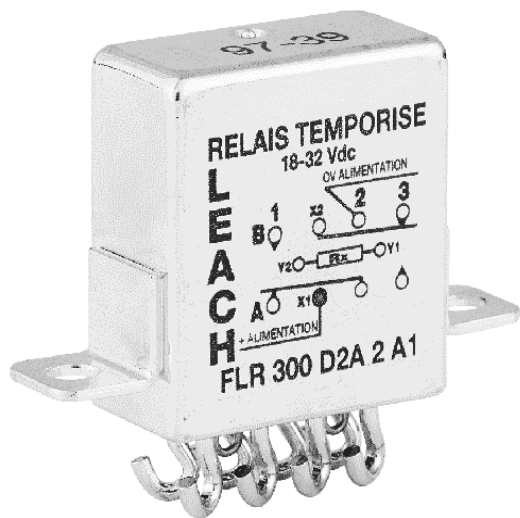


# ENGINEERING DATA SHEET

# 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 **< 0.154lb**  
Dimensions of case **1.73in x 1.13in x 0.52in 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

	F	L	R	3	0	-	B	4	A	0	.1	s	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)														

## LEACH® INTERNATIONAL

Solutions for Power Switching and Control

www.leachintl.com

North America  
6900 Orangethorpe Ave.  
P.O. Box 5032  
Buena Park, CA 90622 USA

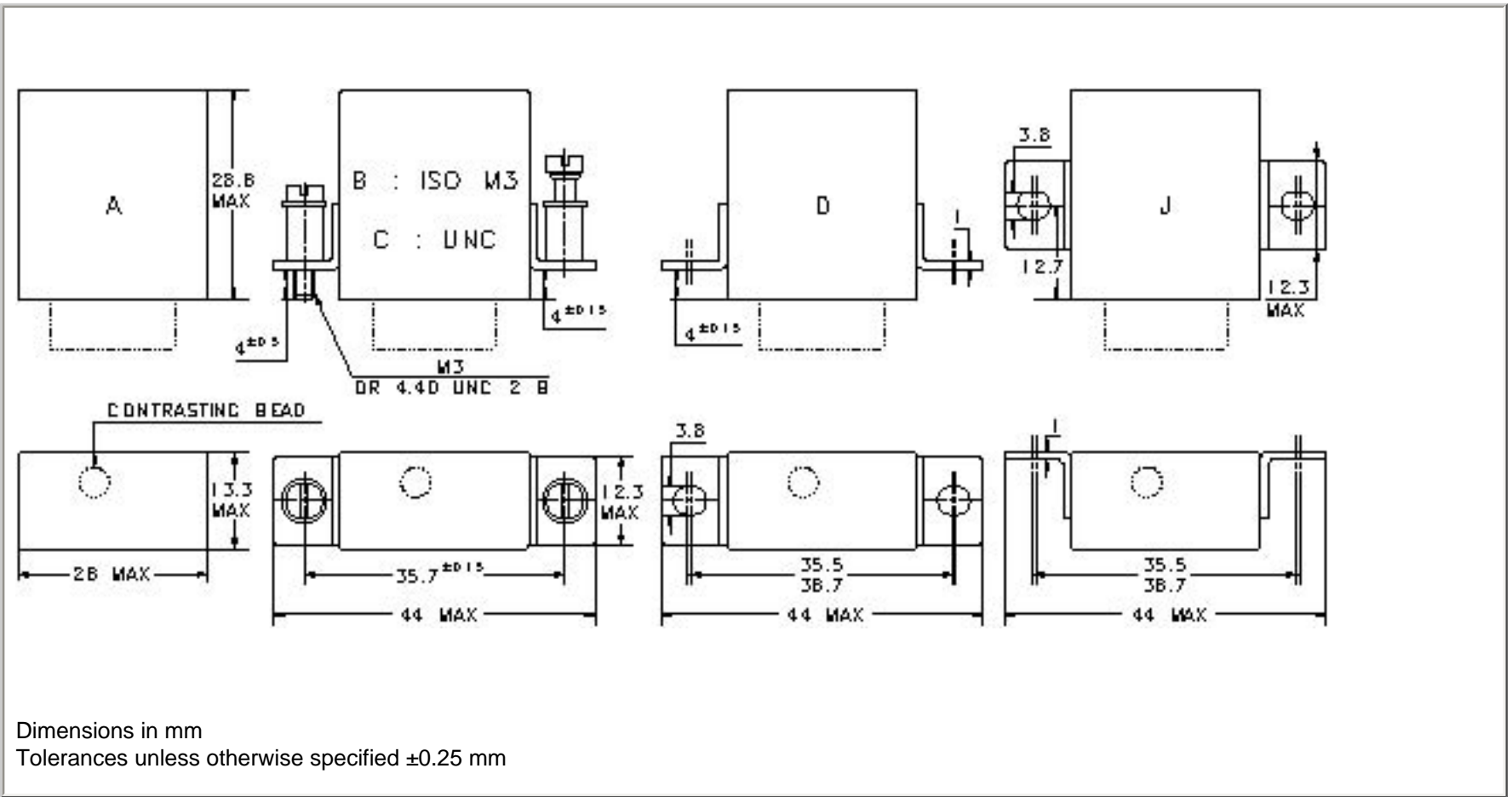
Tel: (01) 714-736-7599  
Fax: (01) 714-670-1145

Europe, SA  
2 Rue Goethe  
57430 Sarralbe  
France

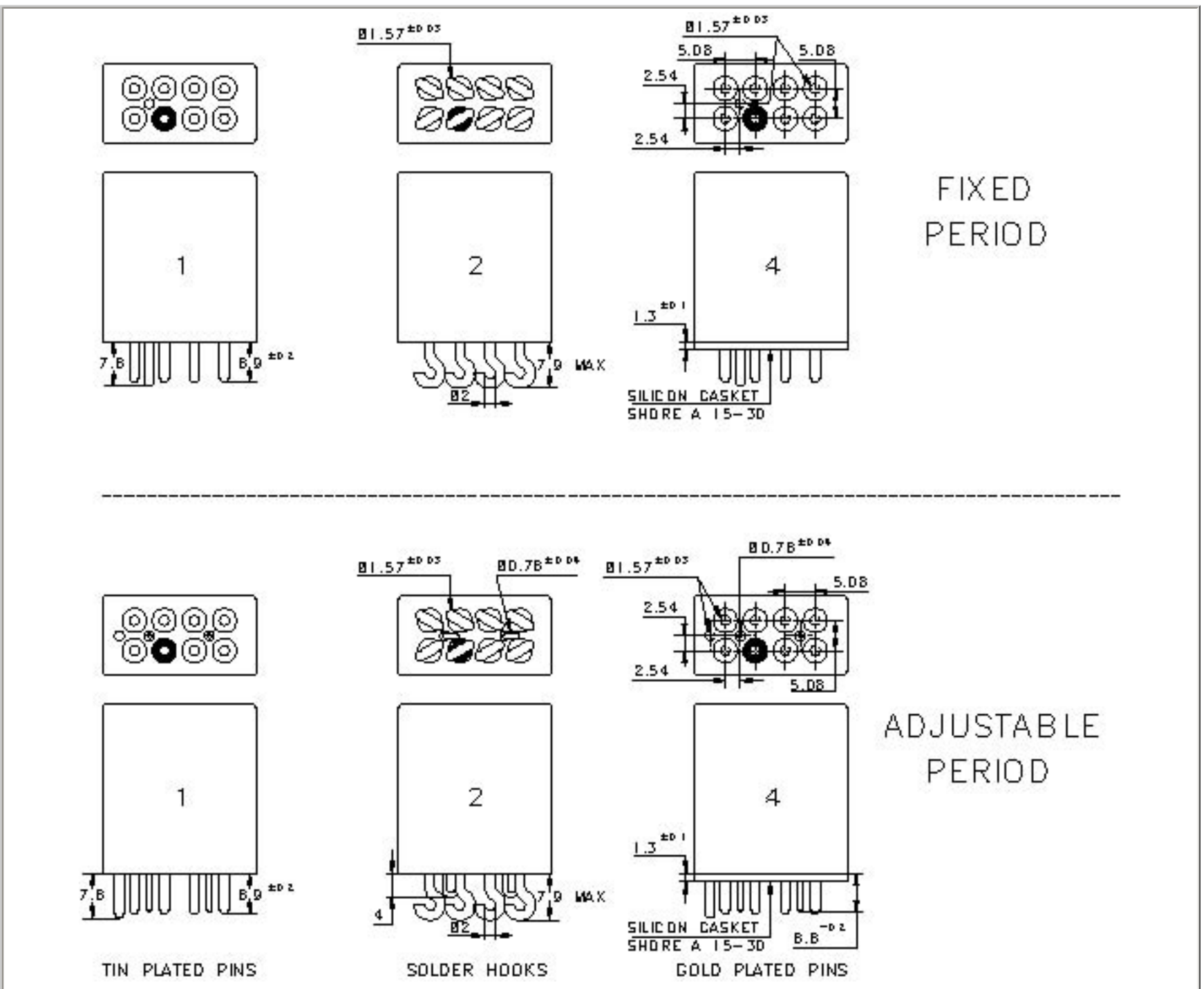
Tel: (33) 3 87 97 98 97  
Fax: (33) 3 87 97 84 04

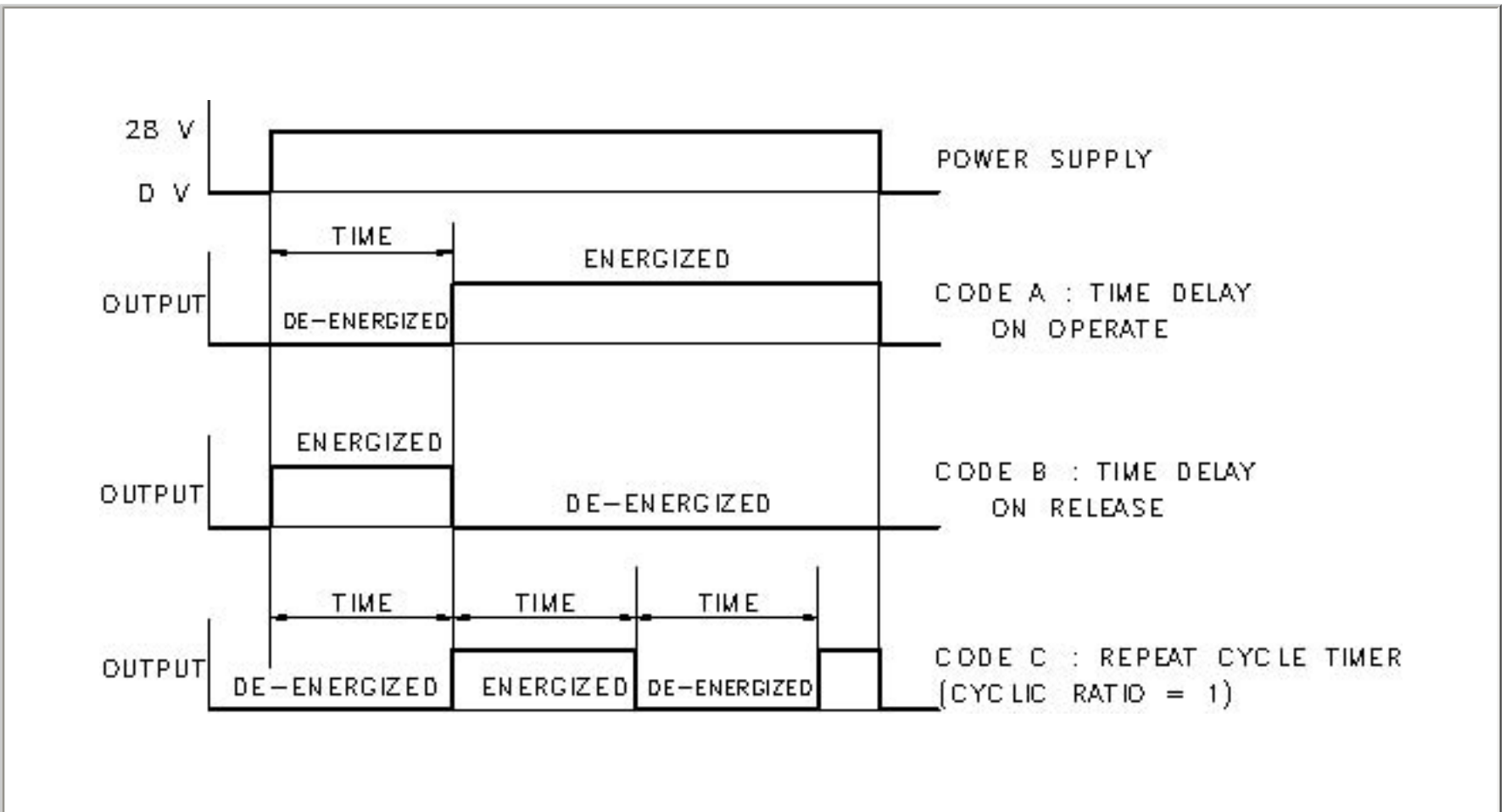
Asia-Pacific Ltd.  
20/F Shing Hing Commercial Bldg.  
21-27 Wing Kut Street  
Central, Hong Kong

Tel: (852) 2 191 2886  
Fax: (852) 2 389 5803



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  $R_x = 0$ .

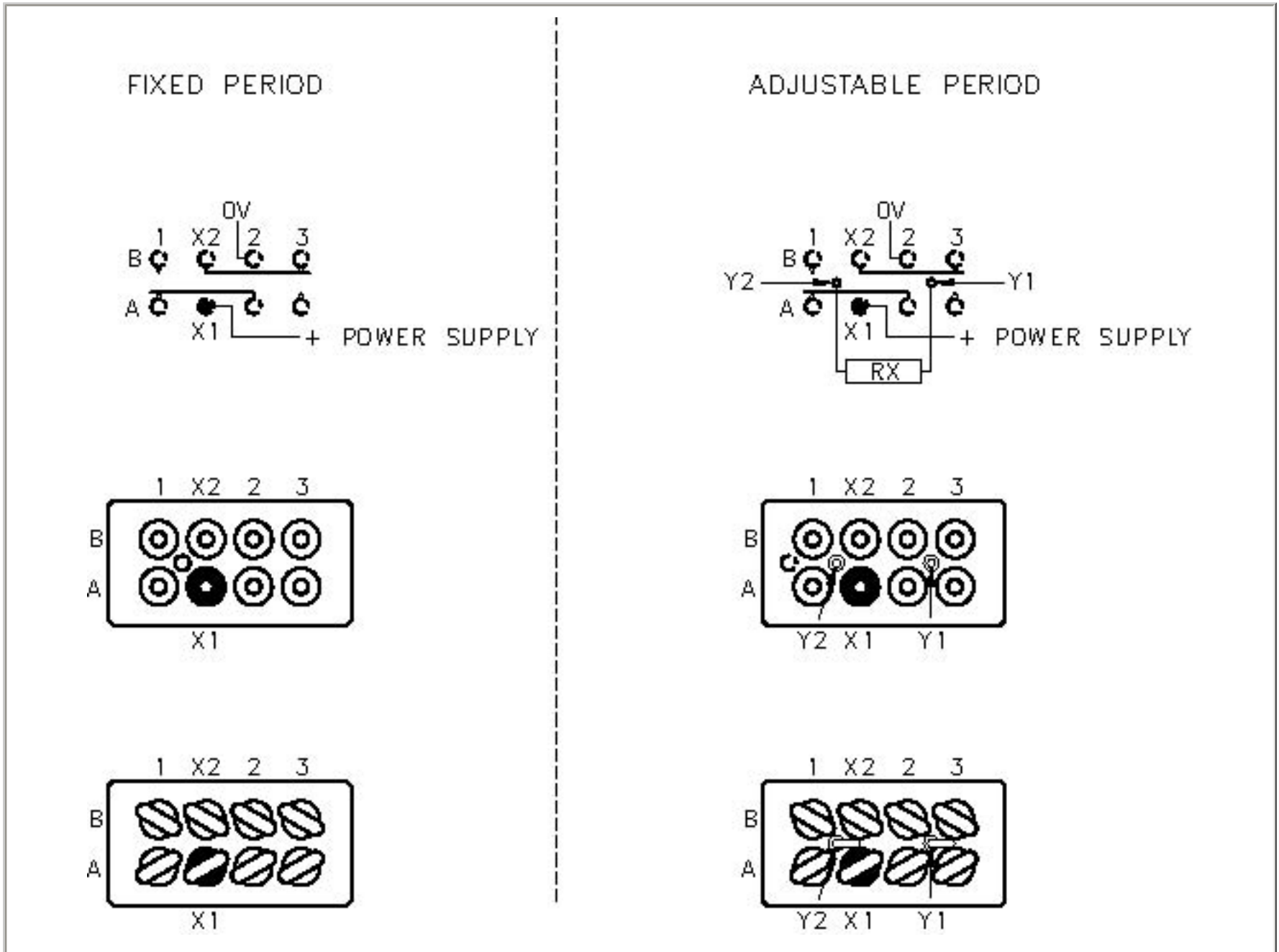
Example to determine  $R_x$  value for a T time of 10 seconds: Choose range 3; measure time with  $R_x = 0$  (for example :  $t_o = 3.1$  s); subtract  $t_o$  from 10 seconds ( $10s - 3.1s = 6.9s$ ); calculate  $R_x = 11.38 \text{ kohms/s (range 3)} \times 6.9s$  Theoretical resistance:  $R_x = 78.5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

**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 $\Omega$
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**



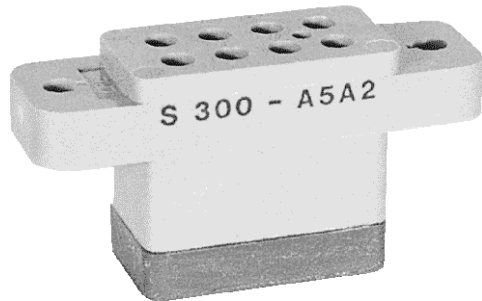
**NOTES**

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.

# SERIES S300, S302

## ENGINEERING DATA SHEET

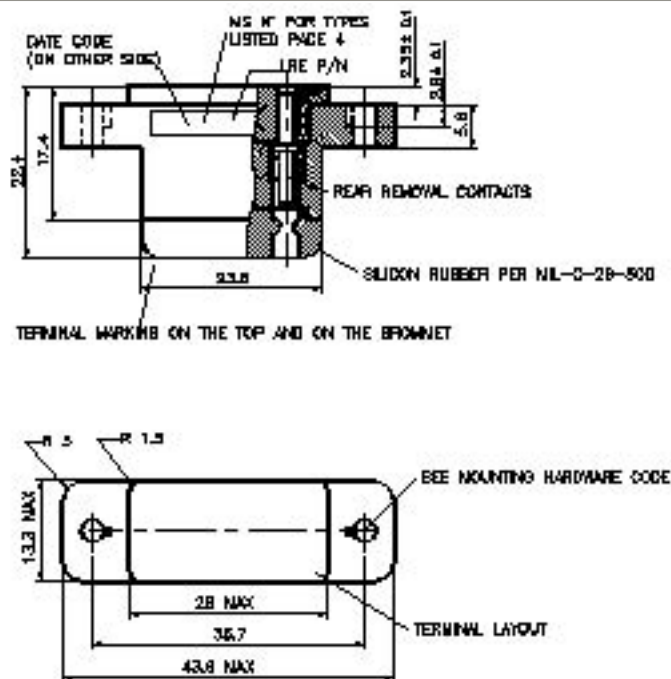
RELAY SOCKET  
10 AMP



BASIC SOCKET SERIES DESIGNATION FOR:

**SERIES FD300, FLS300, FLR300**

### DIMENSIONS



### GENERAL CHARACTERISTICS

Crimp tool contact #22	M 22520/2-01 with turret M 22520/2-06.
Insertion and extraction tool	# 22 - M 15570-22-1.
Weight	35g max.
Crimp tool contact #16	M 22520/1-01 with turret M 22520/2-02 or MS3191-1.
Insertion and extraction tool	NAS 1664-16.
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,  $\pm 0.25$ mm.

**LEACH® INTERNATIONAL**

*Solutions for Power Switching and Control*

[www.leachintl.com](http://www.leachintl.com)

North America  
6900 Orangethorpe Ave.  
P.O. Box 5032  
Buena Park, CA 90622 USA

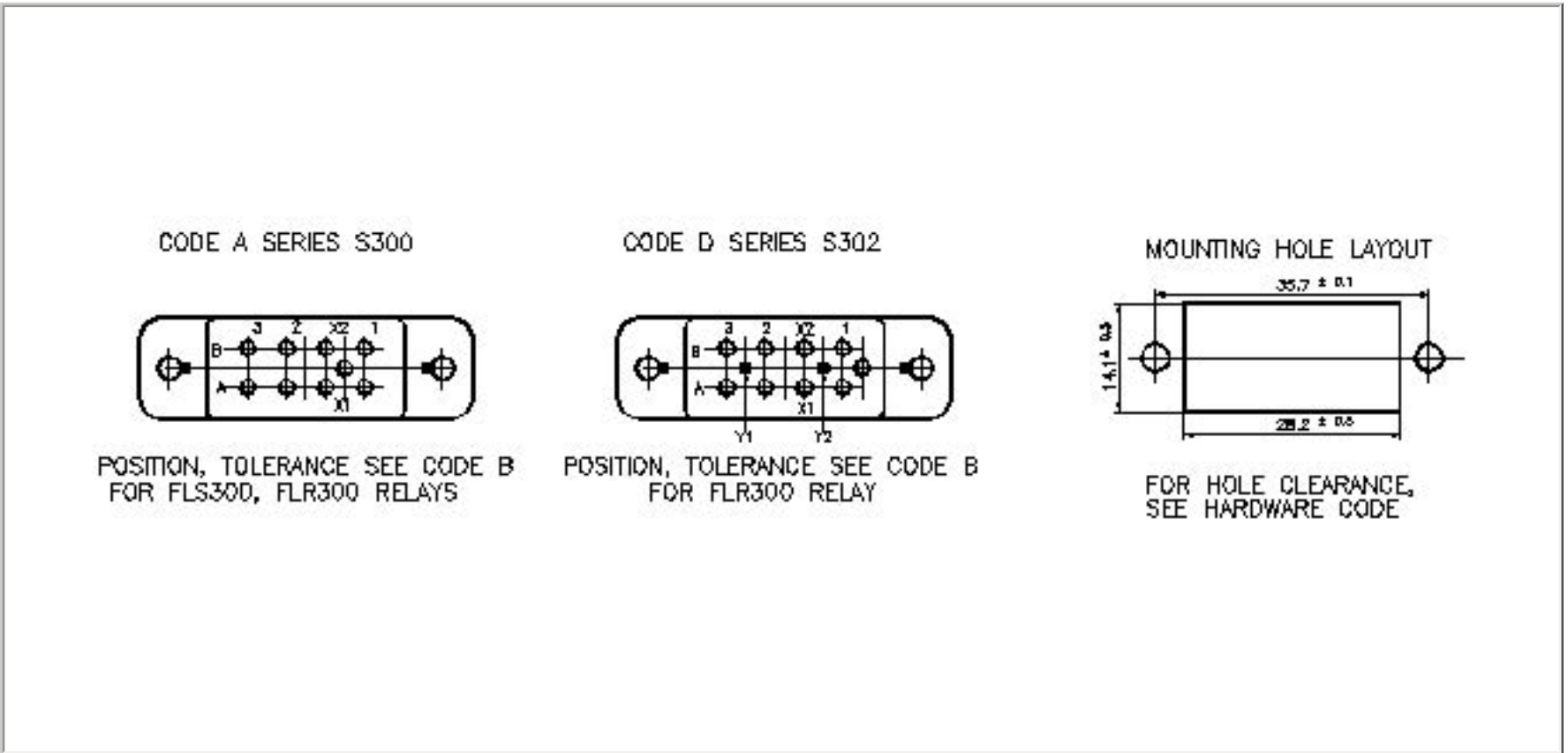
Tel: (01) 714-736-7599  
Fax: (01) 714-670-1145

Europe, SA  
2 Rue Goethe  
57430 Sarralbe  
France

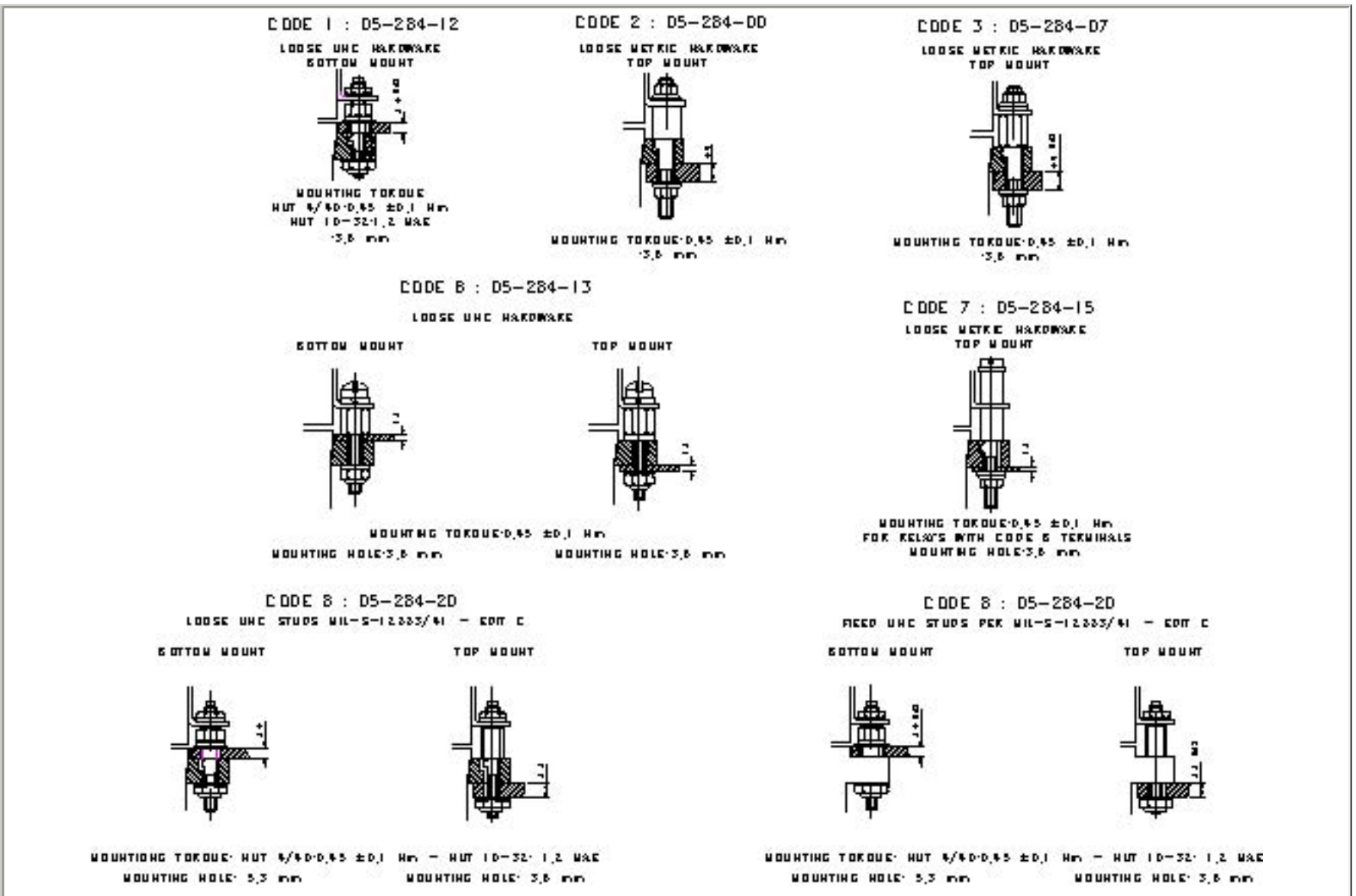
Tel: (33) 3 87 97 98 97  
Fax: (33) 3 87 97 84 04

Asia-Pacific Ltd.  
20/F Shing Hing Commercial Bldg.  
21-27 Wing Kut Street  
Central, Hong Kong

Tel: (852) 2 191 2886  
Fax: (852) 2 389 5803



MOUNTING HARDWARE



# WIRE INSULATION DIAMETER FOR SEAL TO GROMMET

S300, S302

<p><b>Code A</b></p> <p>Recommended for contact code 2 contact code 8 <b>Dia: 1.2 .....2.4mm</b></p>	<p><b>Code B</b></p> <p>Recommended for contact code 3 contact code 9 <b>Dia: 0.8 .....1.6mm</b></p>
--	--

## CONTACT SIZE AND STYLE

<p>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 crimpside  <u>Contact mating end dia 0.8mm</u></p>	<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 30 315 00</p> <p>Crimpend to accomodate AWG16-18-20</p> <p>MIL-C-39029/29-533 Bin Code colour bands or Bin Code numbering on crimpside</p> <p><u>Contact mating end #16</u></p>	<p>Code 9 30 315 10</p> <p>Crimpend to accomodate AWG20-22-24</p> <p>MIL-C-39029/29-534 Bin Code colour bands or Bin Code numbering on crimpside</p> <p><u>Contact mating end #16</u></p>

## 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**

**SERIES S300, S302**

	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>	<b>Hardware</b>
<b>MIL-S-12883/41</b>	-01	S300-A6A2	16-18-20	Loose terminals Above/below panel mounting
	-04	S300-A6B3	20-22-24	
	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>	<b>Hardware</b>
<b>MIL-S-12883/41B</b>	-11	S300-A1A2	16-18-20	Loose terminals below panel mounting
	-14	S300-A1B3	20-22-24	
	<b>MS - Number</b>	<b>LEACH P/N</b>	<b>Contacts to accomodate wire #</b>	<b>Hardware</b>
<b>MIL-S-12883/41C</b>	-11S	S300-A8A8	16-18-20	Loose terminals Above/below panel mounting
	-14S	S300-A8B9	20-22-24	
	-15S	S302-D8A8	16-18-20	
<b>MIL-S-12883/41C</b>	-16S	S300-A9A8	16-18-20	Fixed terminals Above/below panel mounting
	-19S	S300-A9B9	20-22-24	
	-20S	S302-D9A8	16-18-20	