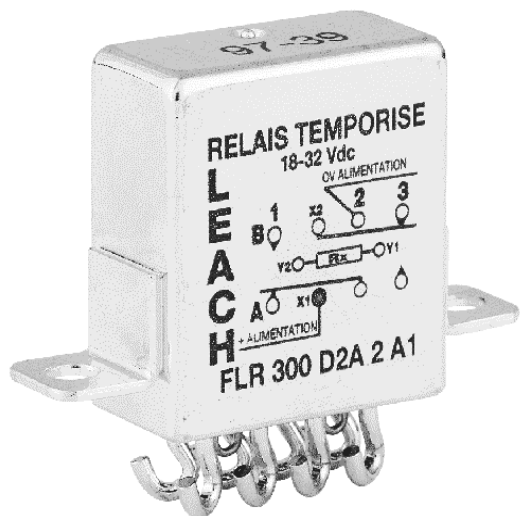


ENGINEERING DATA SHEET

FLR300

TIME DELAY RELAY
2 PDT, 2 AMP



APPLICABLE SOCKETS:
[S300](#)
[S302](#)

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

Fixed or adjustable timing delay

Contact arrangement **2 PDT**
Power supply **Direct current**

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **2 Amps / 28 Vdc**
Weight **< 40 grams**
Dimensions of case **44mm x 28.6mm x 13.3mm max**

Tin plated hermetically sealed metal can.

CONTACT ELECTRICAL CHARACTERISTICS

Minimum operating cycles	Contact rating per pole and load type	Load Current in Amps	
		@28VdC	@115Vac/60-400Hz
100,000 cycles	resistive load	2	0.3
100,000 cycles	inductive load (L/R=5ms)	0.75	-
500,000 cycles	low level (30µA/30mV max)	-	-
100 cycles	resistive overload	4	-

NUMBERING SYSTEM

	FLR300	-	B	4	A	0.1s	A	1
Basic series designation								
1-Mounting Styles (A,B,C,D,J)								
2-Terminal Types (1,2,4)								
3-Types Of Operation (A,B,C)								
4-Time range (1,2,3,4) or fixed time in s								
5-Temperature Range (A,B)								
6-Accuracy (1,2,3)								



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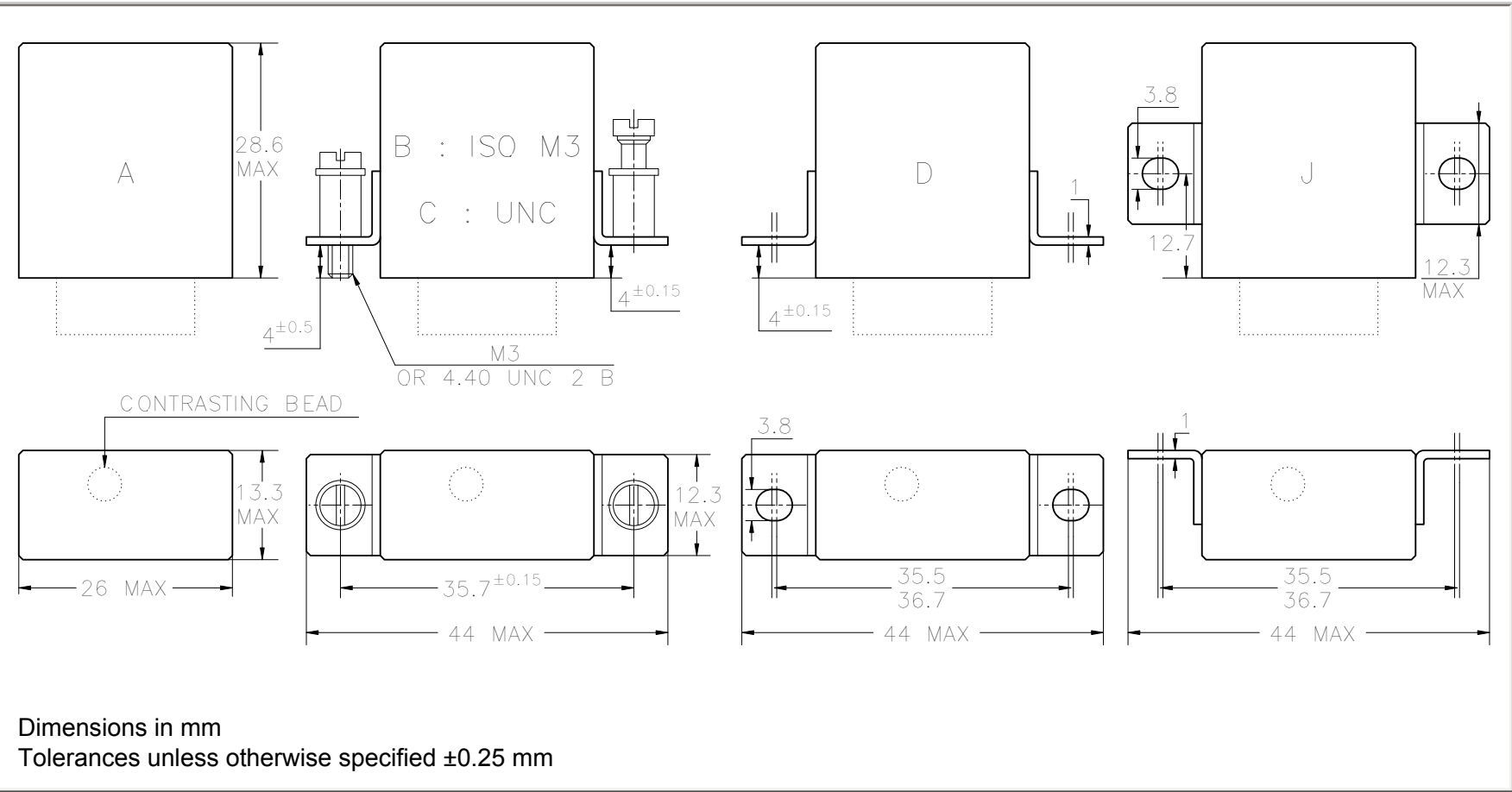
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Fax: (01) 714-670-1145

EUROPE
2 Rue Goethe
57430 Sarralbe
France

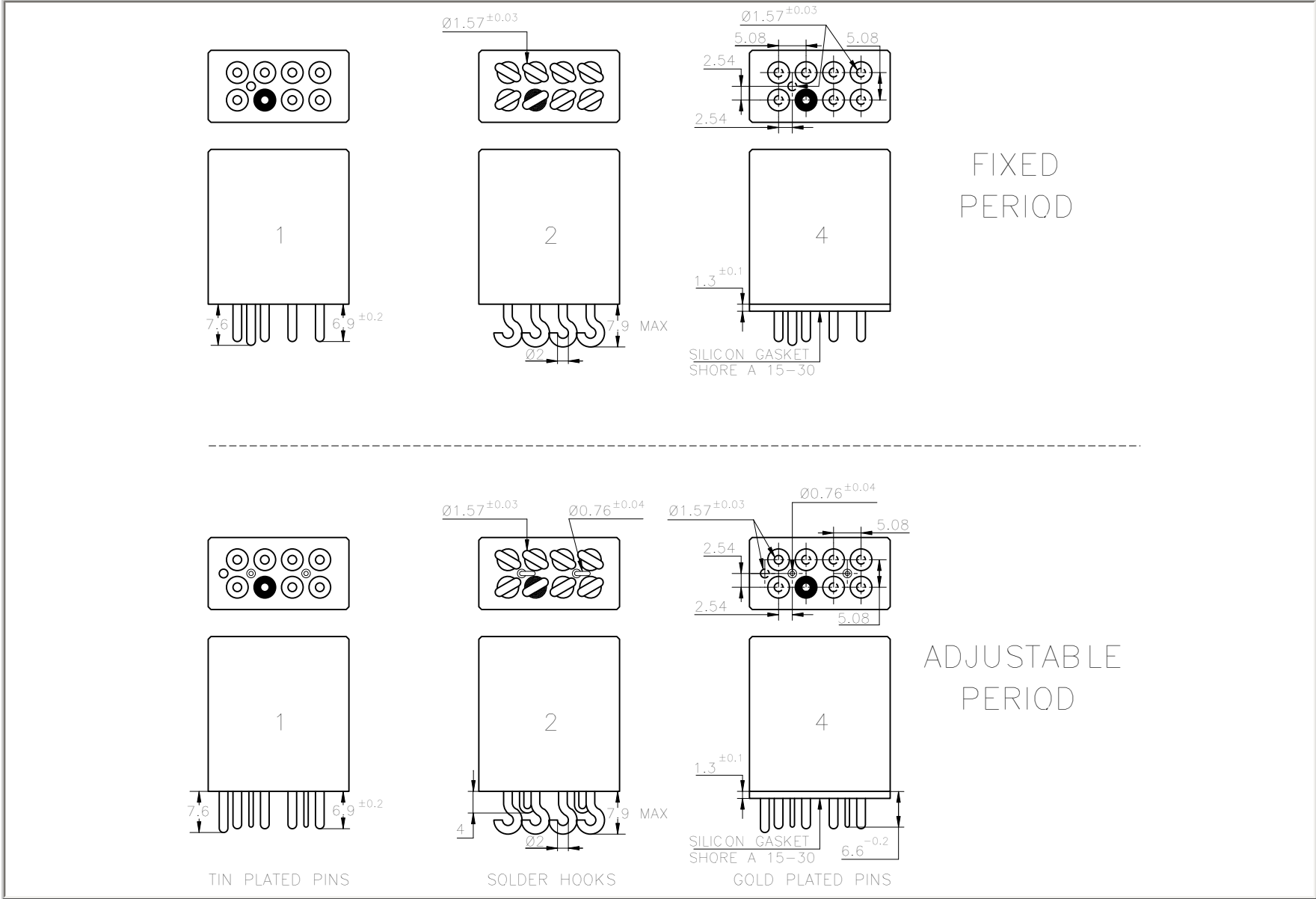
Tel: (33) 3 87 97 31 01
Fax: (33) 3 87 97 96 86

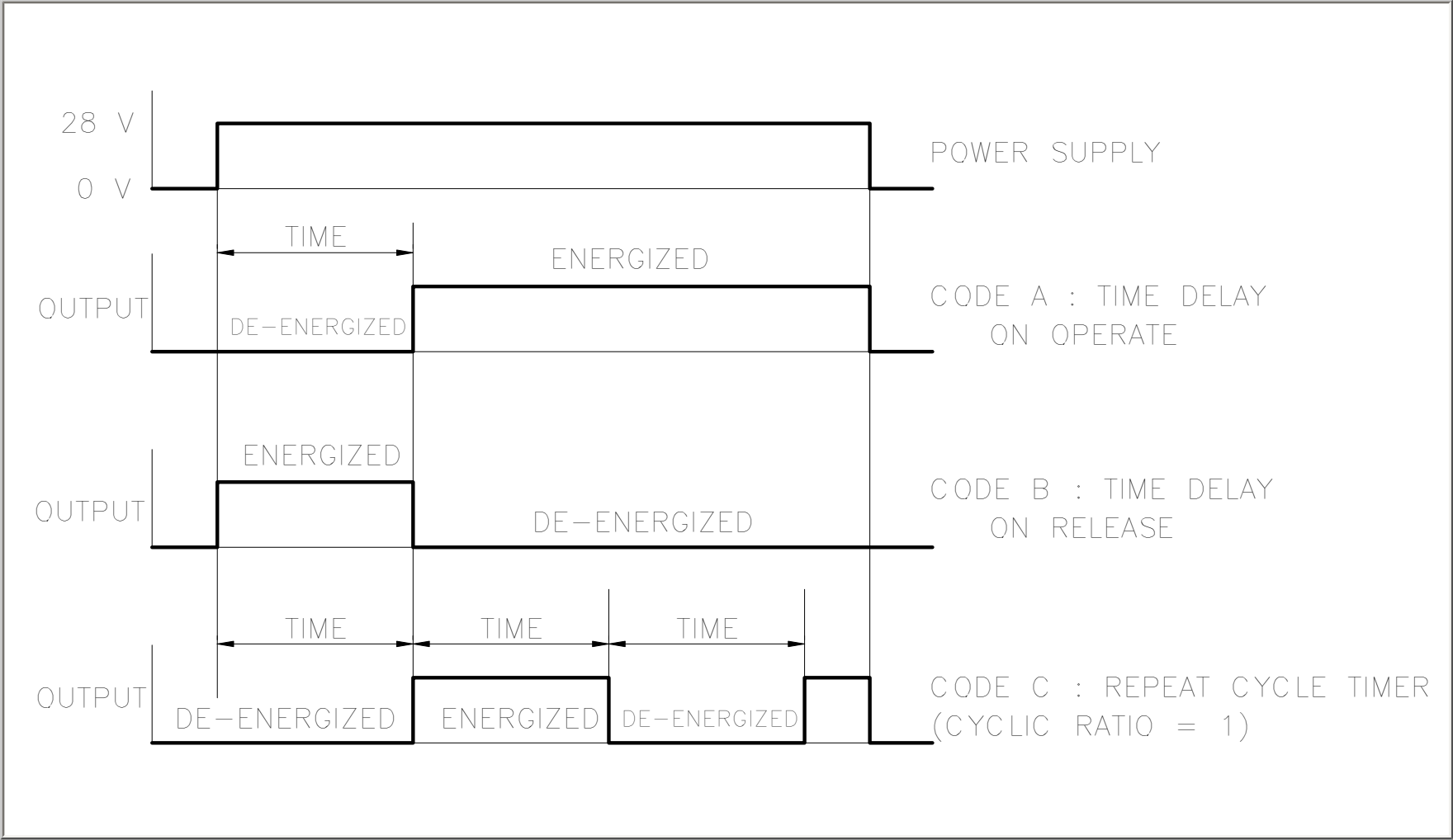
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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.



TERMINAL TYPES





TIMING RANGE

ADJUSTABLE

Range 1: 0.1 to 2.5 seconds

$R_x = 356 * (T - t_o)$

Range 2: 0.4 to 10 seconds

$R_x = 91.20 * (T - t_o)$

Range 3: 3.2 to 80 seconds

$R_x = 11.38 * (T - t_o)$

Range 4: 25 to 625 seconds

$R_x = 1.42 * (T - t_o)$

where R_x in kohms

T: desired time in seconds,

t_o : time measured with $R_x = 0$.

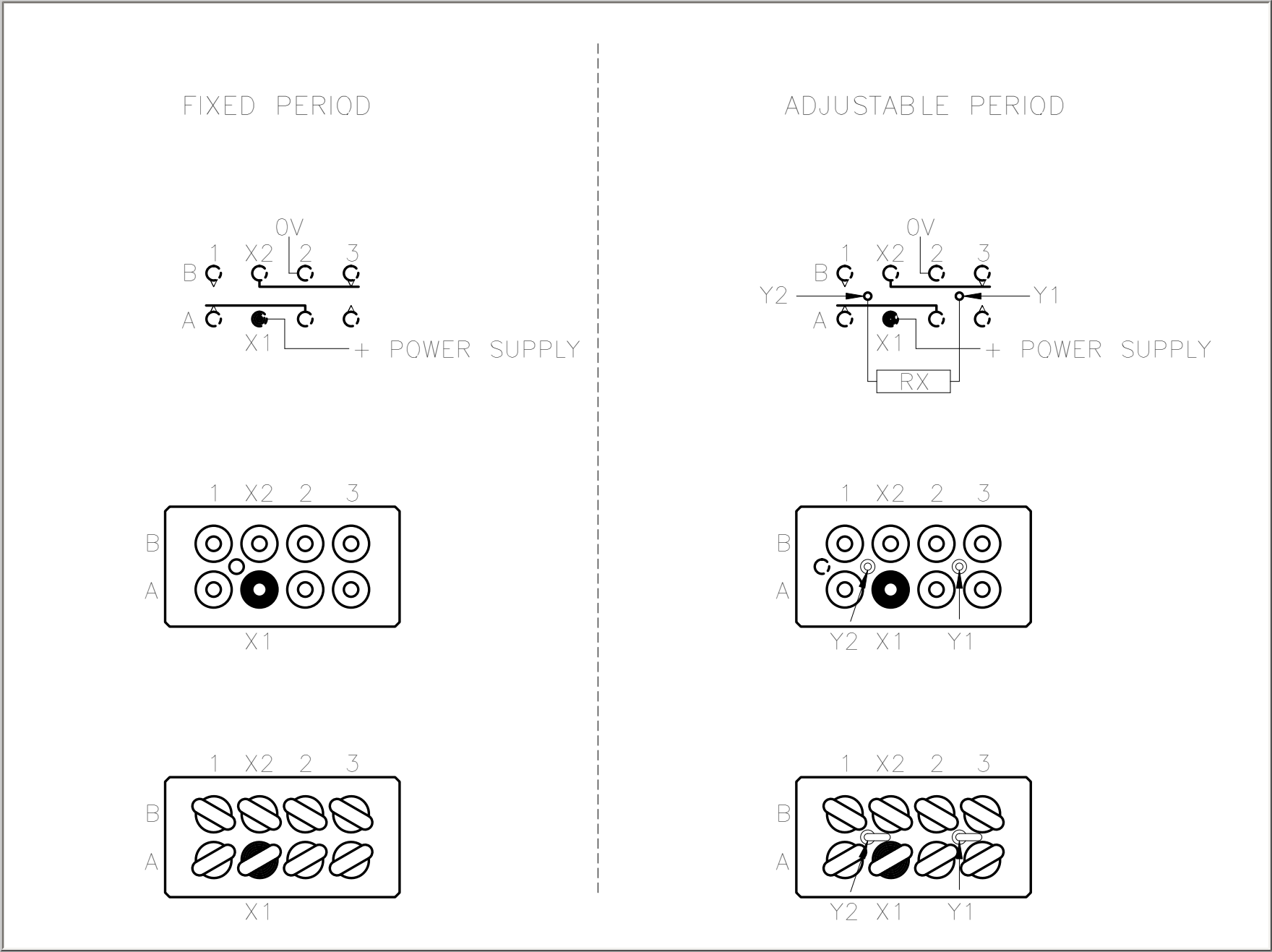
Example to determine R_x value for a T time of 10 seconds: Choose range 3; measure time with $R_x = 0$ (for example : $t_o = 3.1$ s); subtract t_o from 10 seconds ($10s - 3.1s = 6.9s$); calculate $R_x = 11.38 \text{ kohms/s (range 3)} \times 6.9s$ Theoretical resistance: $R_x = 78.5 \text{ kohms}$

GENERAL CHARACTERISTICS

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	750 V / 50 Hz
Insulation resistance at 100 Vdc (same condition as above)	greater than or equal to 100 M Ω
Sinusoidal vibration	20G / 10 to 2000 Hz
Shock	50G / 11 ms

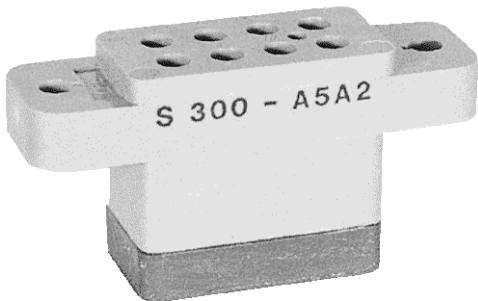
	fixed period	adjustable period	
			Accuracy resistor Rx to choose
Code 3	±10%	±10%	5% 100 ppm /° C
Code 2	±5%	±5%	2% 100 ppm /° C
Code 1	±3%	±3%	1% 50 ppm /° C

SCHEMATIC DIAGRAM/TERMINAL LAYOUT



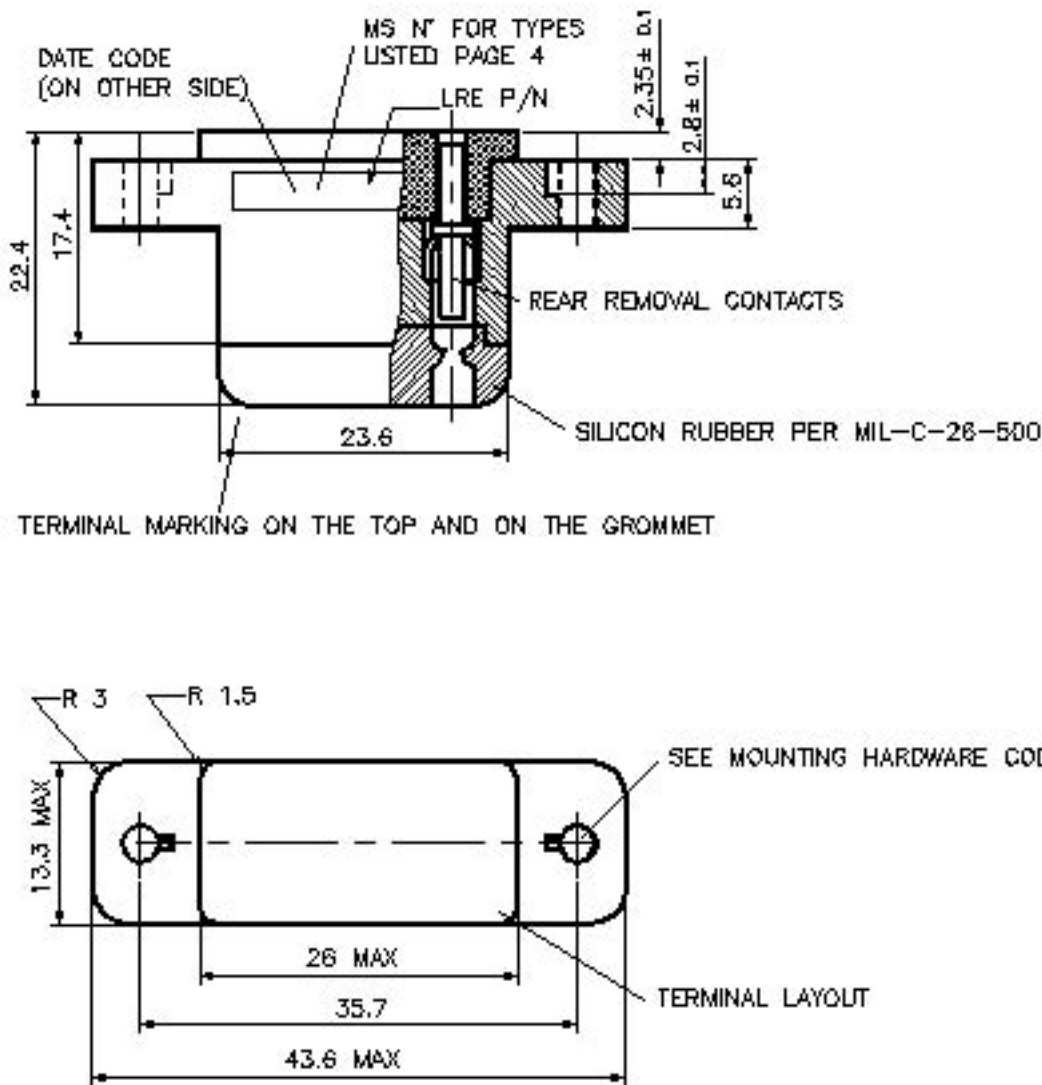
NOTES

- 1. Relays with B,C,D mounting and terminal 4 are compatible with socket families S300, SF300, S302, SF302...
- 2. Isolation spacer pads for PCB mounting available on request.
- 3. For other mounting styles or terminal types, please contact the factory.



BASIC SOCKET SERIES DESIGNATION FOR:

Series M300 (DC Coil), M301 (DC Coil),
M302 (DC Coil), FD300, FLS300, FLR300



GENERAL CHARACTERISTICS

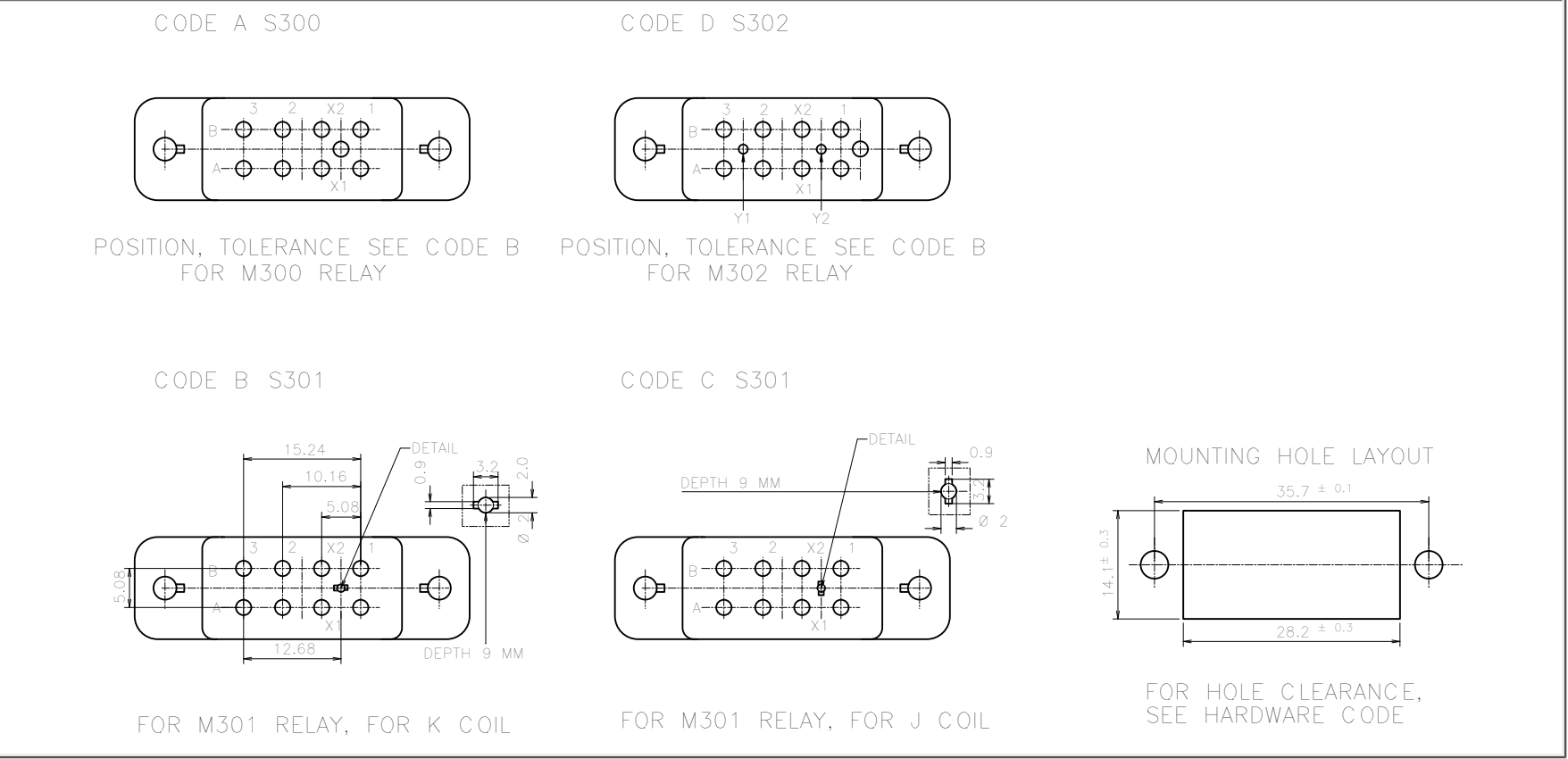
Crimp tool contact #22	M 22520/2-01 with turret M 22520/2-14.
Insertion and extraction tool #22	M 81969/14-01.
Crimp tool contact #16	M 22520/1-01 with turret M 22520/1-02 or MS 3191-1.
Insertion and extraction tool #16	M 81969/14-03 .
Weight	35g max.
Temperature range	70° C to +125° C.



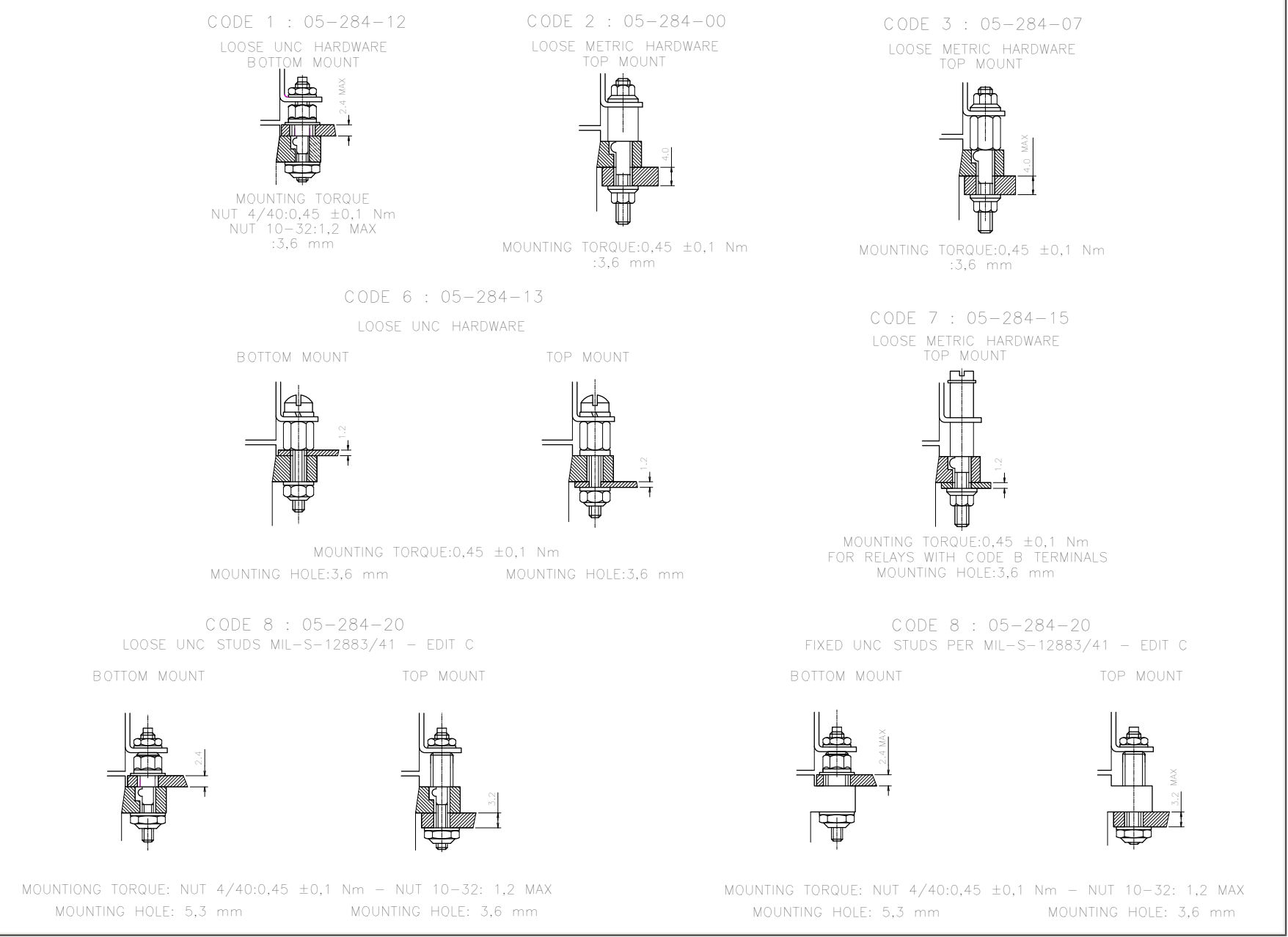
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MOUNTING HARDWARE



WIRE INSULATION DIAMETER FOR SEAL TO GROMMET

S300, S301, S302

Code A Recommended for contact code 2 contact code 8 Dia: 1.22.4mm	Code B Recommended for contact code 3 contact code 9 Dia: 0.81.6mm
--	--

CONTACT SIZE AND STYLE

Y1-Y2 Crimpend to accomodate AWG22 05 912 00 (for product code 2+3) 31 036 00 <u>Contact mating end dia 0.8mm</u> (for contact code 8+9) MIL-C-39029/92-531 Bin Code colour bands or Bin Code numbering on crimp side <u>Contact mating end dia 0.8mm</u>	Code 2 05 911 00 Crimpend to accomodate AWG16-18-20 <u>Contact mating end #16</u>	Code 3 05 911 10 Crimpend to accomodate AWG20-22-24 <u>Contact mating end #16</u>
Code 0 Without contacts	Code 8 30 315 00 Crimpend to accomodate AWG16-18-20 MIL-C-39029/92- 533 Bin Code colour bands or Bin Code numbering on crimp side <u>Contact mating end #16</u>	Code 9 30 315 10 Crimpend to accomodate AWG20-22-24 MIL-C-39029/92- 534 Bin Code colour bands or Bin Code numbering on crimp side <u>Contact mating end #16</u>

SOCKET NUMBERING SYSTEM

	S300	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/LEACH CROSS PART NO. AND MATING RELAYS
S300, S301, S302

	MS - Number	LEACH P/N	Contacts to accomodate wire #		Applicable for relays
MIL-S-12883/41	-01	S300-A6A2	16-18-20	Loose terminals Above/below panel mounting	M300-D4A /-L/-N/-B/-C
	-04	S300-A6B3	20-22-24		M 301-D4F/-K
	-02	S301-B6A2	16-18-20		M 301-D4E/-J
	-03	S301-C6A2	16-18-20		
	MS - Number	LEACH P/N	Contacts to accomodate wire #		Applicable for relays
MIL-S-12883/41B	-11	S300-A1A2	16-18-20	Loose terminals below panel mounting	M300-D4A /-L/-N/-B/-C
	-14	S300-A1B3	20-22-24		M 301-D4F/-K
	-12	S301-B1A2	16-18-20		M 301-D4E/-J
	-13	S301-C1A2	16-18-20		
	MS - Number	LEACH P/N	Contacts to accomodate wire #		Applicable for relays
MIL-S-12883/41C	-11S	S300-A8A8	16-18-20	Loose terminals Above/below panel mounting	M300-D4A /-L/-N/-B/-C
	-14S	S300-A8B9	20-22-24		M301-D4F/-K
	-12S	S301-B8A8	16-18-20		M301-D4F/-J
	-13S	S301-C8A8	16-18-20		M302-D4A/ -L/-N/-B/-C
	-15S	S302-D8A8	16-18-20		
MIL-S-12883/41C	-16S	S300-A9A8	16-18-20	Fixed terminals Above/below panel mounting	M300-D4A /-L/-N/-B/-C
	-19S	S300-A9B9	20-22-24		M 301-D4F/-K
	-17S	S301-B9A8	16-18-20		M 301-D4E/-J
	-18S	S301-C9A8	16-18-20		M 302-D4A/ -L/-N/-B/-C
	-20S	S302-D9A8	16-18-20		