

Characteristics



General characteristics

	210/215	410/415
No. of poles	2 Form C (2 DPDT)	4 Form C (4PDT)
Volume	8.52 cm ³ [.52 in ³]	16.4 cm ³ [1.03 in ³]
Mass	40.9 grams [.09 lb. Max]	77 grams [.17 lb. Max]

Switching characteristics

Operate time @ 25° C (Latch and Reset) with DC Coil	10 ms max.	15 ms max.
Bounce time	1 ms max.	1 ms max.
Mechanical Life	400,000 cycles	

Contact rating	10 AMP * =10,000 CYCLES						
	Type of load (High level)	Cycles x 10 ³	28 Vdc	115 Vac 400 Hz 1 phase	115 Vac* 50/60 Hz 1 phase	115/200 Vac 400 Hz 3 phase	115/200 Vac* 50/60 Hz 3 phase
Resistive	100	10 amps	10 amps	2.5 amps	10 amps	2.5 amps	
Inductive	20	8 amps	8 amps	n/a	8 amps	n/a	
Inductive	10	n/a	n/a	2.5 amps	n/a	2.5 amps	
Motor	100	4 amps	4 amps	2 amp	4 amps	2 amps	
Lamp	100	2 amps	2 amps	1 amp	n/a	n/a	
Overload current	n/a	40 amps	60 amps	n/a	60 amps	n/a	
Rupture current	n/a	50 amps	80 amps	n/a	80 amps	n/a	

Contact rating	15 AMP * =10,000 CYCLES						
	Type of load (High level)	Cycles x 10 ³	28 Vdc	115 Vac 400 Hz 1 phase	115 Vac* 50/60 Hz 1 phase	115/200 Vac 400 Hz 3 phase	115/200 Vac* 50/60 Hz 3 phase
Resistive	100	15 amps	15 amps	3.75 amps	15 amps	3.75 amps	
Inductive	20	10 amps	10 amps	n/a	10 amps	n/a	
Inductive	10	n/a	n/a	3.75 amps	n/a	3.75 amps	
Motor	100	6 amps	6 amps	3 amp	6 amps	3 amps	
Lamp	100	3 amps	3 amps	1.5 amps	n/a	n/a	
Overload current	n/a	40 amps	60 amps	n/a	60 amps	n/a	
Rupture current	n/a	50 amps	80 amps	n/a	80 amps	n/a	

Environmental characteristics

Temperature Range	-70°C to +125°C
Vibration, any axis (Sinusoidal)	30 g 10-3000 Hz
Shock, any axis	200 g 6 ms
Seal	Hermetic (1 x 10 ⁻⁸ atm cm ³ /s)

Electrical characteristics

Contact voltage drop (@ Rated resistive load)	150 mV Max.
- Initial	175 mV Max.
- After guaranteed life	
Dielectric strength @ sea level	Coil to Case All other points
- Initial @ 60 Hz	1000 Vrms 1250 Vrms
- After guaranteed life	1000 Vrms 1000 Vrms
Insulation Resistance	
- Initial	100 Megohms min. @ 500 Vdc
- After life tests	50 Megohms min. @ 500 Vdc
Reference Military Specifications	MIL-PRF-83536

EL S 2 10 E 2 K D

RELAY TYPE

EL SERIES (LATCHING)

OPTION

S: Internal Voltage Suppressor

R: Internal Voltage Suppressor

MODEL

2: 2PDT See page 8, 10-13

4: 4PDT See page 8, 14-18

RELAY AMPS

10: 10 AMPS

15: 15 AMPS

COIL CODE

2: PDT PAGE 10

4: PDT PAGE 14

MOUNTING STYLES

2: PDT page 11 - 12

4: PDT page 15 - 17

TERMINAL STYLE AND FINISH

2: PDT page 13

4: PDT page 18

'D' FOR CATALOG STANDARD OR

'A' FOR CATALOG STANDARD WITHOUT ARC BARRIERS

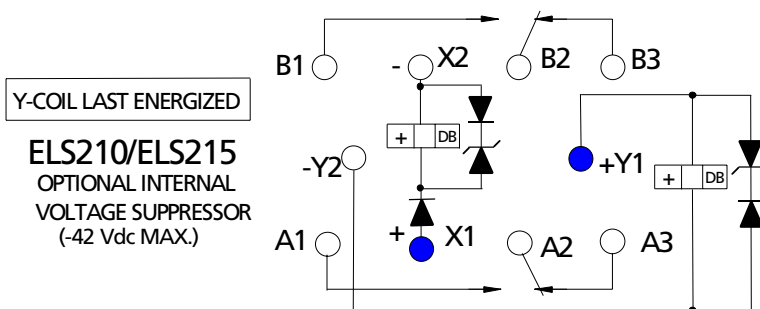
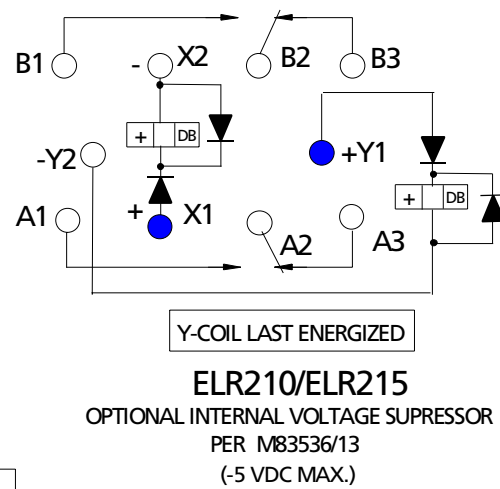
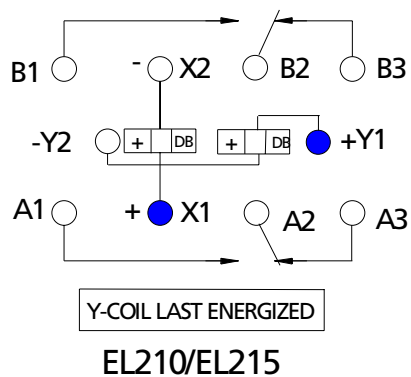
'XXXX' FOR SPECIAL INSTRUCTIONS OR SPECIFICATIONS

(ASSIGNED BY DRI)

Coil characteristics

COIL CODE	DC						
	A	B	D	E	F	G	J
Nominal coil voltage	6	12	26,5	28	28	48	110
Maximum latch and reset voltage at 25°C	3	6	13,5	14	14,5	24	55
Maximum latch and reset voltage at 125°C	4,5	9	18	18,7	18,0	36	70
Coil resistance (ohms \pm 10% at 25° C)	15	60	280	300	450	1000	5000
Max coil transient suppression	See	circuit	diagram	below	100	180	

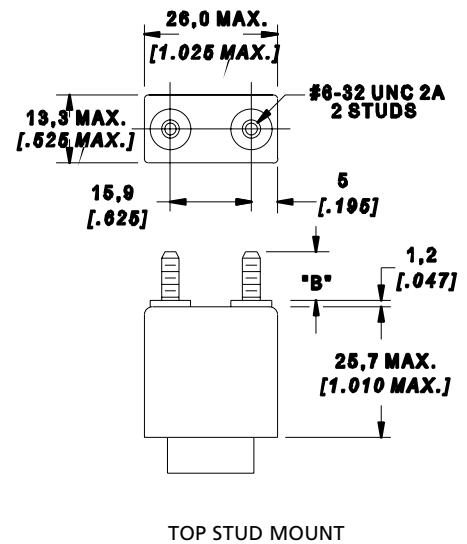
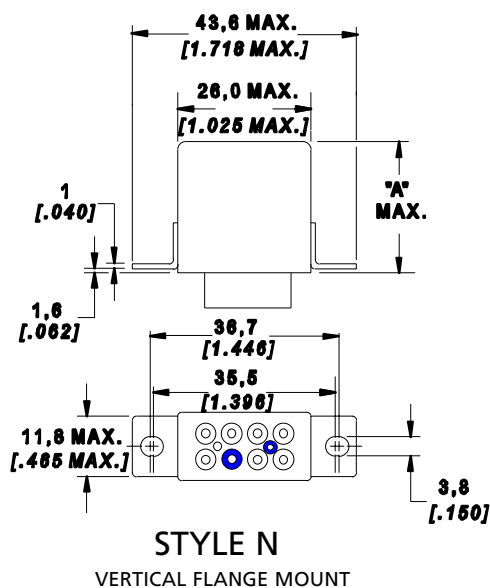
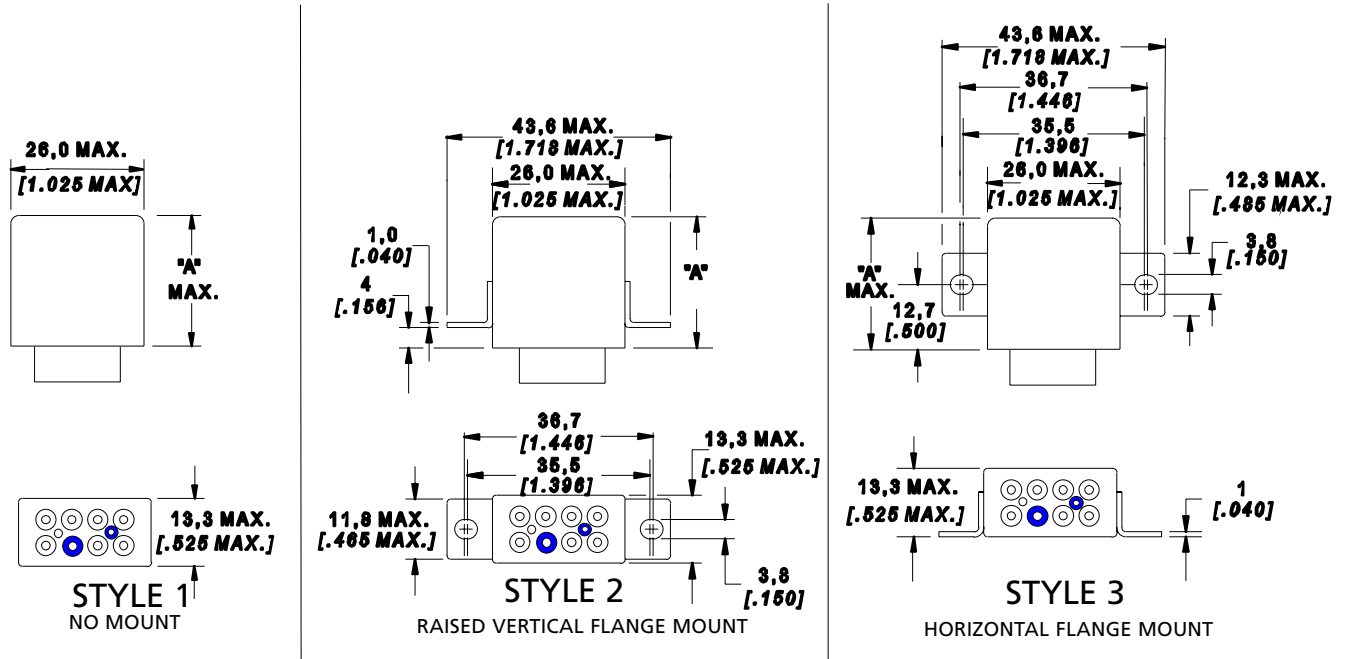
Circuit diagram



■ Mounting styles

DIMENSIONS ARE IN MM (IN.)
UNLESS OTHERWISE SPECIFIED, TOLERANCE IS $\pm 0,25$ [.010]

"A" DIMENSION:
SUPPRESSED: 28,6 [1.125]
NON-SUPPRESSED: 25,7 [1.010]
AC: 28,6 [1.125]

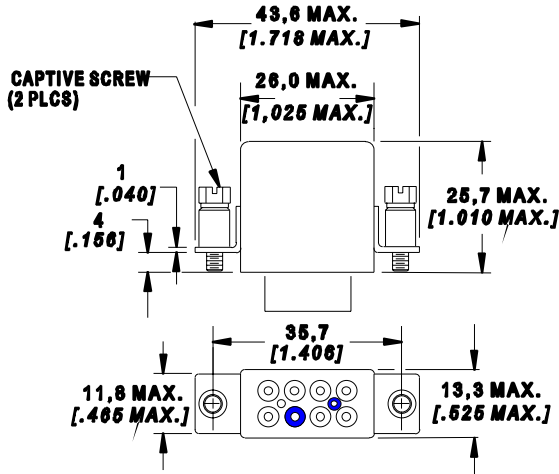


STYLE	DIM "B"
M	9,5 [.375]
R	6,35 [.250]

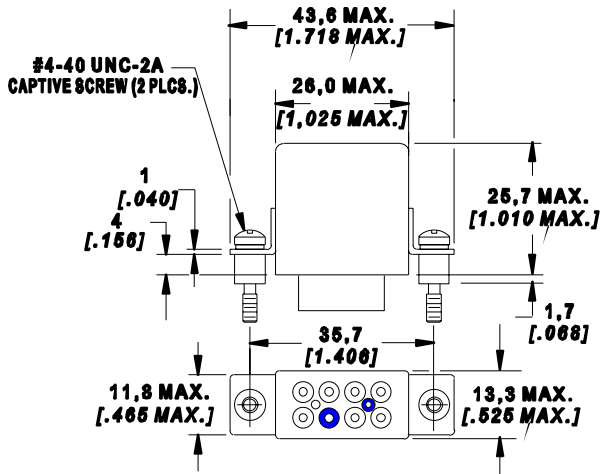
EL210 / EL215 Technical Characteristics

Mounting styles

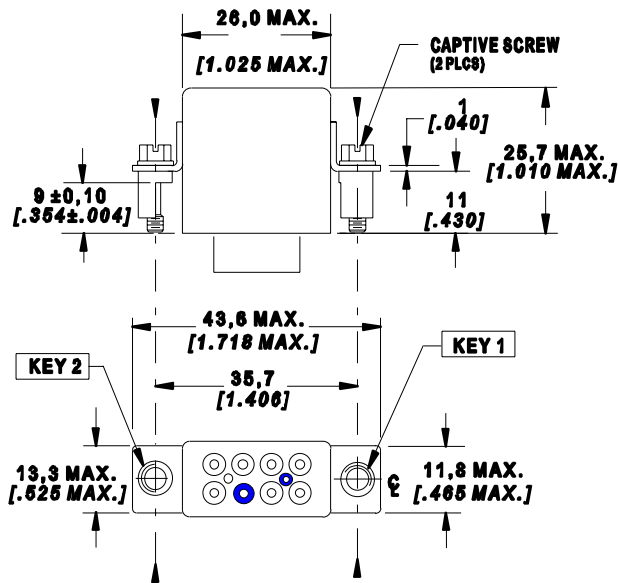
DIMENSIONS ARE IN MM (IN.)
UNLESS OTHERWISE SPECIFIED, TOLERANCE IS $\pm 0,25$ [.010]



STYLE 8: M3 CAPTIVE SCREWS
STYLE C: #4-40 UNC CAPTIVE SCREWS
RAISED VERTICAL FLANGE MOUNT
WITH CAPTIVE HARDWARE



STYLE G
RAISED VERTICAL FLANGE MOUNT
WITH CAPTIVE HARDWARE



KEYING SYSTEM WITH CAPTIVE HARDWARE

STYLE A: M3 CAPTIVE SCREWS
STYLE B: #4-40 UNC CAPTIVE SCREWS

KEYING CONFIGURATION SHOWN IN TABLE COMES STANDARD
WITH SPECIFIED COIL VOLTAGE. FOR ORDERING OTHER
KEYING POSITIONS USE 2 DIGIT (XX)
"SPECIAL INSTRUCTIONS" ON END OF P/N.
EX: EL210AACVY

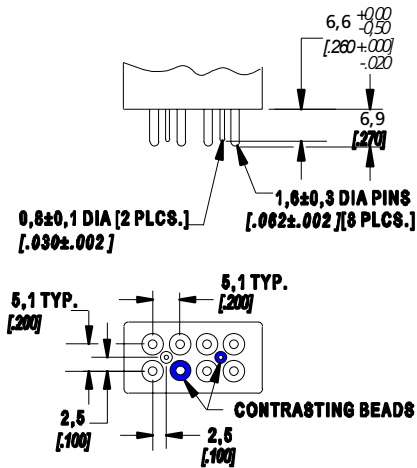
KEYING POSITIONS

U	V	W	X	Y	Z
0°	60°	120°	180°	240°	300°

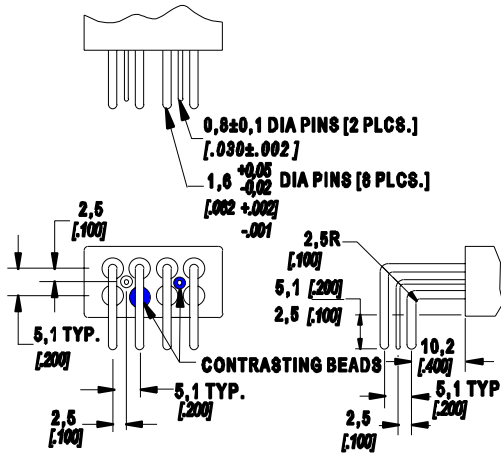
COIL	KEY 1	KEY 2	SUPPRESSED	
			KEY 1	KEY 2
6 VDC	V	V	V	X
12 VDC	X	V	X	X
26.5 VDC	Y	Z	U	Z
28 VDC	V	Z	X	Z
48 VDC	V	U	V	W
110 VDC	X	U	X	W

Termination styles

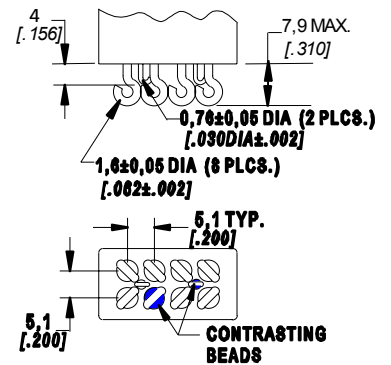
DIMENSIONS ARE IN MM (IN.)
UNLESS OTHERWISE SPECIFIED, TOLERANCE IS $\pm 0,25$ [.010]



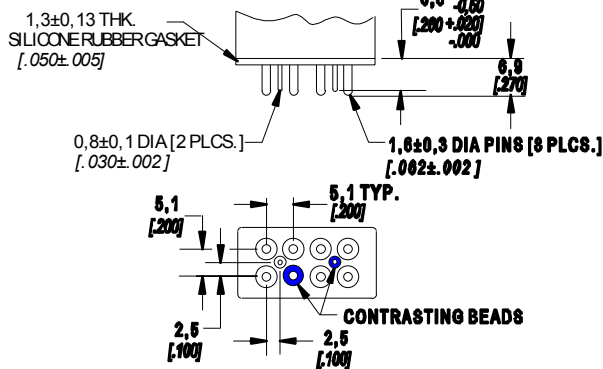
SOLDER PIN
STYLE A: TIN PLATED
STYLE B: SOLDER DIPPED



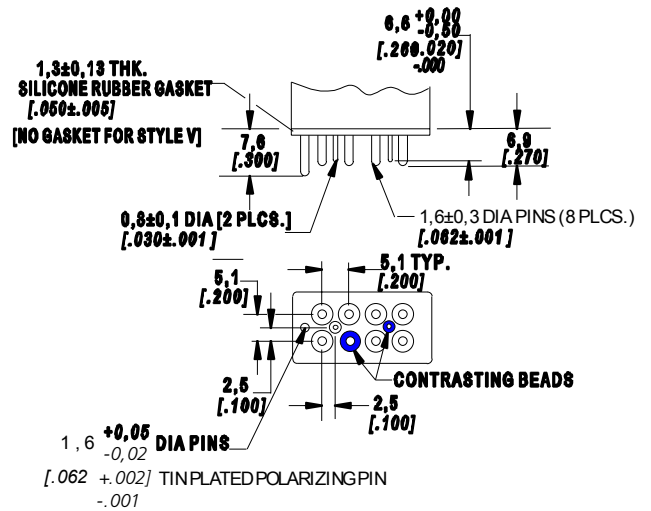
90° SOLDER PIN
STYLE D: TIN PLATED
STYLE E: SOLDER DIPPED



SOLDER HOOK
STYLE H: TIN PLATED
STYLE J: SOLDER DIPPED



PLUG IN
STYLE K: GOLD PLATED



PLUG IN
STYLE M: GOLD PLATED

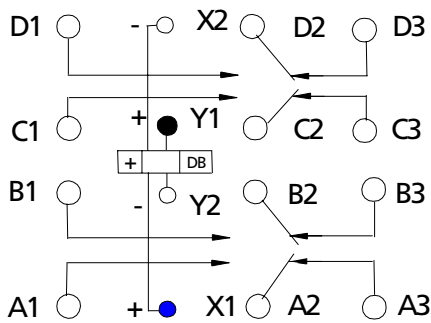
SOLDER PIN
STYLE V: TIN PLATED

Coil characteristics

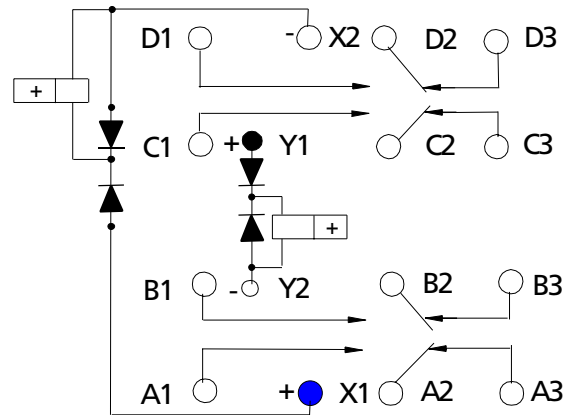
COIL CODE	DC						
	A	B	D	E	F	G	J
Nominal coil voltage	6	12	26,5	28	28	48	110
Maximum latch and reset voltage at 25°C	3,5	6,5	13,5	14,5	14,5	24	55
Maximum latch and reset voltage at 125°C	4,5	9	18	18,7	18,0	36	70
Coil resistance (ohms ± 10% at 25° C)	15	60	280	300	450	1000	5000
Max coil transient suppression	See circuit diagram below					100	180

OTHER VOLTAGES AVAILABLE FROM FACTORY ON REQUEST

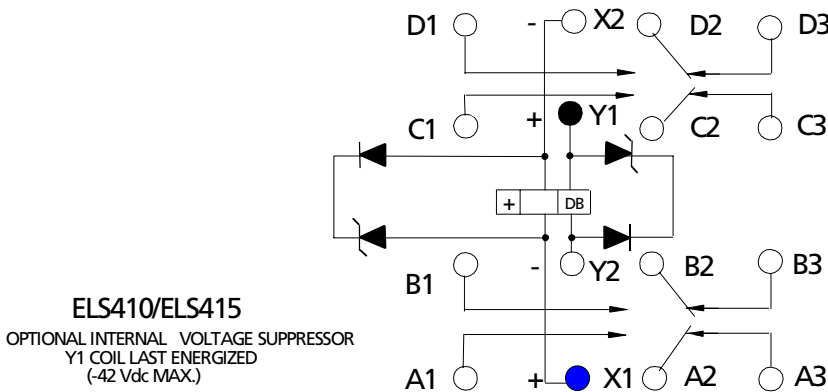
Circuit diagram



EL410/EL415
OBSERVE COIL POLARITY
Y1 COIL LAST ENERGIZED



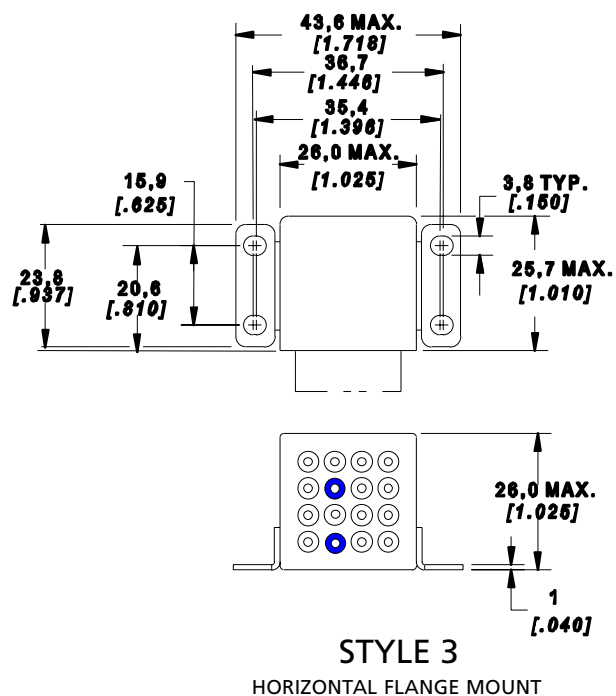
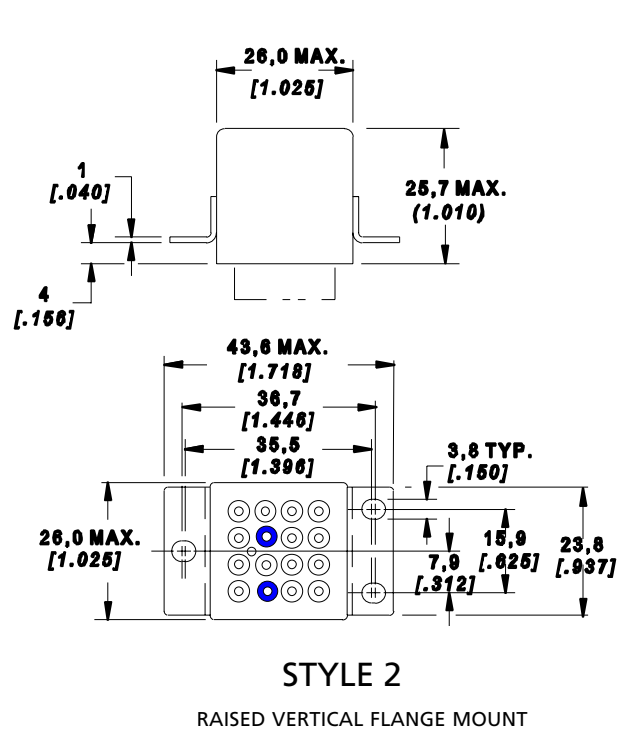
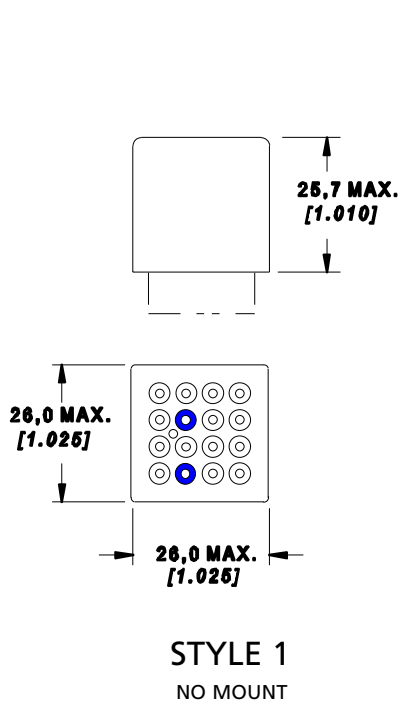
ELR410/ERL415
OPTIONAL INTERNAL
VOLTAGE SUPPRESSOR
Y1 COIL LAST ENERGIZED
PER M83536/19
(-5 Vdc MAX.)



ELS410/ELS415
OPTIONAL INTERNAL VOLTAGE SUPPRESSOR
Y1 COIL LAST ENERGIZED
(-42 Vdc MAX.)

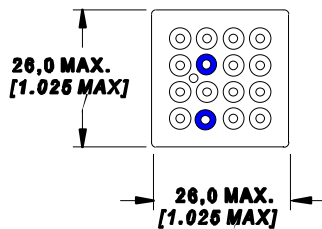
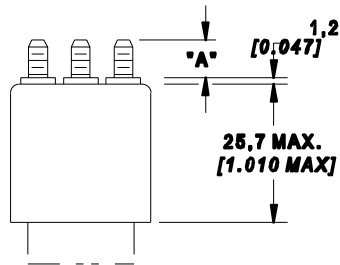
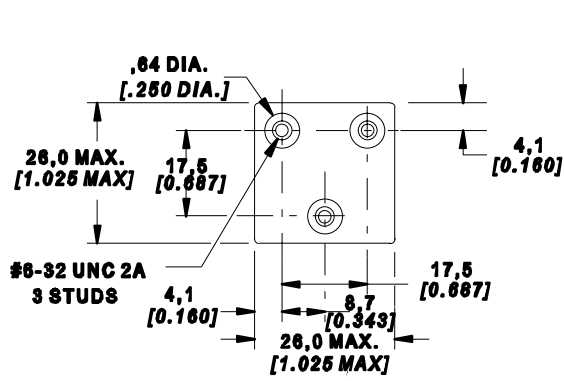
■ Mounting styles

DIMENSIONS ARE IN MM (IN.)
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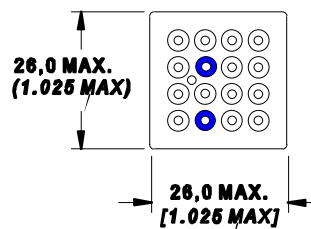
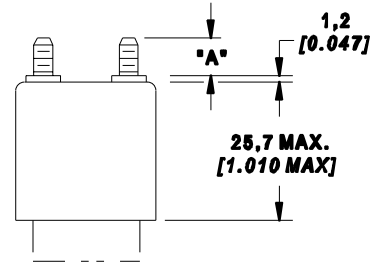
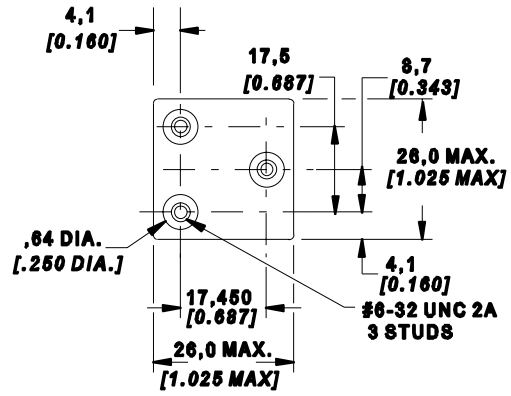


■ Mounting styles

DIMENSIONS ARE IN MM (IN.)
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STYLE	DIM "A"
O	9,5 [.375]
R	6,35 [.250]

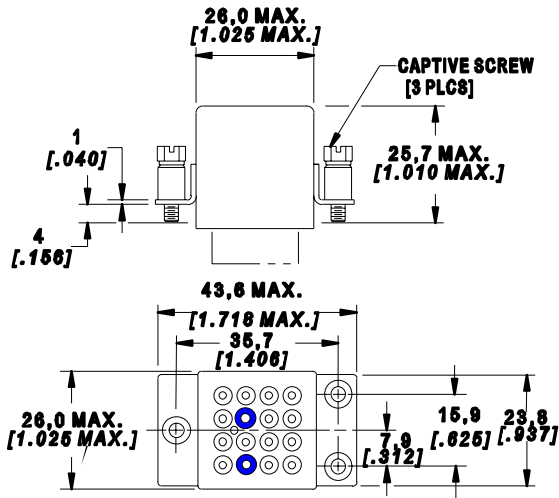


STYLE	DIM "A"
T	9,5 [.375]
U	6,35 [.250]

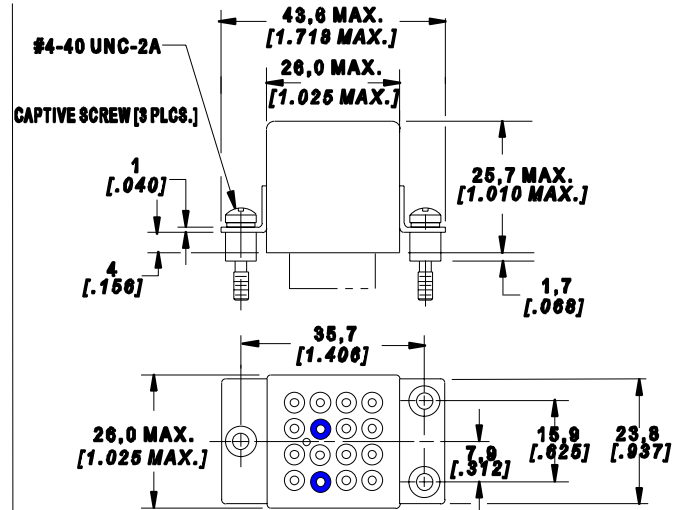
EL410 / EL415 Technical Characteristics

Mounting styles

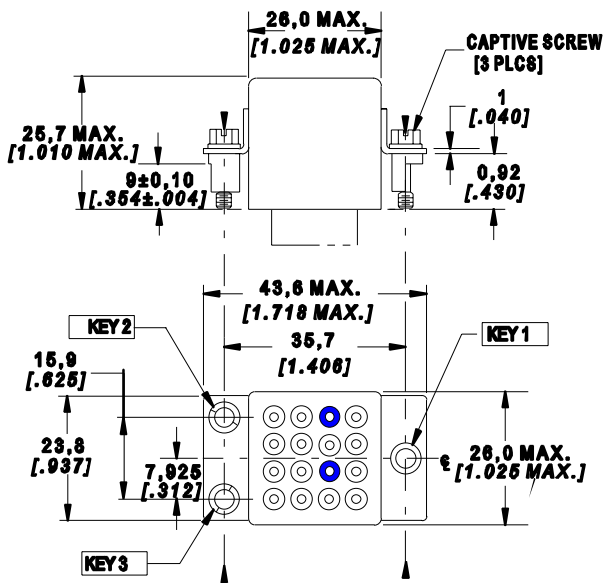
DIMENSIONS ARE IN MM (IN.)
UNLESS OTHERWISE SPECIFIED, TOLERANCE IS $\pm 0,25$ (.010)



STYLE 8: M3 CAPTIVE SCREWS
STYLE C: #4-40 UNC CAPTIVE SCREWS
RAISED VERTICAL FLANGE MOUNT
WITH CAPTIVE HARDWARE



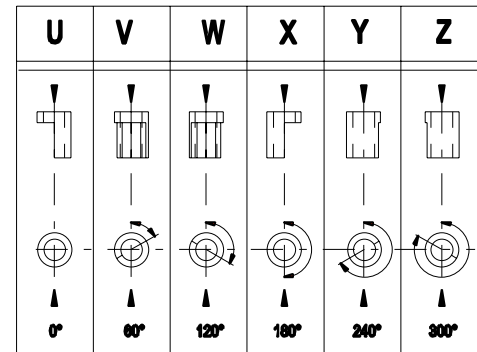
STYLE G
RAISED VERTICAL FLANGE MOUNT
WITH CAPTIVE HARDWARE



KEYING SYSTEM WITH CAPTIVE HARDWARE

STYLE A: M3 CAPTIVE SCREWS
STYLE B: #4-40 UNC CAPTIVE SCREWS

KEYING POSITIONS

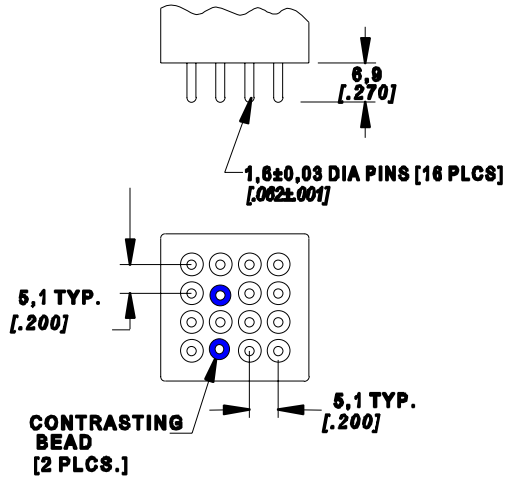


COIL	SUPPRESSED					
	KEY 1	KEY 2	KEY 3	KEY 1	KEY 2	KEY 3
6 VDC	V	Z	V	V	Z	X
12 VDC	X	Z	V	X	Z	X
26.5 VDC	Z	X	U	Z	X	W
28 VDC	Z	X	V	Z	X	Y
48 VDC	V	Z	U	V	Z	W
110 VDC	X	Z	U	X	Z	W

KEYING CONFIGURATION SHOWN IN TABLE COMES STANDARD WITH SPECIFIED COIL VOLTAGE. FOR ORDERING OTHER KEYING POSITIONS USE 3 DIGIT (XXX) "SPECIAL INSTRUCTIONS" ON END OF P/N.
EX: EL410AACXYZ

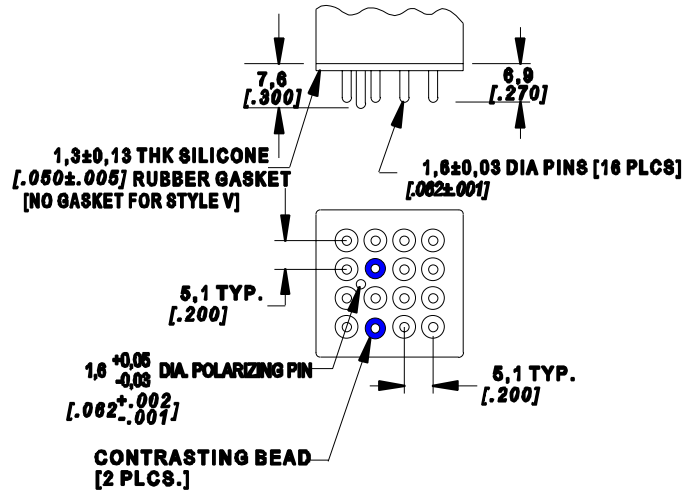
■ Termination styles

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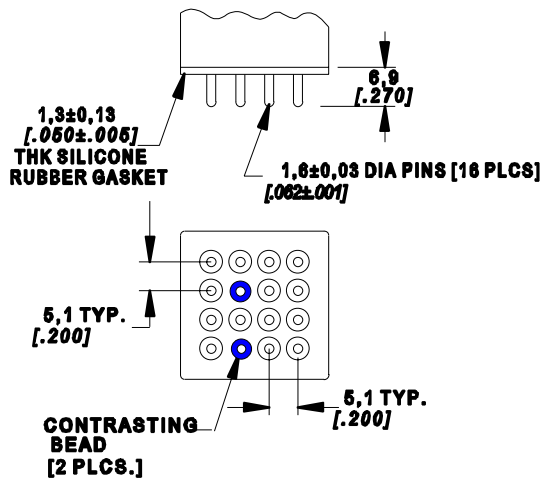
SOLDER PIN

- STYLE A: TIN PLATED
- STYLE B: SOLDER DIPPED

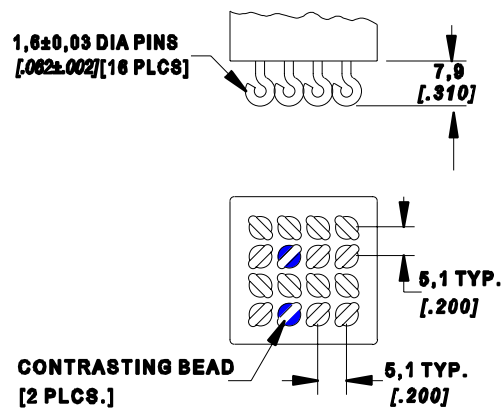


SOLDER PIN

- STYLE V: TIN PLATED WITH TIN PLATED POLARIZING PIN
- PLUG IN
- STYLE M: GOLD PLATED WITH TIN PLATED POLARIZING PIN



PLUG IN
STYLE C: GOLD PLATED



SOLDER HOOK
STYLE H: TIN PLATED
STYLE J: SOLDER DIPPED