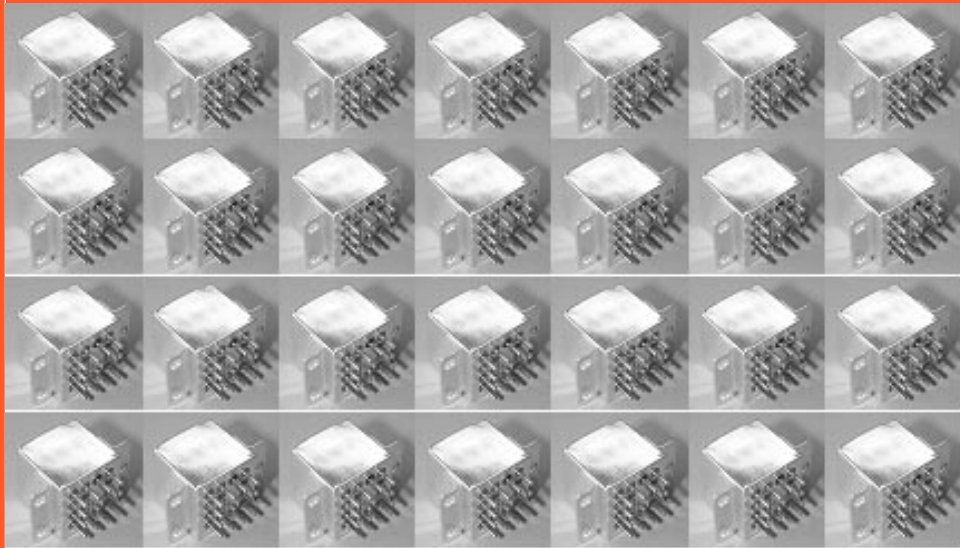




Deutsch Relays, Inc.



ISO 9001
CERTIFIED

10 & 15 AMP TRACK SERIES

- MIL-PRF-83536 Relays
- Hermetically sealed
- 2PDT and 4PDT
- Standard and Latching

10 & 15 AMP TRACK SERIES

INDEX

PRODUCT	DESCRIPTION	PAGES
"E" Series Track Mount		
E210 Track Mount Series	2PDT, 10/15 AMP RELAY	3-7
E410 Track Mount Series	4PDT, 10/15 AMP RELAY	8-10
EL210 Track Mount SERIES	2PDT, 10/15 AMP LATCHING RELAY	11- 15
EL410 Track Mount Series	4PDT, 10/15 AMP LATCHING RELAY	16-18



General characteristics

No. of poles

210/215
2 Form C (2 PDT)

410/415
4 Form C (4PDT)

Mass

54.5 grams [*.120 lb. Max*]

90.6 grams [*.20 lb. Max*]

Switching characteristics

Operate time @ 25°C with DC Coil
AC Coil

10 ms max.
20 ms max.

15 ms max.
15 ms max.

Release time @ 25°C with DC Coil
AC Coil

20 ms max.
50 ms max.

20 ms max.
50 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

***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 (Sinusoidal)

30 g 10-3000 Hz

Shock, any axis

200 g 6 ms

Seal

Hermetic (1 x 10⁻⁸ atm cm³/s)

Electrical characteristics

Contact voltage drop (@ Rated resistive load)

- Initial

150 mV Max.

- After guaranteed life

175 mV Max.

Dielectric strength @ sea level

Coil to Case All other points

- Initial @ 60 Hz

1050 Vrms 1500 Vrms

- After guaranteed life

1050 Vrms 1250 Vrms

Insulation Resistance

- Initial

100 Megohms min. @ 500 Vdc

- After life tests

100 Megohms min. @ 500 Vdc

- Max. leakage current

100 Microamperes RMS.

Reference Military Specification

MIL-PRF-83536

Part numbering system

ES 2 10 E 4 M D

RELAY TYPE

EA : AC Coil
ES : Internal Voltage suppressor

MODEL

2: 2PDT
4: 4PDT

RELAY AMPS

10: 10 AMPS, 28Vdc resistive
15: 15 AMPS, 28 Vdc resistive

COIL VOLTAGE

2 PDT page
4 PDT page

MOUNTING STYLES

2 PDT page
4 PDT page

TERMINAL STYLE AND FINISH

2 PDT page
4 PDT page

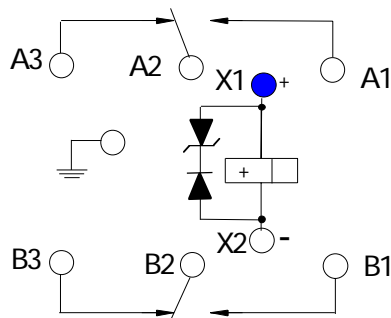
'D' FOR CATALOG STANDARD OR
'A' FOR CATALOG STANDARD ARC BARRIERS
'XXXX' FOR SPECIAL INSTRUCTIONS OR SPECIFICATIONS
(ASSIGNED BY DEUTSCH)

Coil characteristics

COIL CODE	DC						AC	
	A	B	D	E	G	J	L	N
Nominal coil voltage	6	12	26,5	28	48	110	115-400 Hz	115-50/60/400 Hz
Maximum pick-up voltage at 25°C	3	6	13,5	14	24	55	75	75
Maximum pick-up voltage at 125°C	3,9	7,7	18	18,7	31	70	95	95
Minimum drop-out voltage at -70° C	2	5	1,2	1,5	2	5	5	5
Coil resistance (ohms ± 10% at 25°C)	20	80	320	320	955	5000	-	-
Maximum coil transient suppression (where applicable) VDC	42	42	42	42	100	180	-	-

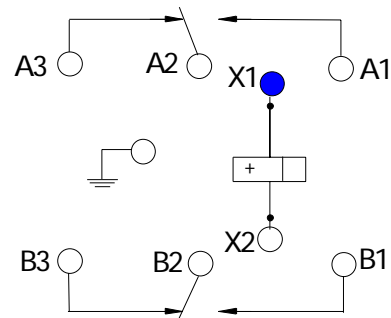
OTHER VOLTAGES AVAILABLE FROM FACTORY ON REQUEST

Circuit diagram



ES210

INTERNAL VOLTAGE SUPPRESSOR
NOTE: MOUNTING STYLE 6 WITHOUT GND PIN



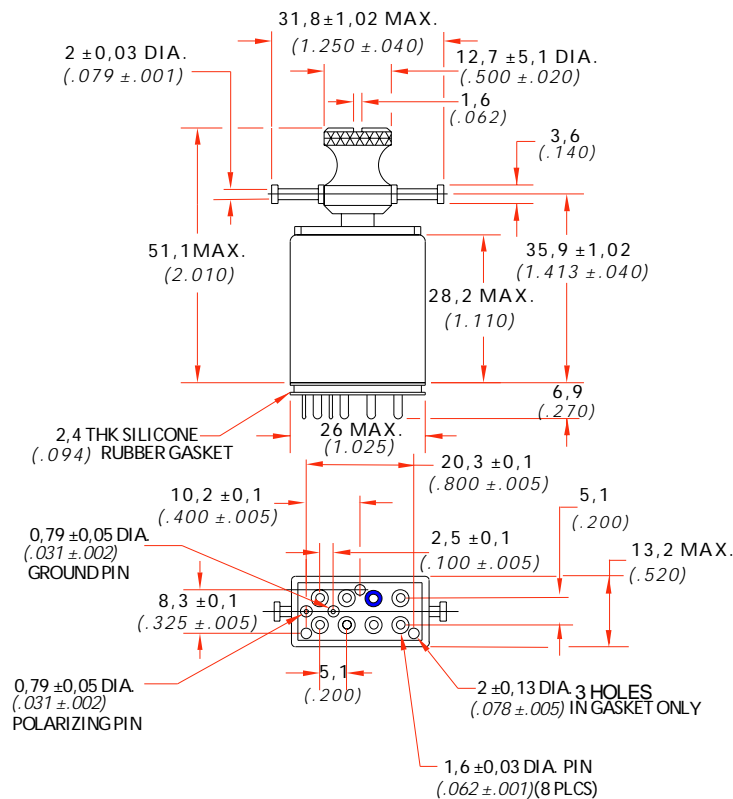
EA210 (AC)

INTERNAL VOLTAGE SUPPRESSOR
NOTE: MOUNTING STYLE 6 WITHOUT GND PIN

Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)

THESE TRACK MOUNT RELAYS TO BE USED WITH BRACKET ASSY AND TRACKS MEETING THE REQUIREMENTS OF MIL-PRF-12883. SEE MIL-PRF-12883/50 FOR SOCKET INFORMATION AND MIL-PRF-12883/49 FOR TRACK INFORMATION



ES210

MOUNTING STYLE: 4

TERMINAL STYLE: M

[GOLD PLATED HEADER & TERMINALS]

Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS $\pm 0,25$ [.010]

E/EA/ES210

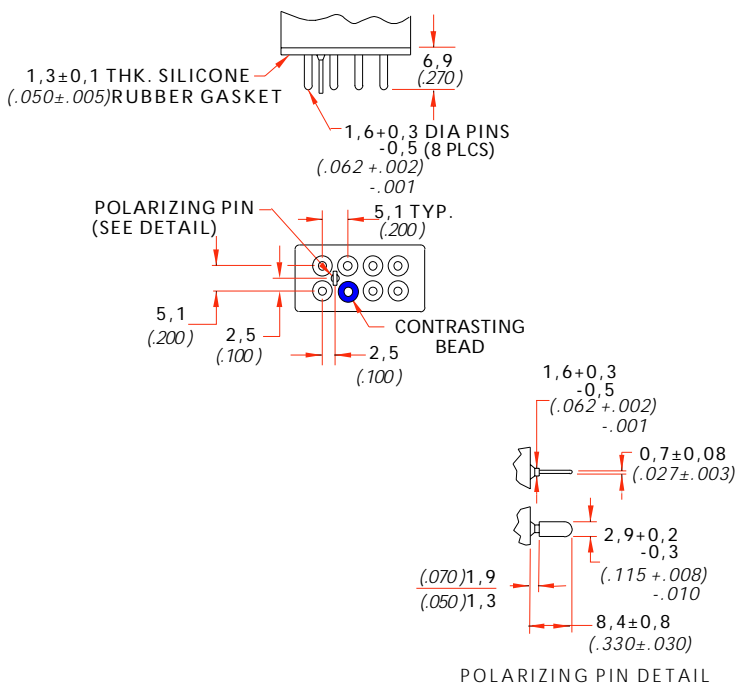
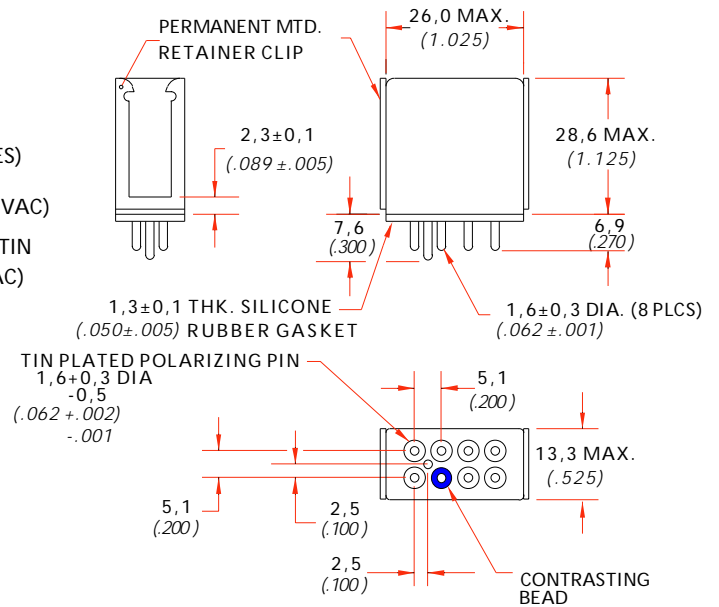
MOUNTING STYLE: **6**

TERMINAL STYLE: **M**

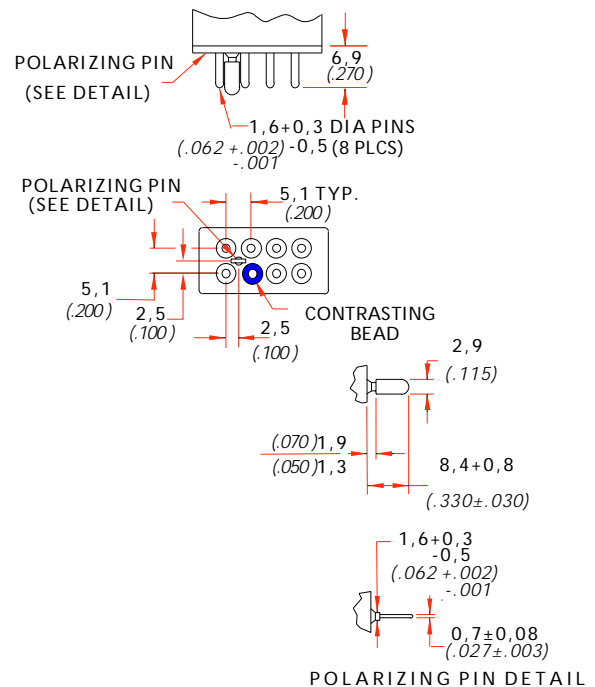
G GOLD PLATED TERMINALS WITH TIN PLATED POLARIZING PIN (E/ES)

F GOLD PLATED TERMINALS WITH TIN PLATED POLARIZING PIN (28VAC)

G GOLD PLATED TERMINALS WITH TIN PLATED POLARIZING PIN (115 VAC)



STYLE F: PLUG IN (28 VAC)



STYLE G: PLUG IN (115 VAC)

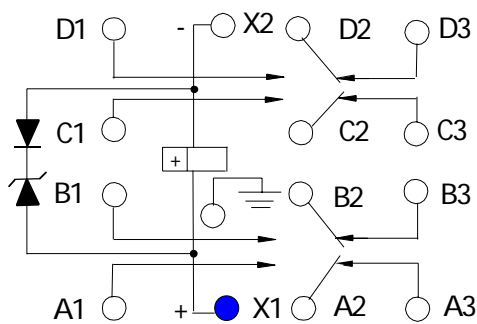
"H" TRACK SOCKETS AND RAILS AVAILABLE FROM:
 DEUTSCH ELECTRONIC COMPONENT DIVISION
 BANNING, CA 92220
 (909) 849-7822

Coil Characteristics

COIL	DC						AC	
	A	B	D	E	G	J	L	N
Nominal coil voltage	6	12	26,5	28	48	110	115-400 Hz	115-50/60/400 Hz
Maximum pick-up voltage at 25°C	3	6	13,5	14	24	55	75	75
Maximum pick-up voltage at 125°C	3,9	7,7	18	18,7	31	70	95	95
Minimum drop-out voltage at -70° C	2	5	1,2	1,5	2	5	5	5
Coil resistance (ohms ± 10% at 25° C)	18	70	290	290	955	5000	-	-
Maximum coil transient suppression (where applicable) VDC	-42	-42	-42	-42	-100	-180	-	-

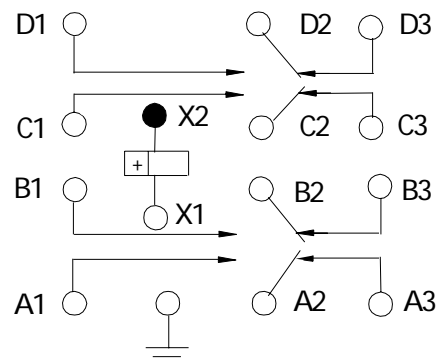
OTHER VOLTAGES AVAILABLE FROM FACTORY ON REQUEST

Circuit Diagram



ES410

INTERNAL VOLTAGE SUPPRESSOR
NOTE: MOUNTING STYLE 6 HAS NO GND PIN

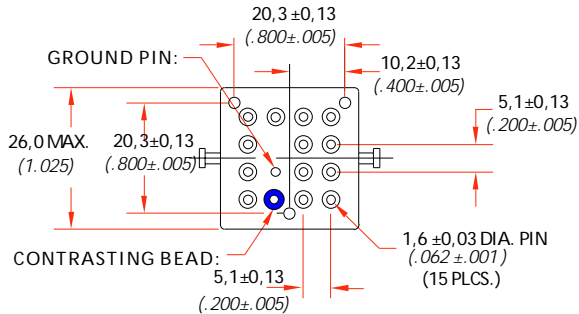
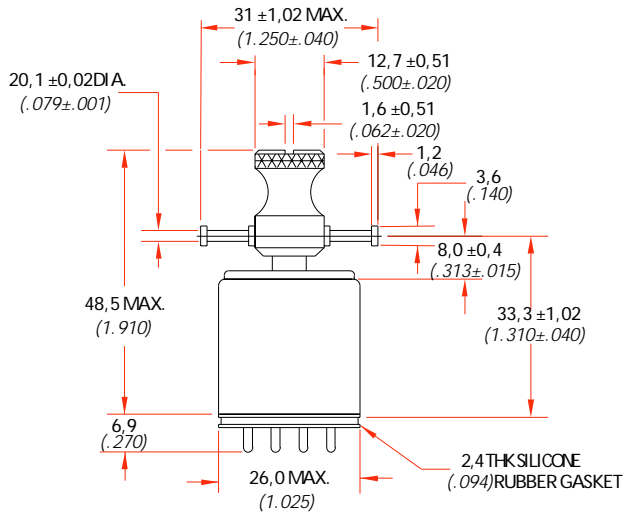


EA410 (AC)

INTERNAL VOLTAGE SUPPRESSOR
NOTE: MOUNTING STYLE 6 HAS NO GND PIN

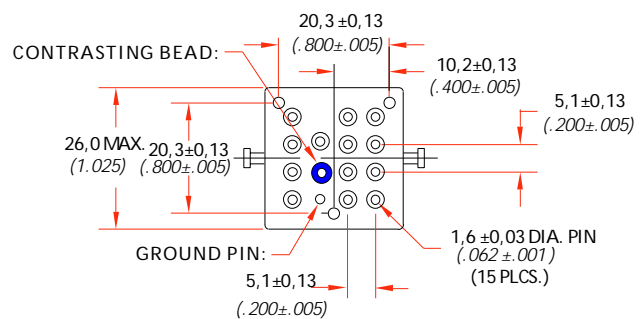
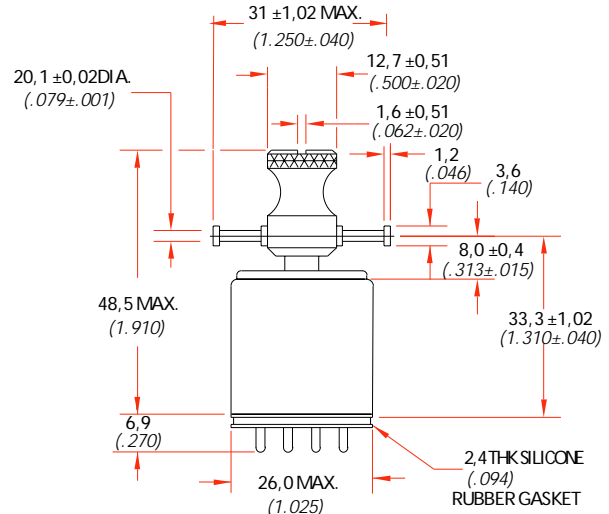
Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 [.010]



ES410
MOUNTING STYLE: 4

TERMINAL STYLE: M
[GOLD PLATED HEADER & TERMINALS (DC)]

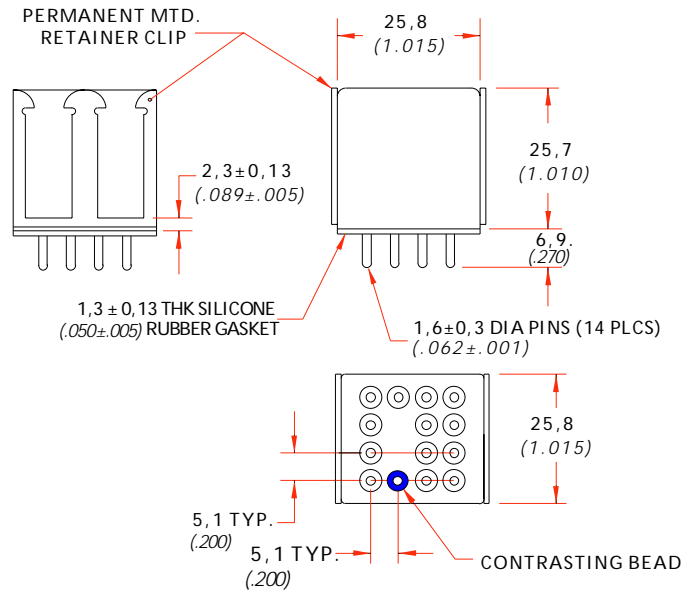


EA410
MOUNTING STYLE: 4

TERMINAL STYLE: K
[GOLD PLATED HEADER & TERMINALS (AC)]

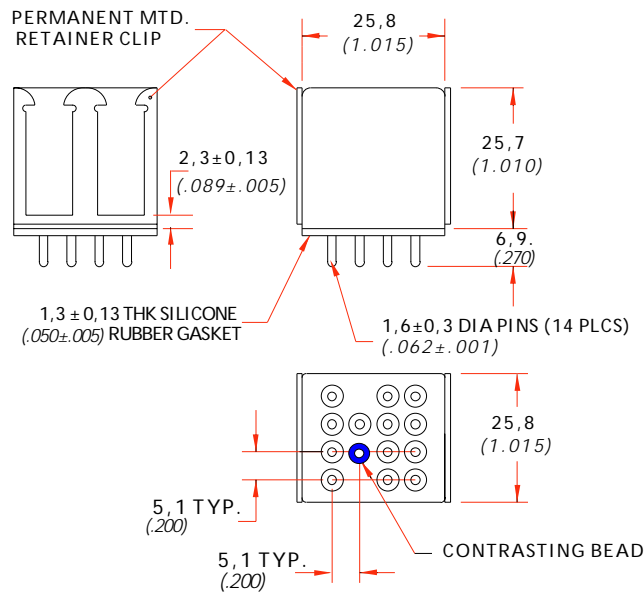
Mounting styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)



ES410
MOUNTING STYLE: 6

TERMINAL STYLE: M
[GOLD PLATED (DC)]



EA410
MOUNTING STYLE: 6

TERMINAL STYLE: K
[GOLD PLATED (AC)]



General characteristics

No. of poles

ELS210/ELS215

ELS410/ELS415

2 Form C (2 PDT)

4 Form C (4PDT)

Mass

54.5 grams [*1.20 lb. Max*]

90.6 grams [*1.20 lb. Max*]

Switching characteristics

Operate time @ 25 (Latch and Reset)

15 ms max.

20 ms max.

Bounce time

1 ms max.

1 ms max.

Mechanical Life

400,000 cycles

Contact rating

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

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 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

Environmental characteristics

Temperature Range

-70°C to +125°C

Vibration (Sinusoidal)

30 g 10-3000 Hz

Shock, any axis

200 g 6 ms

Seal

Hermetic (1 x 10⁻⁸ atm cm³/s)

Electrical characteristics

Contact voltage drop (@ Rated resistive load)

- Initial

150 mV Max.

- After guaranteed life

175 mV Max.

Dielectric strength @ sea level

- Initial @ 60 Hz

Coil to Case All other points

1050 Vrms 1500 Vrms

- After guaranteed life

1050 Vrms 1250 Vrms

Insulation Resistance

- Initial

100 Megohms min. @ 500 Vdc

- After life tests

100 Megohms min. @ 500 Vdc

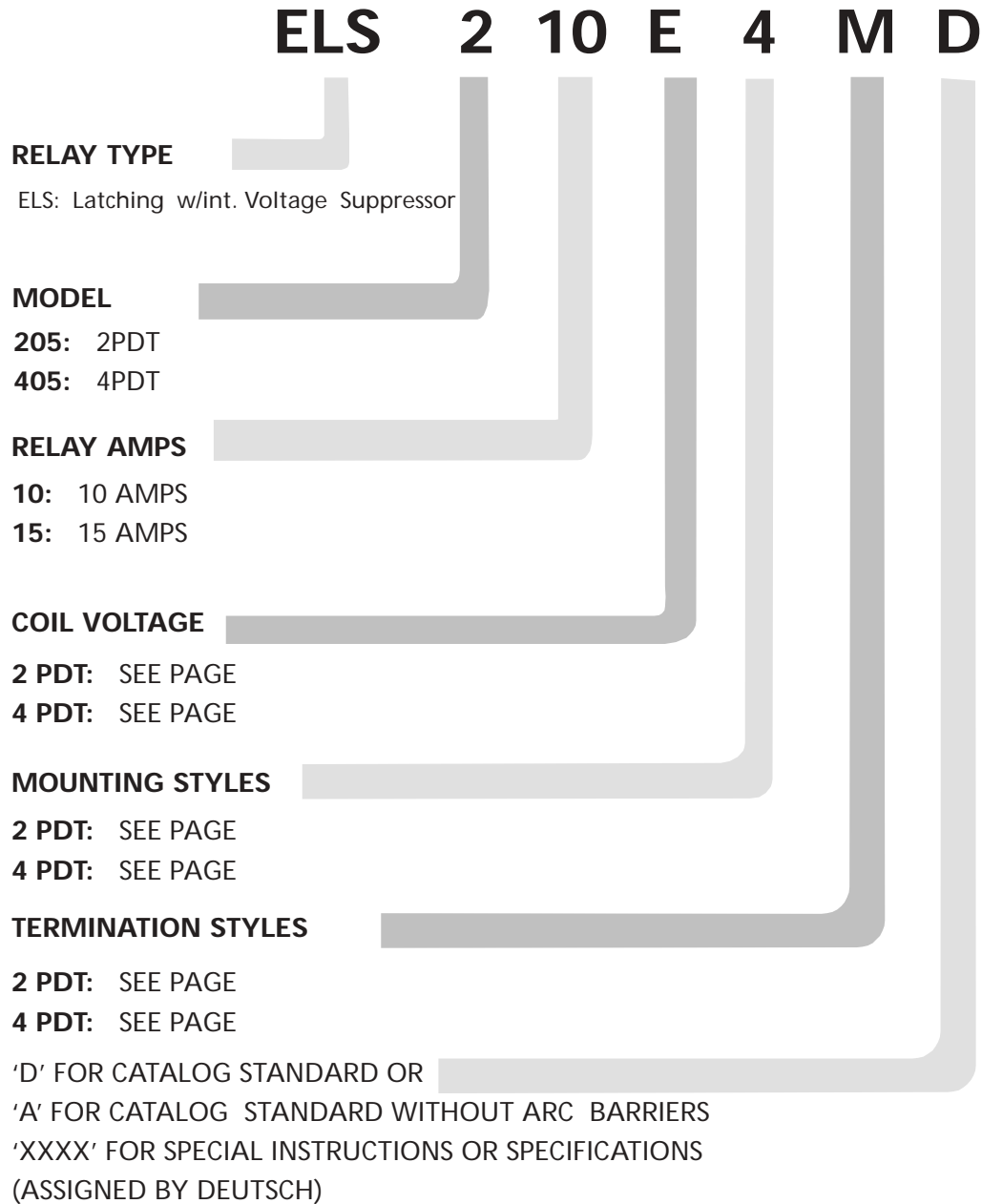
- Max. leakage current

100 Microamp RMS.

Reference Military Specification

MIL-PRF-83536

■ Part numbering system

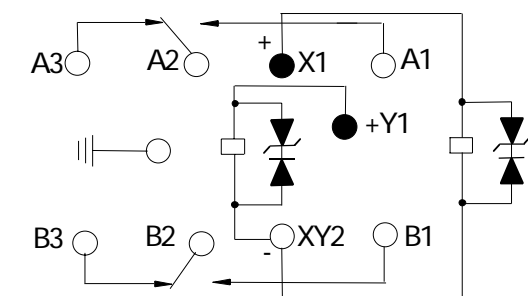


Coil characteristics

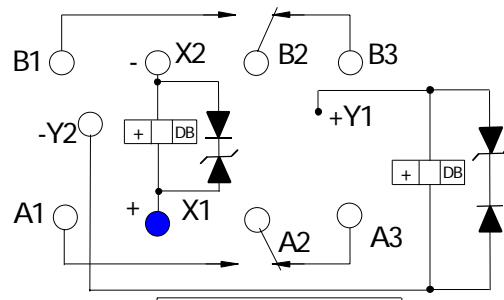
COIL CODE	DC					
	A	B	D	E	G	J
Nominal coil voltage	6	12	26,5	28	48	110
Maximum pick up voltage at 25°C	3	6	13.5	14	24	55
Maximum pick up voltage at 125°C	3,9	7,7	18	18,7	31	70
Minimum drop out voltage at -70° C	2	5	1,2	1,5	2	5
Coil resistance (ohms ±10% at 25°C)	15	60	280	300	1000	5000
Maximum coil transient suppression (where applicable) VDC	See	circuit	diagram	below	100	180

OTHER VOLTAGES AVAILABLE FROM FACTORY ON REQUEST

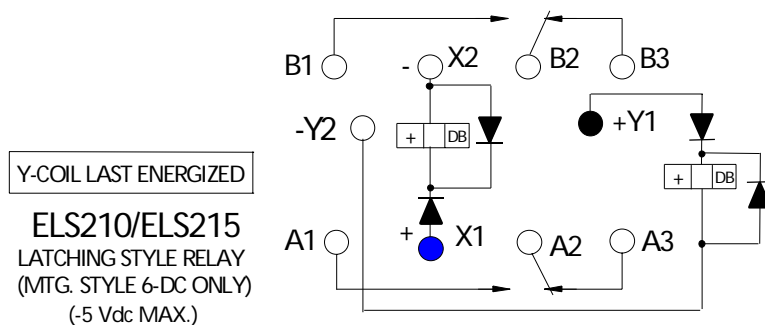
Circuit diagram



ELS210
LATCHING STYLE RELAY (MTG. STYLE 4-DC ONLY)
Y-COIL LAST ENERGIZED (-42 Vdc MAX.)



ELS210/ELS215
LATCHING STYLE RELAY (MTG. STYLE 6-DC ONLY)
OPTIONAL INTERNAL VOLTAGE SUPPRESSOR
(-42 Vdc MAX.)

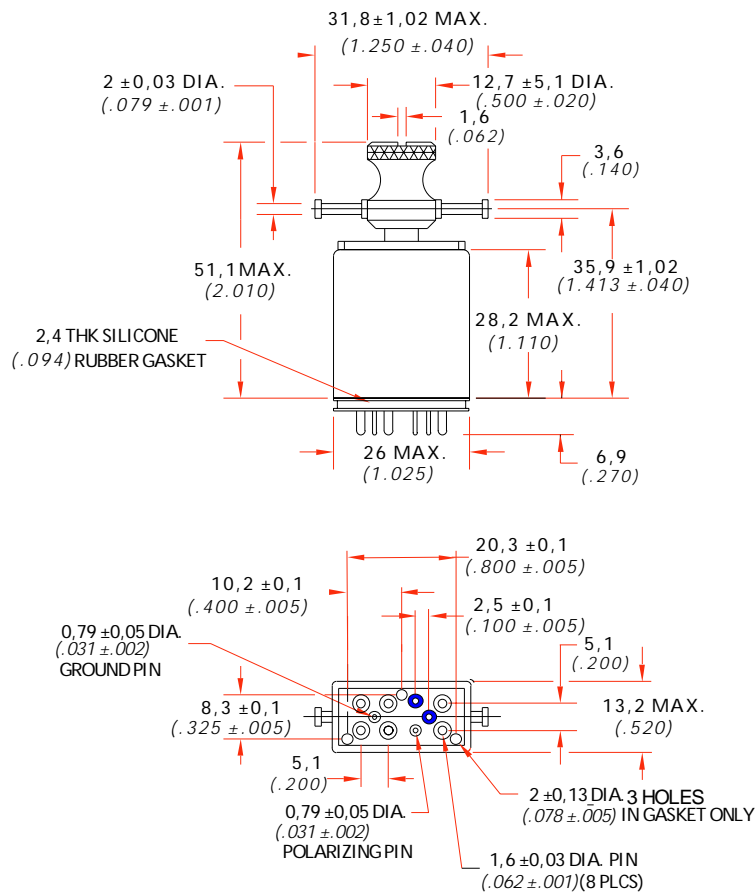


ELS210/ELS215
LATCHING STYLE RELAY
(MTG. STYLE 6-DC ONLY)
(-5 Vdc MAX.)

Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)

THESE TRACK MOUNT RELAYS TO BE USED WITH BRACKET ASSY AND TRACKS MEETING THE REQUIREMENTS OF MIL-PRF-12883. SEE MIL-PRF-12883/50 FOR SOCKET INFORMATION AND MIL-PRF-12883/49 FOR TRACK INFORMATION



ELS210
MOUNTING STYLE: 4
TERMINAL STYLE: M
[GOLD PLATED HEADER & TERMINALS]

Mounting & Terminal Styles

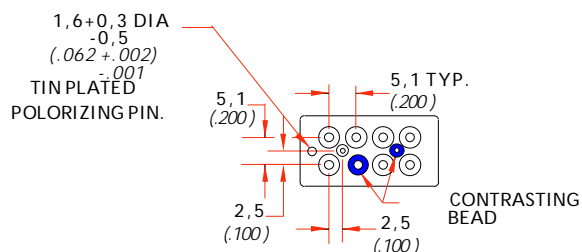
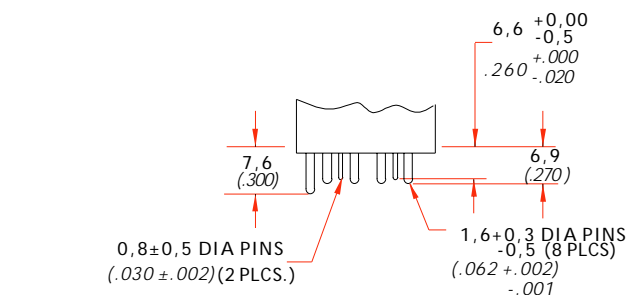
UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)

ELS

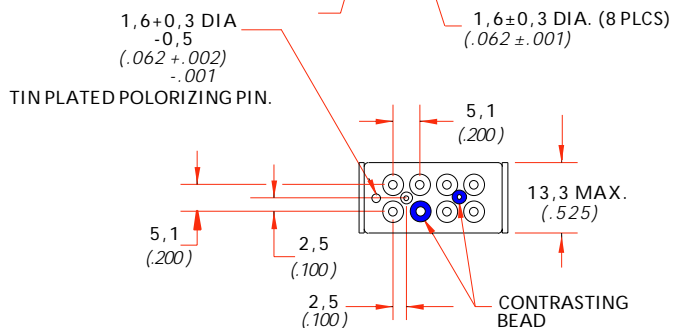
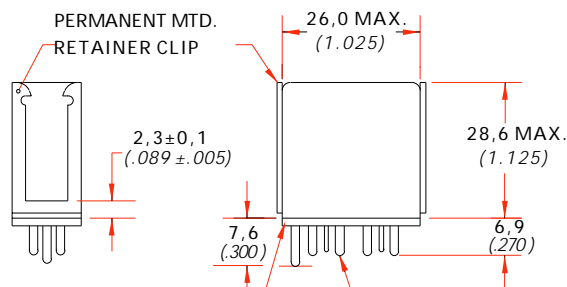
MOUNTING STYLE: 6

TERMINAL STYLE: **M** GOLD PLATED TERMINALS WITH TIN PLATED POLARIZING PIN

V TIN PLATED TERMINALS WITH TIN PLATED POLARIZING PIN



STYLE V : SOLDER PIN



STYLE M : PLUG IN

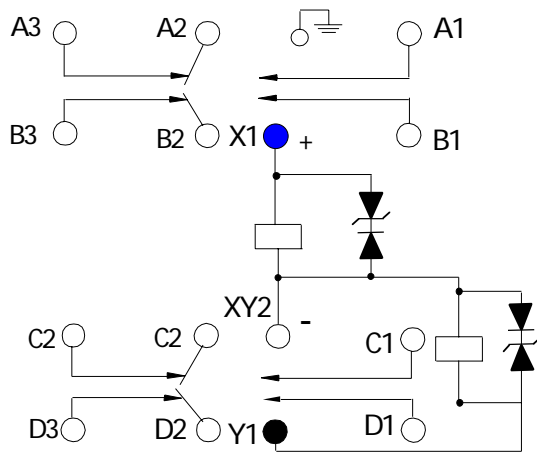
"H" TRACK SOCKETS AND RAILS AVAILABLE FROM:
DEUTSCH ELECTRONIC COMPONENT DIVISION
BANNING, CA 92220
(909) 849-7822

Coil Characteristics

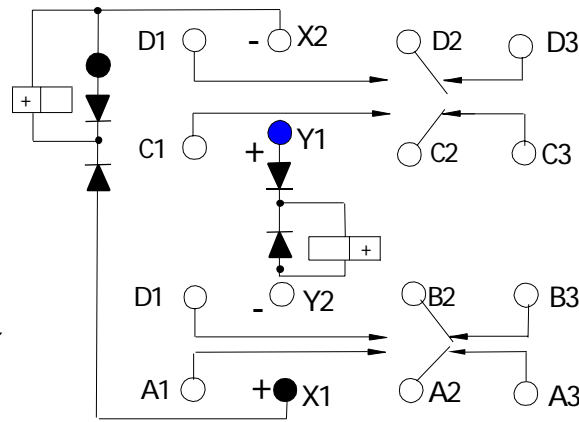
COIL CODE	DC					
	A	B	D	E	G	J
Nominal coil voltage	6	12	26,5	28	48	110
Maximum pick up voltage at 25°C	3	6	13.5	14	24	55
Maximum pick up voltage at 125°C	3,9	7,7	18	18,7	31	70
Minimum drop out voltage at -70° C	2	5	1,2	1,5	2	5
Coil resistance (ohms ±10% at 25°C)	15	60	280	300	1000	5000
Maximum coil transient suppression (where applicable)VDC	See circuit diagram below			100	180	

OTHER VOLTAGES AVAILABLE FROM FACTORY ON REQUEST

Circuit Diagram

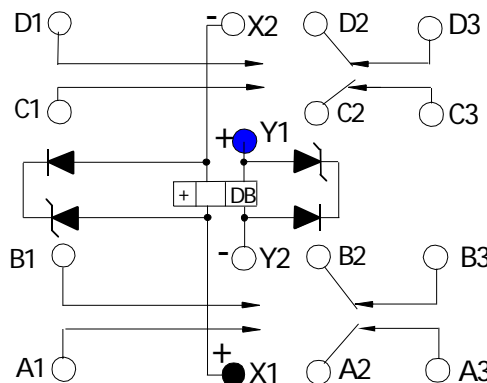


ELS410
LATCHING STYLE RELAY (MTG. STYLE 4-DC ONLY)
Y-COIL LAST ENERGIZED
(-42 Vdc MAX.)



ELR410/ELR415
LATCHING STYLE RELAY (MTG. STYLE 6-DC ONLY)
Y-COIL LAST ENERGIZED
(-5 Vdc MAX.)

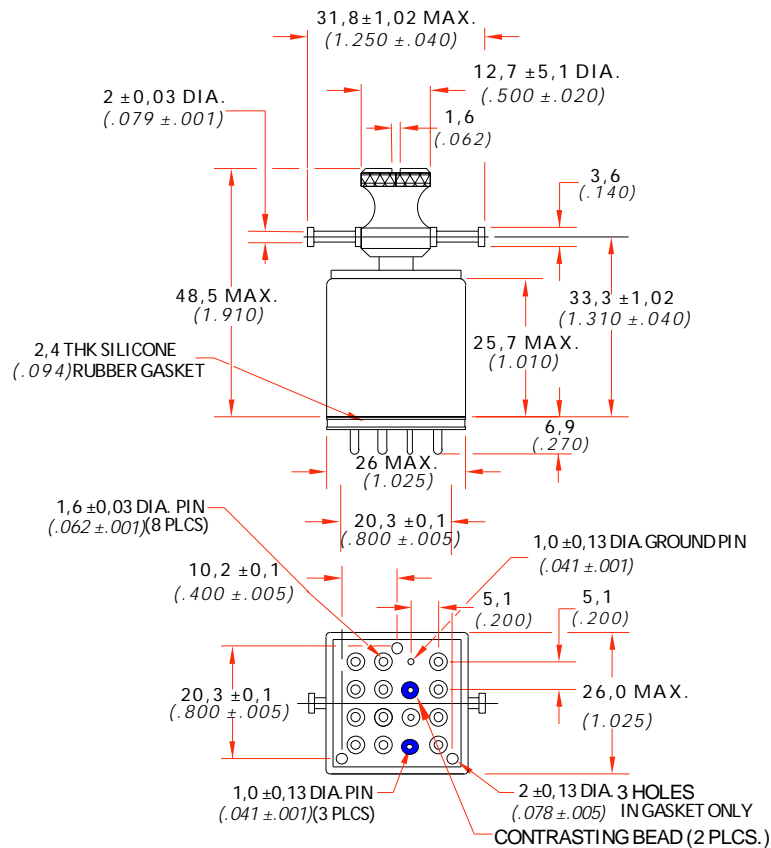
ELS410/ELS415
LATCHING STYLE RELAY (MTG. STYLE 6-DC ONLY)
OPTIONAL INTERNAL VOLTAGE SUPPRESSOR
Y-COIL LAST ENERGIZED
(-42 Vdc MAX.)



Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)

THESE TRACK MOUNT RELAYS TO BE USED WITH BRACKET ASSY AND TRACKS MEETING THE REQUIREMENTS OF MIL-PRF-12883. SEE MIL-PRF-12883/50 FOR SOCKET INFORMATION AND MIL-PRF-12883/49 FOR TRACK INFORMATION



ELS410

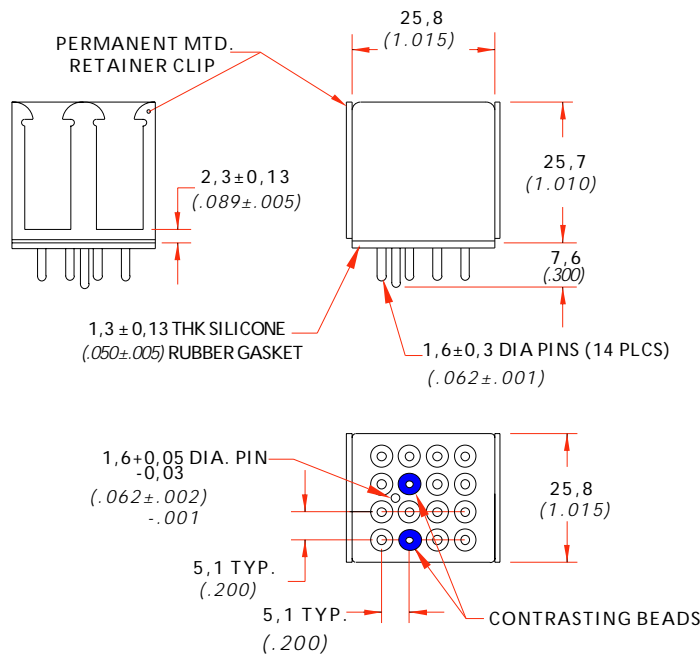
MOUNTING STYLE: 4

TERMINAL STYLE: M

[GOLD PLATED HEADER & TERMINALS (DC)]

Mounting & Terminal Styles

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS ± 0.25 (.010)



ELS410

MOUNTING STYLE: 6

TERMINAL STYLE: C [GOLD PLATED HEADER & TERMINALS (DC)]

M [GOLD PLATED WITH TIN PLATED POLARIZING PIN (DC)]

THIS "H" STYLE EASY MOUNT RELAY IS DESIGNED TO BE USED WITH CTJS SERIES COMPONENT RAIL ASSEMBLY.. FOR RAIL ASSY INFORMATION AND ORDERING CONTACT:

DEUTSCH ELECTRONIC COMPONENTS DIVISION
BANNING, CA 92220 (909) 849-7822