

# ENGINEERING DATA SHEET

# SERIES KM

RELAY - NONLATCH  
1 PST-DM, 50 AMP



**APPLICATION NOTES:**  
[101](#)  
[102](#)  
[007](#)

All welded construction  
 Contact arrangement **1 PST NO-DM Configuration in one inch cube**  
 Designed to the performance standards of **MIL-PRF-6106**

### PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at **28 Vdc**  
 Weight **0.188lb max**  
 Dimensions **1.025in x 1.025in x 1.66in**  
 Hermetically sealed, corrosion resistant metal can.  
 Detail specifications and ordering data appear on the following pages.

### CONTACT ELECTRICAL CHARACTERISTICS

Contact rating per pole and load type [1]	Load current in Amps	
	@28 Vdc	No Load Designator
Resistive [2]	Resistive	50
Inductive [3]	Inductive	15 [3]
Motor [3]	Motor	8 [3]
Lamp [3]	Lamp	-
Overload	Overload	200
Rupture	Rupture	-



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

**COIL CHARACTERISTICS (Vdc)****SERIES KM**

CODE	A	B	C	M	N [6]	R [6]	V [6]
Nominal operating voltage	28	12	6	48	28	12	6
Maximum operating voltage	29	14.5	7.3	50	29	14.5	7.3
Maximum pickup voltage							
- Cold coil at +125° C	18	9	4.5	36	18	9	4.5
- During high temp test at +125° C	19.8	9.9	5	38	19.8	9.9	5
- During continuous current test at +125° C	22.5	11.25	5.7	42	22.5	11.25	5.7
- Drop-out voltage (Maximum)	7	4.5	2.5	14	7	4.5	2.5
Coil resistance $\Omega$ $\pm 10\%$ +25° C except type "C" & "V" +20%, -10%	290	70	18	890	290	70	18

**GENERAL CHARACTERISTICS**

Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	50,000 [3]
Minimum operating cycles (life) at 25% rated load	200,000
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit	1250 Vrms
- Coil to ground	1000 Vrms
Dielectric strength at altitude 80,000 ft	500 Vrms [4]
Insulation resistance	
- Initial (500 Vdc)	100 M $\Omega$ min
- After environmental tests (500 Vdc)	50 M $\Omega$ min
Sinusoidal vibration	0.12" DA / 10 to 57 Hz 20G / 57 to 2000 Hz
Random vibration	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition	1E (0.2G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shock	50G / 11 ms $\pm$ 1ms
Maximum contact opening time under vibration and shock	10 $\mu$ s
Operate time at nominal voltage@25°C	20 ms max
Release time at nominal voltage@25°C	15 ms max
Contact make bounce at nominal voltage@25°C	1 ms max
Contact release break bounce at nominal voltage@25°C	0.5 ms max [7]
Weight maximum	0.188lb

Unless otherwise noted, the specified temperature range applies to all relay characteristics.

# NOTES

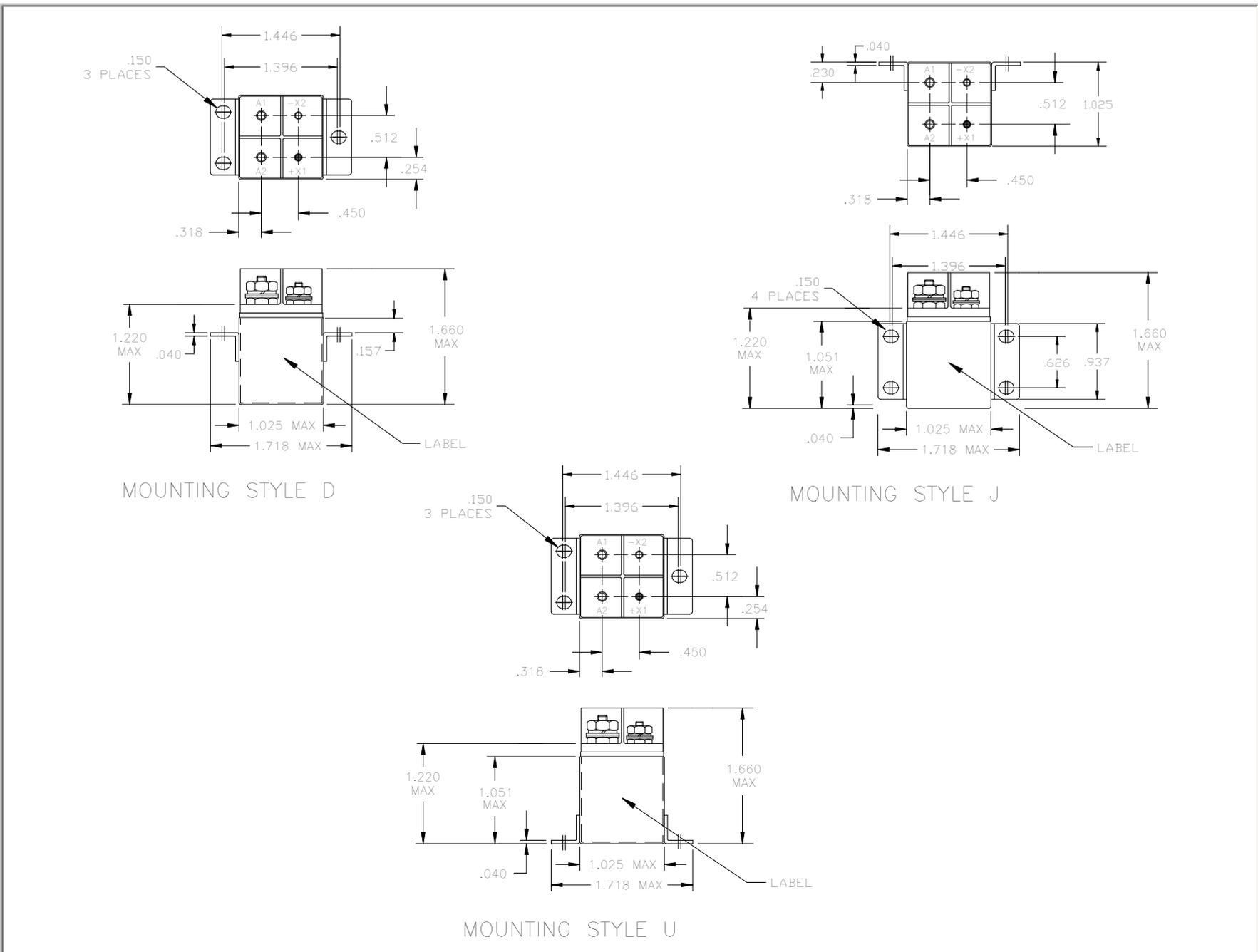
# SERIES KM

- [1] Standard Intermediate current test applicable.
- [2] For full rated load max. temp. and altitude use No. 8 wire or larger.  
Relays to be mounted to limit mounting bracket temp. to 160 °C.
- [3] DC inductive load 10,000 cycles. Motor load 20,000 cycles, lamp load 10,000 cycles.
- [4] Applicable military specification: MIL-PRF-6106.
- 5. Special models available: i.e. high reliability testing, etc.
- [6] "N R & V" coils have back EMF suppression to - 42 volts maximum.
- [7] Applies to "N, R & V" coils only.
- 8. Relay will not operate, but will not be damaged by application of reverse polarity to coil.

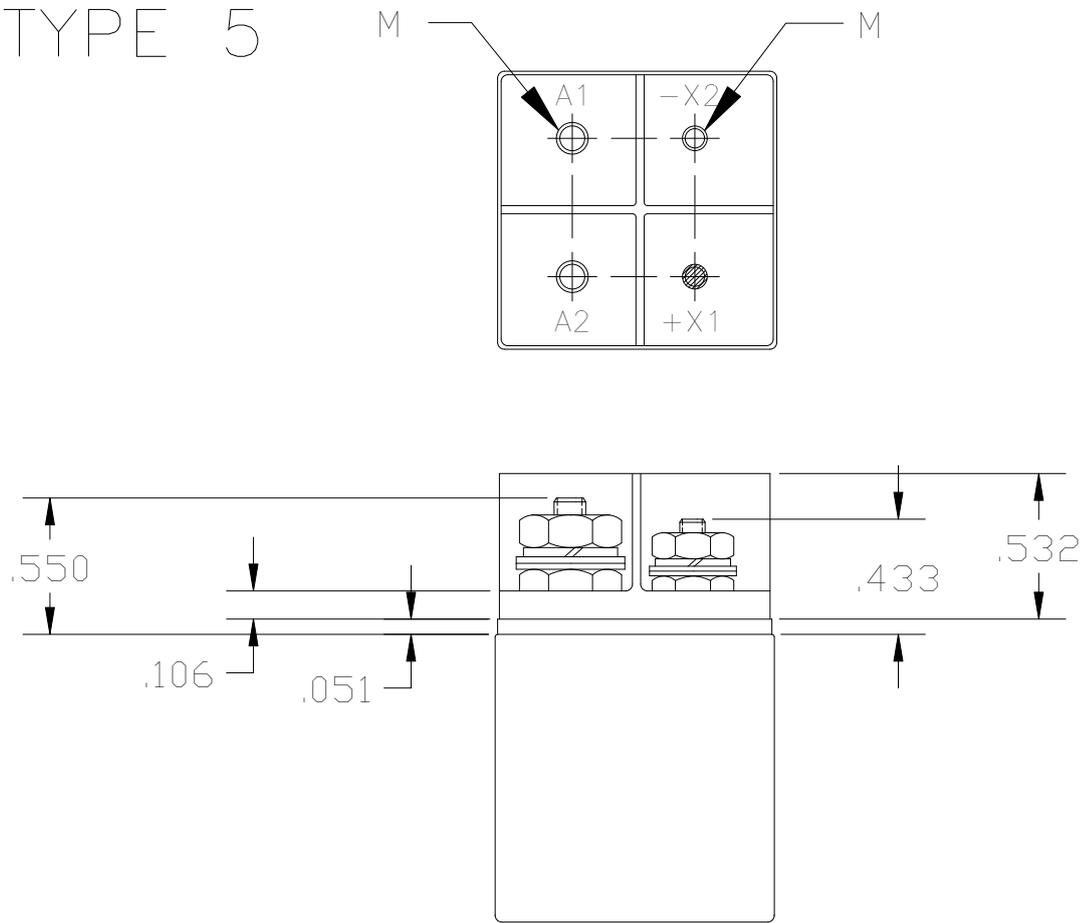
## NUMBERING SYSTEM

Basic series designation	KM	-	A	5	A
1-Mounting Style (D,J,U)					
2-Terminal Types (5)					
3-Coil Voltage see coil characteristics (A,B,C,M,N,R or V)					

## MOUNTING STYLES



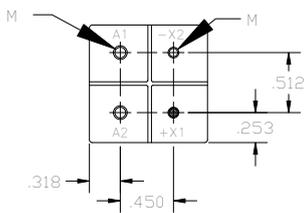
TERMINAL TYPE 5



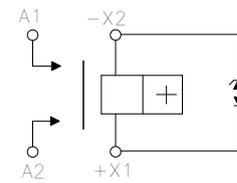
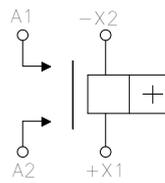
MOUNTING DATA & SCHEMATIC DIAGRAM

MOUNTING DATA & SCHEMATIC DIAGRAM

TERMINAL LAYOUT

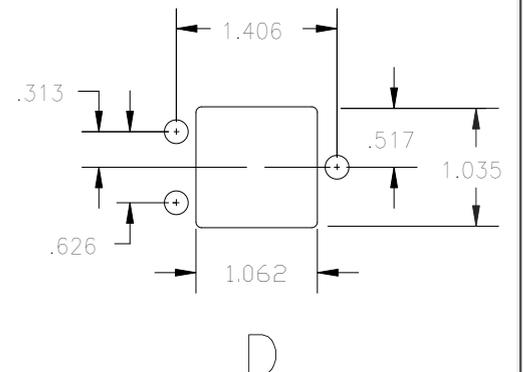
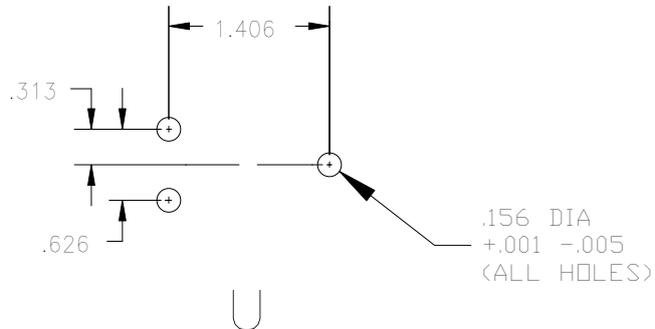
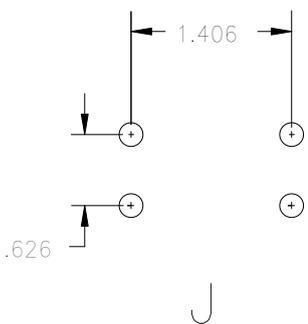


SCHEMATIC DIAGRAM



"N" COIL (SUPPRESSED, SEE NOTE 5)

MOUNTING DIMENSIONS



STANDARD TOLERANCE: .xx ±.03; .xxx±.010