

# SIEMENS

Instruction and Maintenance Manual

## Dwarf Color Light Signal Model CLS-10D



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# MODEL CLS-10D DWARF COLOR LIGHT SIGNAL



The Model CLS-10D is a rear-access Dwarf Color Light Signal of modular design, allowing multiple units to be easily stacked together. Each unit measures 10 inches in height, 9 inches in width and 8 inches in depth. With dwarf mounting base, a clearance dimension of 19-1/4, 29, or 38-1/2 inches in height is required when mounting 1, 2, or 3 lamp units respectively.

The housing, doors, and mounting brackets are of lightweight cast aluminum construction. Neoprene door packing provides a weathertight, sealed unit. A locking screw secures the hinged door to the lamp housing and utilizes a standard terminal wrench or spanner key to open or close. Additional security may be provided by using a padlock to prevent access to lock screw.

Each lamp has a doublet lens combination which produces an aspect of one color. Ventilation is provided to minimize condensation. The CLS-10D is furnished with optical arrangements for tangent track. Antiphantom screens are also available. The outer clear and inner colored doublet lenses measure 6-3/8 and 5-1/2 inches in diameter respectively. The doublet lens combination, with standard S-11 signal lamp, is prefocused and factory sealed to assure maximum light output. The only adjustment necessary is field alignment accomplished through the use of a built-in sighting device.

A 5 ohm, 1.73 ampere, adjustable lamp resistor is provided for each lamp.

The mounting arrangements available for the CLS-10D are top of mast mounting, side of wall mounting, or base mounting on 8 x 8, or 6-3/4 x 6-3/4 inch bolt spacing. Mounting bracket assemblies are adjustable for both vertical and horizontal alignment.

Visors are furnished in either black, high-density, polyethylene plastic, steel-painted, non-reflective black, or aluminum-painted, non-reflective black.

The Model CLS-10D meets or exceeds all applicable AREMA recommended practices.

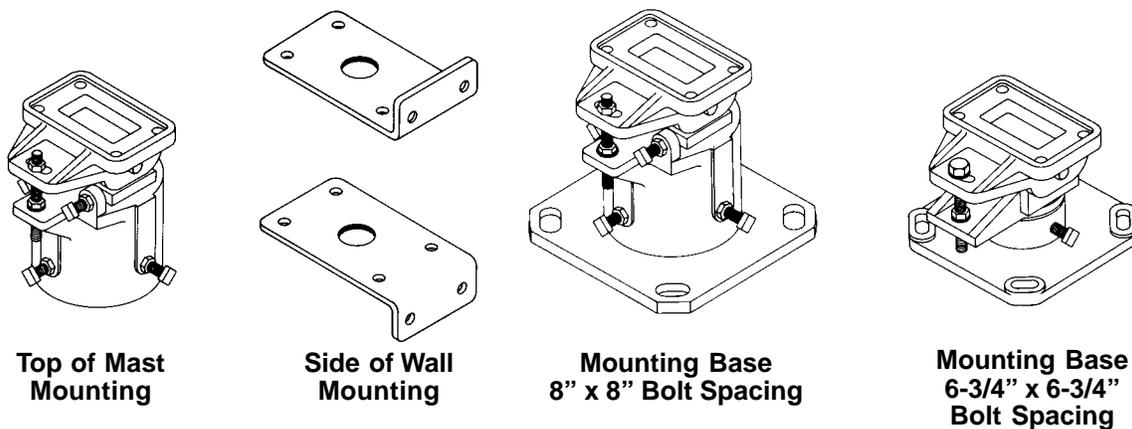
## ORDERING INFORMATION

To order, specify the following:

1. Model CSL-10D Dwarf Colorlight Signal
2. Number of units and color indication (top to bottom)
3. Lenses desired, see page 3
4. Bulb type, see page A-7-4 of Safetran Signal Catalog
5. Visor, see page 3

## MOUNTING BRACKETS

Mounting brackets are of lightweight cast aluminum construction. The top of mast mounting bracket will be furnished for 5 inch pipe mast mounting unless otherwise specified. The mounting base assemblies are to be used for 6-3/4 x 6-3/4 and 8 x 8 inch bolt spacings.



To order, specify description and part number:

Description	Part Number
Top of Mast Mounting Bracket, 5"	042254-2X
Side of Wall Mounting Bracket	042316-X
Mounting Base for 8" x 8" Bolt Spacing	042275-3X
Mounting Base for 6-3/4" x 6-3/4" Bolt Spacing	042275-1X

# LENSES FOR THE MODEL CLS-10D DWARF COLOR LIGHT SIGNAL

Lenses for the Model CLS-10D Color Light Signal are available in glass or high impact plastic. Both lens types provide a full face high intensity indication light. These lenses meet or exceed applicable AREMA recommended practices.

To order, specify diameter, focal length, deflection,  
color, material, and part number.

Diameter	Focal Length	Deflection	Color	Material	Part Number	Application
5-1/2"	1/2"	None	Green	Glass	042257-1G	Inner Doublet
5-1/2"	1/2"	None	Green	Plastic	044050-G	Inner Doublet
5-1/2"	1/2"	None	Lunar	Glass	042257-1L	Inner Doublet
5-1/2"	1/2"	None	Red	Glass	042257-1R	Inner Doublet
5-1/2"	1/2"	None	Red	Plastic	044050-R	Inner Doublet
5-1/2"	1/2"	None	Yellow	Glass	042257-1Y	Inner Doublet
5-1/2"	1/2"	None	Yellow	Plastic	044050-Y	Inner Doublet
6-3/8"	3-3/4"	None	Clear	Plastic	042210	Outer Doublet
6-3/8"	3-3/4"	Universal*	Clear	Plastic	044075	Outer Doublet
6-3/8"	3-3/4"	None	Clear	Glass	042210-2	Outer Doublet
6-3/8"	3-3/4"	40° Deflection Centerspot	Clear	Glass	042210-3	Outer Doublet

\* 6-3/8" Universal lens optics can be adjusted to provide:

1. Full standard long range beam indication.
2. Close up deflecting indication to 30 degrees from beam axis.
3. Additional very close up deflecting bar indication to 60 degrees from beam axis.

## VISORS

Visors for the Model CLS-10D are available in black, high density, polyethylene plastic, aluminum or steel. Aluminum and steel visors are painted non-reflective black. Visor assemblies listed below include all appropriate mounting hardware.

To order, specify description and part number.



Description	Part Number
Visor, Steel	042005-35X
Visor, Plastic	042005-19X
Visor, Aluminum	042005-107X

# MAINTENANCE

## Lamp Alignment

Use sighting device A, located in the upper left-hand corner of the lamp until, for proper beam alignment. When more than one lamp unit is used, the sighting device will be located in the bottom unit. Stacks of two or more lamp units are factory aligned.

Both the vertical and horizontal alignments can be made on any of the four different mounting brackets. Once the bracket has been mounted to the mast or foundation, the following adjustments can be made.

Loosen nuts B and bolts C and rotate lamp unit(s) to desired general location. Equally tighten bolts C and secure by tightening nuts B.

Loosen nut D to allow for final vertical and horizontal alignment. Loosen nut F and turn bolt G to rotate upper bracket left or right for proper horizontal alignment.

Turn nut E to move rear of bracket up or down for proper vertical alignment. Once adjustments have been made, tighten nuts D and F securely.

For side of wall type mounting brackets to be aligned properly, the brackets must be bolted to the lamp unit(s) prior to fastening to the wall. While holding the lamp unit(s) against the wall, align lamp units vertically and mark hole locations for drilling. Flat washers may be used to shim the brackets for proper horizontal alignment. Anchor securely to the wall with appropriate mounting hardware.

## Bulb Replacement

The Model CLS-10D lamp units are prefocused with a precision S-11 signal bulb. (See page A-7-4 of Safetran Signal Catalog).

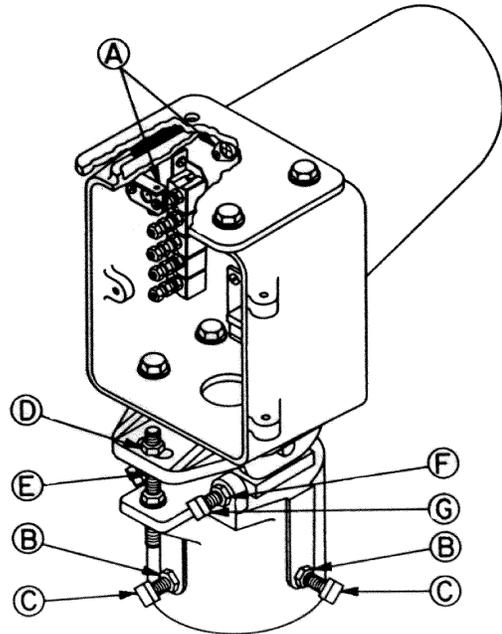
If light output is inadequate, remove lamp bulb, rotate 180 degrees, and reinstall. If light output is still inadequate, the bulb filament is not properly aligned. Replace bulb accordingly.

When using Quartz-Halogen type lamp bulbs, be careful as not to touch surface of bulb as oil from fingers will be baked to a dark, unremovable deposit due to the high bulb temperature. If touched, clean with a soft cloth and alcohol.

**CAUTION:** If bulb is touched when hot, a severe burn will result.

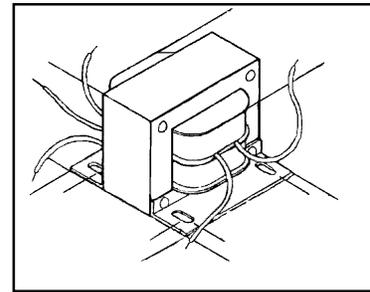
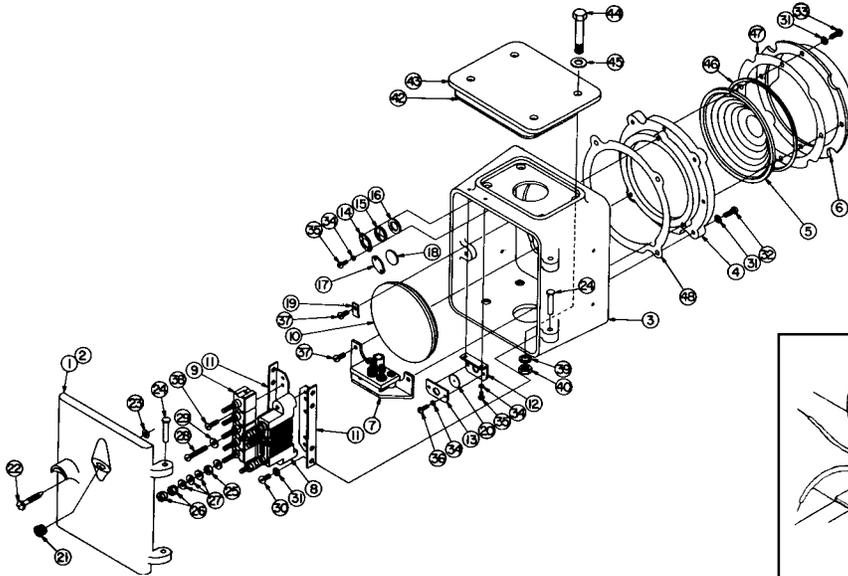
## Lens Replacement

When replacing either the inner or outer lens, use only an exact replacement, glass or plastic lens from the same manufacturer. Substitution of lenses other than those for which the unit was originally focused may result in reduced light output. If a substitution other than an exact replacement is necessary, lamp should be refocused in a signal shop for maximum light output.



# REPLACEMENT PARTS

## MODEL CLS-10D DWARF COLOR LIGHT SIGNAL

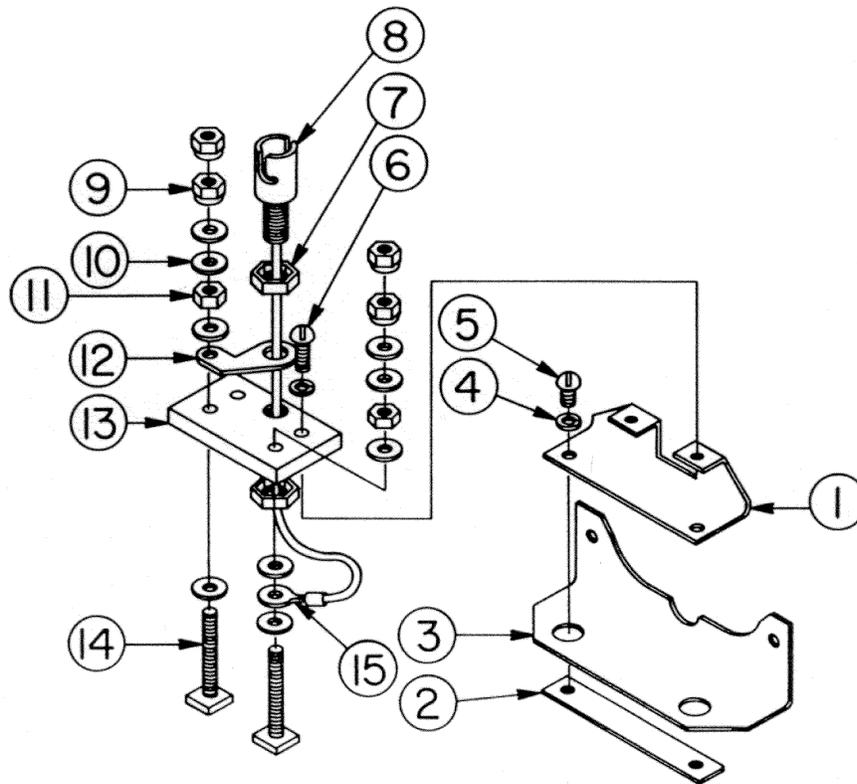


**41. Note:** If a 110 VAC adjustable, signal lighting transformer is required, Safetran can provide Part number 019800-11X

To order, specify description and part number.

Item No.	Description	Qty. Req'd.	Part Number	Item No.	Description	Qty. Req'd.	Part Number
1	Door, CLS-10D	1	042610	29	Washer, Flat, #10	2	1710-SC
2	Gasket, Door	1	104510	30	Machine Screw, Round Head, 1/3" - 20 x .375"	4	2665-RSC
3	Housing, CLS-10D	1	042609	31	Washer, Spring Lock, M, 1/4"	12	1808-MS
4	Housing, Lens	1	042611	32	Machine Screw, Round Head, 1/4" - 20 x 1"	4	2662-RSC
5	Doublet, Outer (see page C-2-3)	1	Specify	33	Machine Screw, Round Head, 1/4" - 20 x .75"	4	2660-RSC
6	Adapter, Hood	1	042612	34	Washer, Spring Lock, M, #10	6	1806-MS
7	Support, Lamp	1	042265-10X	35	Machine Screw, Round Head, #10 - 24 x .5"	4	2590-RSC
8	Resistor, Adjustable, 5 Ohm	1	029603-2X	36	Machine Screw, Truss Head, #10 - 24 x .312"	2	2589-TSC
9	Block, Terminal	5	023390-11X	37	Screw, Retaining	3	4266
10	Doublet, Inner (See page C-2-3)	1	Specify	38	Machine Screw, Fillister Head, #10 - 24 x .625"	2	2594-LSC
11	Bracket	2	042286-8	39	Washer, Spring Lock, M, 1/2"	4	1812-MS
12	Bracket, Rear Sight	1	042260-6	40	Nut, Hex, 1/2" - 13	4	2108-SC
13	Plate, Hold Down	1	042260-7	41	Transformer	1	019800-11X
14	Retainer	1	042261-4	42	Gasket	2	042268-3
15	Sight, Front	1	042260-4	43	Cap Cap Screw, Hex Head,	1 4	042255-2 4173-HSC
16	Gasket	1	042261-3	44	1/2" - 13 x 2.75"		
17	Plate, Cover	1	042261-5	45	Washer, Lead	4	042268-2
18	Gasket	1	042261-6	46	Gasket, Lens	1	042611-5
19	Clamp, Lens	1	042026	47	Gasket, Hood Adapter	1	042611-3
20	Disc, Peep Sight	1	042260-3	48	Gasket, Lens Housing	1	042611-2
21	Bushing, Vent	1	041913-X				
22	Screw, Hex Locking	1	042056				
23	O-Ring	1	042380				
25	Nut, Clamp	5	023832				
26	Nut, Binding	10	023831				
27	Washer, Beveled	20	023834				
28	Machine Screw, Round Head #10 - 24 x 1.5"	2	2600-RSC				

# LAMP SUPPORT BRACKET REPLACEMENT PARTS



Item No.	Description	Qty. Req'd.	Part Number
1	Support, Lamp	1	042265-12
2	Plate, Locking	1	042265-13
3	Bracket, Lamp	1	042265-11
4	Washer, Spring Lock, #10	4	1979
5	Machine Screw, Pan Head, #10-32 x .375"	2	2614-PSC
6	Machine Screw, Round Head, #10-32 x.5"	2	2616-RSC
7	Nut, Pal, 7/16" - 20	2	2350-SC
8	Socket, Long Lamp	1	042019-7
9	Nut, Binding	4	023831
10	Washer, Beveled	9	023834
11	Nut, Clamp	2	023832
12	Connector, Offset	1	042265-14
13	Base, Bulb Socket	1	042263-1
14	Post, Terminal	2	023833
15	Wire Assembly	1	042021-1X

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