-7599
Fax: (01) 714-670-1145

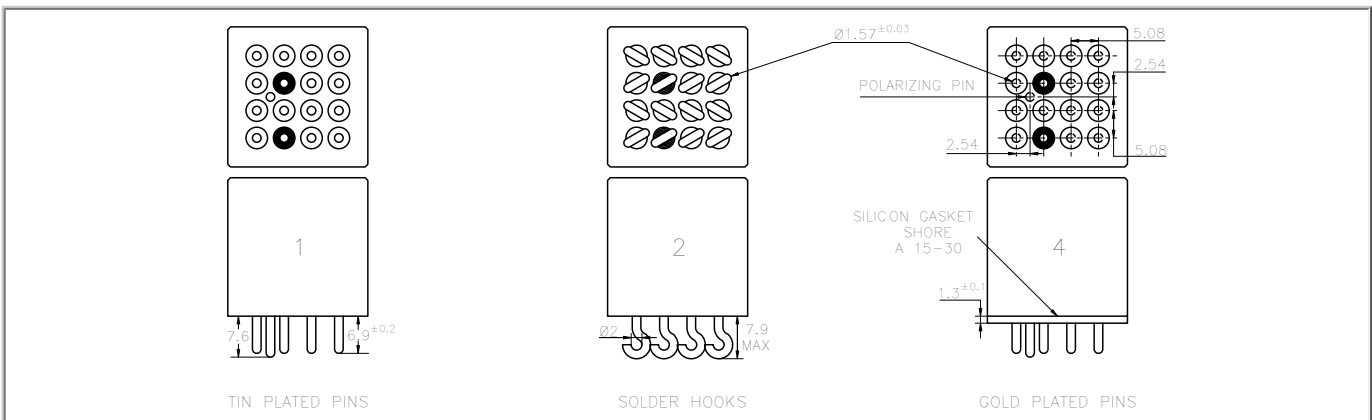
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Tel: (852) 2 191 3830
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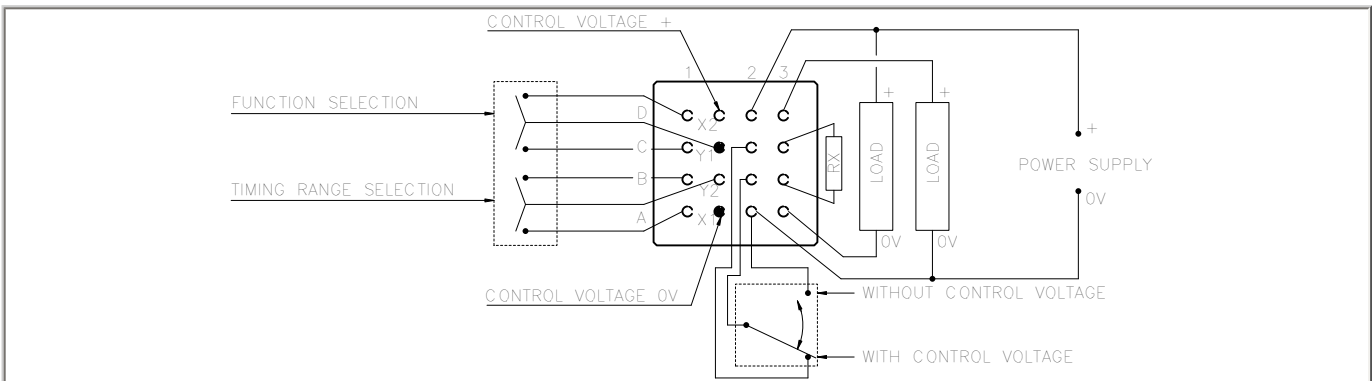
Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

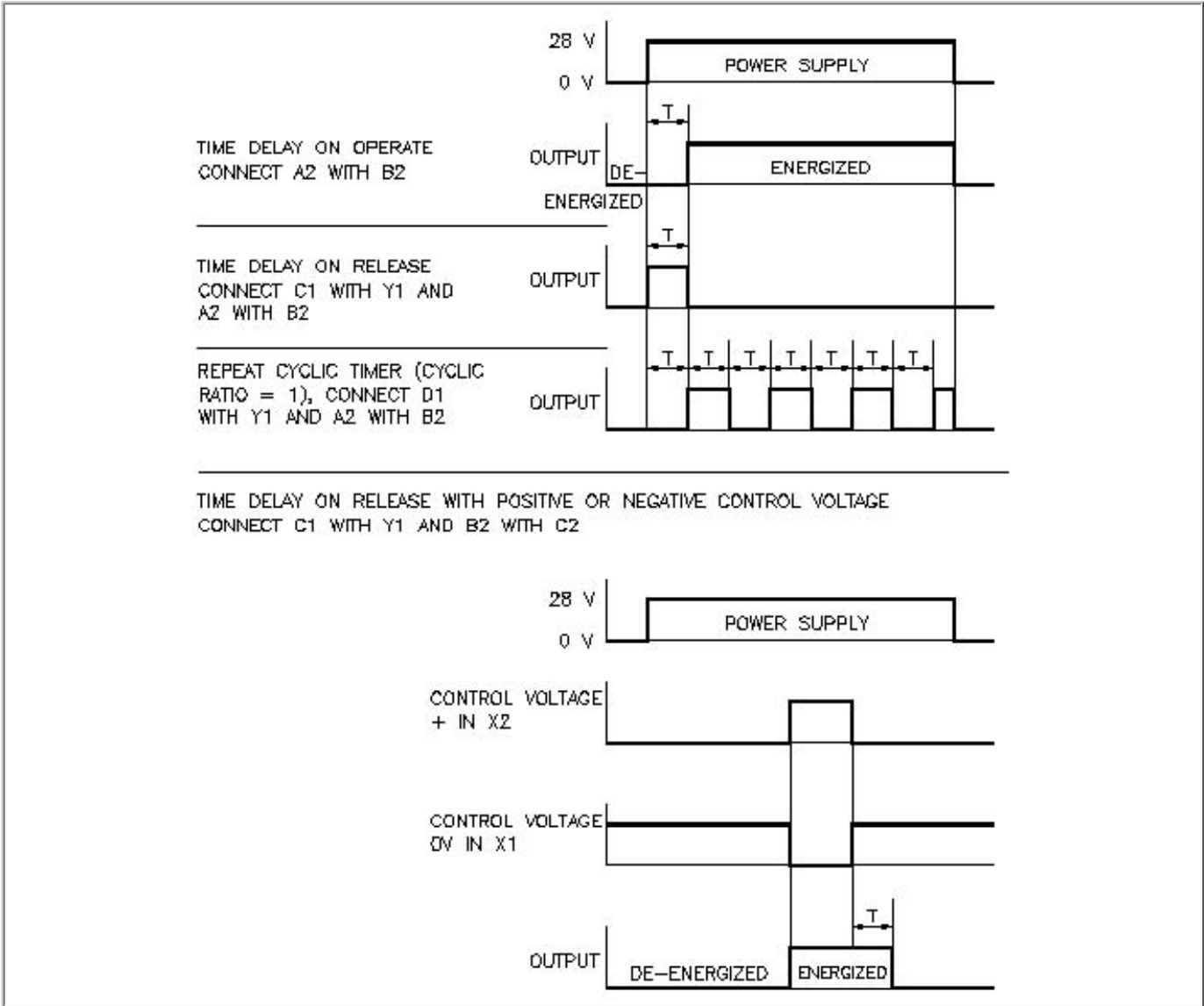


TERMINAL TYPES



SCHEMATIC DIAGRAM/TERMINAL LAYOUT





TIMING RANGE

ADJUSTABLE

| | |
|-----------------------------|---------------------------|
| Range 1: 0.1 to 2.5 seconds | $R_x = 356 * (T - t_0)$ |
| Range 2: 0.4 to 10 seconds | $R_x = 91.20 * (T - t_0)$ |
| Range 3: 3.2 to 80 seconds | $R_x = 11.38 * (T - t_0)$ |
| Range 4: 25 to 625 seconds | $R_x = 1.42 * (T - t_0)$ |

| |
|---------------------------------|
| Timing range selection: connect |
| A1 with Y1 |
| B1 with Y1 |
| nil |
| A1 & B1 with Y1 |

where R_x in kohms T: desired time in seconds, t_0 : time measured with $R_x = 0$.

Example to determine R_x value for a T time of 10 seconds: Choose range 3; measure time with $R_x = 0$ (for example : $t_0 = 3.1$ s); subtract t_0 from 10 seconds ($10s - 3.1s = 6.9s$); calculate $R_x = 11.38 \text{ kohms/s (range 3)} \times 6.9s$ Theoretical resistance: $R_x = 78.5 \text{ kohms}$

GENERAL CHARACTERISTICS**FLS402**

| | |
|---|----------------------------------|
| Temperature range | |
| - Code A | -55° C to +125° C |
| - Code B | -40° C to +85° C |
| Operating Voltage | 18 to 32 Vdc (AIR norm 2021 E) |
| Recycle Time | less than or equal to 50 ms |
| Dielectric Strength between all pins connected together and can | 1000 V / 50 Hz |
| Insulation resistance at 100 Vdc (same condition as above) | greater than or equal to 100 M Ω |
| Sinusoidal vibrations | 30 g / 70 to 2000 Hz |
| Shocks | 50 g / 11 ms |
| Control voltage current | 5 mAmps max at 28 Vdc |

ACCURACY

| | | |
|---------------|------|--------------------------------|
| | | adjustable period |
| | | Accuracy resistor Rx to choose |
| Code 1 | ±10% | 5% 100 ppm /° C |
| Code 2 | ±5% | 2% 100 ppm /° C |
| Code 3 | ±3% | 1% 50 ppm /° C |

NOTES

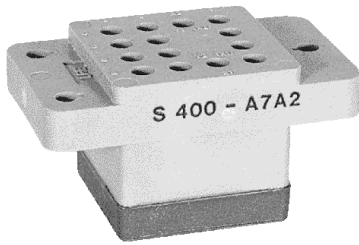
1. Relay with B,C,D mounting and terminal 4 are compatible with socket families S402, SF402 ...
2. Isolation spacer pads for PCB mounting available on request.
3. For other mounting styles or terminal types, please contact the factory.

ENGINEERING DATA SHEET

S400, S401, S402

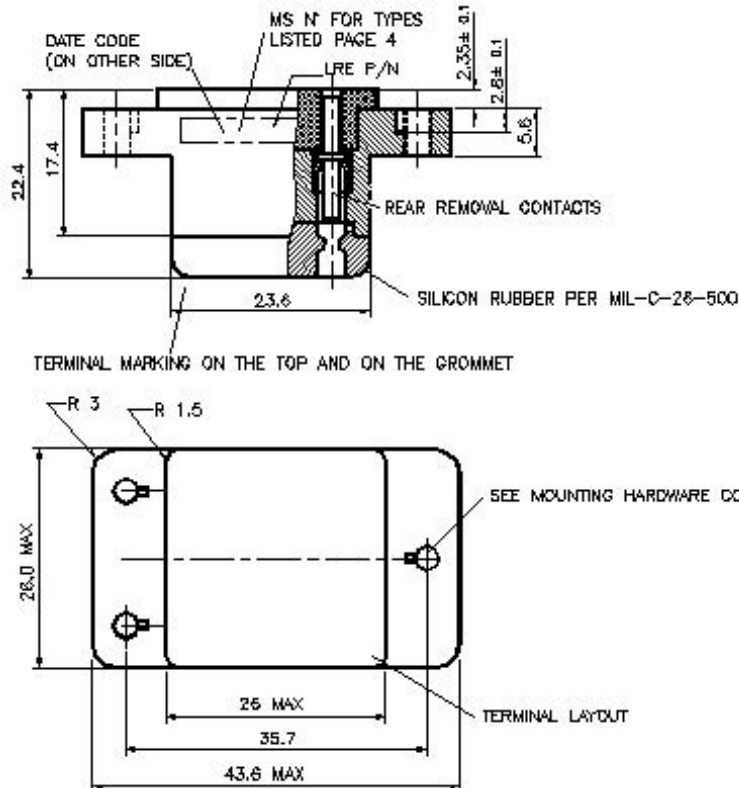
SOCKET FOR RELAYS

10 AMP



BASIC SOCKET SERIES DESIGNATION FOR:

**Series M400 (DC Coil), M401 (AC Coil),
M402 (DC Coil), FLS402, T402, T412, T441, VS400, CS400**



GENERAL CHARACTERISTICS

| | |
|-------------------------------|---|
| Crimp tool contact | M 22520/1-01 with turret M 22520/1-02 or MS 3191-1. |
| Insertion and extraction tool | NAS 1664-16. |
| Weight | 35g max. |
| Temperature range | -70° C to +125° C. |

This connection is designed to the standards and requirements of MIL-S-12883
Contacts and hardware to be delivered disassembled in a plastic bag.
Tolerances, unless otherwise specified, ±0.25mm.



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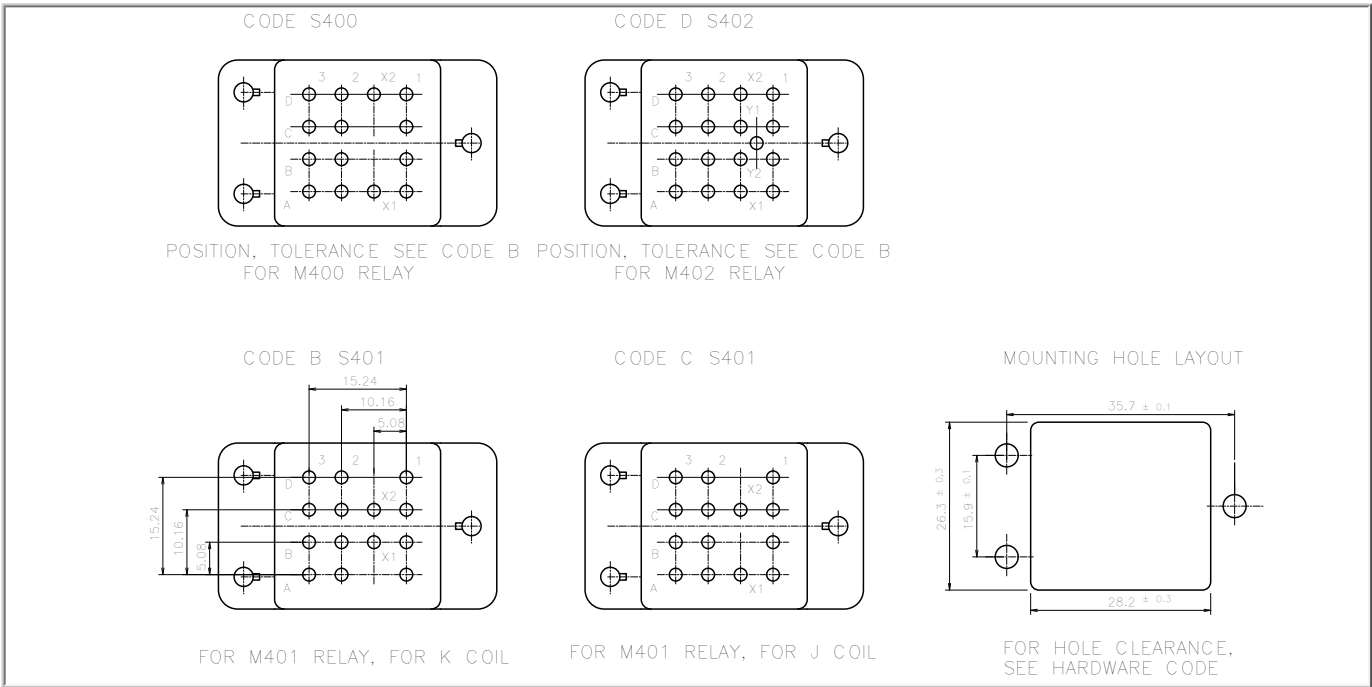
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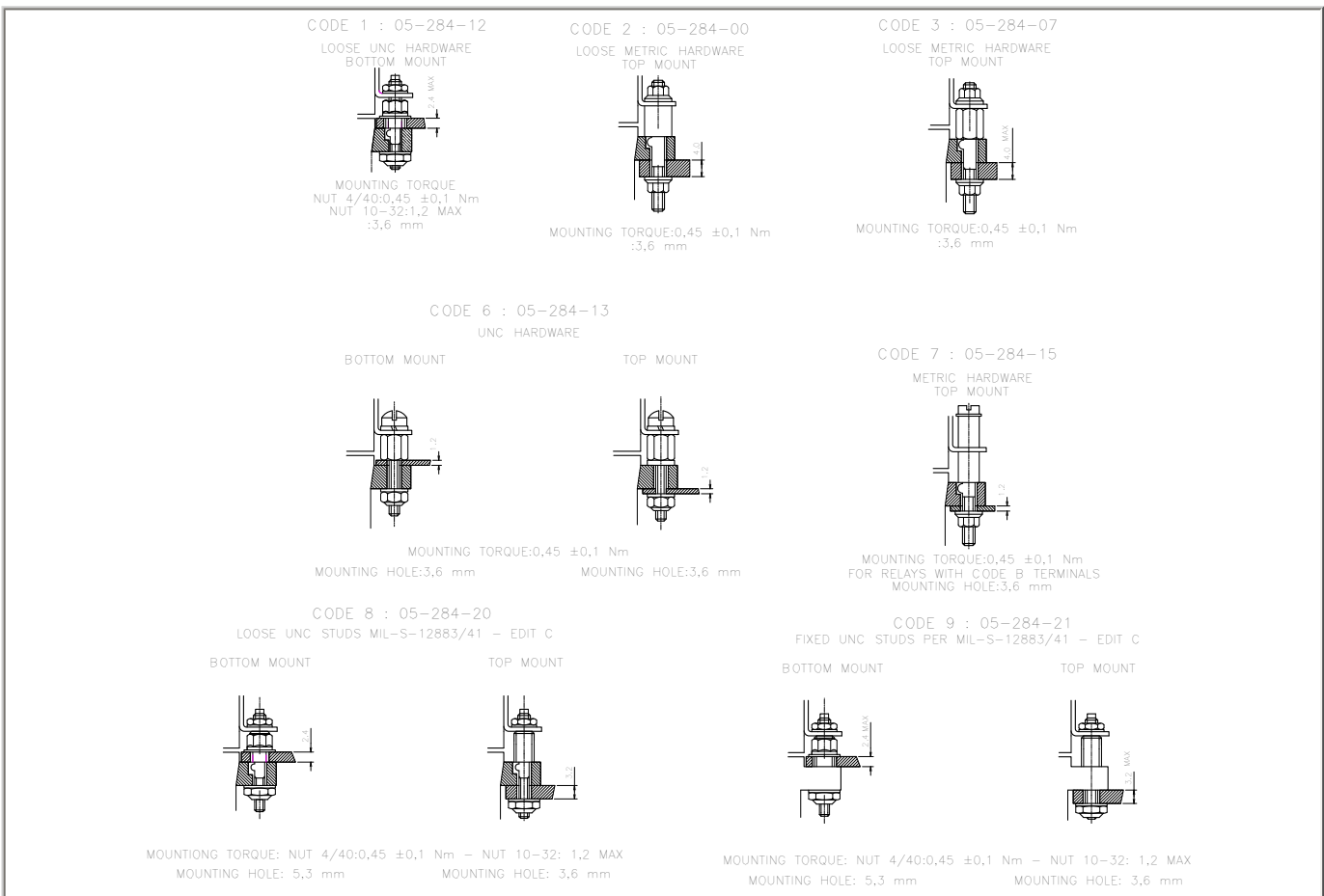
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MOUNTING HARDWARE



WIRE INSULATION DIAMETER FOR SEAL TO GROMMET

S400, S401, S402

| | |
|---|---|
| <p>Code A</p> <p>Recommended for contact code 2 contact code 8 Diameter: 1.22.4mm</p> | <p>Code B</p> <p>Recommended for contact code 3 contact code 9 Diameter: 0.81.6mm</p> |
|---|---|

CONTACT SIZE AND STYLE

| | | |
|--------------------------------|---|---|
| | <p>Code 2 05 911 00</p> <p>Crimpend to accomodate AWG16-18-20</p> <p><u>Contact mating end #16</u></p> | <p>Code 3 05 911 10</p> <p>Crimpend to accomodate AWG20-22-24</p> <p><u>Contact mating end #16</u></p> |
| <p>Code 0 Without contacts</p> | <p>Code 8 Crimpend to accomodate 30 315 00 AWG16-18-20</p> <p>MIL-C-39029/92-533 Bin Code colour bands or Bin Code numbering on crimpside <u>Contact mating end #16</u></p> | <p>Code 9 Crimpend to accomodate 30 315 10 AWG20-22-24</p> <p>MIL-C-39029/92-534 Bin Code colour bands or Bin Code numbering on crimpside <u>Contact mating end #16</u></p> |

SOCKET NUMBERING SYSTEM

| | | | | | |
|---|------|---|---|---|---|
| | S400 | A | 1 | A | 2 |
| 1-Basic socket designation_____ | | | | | |
| 2-Terminal Layout_____ | | | | | |
| 3-Mounting Hardware_____ | | | | | |
| 4-Grommet to seal on wire insulation_____ | | | | | |
| 5-Contact size and style_____ | | | | | |

MS/LRE CROSS PART NO. AND MATING RELAYS

S400, S401, S402

| | MS - Number | LEACH P/N | Contacts to accomodate wire # | | Applicable for relays |
|------------------------|--------------------|------------------|--------------------------------------|--|------------------------------|
| MIL-S-12883/40 | -01 | S400-A6A2 | 16-18-20 | Loose terminals Above/below panel mounting | M400-D4A /-L/-N/-B/-C |
| | -05 | S400-A6B3 | 20-22-24 | | M 401-D4F/-K |
| | -02 | S401-B6A2 | 16-18-20 | | N/A |
| | -03 | N/A | N/A | | M 401-D4E/-J |
| | -04 | S401-C6A2 | 16-18-20 | | |
| | MS - Number | LEACH P/N | Contacts to accomodate wire # | | Applicable for relays |
| MIL-S-12883/40B | -13 | S400-A1A2 | 16-18-20 | Loose terminals below panel mounting | M400-D4A /-L/-N/-B/-C |
| | -17 | S400-A1B3 | 20-22-24 | | M 401-D4F/-K |
| | -14 | S401-B1A2 | 16-18-20 | | M 401-D4E/-J |
| | -16 | S401-C1A2 | 16-18-20 | | |
| | MS - Number | LEACH P/N | Contacts to accomodate wire # | | Applicable for relays |
| MIL-S-12883/40C | -13S | S400-A8A8 | 16-18-20 | Loose terminals Above/below panel mounting | M400-D4A /-L/-N/-B/-C |
| | -17S | S400-A8B9 | 20-22-24 | | M401-D4F/-K |
| | -14S | S401-B8A8 | 16-18-20 | | M401-D4E/-J |
| | to be determined | S401-C8A8 | 16-18-20 | | M402-D4A/ -L/-N/-B/-C |
| | -18S | S402-D8A8 | 16-18-20 | | |
| MIL-S-12883/40C | -19S | S400-A9A8 | 16-18-20 | Fixed terminals Above/below panel mounting | M400-D4A /-L/-N/-B/-C |
| | -23S | S400-A9B9 | 20-22-24 | | M 401-D4F/-K |
| | -20S | S401-B9A8 | 16-18-20 | | M 401-D4E/-J |
| | to be determined | S401-C9A8 | 16-18-20 | | M 402-D4A/ -L/-N/-B/-C |
| | -24S | S402-D9A8 | 16-18-20 | | |