

Control Element Drive Mechanisms

Chapter 3.0



Learning Objectives

1. Describe the components in the control element drive mechanism (CEDM) that are a part of the reactor coolant system (RCS) pressure boundary.
2. Describe the power supply to the CEDMs.
3. Explain the purposes of the control element assembly control and indication system (CEAC&IS).

Learning Objectives

4. List and state the purposes of the CEAC&IS interlocks.
5. Explain the various modes of operation of the CEAC&IS.

Figure 3-1 CEA Drive Shaft

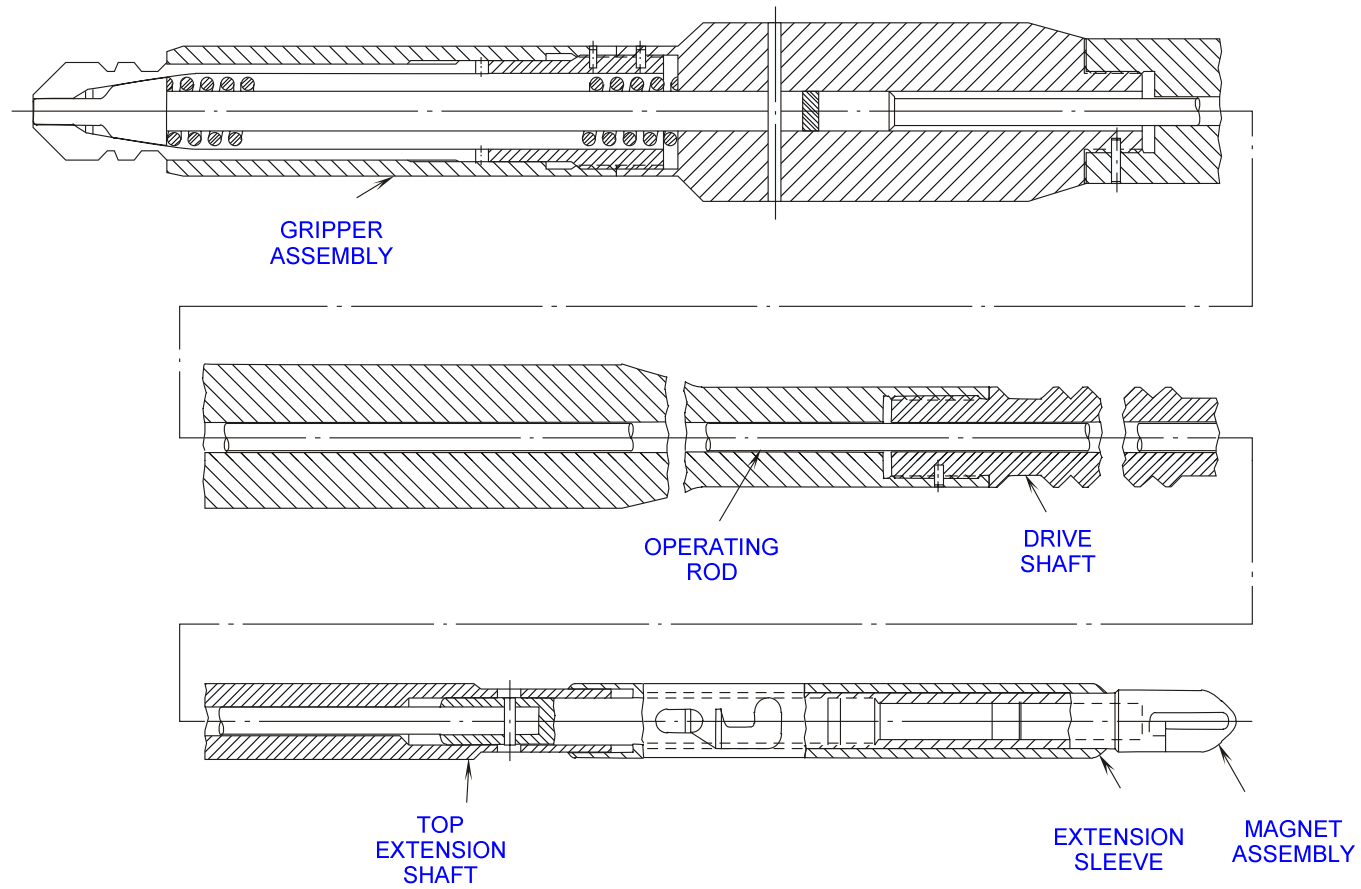


Figure 3-2 Dual CEA Coupling

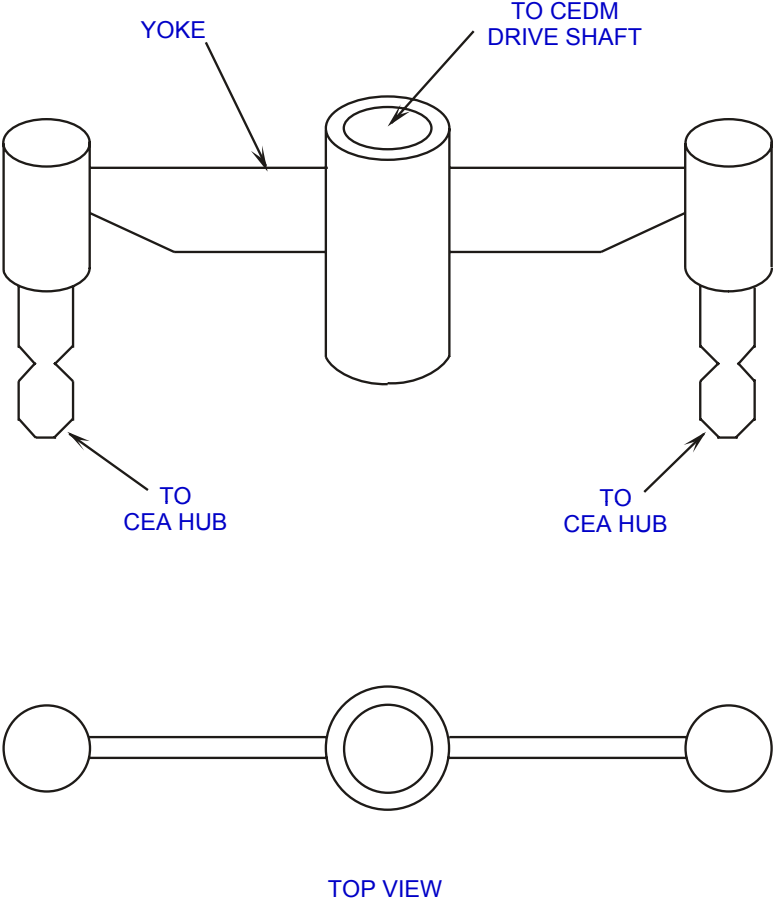


Figure 3.3 Pressure Housing and Drive Unit

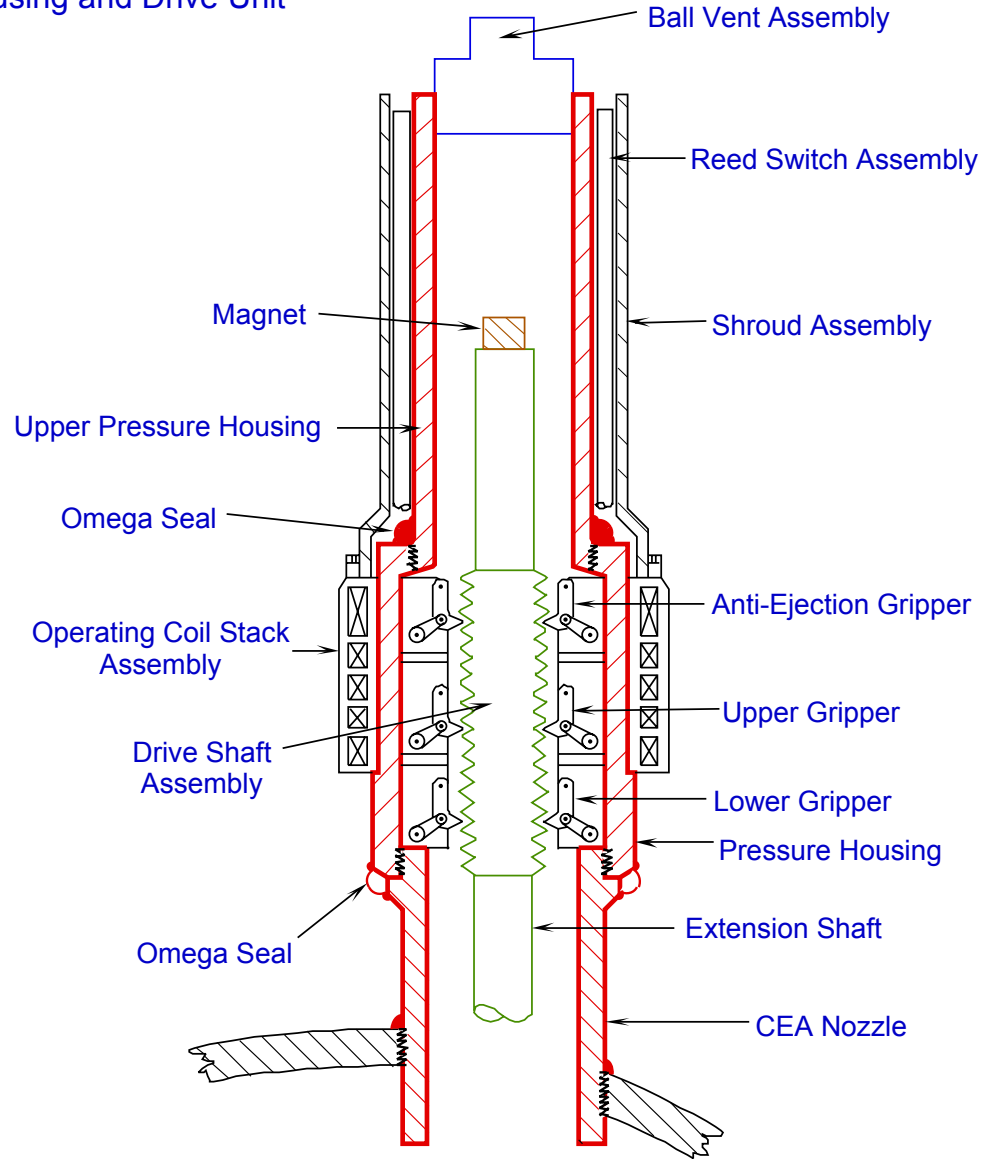


Figure 3-4 CEA Motor Assembly

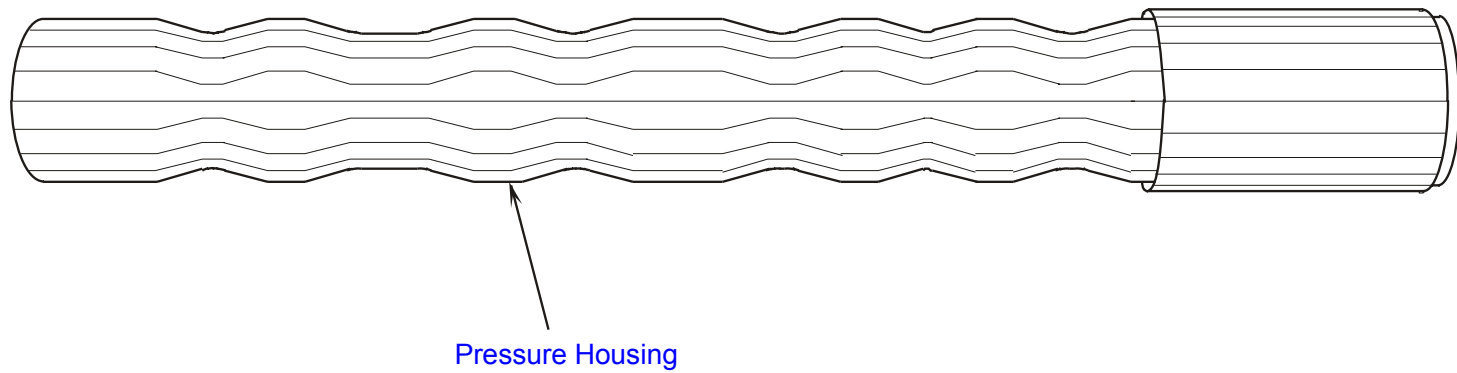


Figure 3-5 Hold Mode

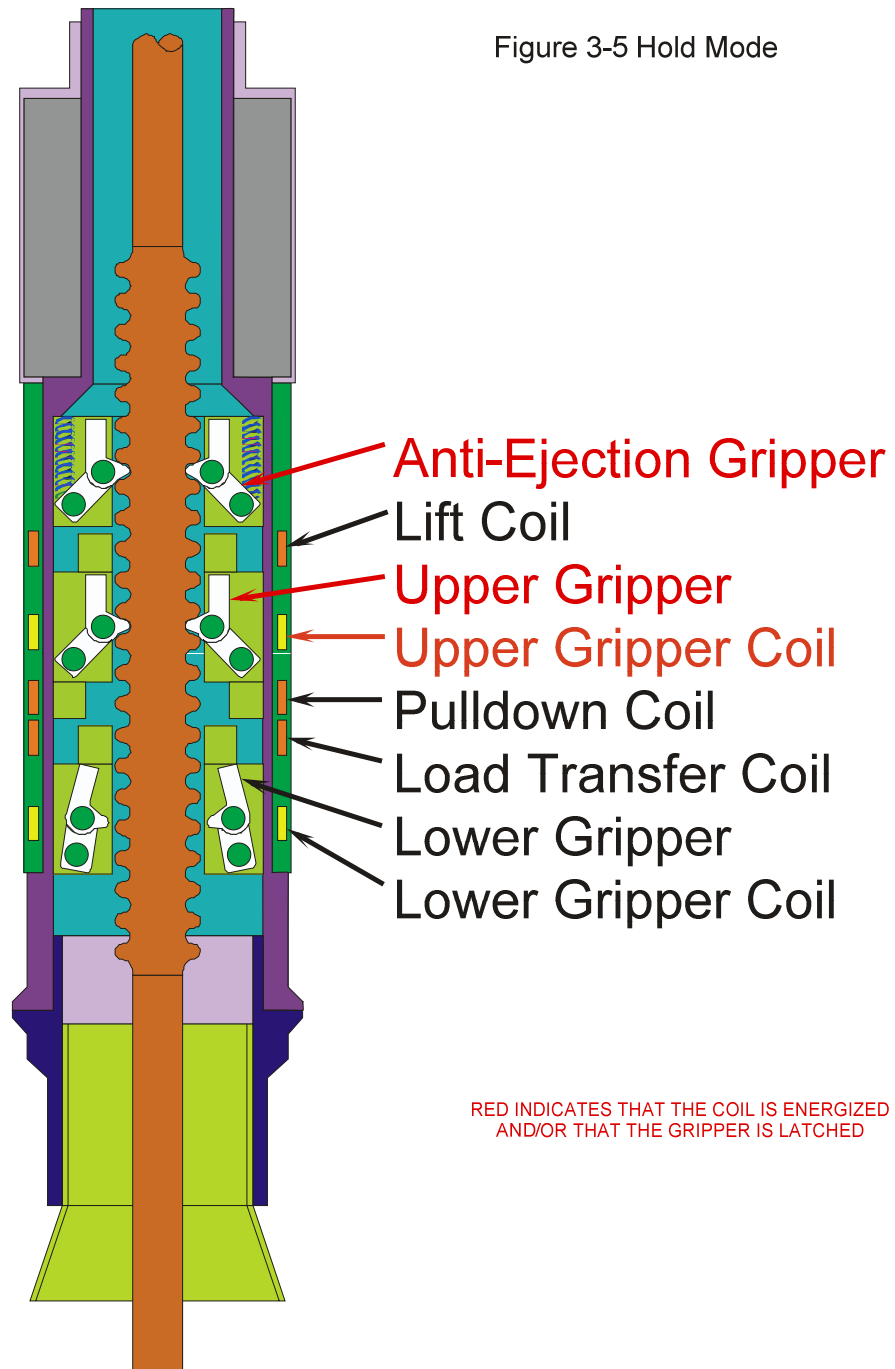


Figure 3-8 CEDS Block Diagram

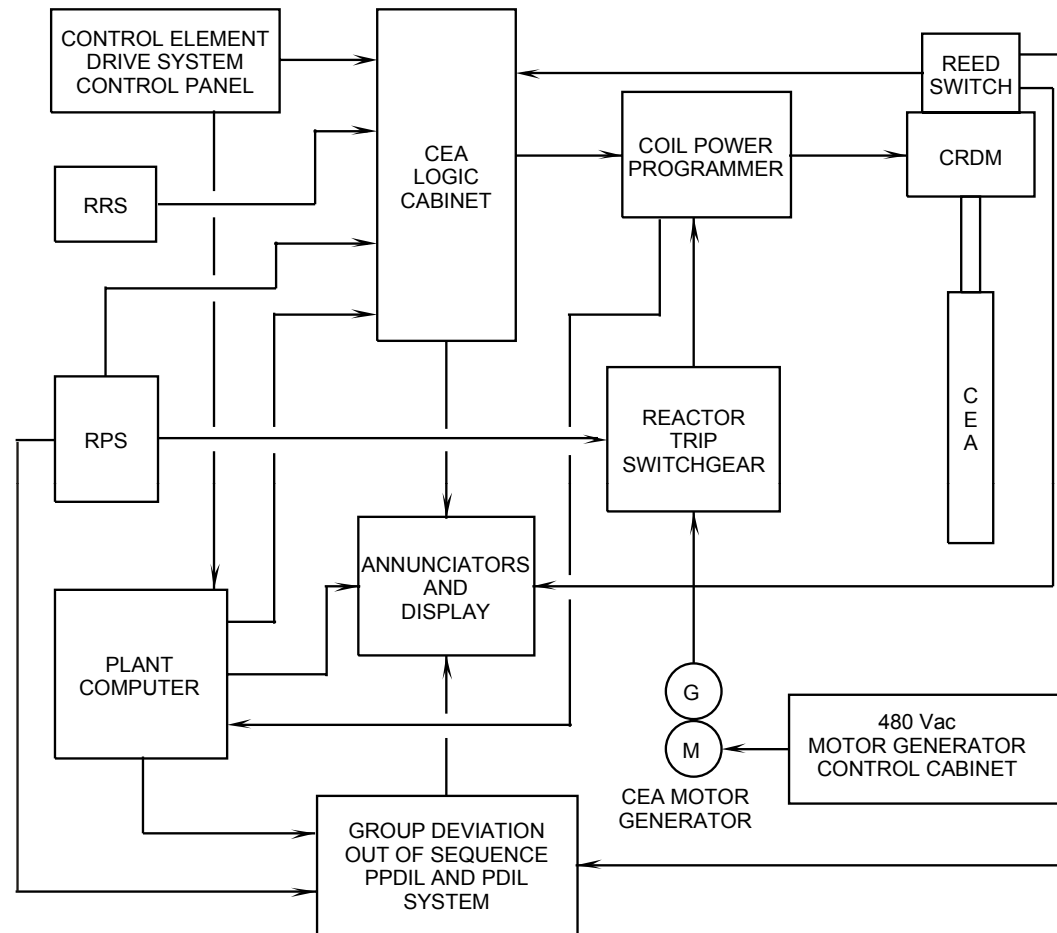


Figure 3-9 CEA Power Supply

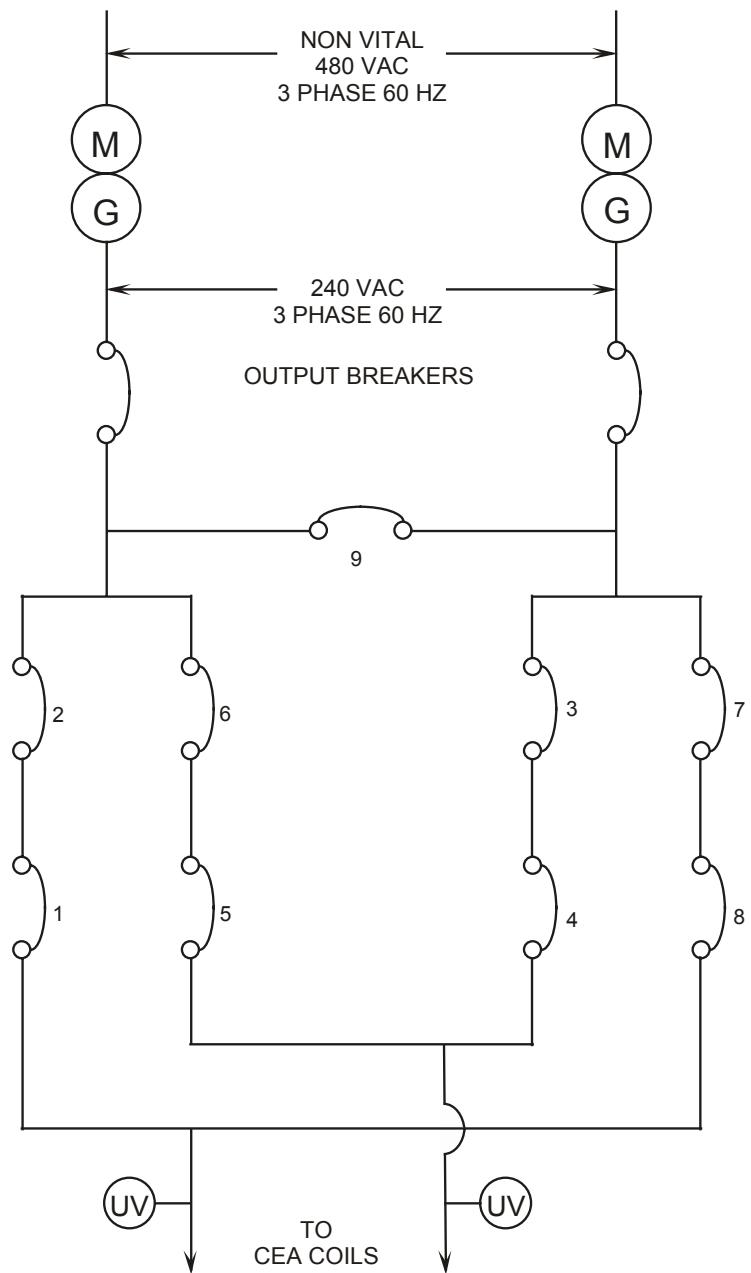


Figure 3-10 CEA Distribution Bus

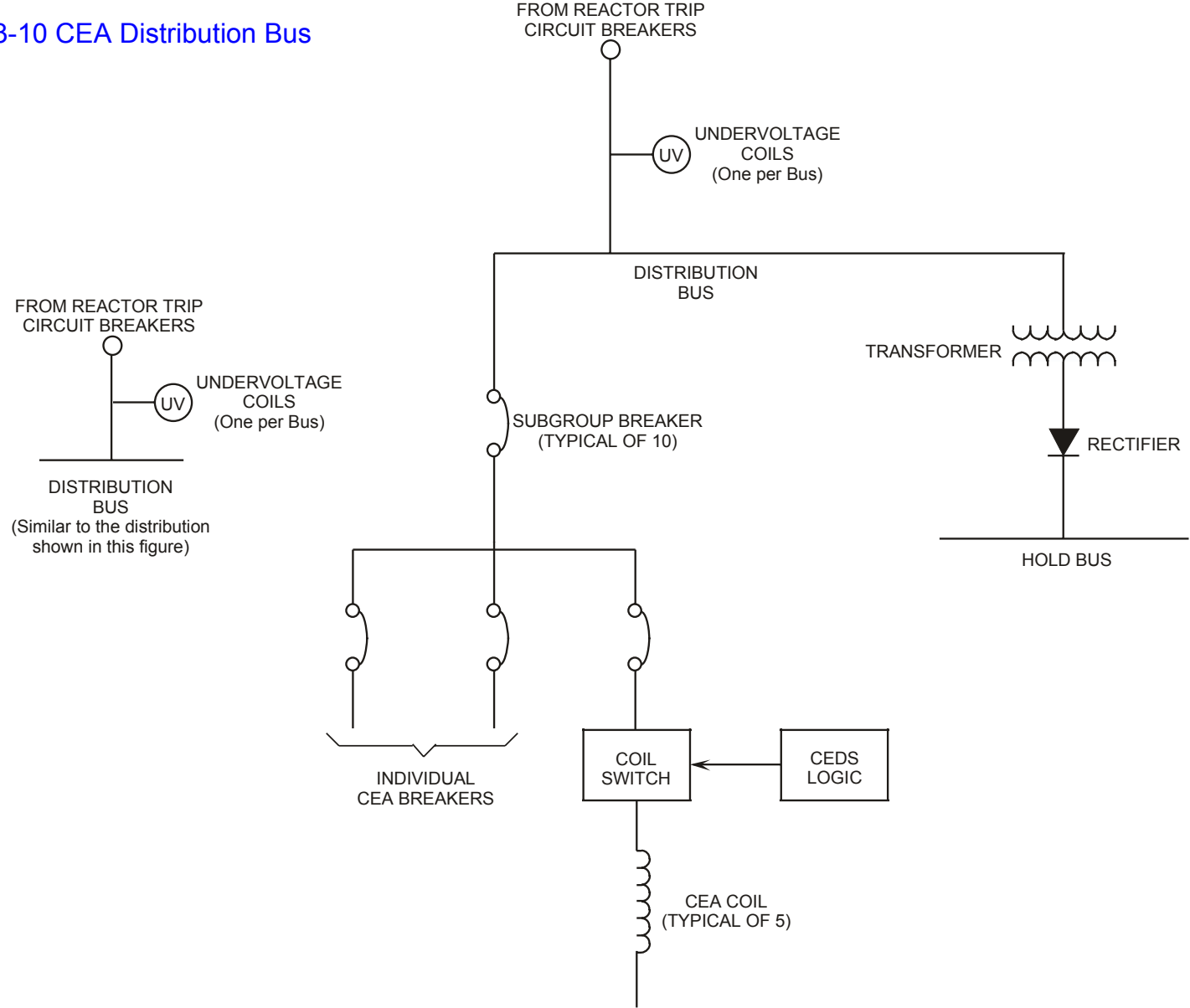


Figure 3-11 Reed Switch Assembly

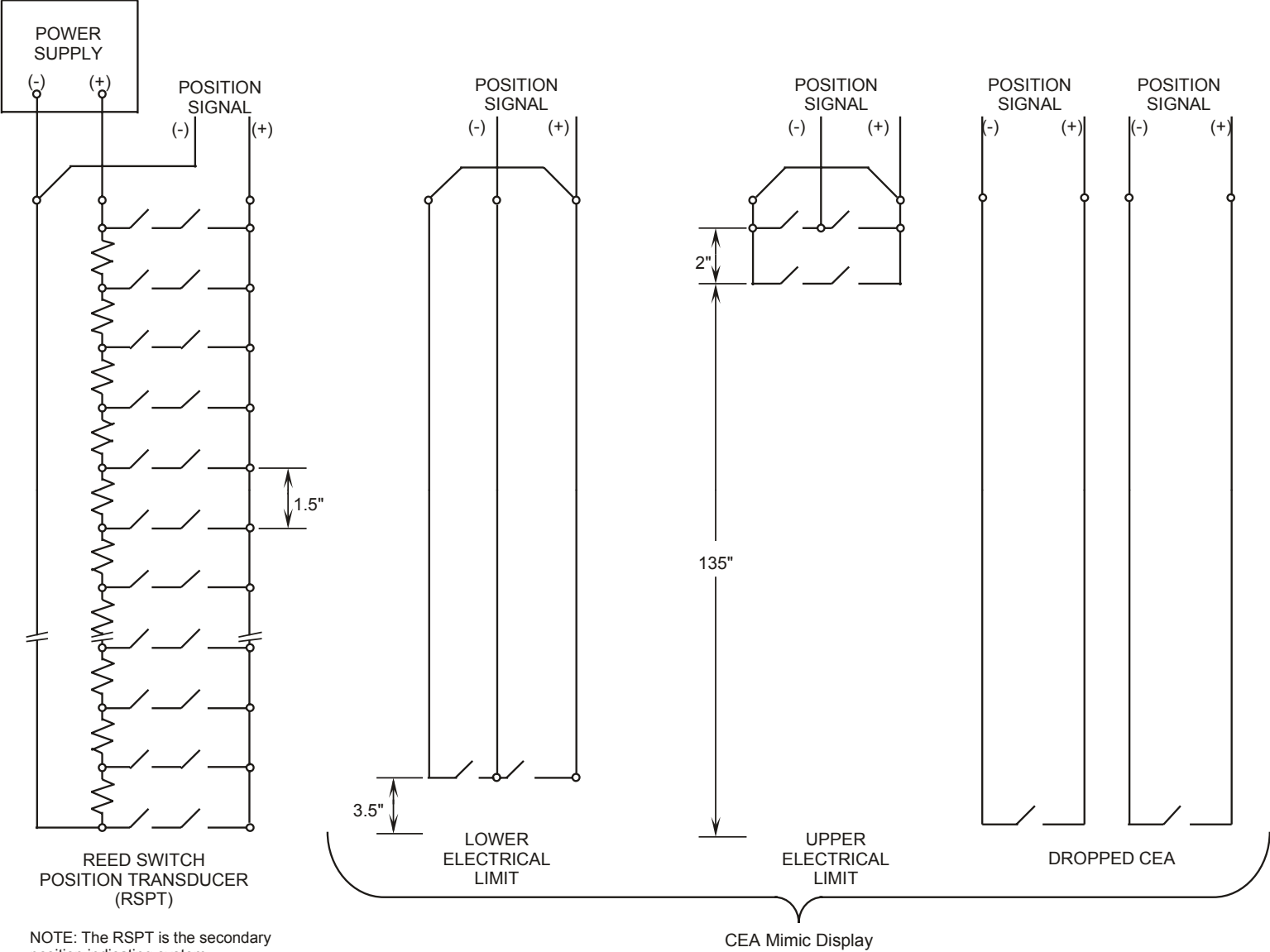
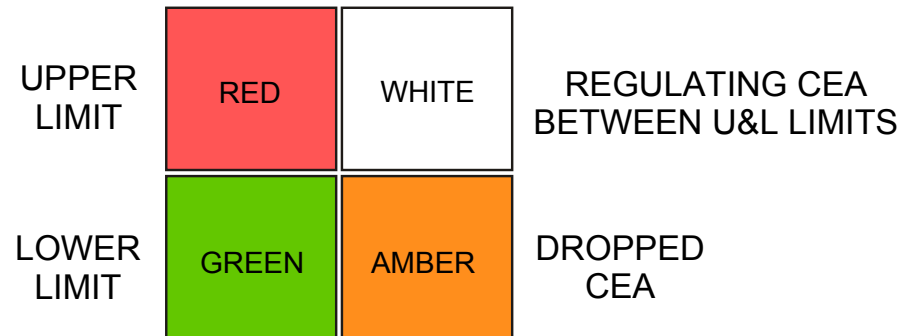


Figure 3-12 CEA Four Lamp Display

Regulating CEA



Shutdown CEA

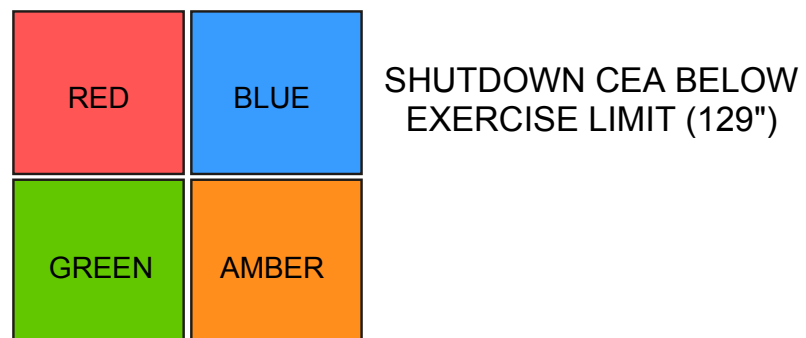


Figure 3-13 CEDS Control Panel

INDIVIDUAL CEASELECTION															
SHUTDOWN					REGULATING						POWER SHAPING				
A		B	C		1	2	3	4		5	6		P		
38	42	6	46	50	54	60	2	10	26	30	14	1	55	18	22
39	43	7	47	51	56	62	3	11	27	31	15	34	58	19	23
40	44	8	48	52	57	63	4	12	28	32	16	35	61	20	24
41	45	9	49	53	59	65	5	13	29	33	17	36	64	21	25
												37			P

GROUPSELECTION									
SHUTDOWN			REGULATING						POWER SHAPING
A	B	C	1	2	3	4	5	6	P
A	B	C	1	2	3	4	5	6	P

LAMP TEST

TEST

OFF

NOTE:
POWER SHAPING RODS
HAVE BEEN REMOVED.

MODE

SELECTION

AUTOMATIC SEQUENTIAL

AUTO

MANUAL SEQUENTIAL

MS

MANUAL GROUP

MG

MANUAL INDIVIDUAL

MI

The End