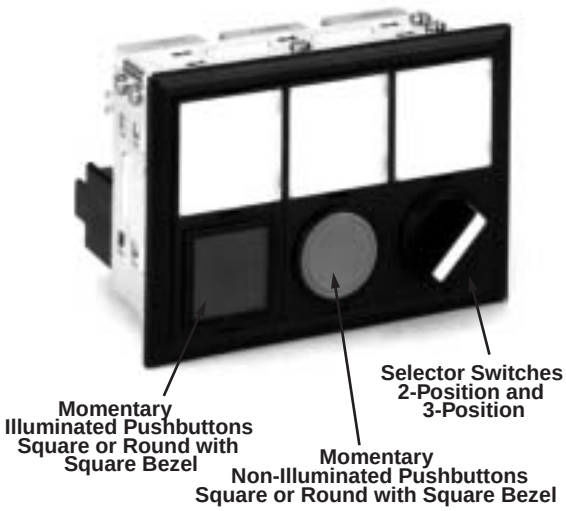
SLC30-IPS Series — Panel Mounted Annunciators

The SLC30-IPS combination display lights with control units combine display lights with control units such as pushbuttons, illuminated pushbuttons, selector switches, and keylock selector switches.

This results in savings of both space and installation time, since mounting separate switches becomes unnecessary. SLC30-IPS combination display lights can be custom built to meet your specifications.

Key features of the SLC 30 -IPS series include:

- **Switches are integrated into an assembled SLC matrix, requiring only one panel cutout**
- **Illuminated, non-illuminated, selector, and key-switches are available**
- **Five window sizes based on a 30mm grid**
- **Non-reflective clear lenses**
- **Incandescent or Superbright LED illumination**
- **Momentary pushbuttons only**



UL Recognized
File No. E69861

CSA Certified
File No.
LR48366-24

Cert. No.
B970213332375

Specifications

Light Source		LED	Incandescent
Nominal Voltages	Direct	6, 12, 24V AC/DC	6.3, 18, 24, 30V AC/DC
	Transformer	120, 240V AC	120, 240V AC
	DC-DC Conv.	110V DC	110V DC
Maximum Voltage		250 AC/DC	
Contact Thermal Current		3A (gold contact), 5A (silver contact)	
Contact Operating Current		Gold contact: 125V AC/0.1A, 30V DC/ 0.1A (resistive load) Silver contact: 125V AC/3A, 250V AC/2A (resistive load), 30V DC/2A, 125V DC 0.4AA (resistive load)	
Control Unit Types		Pushbuttons: Square or round, illuminated or non-illuminated (momentary only)	
		Selector switches: 2-position or 3-position, maintained	
		Keylock switches: 2-position or 3-position, maintained	
Colors		Amber, Green, Red, Yellow, Blue, White, dual color Red/Green (24V only)	Amber, Green, Red, Yellow, Blue, White
Lamp Type		Surface (Chip type) LED cluster (20mA approximately)	BA9S/13 T3-1/4 bayonet base (1W)
Available Window Sizes		"F" 30x30mm; "H" 30x60mm; "L" 30x90mm; "V" 60x30mm; "G" 60x60mm	
Insulation Resistance		More than 100 MΩ by a 500V DC megger	
Degree of Protection		IP20 (for indoor use only), NEMA 1	
Dielectric Strength		2,000V AC direct (2,500V AC transformer (1 minute)	
Operating Temperature		– 20˚ to +40˚C; (15–90% relative humidity) (–10˚ to +40˚C DC-DC converter)	
Material of Marking Plate and Color Screen		Polycarbonate	
Termination		M3.5 screw with captive sems plate Check terminals: M3 screw with captive sems plate	
Maximum Size		Full voltage 10 rows, 20 columns (200 windows) Transformer and DC/DC converter 10 rows, 20 columns (50 windows)	
Recommended Wire Size		22-14 AWG x2, (2mm^2 x 2)	
Approvals		TÜV PRODUCT SERVICE Cert. No. B970213332375; UL Recognized File No. E69861; CSA Certified File No. LR48366-24	

Part Numbers (assembled)

Part Number Guide

	①	②		③	④	
SLC30N –	**01**	**02**	**–**	**DD**	**2**	**MLB**
	Number of Rows	Number of Columns		Type	Voltage	

Description				Code	Remark
① Number of Rows				01, 02, 03, 04, 05, 06, 07, 08, 09, 10	10 row maximum (number of base unit (F style) windows)
② Number of Columns				01, 02, 03, 04, 05, 06, 07, 08, 09, 10 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	20 column maximum (number of base unit (F style) windows)
③ Type	LED	Full Voltage	Standard	DD	6V, 12V, 24V
			With check terminal	DHM	24V only
			2 color (Red/Green)	DW	24V only
		Transformer		TD	120V, 240V AC
		DC-DC Converter		CD	110V DC only
	Incandescent	Full Voltage		DS	6.3V, 12V, 18V, 24V, 30V
		Transformer		TS	120V, 240V
④ Voltage	6.3V AC/DC			1	Type DD or DS
	12V AC/DC			2	With Type DD, DS
	18V AC/DC			8	Type DS only
	24V DC			2	Type DD, DW, or DS
	30V AC/DC			3	Type DS only
	120V AC			12	Type TD or TS
	240V AC			24	Type TD or TS
	110V DC			1	With Type CD
	No lamp			99	Type DS only

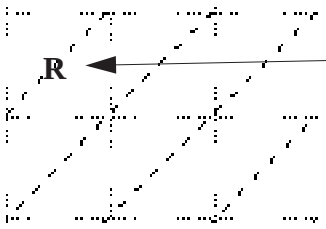
1. *Secondary voltage on transformers and DC-DC converters is 24V.*
2. *To specify arrangement of varying window sizes and colors, use the order form on the next page.*
3. *Drawings are required for any units ordered with engraving.*

SLC30-IPS Order Form Instructions

How to order a SLC30-IPS display light:

Example 1: Specifying a window color

Enter the lens illumination color code in each square. Use the table below for color codes.



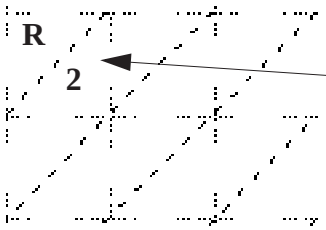
This example would place a Red window in this location.

Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

Example 2: Specifying a control unit

Enter the control unit code in the lower right half of each square. Use the table above for color codes and the table below for control codes.



This example would place a Red, square, illuminated pushbutton with silver contacts in this location.

Control Unit Codes

Type	Contact Type Gold	Contact Type Silver
Square illuminated pushbutton (DPDT)	**1**	**2**
Round illuminated pushbutton (DPDT)	**3**	**4**
Square pushbutton (DPDT)	**5**	**6**
Round pushbutton (DPDT)	**7**	**8**
Selector switch (2-position)	**9**	**10**
Selector switch (3-position)	**11**	**12**
Keylock selector switch (2-position)	**13**	**14**
Keylock selector switch (3-position)	**15**	**16**

For assistance with developing part numbers or completing the order form on the next page, contact IDEC technical support.

Engraving Information

Part Numbers: Engraving Plates

Window Type	Part No.	Character Size	Maximum Characters per Line	Maximum Lines
F 30x30mm	SLC-3PF	7/32	7	3
		3/16	7	3
		5/32	9	4
		9/64	9	4
		1/8	10	4
H 30x60mm	SLC-3PH	5/16	8	2
		7/32	13	3
		5/32	17	4
L 30x90mm	SLC-3PL	5/16	14	2
		7/32	20	3
		5/32	26	4
V 60x30mm	SLC-3PV	5/16	4	4
		7/32	6	6
		5/32	8	8
G 60x60mm	SLC-3PG	5/16	9	4
		7/32	12	6
		5/32	16	8

Engraving plates are supplied with all assembled SLC units.

Engraving Size Samples

5/16" size

7/32" size

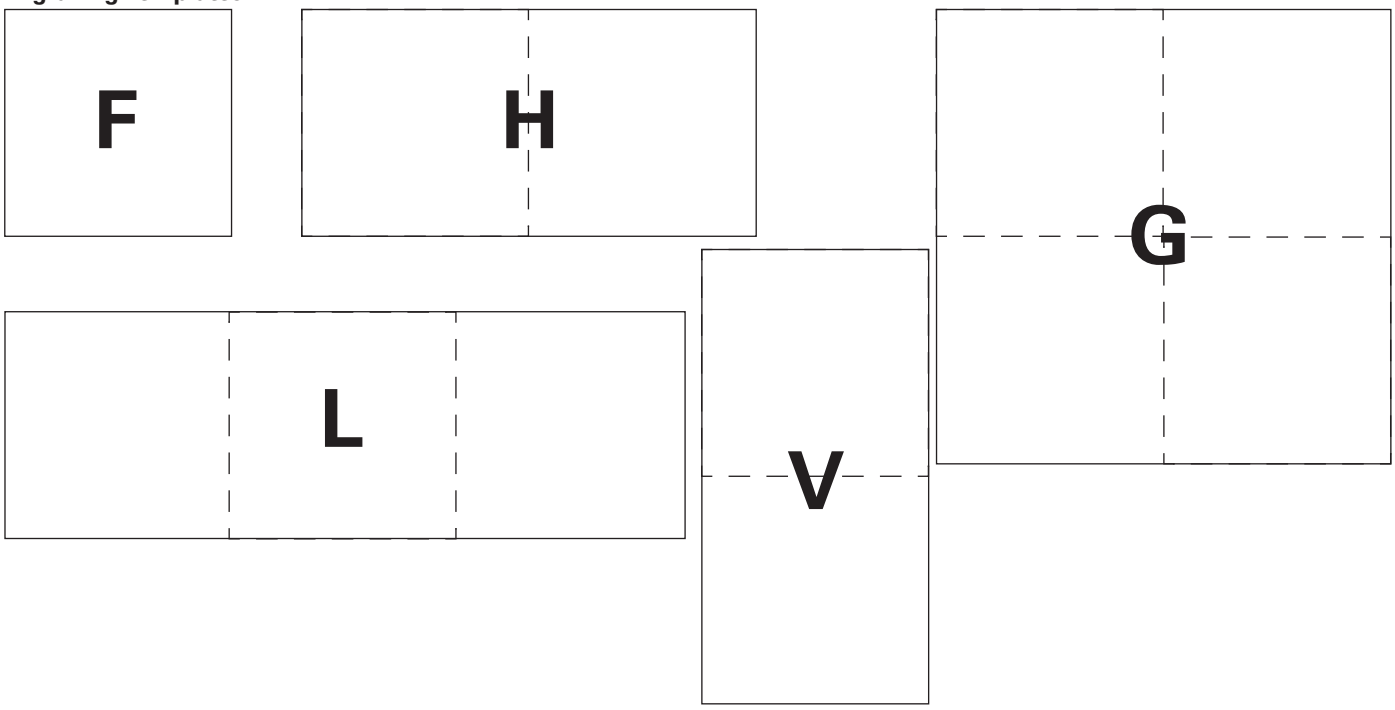
3/16" size

5/32" size

9/64" size

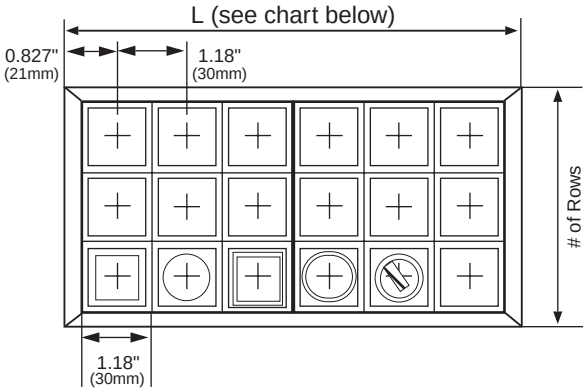
1/8" size

Engraving Templates

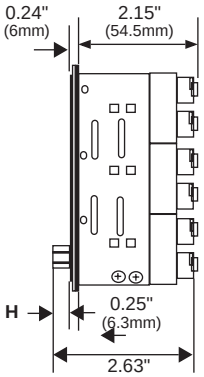


Dimensions

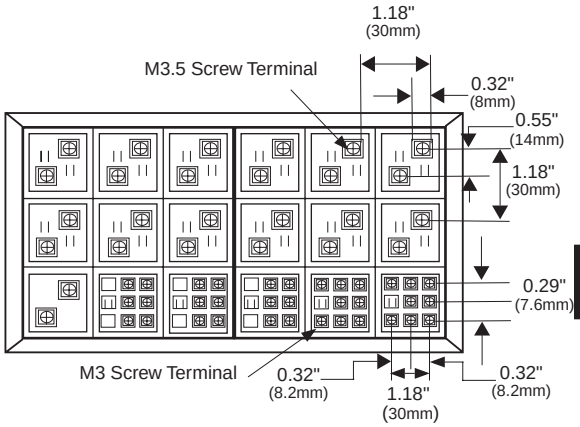
Front View



Side View

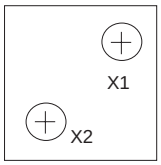


Back View

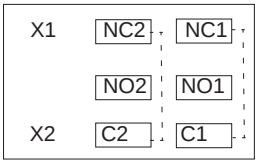


Bottom View

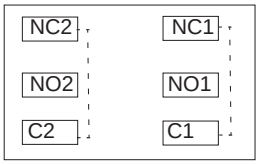
SLC30



Illuminated Pushbuttons

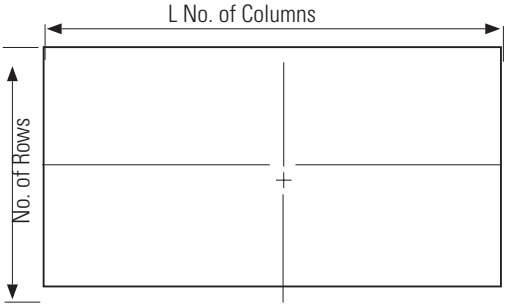


Non-Illuminated Pushbuttons and Selector Switches



X1 = Positive Terminal, X2 = Negative Terminal

Panel Cut-Out Size



Panel Cut-Out Dimensions

No. of Columns →				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Overall Panel Width Dimension →			1.654" (42mm)	2.853" (72mm)	4.016" (102mm)	5.197" (132mm)	6.378" (162mm)	7.559" (192mm)	8.740" (222mm)	9.921" (252mm)	11.102" (282mm)	12.283" (312mm)	13.465" (342mm)	14.646" (372mm)	15.827" (402mm)	17.008" (432mm)	18.189" (462mm)	19.370" (492mm)	20.551" (522mm)	21.732" (552mm)	22.913" (582mm)	24.094" (612mm)
↓ No. of Rows	Overall Height ↓	Cut-out Ht ↓	Cut-out Wd →	1.378" (35mm)	2.559" (65mm)	3.740" (95mm)	4.921" (125mm)	6.102" (155mm)	7.283" (185mm)	8.465" (215mm)	9.646" (245mm)	10.827" (275mm)	12.008" (305mm)	13.189" (335mm)	14.370" (365mm)	15.551" (395mm)	16.732" (425mm)	17.913" (455mm)	19.094" (485mm)	20.276" (515mm)	21.457" (545mm)	22.638" (575mm)	23.819" (605mm)
1	1.654" (42mm)	1.378" (35mm)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	2.835" (72mm)	2.559" (65mm)		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
3	4.016" (102mm)	3.740" (95mm)		3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
4	5.197" (132mm)	4.921" (125mm)		4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
5	6.378" (162mm)	6.102" (155mm)		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
6	7.559" (192mm)	7.283" (185mm)		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
7	8.740" (222mm)	8.465" (215mm)		7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140
8	9.921" (252mm)	9.646" (245mm)		8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
9	11.102" (282mm)	10.827" (275mm)		9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180
10	12.283" (312mm)	12.008" (305mm)		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
				Total Number of Windows (equivalent to style F—basic unit size)																			

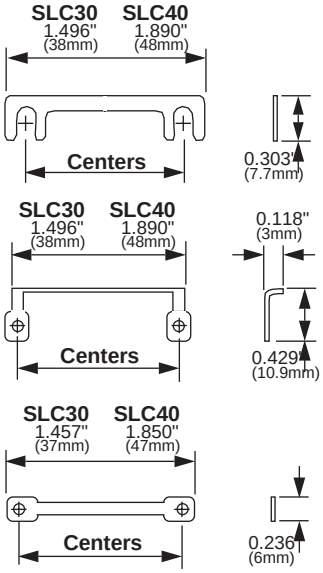
Dimensions, continued

JUMPERS

Thickness = 0.020" (0.5mm)

Centers:
SLC30 = 1.181" (30mm)
SLC40 = 1.575" (40mm)

± 0.004" (0.1mm)

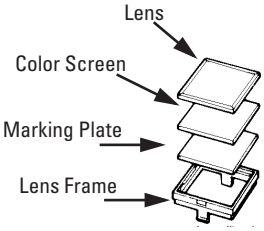


Contact Operations

Selector Switches and Keylock Selector Switches

			Operator Position and Contact Operation (top view)		
	Position	Contacts	Left	Center	Right
Contact Operation	90° 2-position maintained 45° L R	DPDT 2-position	Left: NO ○ NC ● Right: NO ○ NC ●	—	Left: NO ○ NC ● Right: NO ○ NC ●
	L C R 3-position maintained	DPDT 3-position	Left: NO ○ NC ● Right: NO ○ NC ●	Left: NO ○ NC ● Right: NO ○ NC ●	Left: NO ○ NC ● Right: NO ○ NC ●

SLC Series Accessories

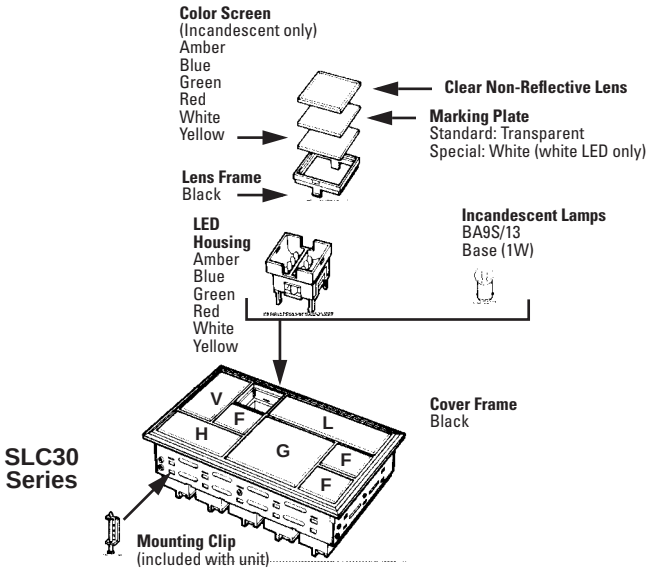
Description		Application		Part No.	Remarks	
Lenses		SLC30 incandescent, LED	F	SLC-3LF-(UL)	A lens is included with each window on assembled units	
			H and V	SLC-3LH-(UL)		
			L	SLC-3LL-(UL)		
			G	SLC-3LG-(UL)		
		SLC40 incandescent, LED	F	SLC-4LF-(UL)		
			H and V	SLC-4LH-(UL)		
Color Screens		SLC30 incandescent	F	SLC-3PF-*-(UL)	Specify color code in place of asterisk (*): A = Amber C = Transparent G = Green (incandescent) R = Red S = Blue W = White Y = Yellow	A color screen and marking plate are included with each window of assembled incandescent units Two marking plates are included with each window of assembled LED units; LED units do not use color screens
			H and V	SLC-3PH-*-(UL)		
			L	SLC-3PL-*-(UL)		
			G	SLC-3PG-*-(UL)		
		SLC40 incandescent	F	SLC-4PF-*-(UL)		
			H and V	SLC-4PH-*-(UL)		
Marking Plates		SLC30 incandescent, LED	F	SLC-3PF-■-(UL)	Specify color code in place of square (■): C = Transparent (LED) W = White (incandescent) WL = White (LED)	
			H and V	SLC-3PH-■-(UL)		
			L	SLC-3PL-■-(UL)		
			G	SLC-3PG-■-(UL)		
		SLC40 incandescent, LED	F	SLC-4PF-■-(UL)		
			H and V	SLC-4PH-■-(UL)		
Lens Frames		SLC30 incandescent only	F	SLC-3WF-B	A lens frame is included with each window on assembled units	
			H	SLC-3WH-B		
			V	SLC-3WV-B		
			L	SLC-3WL-B		
			G	SLC-3WG-B		
		SLC30 LED only	F	SLC-3WF-BL		
			H	SLC-3WH-BL		
			V	SLC-3WV-BL		
			L	SLC-3WL-BL		
			G	SLC-3WG-BL		
		SLC40 incandescent only	F	SLC-4WF-B		
			H	SLC-4WH-B		
			V	SLC-4WV-B		
		SLC40 LED only	F	SLC-4WF-BL		
			H	SLC-4WH-BL		

Description		Application		Part No.	Remarks	
Incan-descent Lamps	BA9S/13 (1W)	SLC30 incandescent only	BA9S/13 lamp base	IS-6	6.3V, 1W; operating voltage: 5 to 6V AC/DC	Unless "no lamp" (99) is specified, a lamp is included with each style F window equivalent One part number is specified for one replacement bulb
				IS-12	12V, 1W; operating voltage: 9 to 12V AC/DC	
				IS-24	24V, 1W; operating voltage: 18 to 24V AC/DC	
				IS-30	30V, 1W; operating voltage: 24 to 30V AC /DC	
	E12/15 (2W)	SLC40 incandescent only	E12/15 lamp base	LE-6	6.3V, 2W; operating voltage: 5 to 6V AC/DC	
				LE-8	18V, 2W; operating voltage: 12 to 18V AC/DC	
				LE-2	24V, 2W; operating voltage: 18 to 24V AC/DC	
				LE-3	30V, 2W; operating voltage: 24 to 30V AC/DC	
LED Lamps		SLC30 LED only 1-color	6V AC/DC	SLC-6SP*	Specify color code in place of asterisk (*): A = Amber G = Green R = Red S = Blue (available in 24V version only) W = White Y = Yellow	
			12V AC/DC	SLC-1SP*		
			24V AC/DC	SLC-2SP*		
		SLC30 LED only 2-color: Red/Green	24V AC/DC	SLC-2SP-R/G		
		SLC40 LED only 1-color	6V AC/DC	SLC-6EP*		
			12V AC/DC	SLC-1EP*		
			24V AC/DC	SLC-2EP*		
		SLC40 LED only 2-color: Red/Green	24V AC/DC	SLC-2EP-R/G		

Replacement Parts

Full Voltage Models		Description	Type	Part Number
SLC30	LED	Incandescent	DS	SLC-3DS
		Standard LED	DD	SLC-3DH
		LED w/ Check Terminal	DHM	SLD-3DHM
		Dual Color LED	DW	SLD-3DW
SLC 40	Incandescent	Incandescent	DE	SLC-4DE
		Incandescent w/ Check Terminal	DEM	SLC-4DEM
		Standard LED	DD	SLC-4DH
		LED w/ Check Terminal	DHM	SLC-4DHM
		Dual Color LED	DW	SLC-4DHW
Step Down Models		**Description**	**Type**	**Part Number**
SLC30	Incandescent	Incandescent xfrmr, 120V AC	TS12	SLC-3TS120
		Incandescent xfrmr, 240V AC	TS24	SLC-3TS240
	LED	LED xfrmr, 120V AC	TD12	SLC-3TP120
		LED xfrmr, 240V AC	TD24	SLC-3TP240
		LED DC-DC converter, 110V DC	CD1	SLC-3CP1
SLC40	Incandescent	Incandescent xfrmr, 120V AC	TE12	SLC-4TE12
		Incandescent xfrmr, 240V AC	TE24	SLC-4TE240
	LED	LED xfrmr, 120V AC	TD12	SLC-4TP120
		LED xfrmr, 240V AC	TD24	SLC-4TP240
		LED DC-DC converter, 110V DC	CD1	SLC-4CP1

Description	Application		Part No.	Remarks
Lamp Holder Tool	SLC30 and SLC40 incandescent		OR-55	Rubber tool eases the removal of incandescent lamps
Tab Terminal Adaptors	Used for wiring quick-connect terminals		TW-FA1	#250 tab terminal (W x H): 0.250" x 0.031" (6.35 x 0.8mm) single tab
Jumpers	SLC30	X1 terminal (spade)	SLC-JP30	Total number of jumpers equals total number of style F window equivalents
		X2 terminal (ring)	SLC-JP33	
		C terminal (ring)	SLC-JP32	
	SLC40	X1 terminal (spade)	SLC-JP40	
		X2 terminal (ring)	SLC-JP41	
		C terminal (ring)	SLC-JP42	
Mounting Clip	All SLCs		SLC-3K1	Mounting clips are included with the panel (see page C–43 for details about quantity and placement).
Marking Strip			BNM2	White glossy paper with adhesive back (the dimensions are given below); the marking strip can be stuck to the terminal transformer or directly to the units for identification of the unit or circuit number; Sticker dimension (W x L): 0.197" x 393.701" (5 x 10,000mm)
Finger-Safe Terminal Covers	Use with SLC30 types DD, TD, CD, DS and TS		SLC30-VL3	
	Use with all SLC30 types DHM and DW		SLC30-VL6	
	Use with SLC40 types DD, TD, CD, DE and TE		HW-VL3	
	Use with SLC40 types DHM, DW, and DEM		SLC40-VL6	



General Information: Ordering SLC Display Lights

When ordering a custom-built combination of SLC display lights for a multiple panel, copy the order form provided. This is the only order form accepted.

Using the Order Form

Part No.: Enter the part number using the part numbering guides.

Quantity: Enter the number of **identical** completely assembled panels required.

Window Count: Convert all window styles to style F (basic unit size) equivalents:

Style F = 1 window

Style H = 2 windows (1 row high x 2 columns wide)

Style L = 3 windows (1 row high x 3 columns wide)

Style V = 2 windows (2 rows high x 1 column wide)

***Style G** = 4 windows (2 rows high x 2 columns wide)

1. Style G is available for the SLC30 series only.

Maximum Windows for Multiple Combination Panels

For style code "M," it is necessary to use the order form. Do not exceed maximum panel sizes:

SLC30: 200 windows (full voltage)
50 windows (other type codes)

SLC40: 105 windows (full voltage)
50 windows (other type codes)

Series: SLC30 1.181" (30mm) or SLC40 1.575" (40mm)

Window style(s): Style F, H, L, or V for SLC30 or SLC40
Style G for SLC30 only
Style M for a multiple combination panel

Row count: Convert all windows to style F (basic unit size using information in the left column of this page.

Column count: Convert windows to style F (basic unit size) using information in the left column of this page.

Illumination type: LED or incandescent.

Input mode: Full voltage, transformer, or DC-DC conversion for LED; full voltage or transformer for incandescent.

Operating voltage: See preceding page to select voltages compatible with the input mode required.

Window colors: Specify the number of windows in each color.

Engraving: Clearly mark the engravings for each window desired on the grid of the order form clearly. If there is not enough space, number each window and use a separate sheet to write the engravings for each window number. Also note "no engraving."

Using the grid on the order form (following page), show the actual size and placement of all desired windows.

To Specify a Multiple Combination

- Draw a **heavy** outline on corresponding gray lines to show the overall panel size.
- Darken the appropriate gray lines to show the outlines of the various window style(s) required.
- For each window, specify color and clearly identify the engraving desired.

2. If there is not enough space on the grid to show the engraving clearly, number every required window, and write the engraving on a separate sheet of paper. Make sure to write the window number which corresponds to the engraving, and also make sure to note "no engraving" as required.

Determining SLC Pricing

1. The initial, 2-window price is determined based on series, type, and style. This 2-window price includes framing and assembly.

   When ordering a single window, the 2-window price is also the minimum price, including window, framing, and assembly.
2. Convert all window styles required into style F (basic unit size) equivalents using the information in the left column of this page.
3. Subtract "2" from the total number of style F equivalent windows determined in step 2. The result is the number of additional windows.
4. Multiply the number of additional windows determined in step 3 by the additional window price.
5. Determine the quantity of windows with engravings. Do not use the style F equivalents; use the actual window style(s) required.

3. The pricing referred to above can be obtained from any authorized IDEC representative or distributor.

*4. When determining window pricing, **always** convert every window size required to the style F equivalent (basic unit size).*

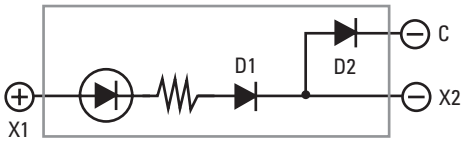
SLC Series Installation Instructions

Installation Notes

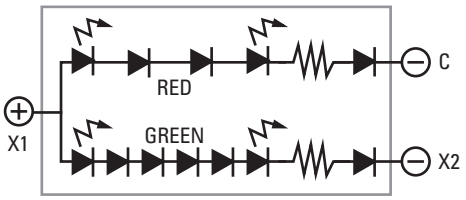
1. Since lamps generate heat, it is recommended that ventilation be provided for cooling when more than ten lamps are lit continuously.
2. A lower number of windows is specified for multiple transformer, AC adapter, and DC-DC converter units (50 maximum, instead of 200 as for full voltage only). This is done to avoid damage which may result from excessive heat generation when all lamps are lit simultaneously.
3. When multiple units are panel mounted, determine panel thickness so that the combined weight of all units and connecting wires can be supported.
4. Multiple units are not designed for continuous, simultaneous lighting of all lamps. However, it is possible to conduct a lamp test with all lamps lit simultaneously for a period of up to 40 minutes.
5. Before removing the LED unit, turn the power supply off.
6. DC-rated voltages for LED units are complete direct current voltages. Make sure to check the measuring instruments and compensate for any error in the measured, full-wave rectified or pulsating voltages.
7. To ensure brightness and long life of LED units, keep the DC power voltage within the operating voltage range.
   LED Operating Voltage Range: 24V DC ± 10%

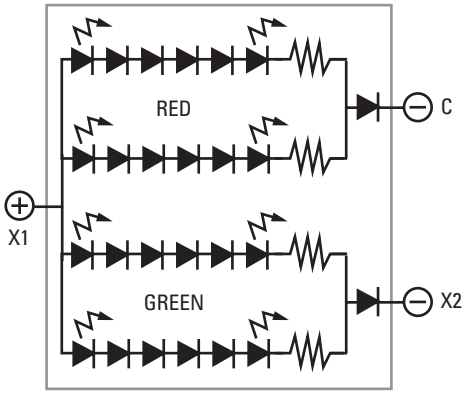
Terminal Arrangements (LED units)

For full voltage (1- and 2-color) and DC-DC converter LED units, terminal X1 is positive and terminal X2 is negative. Make sure to observe polarity when wiring.

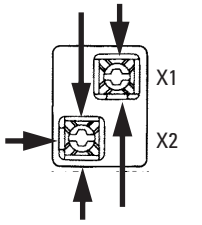


For 2-color alternate units, terminal X1 is positive, and terminals X2 and C (check terminal) are negative.

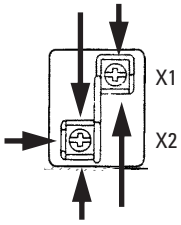




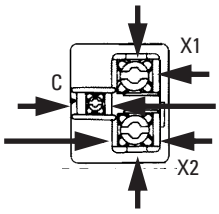
SLC30
Full Voltage
DC-DC Converter



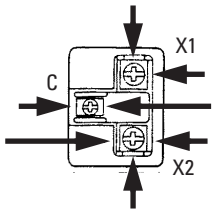
SLC30
AC Adaptor
Transformer



SLC40
Full Voltage
DC-DC Converter



SLC30/40
2-Color LED
(alternating)



SLC30

SLC40

Installation Instructions, continued

Removing Windows

SLC30: To remove a window, insert the tip of a small screwdriver into the slot under the lens frame and gently press down on the screwdriver.

SLC40: To remove an extended window, pull on the top as if to extend the unit; then continue pulling until the unit comes out of the housing. All units are shipped with windows retracted. When transporting units, make sure windows are pushed in fully. After windows are installed, they can be extended as shown in *Figure 1*.

Removing Lens, Color Screen, and Marking Plate

The lens has two retaining projections on the right and two on the left. To remove the lens, color screen, and marking plate from the lens frame, push open the lens frame with both hands as shown in *Figure 2*.

The lens can also be removed by inserting a screwdriver into one of the sides with recesses. Since the lens has an orientation, be sure to insert the screwdriver in the direction shown in *Figures 3 and 4*.

Installing Lens, Color Screen, and Marking Plate

First, install the marking plate and color screen into the lens frame. To install the lens, insert its retaining projections into the recesses inside the lens frame, and press the lens into the lens frame as shown in *Figure 5*.

Replacing the LED Unit

To remove: Insert the tip of a screwdriver into one of the two slots inside the LED unit. Pull the LED unit straight out without pressing on the LED terminals, as shown in *Figure 6*.

To install: Make sure that the junction inside the LED unit is aligned in the same direction as the junction of the LED housing. Push the LED unit into the LED housing as shown in *Figure 7*.

Installing Units into a Panel

Single units: With leaf springs installed, push the SLC housing from the front of the panel. Secure the SLC housing with two mounting clips. Tighten the mounting clip screws to a torque of 4 to 5 kgf-cm as shown in *Figure 8*.

Multiple combination units: Insert the units into the panel cut-out from the front. Install the attached mounting clips into the openings on the frame, and tighten the screws as shown in *Figure 9*. After tightening, use Loctite to prevent loosening. The number of mounting clips included with each multiple unit varies with the number of windows as shown in the table below.

Figure 1: SLC40

Figure 2: SLC30 and SLC40

Figure 3: SLC30

Figure 4: SLC40

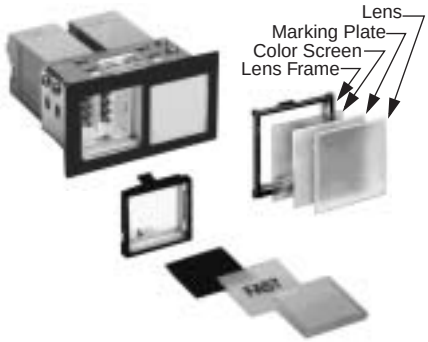


Figure 5: SLC30 and SLC40

Figure 6: Remove LED

Figure 7: Install LED

Figure 8: Single Unit

Figure 9: Multiple Combination

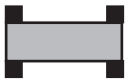
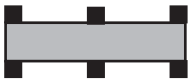
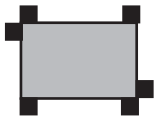
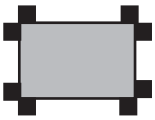
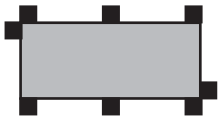
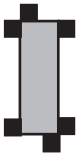
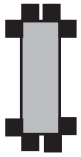
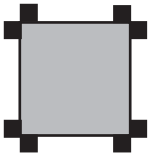
SLC Series Installation Instructions, continued

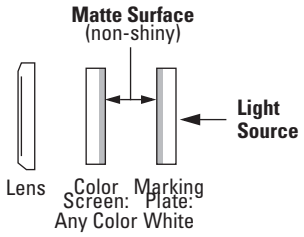
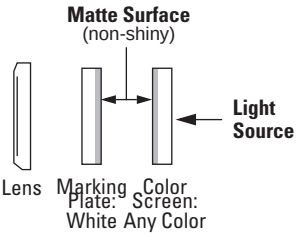
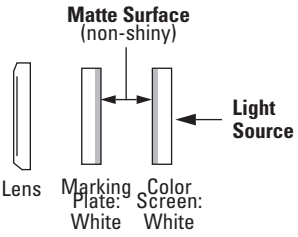
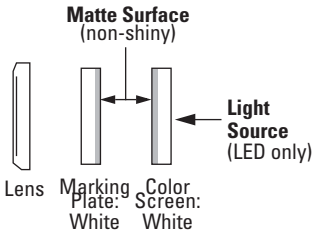
Number of Mounting Clips Included

Columns	1 or 2		3 to 8		9 to 15	16 to 20 *
Rows	Full Voltage	Others	Full Voltage	Others	All Types	All Types
1 or 2	2		4		6	8
3 to 6	4	6	6	8	8	10
7 to 10 (SLC30 only)	6	8	8		10	12

* *SLC30 series only.*

Recommended Mounting Clip Positions

Columns	1 or 2		3 to 8		9 to 15	16 to 20*
Rows	Full Voltage	Others	Full Voltage	Others	All Types	All Types
1 or 2	2 Clips		4 Clips		6 Clips	8 Clips
						
3 to 6	4 Clips	6 Clips	6 Clips	8 Clips	8 Clips	10 Clips
						
7 to 10 (SLC30 only)	6 Clips	8 Clips	8 Clips		10 Clips	12 Clips
						

Assembly Order for Lamp On/Lamp Off Colors

Lamp On: Amber, Blue, Green, Red, Yellow		Lamp On: White	Lamp On: Red/Green
Lamp Off: Desired Color	**Lamp Off: White**	**Lamp Off: White**	**Lamp Off: White**