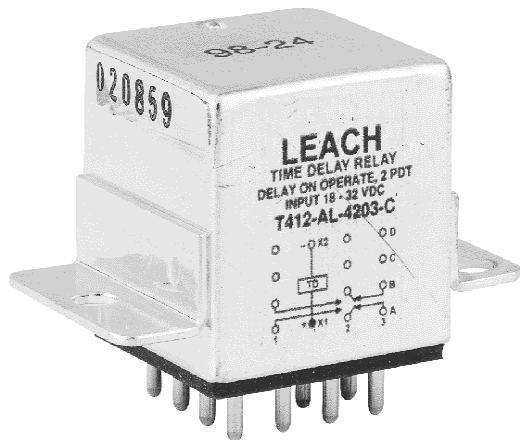


# ENGINEERING DATA SHEET

# T412

TIME DELAY RELAY  
2 PDT, 10 AMP



Time delay relay on operate or on release

Fixed or adjustable timing delay

Contact arrangement **2 PDT**  
Power supply **28 Vdc**

### PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **10 Amps / 28 Vdc**  
Weight **< 70 grams**  
Dimensions of case **44mm x 25.7mm x 26mm max**

Hermetically sealed corrosion protected metal can (mounting flange tin plated)

**APPLICABLE SOCKET:**

- [S400](#)
- [SC40\\*](#)

### CONTACT ELECTRICAL CHARACTERISTICS

Minimum operating cycles	Contact rating per pole and load type	Load current in Amps @28Vdc
100,000 cycles	on resistive load	10
20,000 cycles	on inductive load (L/R=5ms)	8
100,000 cycles	on motor load	4
100,000 cycles	on lamp load	2
50 cycles	resistive overload	40

### NUMBERING SYSTEM

	T412	-	A E	-	1001	-	A	XXX
Basic series designation	_____							
1-Types Of Operation (A,B,D,F,U,W)	_____							
2-Temperature range and timing accuracy (E,L,M,J,K,N)	_____							
3-Timing range (4 digits)	_____							
4-Mounting style and terminal types (A,B,C,D,H,J)[3]	_____							
5-Keying option only with J mounting style	_____							



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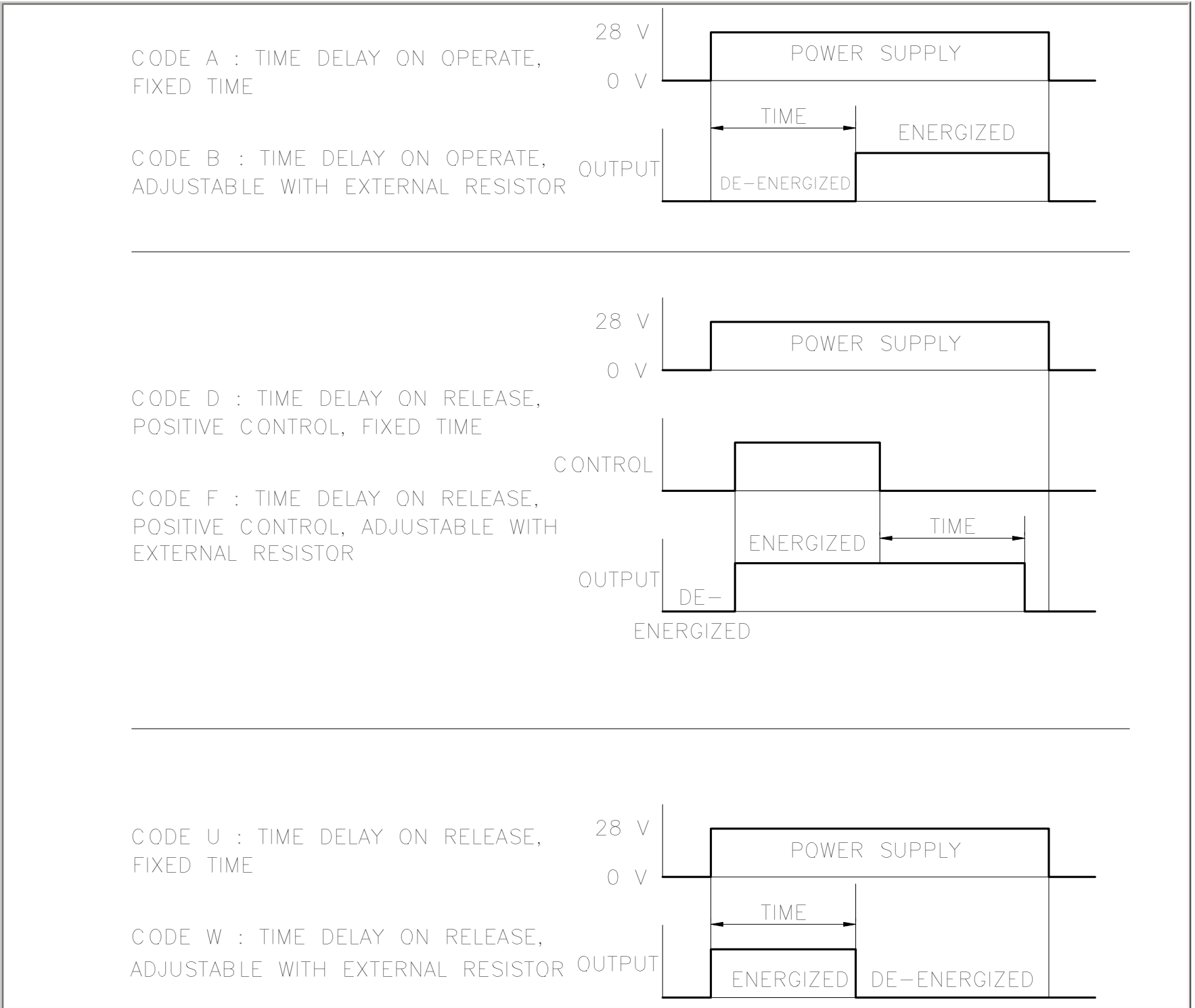
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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.



**TEMPERATURE RANGE AND TIMING ACCURACY**

Code	Temperature	Accuracy	Limitations
E	-55° C to +85° C	±10%	±10 ms below 200 ms
L [4]	-55° C to +85° C	±5%	not below 500 ms
M [4]	-55° C to +85° C	±3%	not below 1 s
J	-55° C to +125° C	±10%	±10 ms below 200ms
K [4]	-55° C to +100° C	±5%	not below 500 ms
N [4]	-55° C to +100° C	±3%	not below 1 s

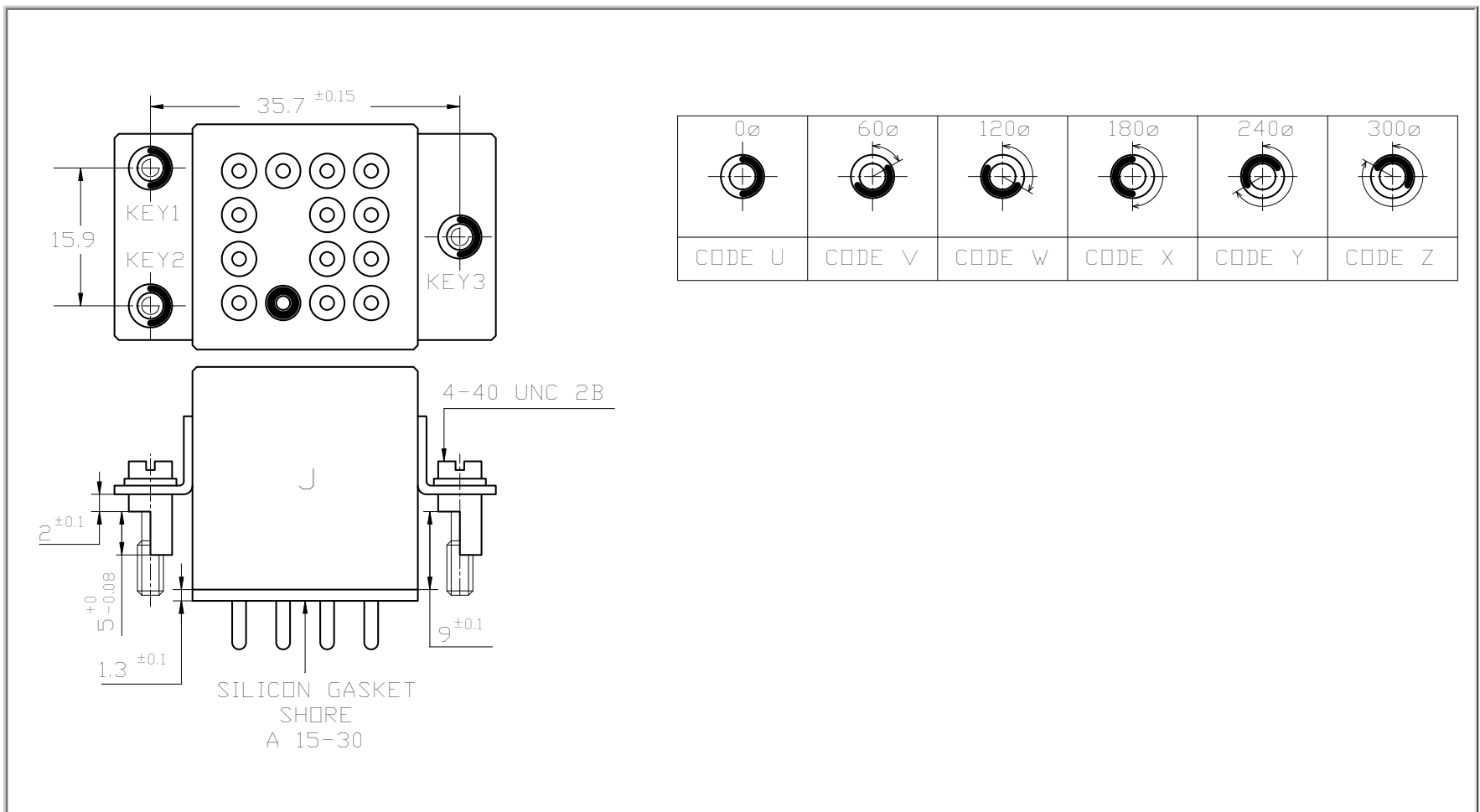


## GENERAL CHARACTERISTICS

T412

Operating Voltage	18 to 32 Vdc (AIR norm 2021 E)
Recycle Time	less than or equal to 50 ms
Dielectric strength at sea level	
- all pins connected together and can	1000 V / 50 Hz
- between open contacts	500 V / 50 Hz
Dielectric strength at altitude 25,000 m, all points	350 V / 50 Hz
Initial insulation resistance at 500 Vdc	greater than or equal to 1000 M $\Omega$
Sinusoidal vibration	20G / 10 to 2000 Hz
Shock	100G / 6 ms
Power loss protection	0.5 ms max
Undamaged against positive transients	+ 80 Vdc
Spike susceptibility	$\pm$ 600 Vdc
Self generated spike protection	$\pm$ 50 Vdc

## KEYING OPTIONS



## NOTES

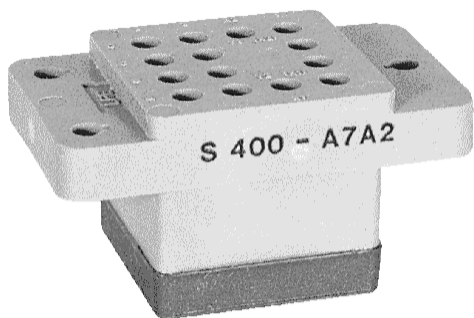
1. Relays with C, H mounting are compatible with socket families S 400, SF 400 ..
2. Isolation spacer pads for PCB mounting available on request.
3. For other mounting styles or terminal types, please contact the factory.
4. Codes L, M, K and N not available for adjustable timing.

# ENGINEERING DATA SHEET

# S400, S401, S402

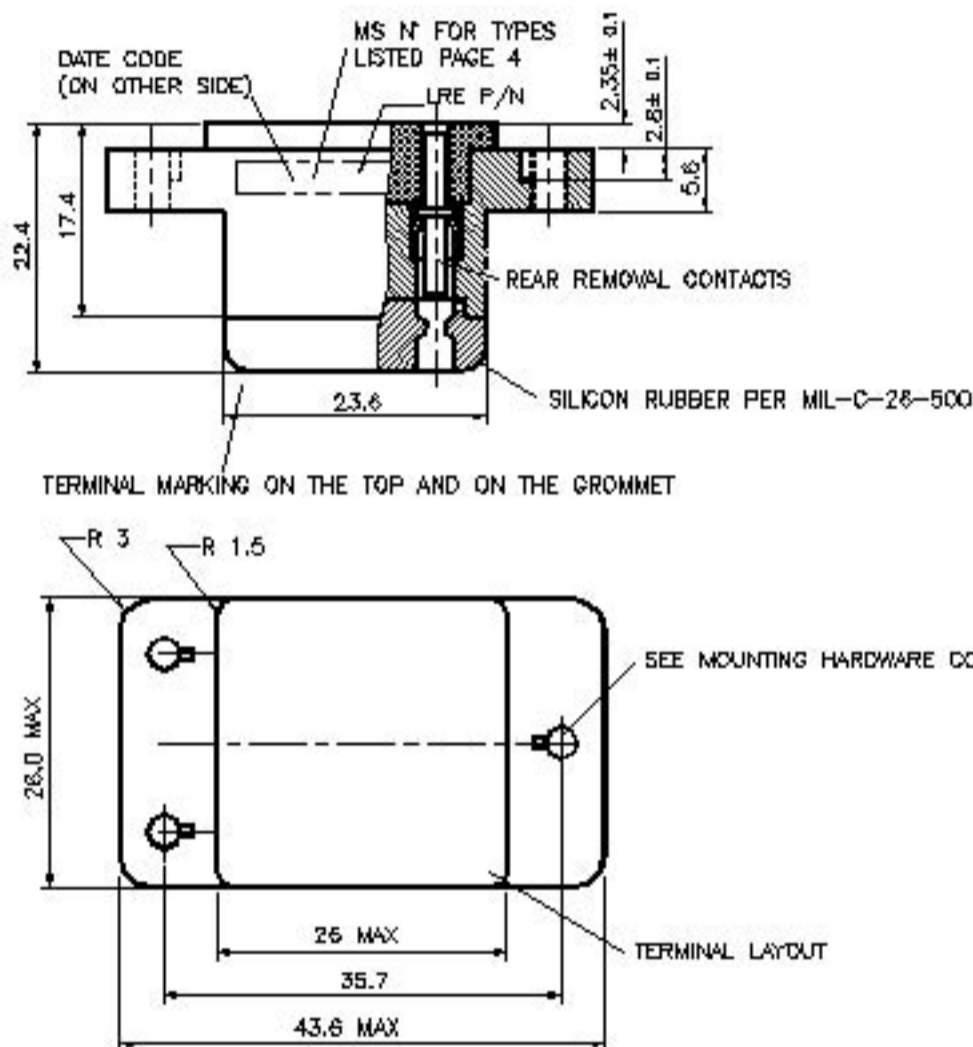
## SOCKET FOR RELAYS

### 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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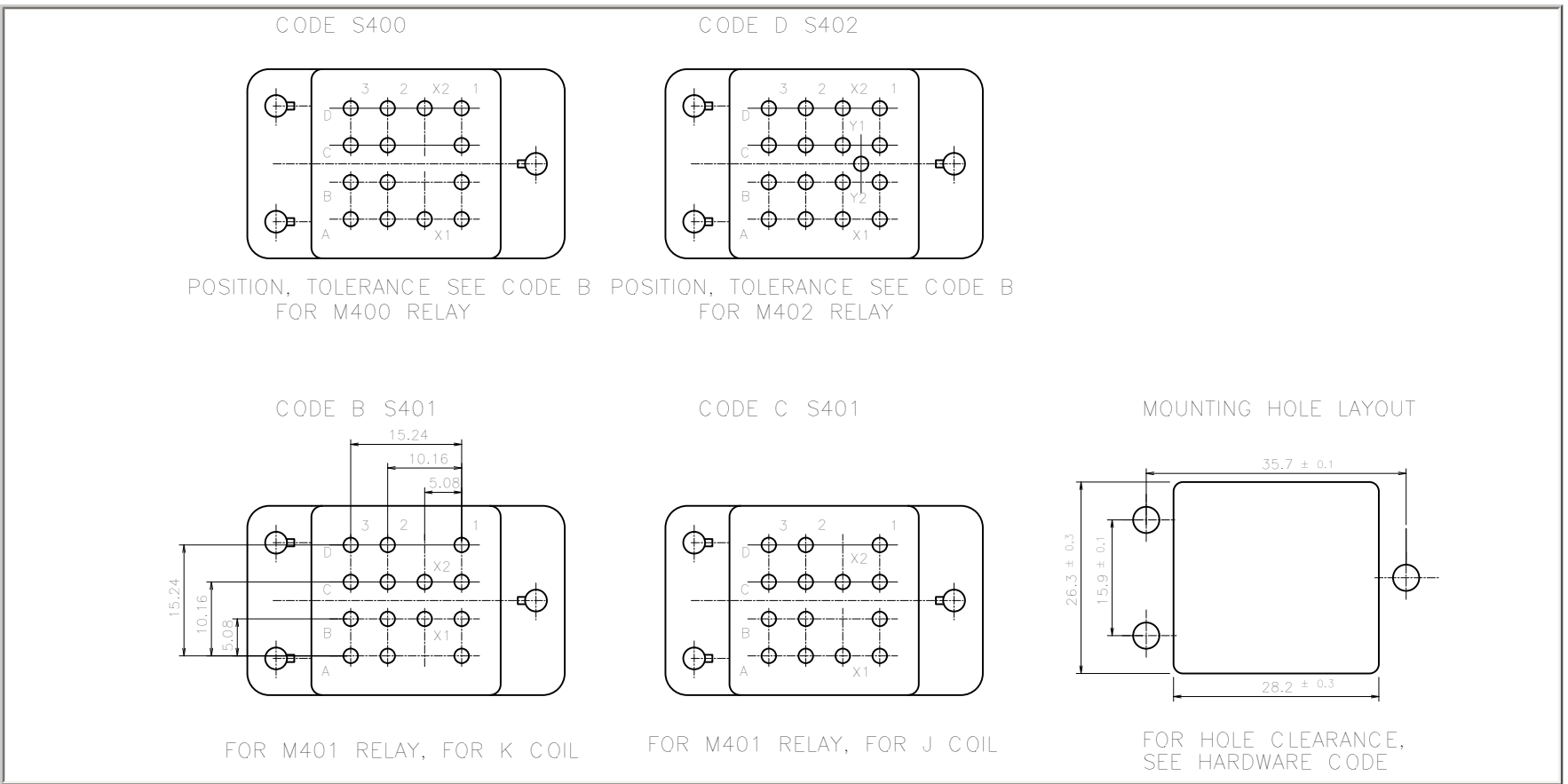
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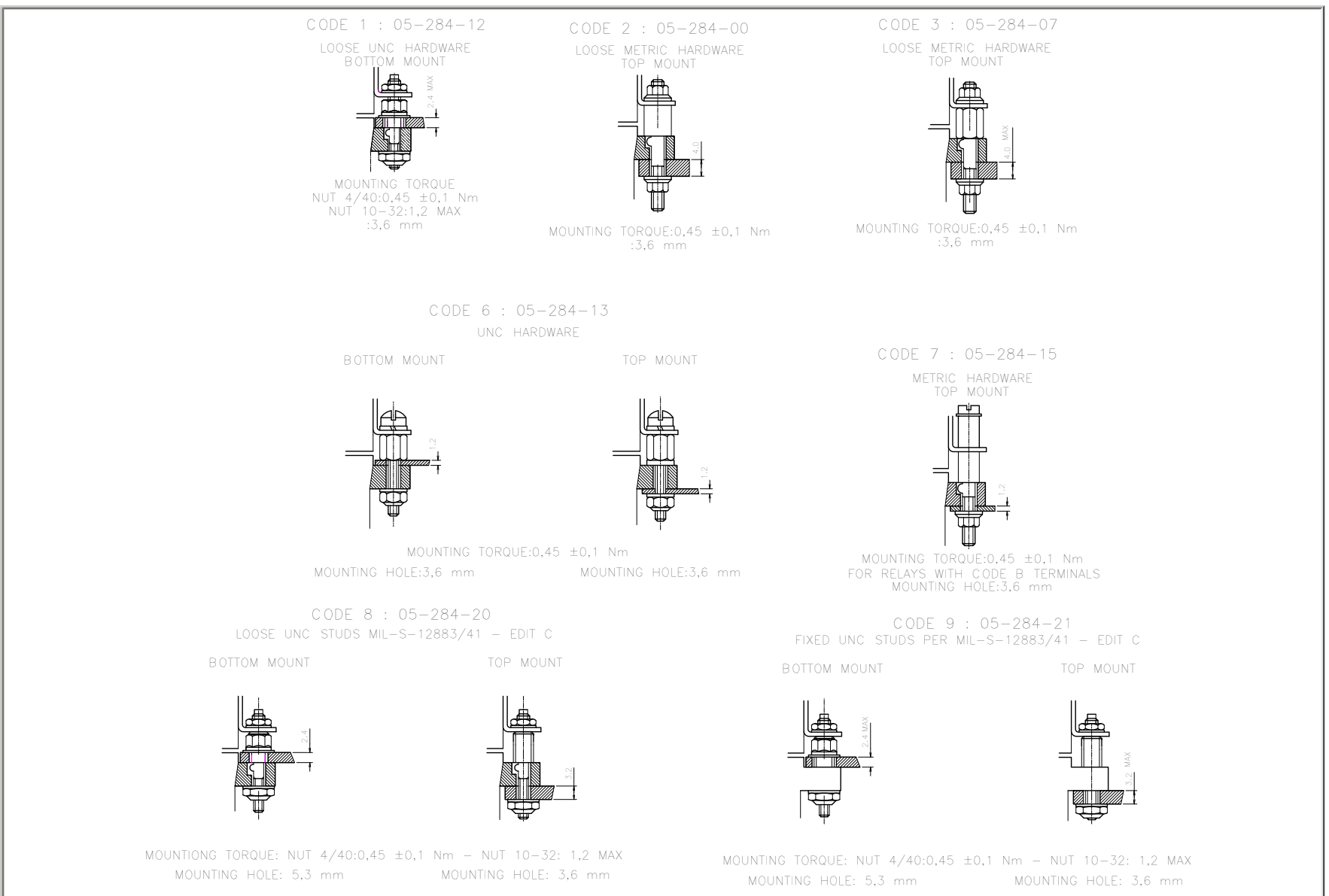
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# TERMINAL LAYOUT

S400, S401, S402



# MOUNTING HARDWARE



**WIRE INSULATION DIAMETER FOR SEAL TO GROMMET**

**S400, S401, S402**

<p><b>Code A</b></p> <p style="text-align: center;">Recommended for contact code 2 contact code 8 <b>Diameter: 1.2 .....2.4mm</b></p>	<p><b>Code B</b></p> <p style="text-align: center;">Recommended for contact code 3 contact code 9 <b>Diameter: 0.8 .....1.6mm</b></p>
---	---

**CONTACT SIZE AND STYLE**

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

	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>		<b>Applicable for relays</b>
<b>MIL-S-12883/40</b>	-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		
	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>		<b>Applicable for relays</b>
<b>MIL-S-12883/40B</b>	-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		
	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>		<b>Applicable for relays</b>
<b>MIL-S-12883/40C</b>	-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		
<b>MIL-S-12883/40C</b>	-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		

# ENGINEERING DATA SHEET

# SC30\*, SC40\*


SOCKET FOR 2 OR 4 POLE  
10 AMP

 <p>2 POLE</p>  <p>4 POLE</p>	<p>SNAP AND LOCK SOCKET SERIES DESIGNATION FOR:</p> <p><b>SERIES M300, M301, M302, M400, M401, M402, T402, T412</b></p> <p>DESIGNED TO THE STANDARDS AND REQUIREMENTS OF:</p>																	
	<table border="0"> <tr> <td>2-pole, 10A relays</td> <td><b>MIL-PRF-12883/41</b></td> </tr> <tr> <td>Mates with</td> <td><b>M83536, M83726 and MS27709</b></td> </tr> <tr> <td>4-pole, 10A relays</td> <td><b>MIL-PRF-12883/40</b></td> </tr> <tr> <td>Mates with</td> <td><b>M83536</b></td> </tr> </table> <p><b>FEATURES</b>                  Low profile                  Bottom panel mount                  Snaps into panel                  Other models available</p> <p><b>MATERIALS</b></p> <table border="0"> <tr> <td>Socket body</td> <td><b>Polyetherimide per MIL-P-46184</b></td> </tr> <tr> <td>Grommet</td> <td><b>Silicone rubber per ZZ-R-765</b></td> </tr> <tr> <td>Hardware</td> <td><b>Stainless Steel</b></td> </tr> <tr> <td>Contacts</td> <td><b>Copper alloy, hard gold plated per MIL-G-45204</b></td> </tr> <tr> <td>Contact retainers</td> <td><b>Beryllium copper</b></td> </tr> </table>	2-pole, 10A relays	<b>MIL-PRF-12883/41</b>	Mates with	<b>M83536, M83726 and MS27709</b>	4-pole, 10A relays	<b>MIL-PRF-12883/40</b>	Mates with	<b>M83536</b>	Socket body	<b>Polyetherimide per MIL-P-46184</b>	Grommet	<b>Silicone rubber per ZZ-R-765</b>	Hardware	<b>Stainless Steel</b>	Contacts	<b>Copper alloy, hard gold plated per MIL-G-45204</b>	Contact retainers
2-pole, 10A relays	<b>MIL-PRF-12883/41</b>																	
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Grommet	<b>Silicone rubber per ZZ-R-765</b>																	
Hardware	<b>Stainless Steel</b>																	
Contacts	<b>Copper alloy, hard gold plated per MIL-G-45204</b>																	
Contact retainers	<b>Beryllium copper</b>																	

## GENERAL CHARACTERISTICS

Insulation resistance	1000 M $\Omega$ min.
Dielectric withstanding voltage	1500 VRMS sea level; 500 VRMS at 25,000 m
Weight	15.3g max.
Temperature range	-65°C to +125°C
Vibration	MIL-STD-202, Method 204, Test Condition G
Shock	MIL-STD-202, Method 213, Test Condition C

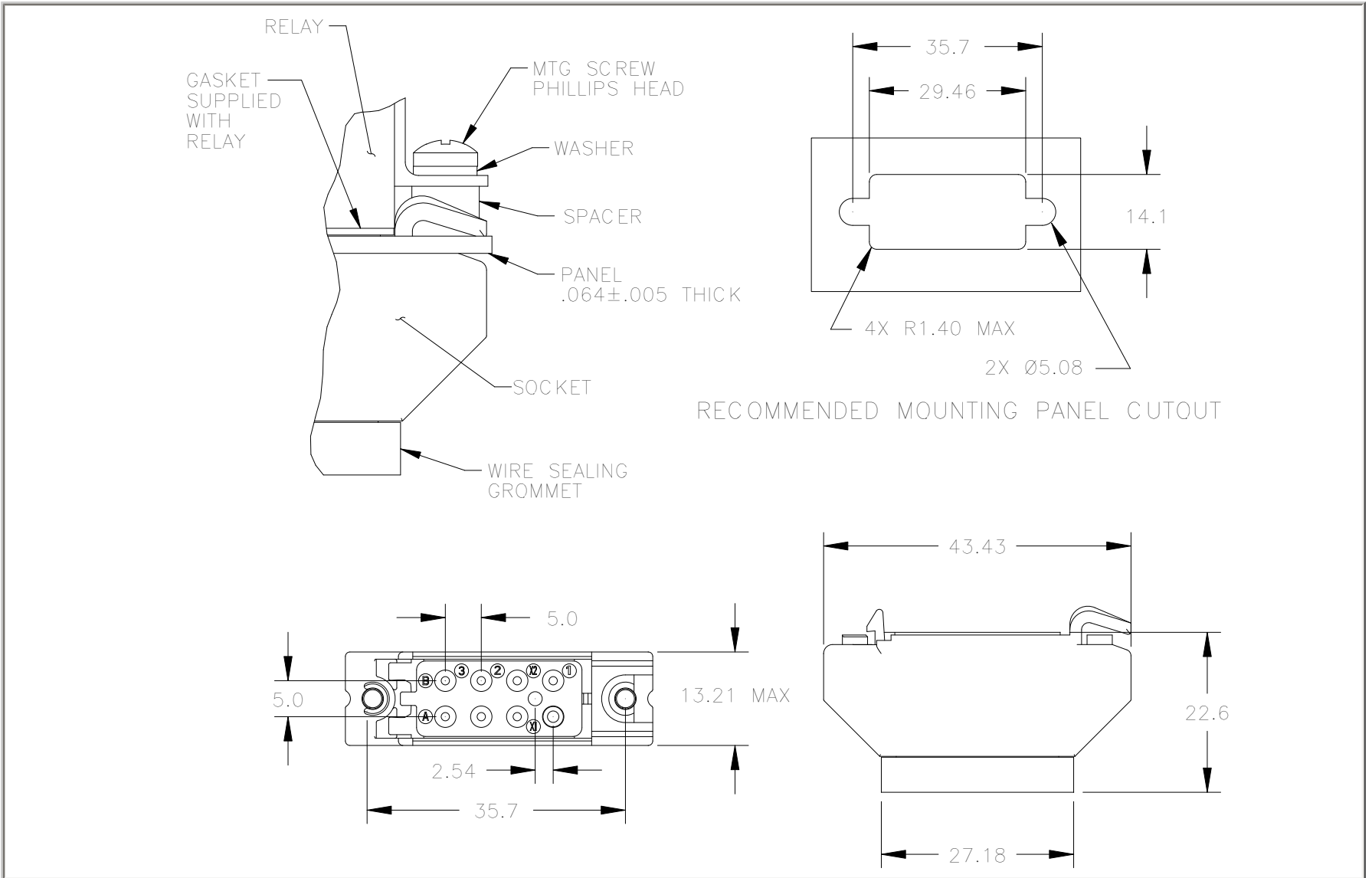
This socket is designed to snap and lock into a panel to reduce hardware requirement and mounting time. Contacts and hardware are provided disassembled in a plastic bag. Standard tolerances are  $\pm 0.025$ mm unless otherwise noted.

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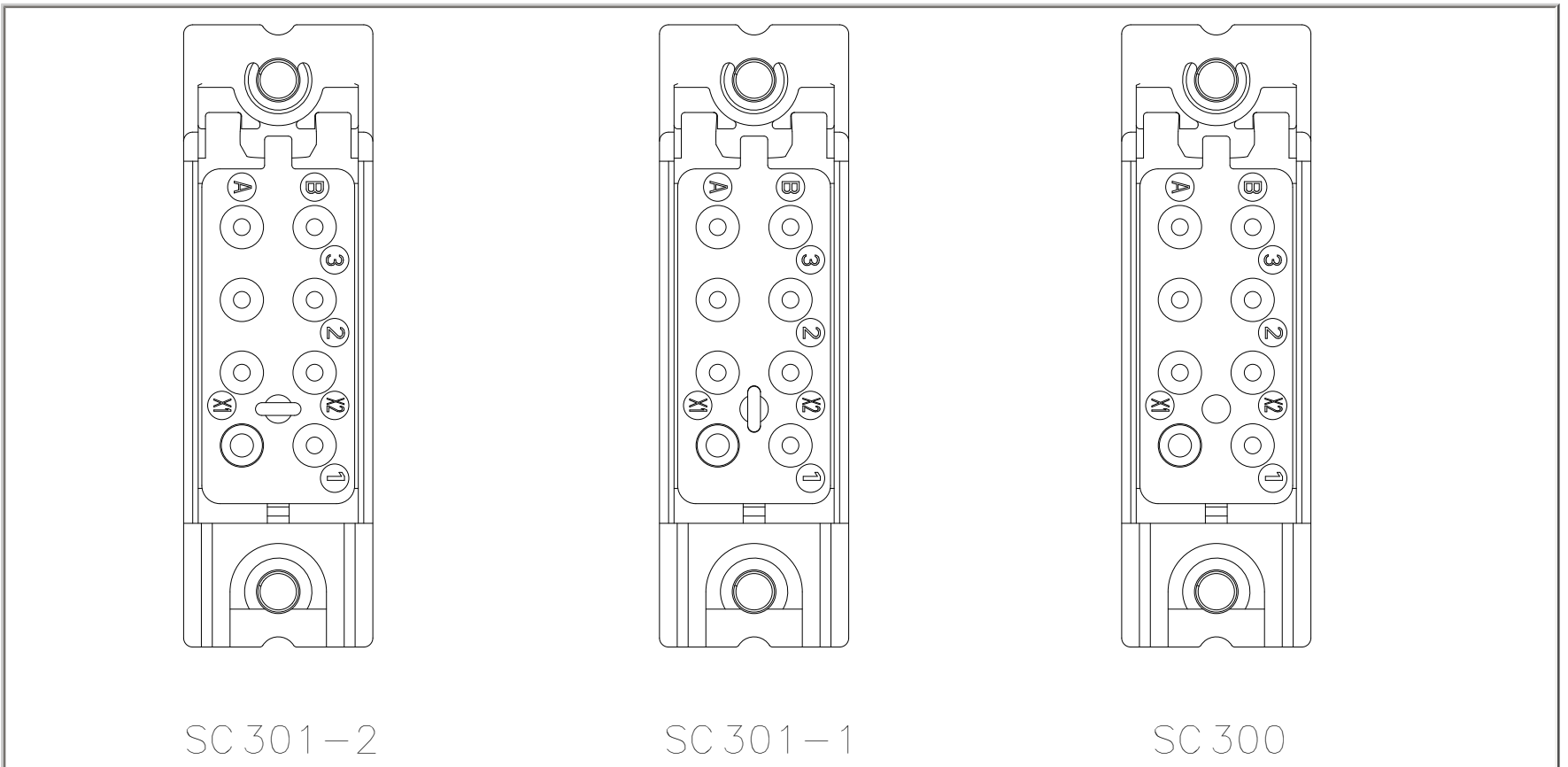
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# SOCKET DIMENSIONS

SC30\* (2 POLE)

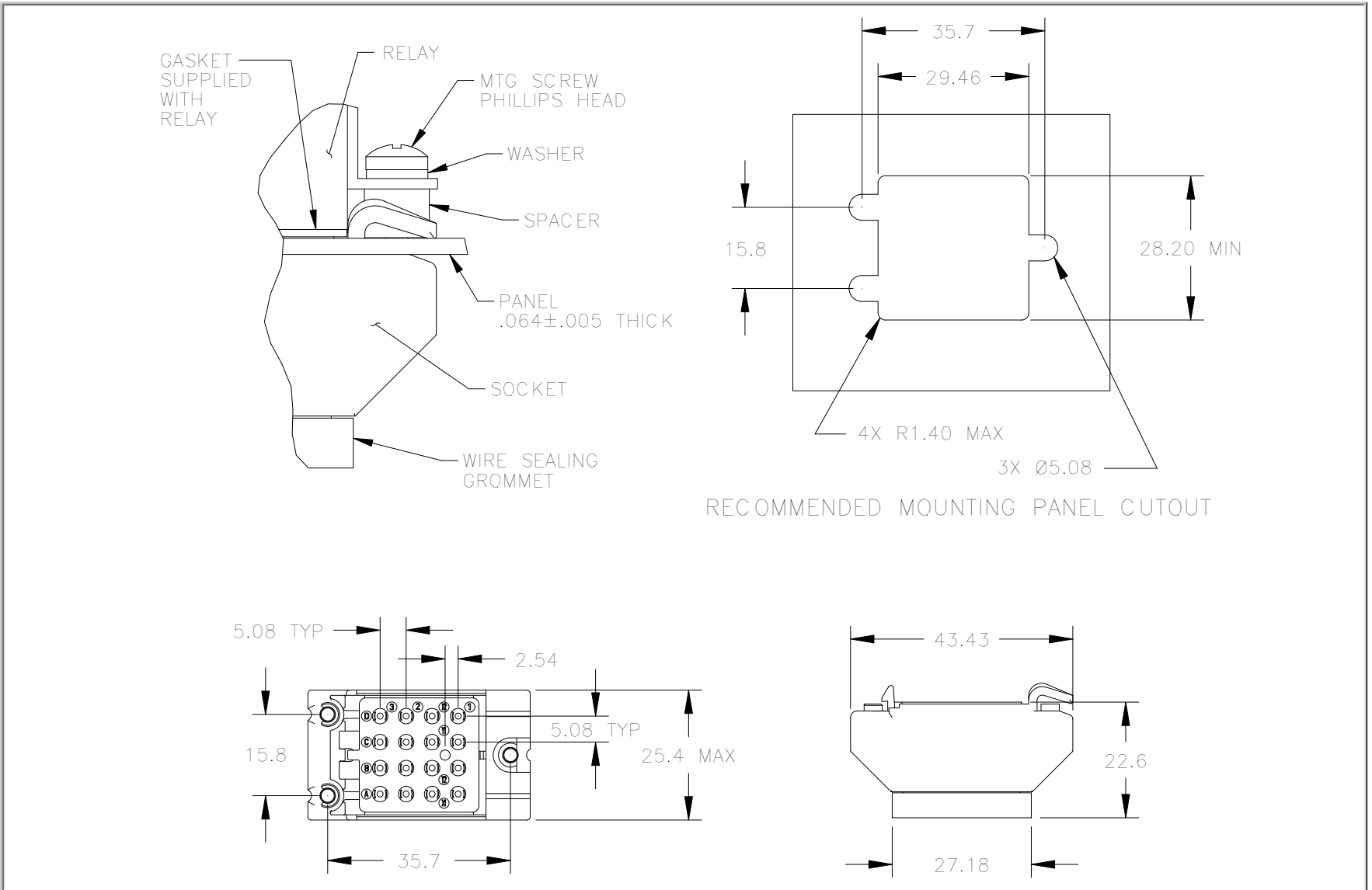


# TERMINAL LAYOUT



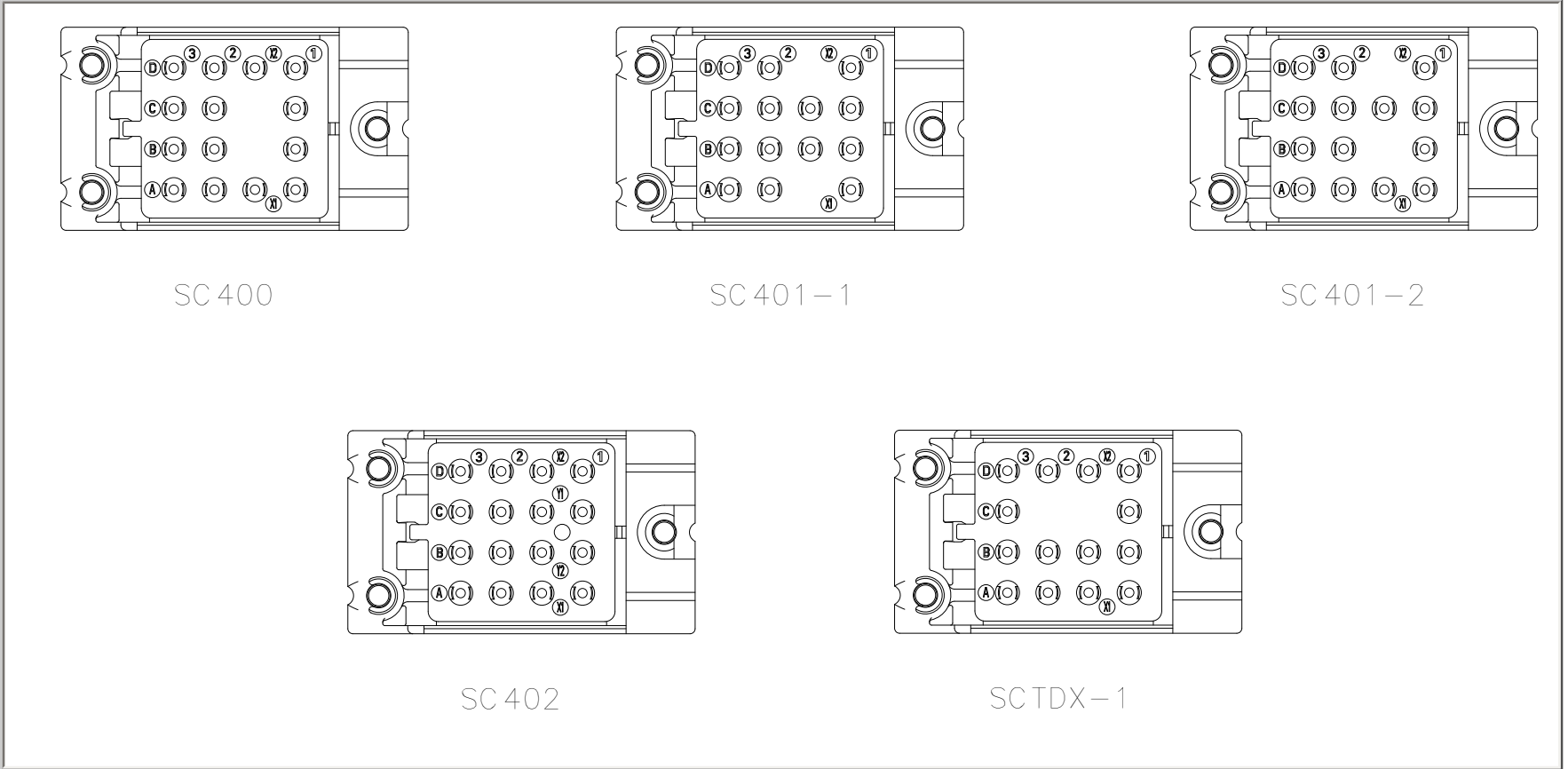
# SOCKET DIMENSIONS

SC40\* (4 POLE)



RECOMMENDED MOUNTING PANEL CUTOUT

# TERMINAL LAYOUT



	SC	300	01
1-Basic socket snap lock designation_____			
2-Mating relay (M300, M301, M302, M400, M401_____)			
2-Hardware (0=less hardware, 1=with hardware)_____			
3-Contacts (0=less contacts, 1=with contacts)_____			