SLC30 Series Combination Display Lights

Highly bright "Super LED" unit improves visibility and safety.

- Eight types of illumination faces to choose from. Compact combination display lights.
- Super bright Super LED.
- The fingersafe spring-up terminals reduce wiring time and prevent electrical shocks.
- The insulated jumper, when used on fingersafe spring-up terminals, eliminates the need of terminal cover.
- Legends can be engraved on the attached marking plate. One or two thin marking sheets (not attached) can also be installed (Type F only).
- Spot illumination available for easy recognition in bright environment (Type F only)
- UL and c-UL recognized, EN compliant.



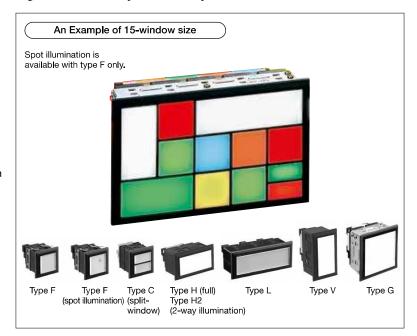




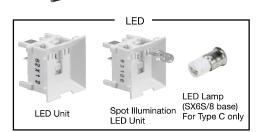


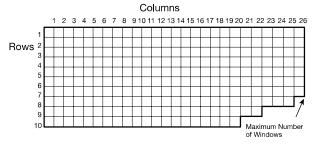


1) Except for EN60947-5-1 DC-DC converter and resistor types.



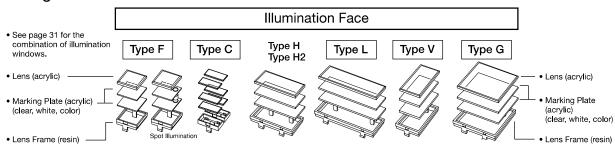
A wide variety of illumination face sizes The fingersafe, spring-up terminals Type F: 30H × 30W mm (Basic size) reduce wiring time. Type F spot illumination: 30H × 30W mm The integrated terminal cover and Type C: $15H \times 30W \text{ mm} \times 2 \text{ (Split-window)}$ insulated jumpers prevent electic Type H: 30H × 60W mm Type H2: 30H × 60W (2-way split) Type L: 30H × 90W mm Application Example of Jumpers Type V: 60H × 30W mm Type G: 60H × 60W mm Combined construction is available. Type F Window Spot Illumination Kit White Screen Clear Marking 24V AC/DC one-color Marking films can be used for full only. Type F only Spot illumination LED unit is necessary. Available up to 200 windows Frame (metal) 10 rows by 26 columns maximum The frame cover and frame are molded in one piece for one-, two-, and three-Type F: 6, 12, 24V AC/DC window types. See page 33 for details.





- For 110/220V AC type, up to 75 windows (Type F equivalent) can be mounted.
- For Type C, up to 50 windows (Type F equivalent) can be mounted. · Lighting limitations should be considered in any application. For details see page 32.

Configuration



Type F, H, H2, L, V, G

Display Color Type	Light Source	Marking Plate/Color Screen (one each) (Note 2)	Lens	ON Color (Color Code)	OFF Color
Standard (using clear lens)		clear / white		amber (A), blue (S), green (G), pure white (PW), red (R), yellow (Y), red/green 2-color alternate (RG) (Note 1)	White
Color Screen	LED Unit	color / white		amber (TA), blue (TS), green (TG), red (TR), yellow (TY)	Same as ON color
Gray Lens		black (Note 3) / clear	Gray Lens	Lens: gray Legend Color amber (SA), blue (SS), green (SG), pure white (SPW), red (SR), yellow (SY)	Gray

Note 1: Spot illumination is not available with red/green 2-color alternate (RG).

Note 2: The order to insert clear marking plate, color screen, and white screen can be interchanged if necessary.

Marking plate/color screen are interchangeable. Engrave markings on the flat surface of the plate or screen next to the lens.

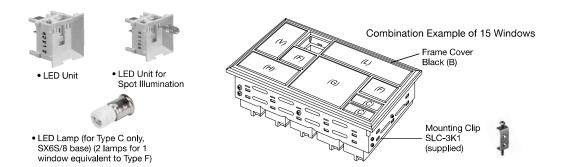
Note 3: Black marking plate has black coating. Engrave a reverse legend on the black-coated surface.

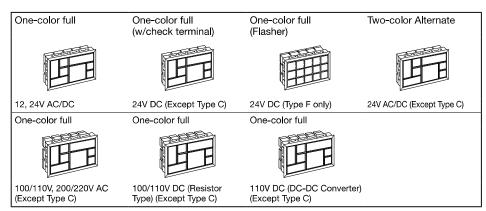
Type C (split-window)

Display Color Type	Light Source	Marking Plate/Color Screens (one each)(Note 4)	Lens		ON Color (Color Code)							
Standard		color / white	Clear	amber (A), t	mber (A), blue (S), green (G), red (R), yellow (Y),							
(using clear lens)	LED I	clear / white	Lens	pure white (pure white (PW)							
Gray Lens	LED Lamp	black (Note 5) / color		Lens: gray	Legend Color	amber (SA), blue (SS), green (SG), red (SR), yellow (SY)	Grav					
Ciray Leris		black (Note 5) / clear	Lens	Lone, gray		pure white (SPW)	a.u,					

Note 4: The order to insert clear marking plate, color screen, and white screen can be interchanged if necessary.

Marking plate/color screen are interchangeable. Engrave markings on the flat surface of the plate or screen next to the lens. Note 5: Black marking plate has black coating. Engrave a reverse legend on the black-coated surface.





- 2-way split is also available in Type H2.
- The illustration above shows combination examples of windows. One-window type is available in Type F (see page 10 and 11).

Specifications

Lig	ht Sc	urce				LED Unit				LED Lamp			
Inp	ut			Full Vo	Itage		Transformer	DC-DC Converter	Resistor	Full Voltage			
Illur	ninat	tion	One-color w/	-color check terminal ote 1)	Two-color Alternate	Flasher	,	One-color			olor × 2 ow (Type C)		
	gersa mina	afe Spring-up		vided heck terminal)	(Note 2)	Provided		Provided		(Note 2)			
		oltage '60Hz)	12V AC/DC ±10%	24V AC/DC ±10%	24V AC/DC ±10%	24V DC ±10%	100/110V AC ±10% 200/220V AC ±10%	12V AC/DC ±10%	24V AC/DC ±10%				
	ximu w (V	m Current A)	San	ne as internal LED (Jnit	0.5W + internal LED	1.7	1.4	1.5	Same as ir	nternal LED		
Illur	minat	tion Color	Amber, green, red, yellow	Amber, blue, green, pure white, red, yellow	Red/green Alternate	Aml	per, blue, green, pure	pure white	ue, green, e (Note 7), rellow				
Sta	ndar	ds		UL, c	-UL listed, EN co	mpliant			_	_			
	Rate	ed Voltage	12V AC/DC	24V AC/DC	24V DC		24V AC/D	12V AC/DC	24V AC/DC				
	ij	Amber, red	12 mA	12 mA (Note 6)			12 mA (Not	e 6)					
amp	Rated Current	Green, pure white, yellow	12 mA	11 mA (Note 6)	Red: 12 mA Green: 11 mA		11 mA (Note	e 6)		4 1	mA		
Juit/L	Rai	Blue	12 mA	11 mA (Note 6)									
Built-in LED Unit/Lamp	Illun (cod	nination Color de)	red (R), pur	ie (S), green (G), e white (PW), /) (Note 5)	Red (R)/ green (G)		Amber (A), blue pure white (e (S), green (G), PW), red (R)					
Į į	Bas	е		SX6S/8									
"	LED	Life (reference)		tensity)									
	Part	t No.	SLDN-31M-*	SLDN-32M-*	SLDN-32MW-RG		SLDN-32M]-*		LFTD-1∗N	LFTD-2*N		
	No.	of Units		1 LED lamp per split-window type									
	shing te 3)	Period	— 0.5 ±0.2 sec —								_		
Insulation Resistance		n Resistance			10	00 MΩ between liv	e and dead parts (50						
Dielectric Strength			2000V AC (1 m	nute) between live a	and dead parts		500V AC (1 minute) een live and dead par	2000V AC (1 minute)	2000V AC (1 minute) between live and dead parts				
	eratir npera	ng ature (Note 4)		−20 to +40°C		–10 to +40°C	-20 to +40°C -10 to +40°C -20 to +40°C -20 to +40°C						
Sto	rage	Temperature	-25 to +60°C (no freezing)										
Ор	eratir	ng Humidity				45 to 85	5% RH (no condensat	ion)					

Specify a color code in place of *.

Note 1: The rated voltage for w/check terminal type is 24V DC only.

Note 2: Terminal cover is available (see page 23).

Note 3: Duty 1:1. Multiple flasher type units do not synchronize with each other. Use Type F only.

Note 4: No freezing

Note 5: Blue and pure white LED is 24V AC/DC only.

Note 6: Spot illumination uses the spot illumination LED unit (SLCN-32ST-*). See page 26 for rated current.

Note 7: Use pure white LED lamp for yellow (Y) illumination.

	Illumination Face	Type F (Note 8) (Basic)	Type C (Sp l it-window)	Type H / Type H2 (Note 10)	Type L	Type V	Type G						
	Window (H × W)	30 × 30	15 × 30	30 × 60	30 × 90	60 × 30	60 × 60						
ij	Illumination Face (H × W)	28 × 28	13 × 28	28 × 58	28 × 88	58 × 28	58 × 58						
Illumination Unit Size (mm)	White color screen, clear marking plate, color screen (H × W × t)	27 × 27 × 1.0 (Note 9)	12 × 27 × 1.0	27 × 57 × 1.0 (Note 10)	27 × 87 × 1.0	57 × 27 × 1.0	57 × 57 × 1.0						
<u> </u>	Marking Film	Applicable	_	_	_	_	_						
	Engraving Area (white, transparent, color plates)	25 × 25	10 × 25	25 × 55 (Note 10)	25 × 85	55 × 25	55 × 55						
Mater Scree	rial of Marking Plate & Color en	Acrylic											
Lens F	rame Color & Frame Cover Color		Black (Munsell N1.5 equivalent)										
Conn	ection Wire	Solid wire: ø1.6 × 2, Stranded 2 mm² × 2											
Termi	nal Screw		M3.5 screw, Check terminal: M3										
Degre	ee of Protection		IP40 (IEC 60529)										
Pollut	ion Degree	3											

• Spot illumination uses designated clear plate and color screen.

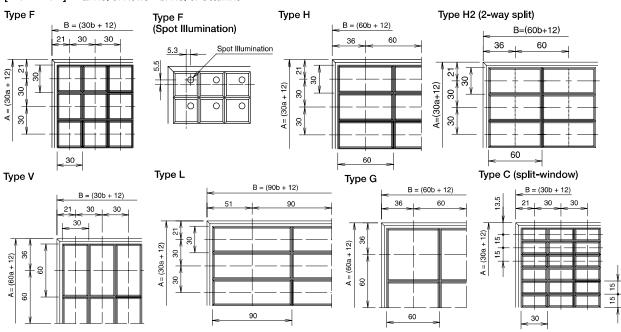
Note 8: Flasher type, pure white illumination, and spot illumination types are available in Type F only.

Note 9: Spot illumination type uses an exclusive clear marking plate and color screen.

Note 10: 2-way split type (Type H2) can use 2-way split color screen only.

Dimensions

[Front View] a: No. of Rows b: No. of Columns



Type F Dimensions & No. of Windows (Type C, H, L, V, and G can be converted into Type F.)

									_ •																				
	Colu	umns	Ф	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Rows	Dime	nsions	В	42	72	102	132	162	192	222	252	282	312	342	372	402	432	462	492	522	552	582	612	642	672	702	732	762	792
nows		Panel Cut-out	(D)	(35)	(65)	(95)	(125)	(155)	(185)	(215)	(245)	(275)	(305)	(335)	(365)	(305)	(425)	(455)	(485)	(515)	(545)	(575)	(605)	(635)	(665)	(695)	(725)	(755)	(785)
a	Α	(C)		(55)	(00)	(93)	(123)	(133)	(100)	(213)	(243)	(273)	(303)	(333)	(303)	(555)	(423)	(433)	(400)	(313)	(343)	(373)	(003)	(033)	(003)	(093)	(123)	(733)	(700)
01	42	(35)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
02	72	(65)	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
03	102	(95)	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78
04	132	(125	5)	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104
05	162	(155	5)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
06	192	(185	5)	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156
07	222	(215	5)	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175	182
08	252	(245	5)	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	168	176	184	192	200	_
09	282	(275	5)	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	_	_	-	_
10	312	(305	5)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	_	_	_	_	_	_

How to Read the Table

- 1. The number of windows equals rows multiplied by columns. For example, for 5 rows by 7 columns, the number of windows is 35, external dimensions are 162mm high by 22mm wide, and panel cut-out is 155mm high by 215mm wide.
- 2. External dimensions are represented by A for rows and B for columns in boldface.

6 5

3. Panel cut-out dimensions are shown in (), for height (C) and width (D). Panel cut-out tolerance is +1.0 to -0 mm (for one window: +0.6 to -0.4mm).

C

Panel Cut-out (SLC30)

Determine the panel thickness in consideration of the weight of display lights and wires (see page 23).

All dimensions in mm.



4. Total number of windows, dimensions, panel cut-out

① For Type C, H, L, V, and G, convert the numbers of rows and columns into Type F (basic size) equivalents.

• Type C — Type F equivalent: 2 split-windows consist of one window.

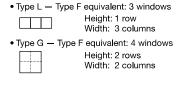
 \blacksquare • Type H — Type F equivalent: 2 windows Height: 1 row Width: 2 columns

• Type V - Type F equivalent: 2 windows. Height: 2 rows Width: 1 column

2 The combination example at left consists of 3 rows by 6 columns.

The above table shows: No. of windows: 18 Dimensions: 102H x 192W mm Panel cut-out: 95H x 185W mm





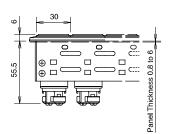
[Example]

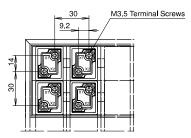
Dimensions

[Side & Rear Views]

Type F (Type H, L, V, and G are the same in side and rear views as Type F.)

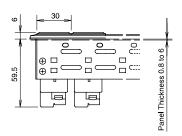
- Full Voltage12, 24V AC/DC
- One-color full
- Spot Illumination 24V AC/DC

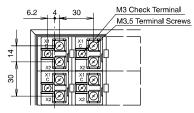




- Full Voltage

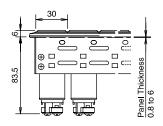
- One-color full w/Check Terminal 24V DC
 Two-color alternate 24V AC/DC
 For applicable terminal cover, see page 23.

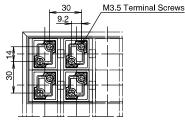




- w/Check Terminal Terminal X1 is a positive pole; Terminal X2 and C (check terminal) are negative poles.
- Two-color Alternate Red (R) illumination: X1 positive, C negative Green (G) illumination: X1 positive, X2 negative

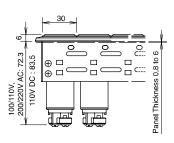
- Full Voltage
- One-color full
- Flasher Type (Type F only)
 For applicable terminal cover, see page 23.

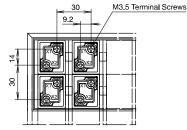




• Terminals X1 and X2 are positive and negative poles, respectively.

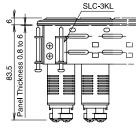
- Transformer
- One-color full
- 100/110, 200/220V AC/DC
- 110VDC (DC-DC Converter)

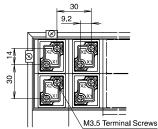




• On DC-DC converter type units, Terminals X1 and X2 are positive and negative poles, respectively.

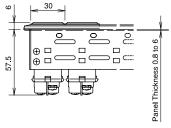
- Resistor
- One-color full
- 100/110V AC/DC

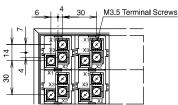




Type C (split-window)

- Full Voltage 12, 24V AC/DC
- One-color full, 2 x LED lamps, Split-window type





- Terminal X1 is COM terminal.
- For applicable terminal cover, see page 23.

All dimensions in mm.

Dimensions

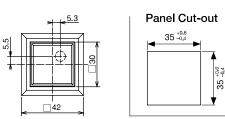
□42

[One-window, Type F only] Full Voltage 12, 24V AC/DC, One-color Full

Panel Thickness 0.8 to 6__ Mounting Clip SLC-3K1 M3.5 Terminal Screws

55.5

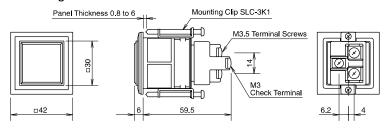




Spot Illumination

9.2

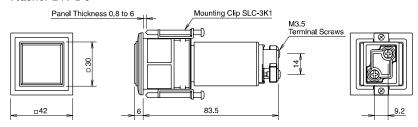
Full Voltage w/Check Terminal 24V DC / Two-color Alternate 24V AC/DC



- w/Check Terminal Type Terminal X1 is a positive pole; Terminals X2 and C
- Check terminal) are negative poles.

 Two-color Alternate Type
 Red (R) illumination: X1 positive, C negative
 Green (G) illumination: X1 positive, X2 negative • See page 23 for terminal covers.

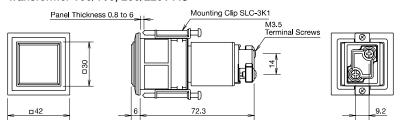
Flasher 24V DC



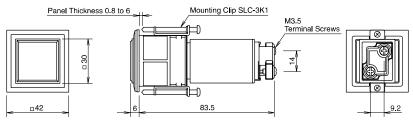
- On flasher type, Terminals X1 and X2 are positive and negative poles, respectively.

 • See page 23 for terminal covers.

Transformer 100/110, 200/220V AC

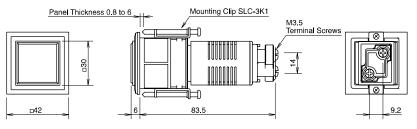


DC-DC Converter 110V DC



• On DC-DC converter type, Terminals X1 and X2 are positive and negative poles, respectively.

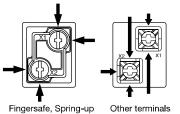
Resistor 100/110V AC/DC



(Resistance) $7.2~k\Omega,~4W$

Terminal Connection

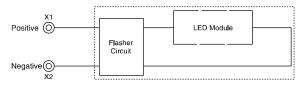
• For one-color full with check terminal, DC-DC converter, and resistor, Terminals X1 and X2 are positive and negative poles, respectively.



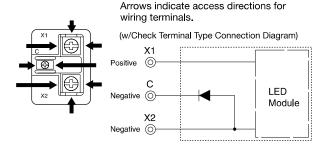
Arrows indicate access directions for wiring terminals.

Fingersafe, Spring-up Terminal

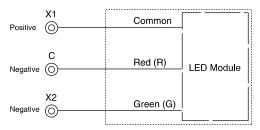
(Flasher Type Connection Diagram)



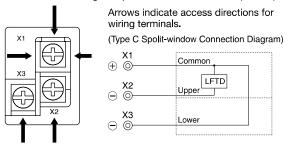
• For w/check terminal and two-color alternate units, terminal X1 is a positive pole; Terminals X2 and C (check terminal) are negative



• Connection for two-color alternate is as follows. Red (R) — Terminal X1: positive, Terminal C: negative Green (G) — Terminal X1: positive, Terminal X2: negative (Two-color alternate Type Connection Diagram)



• For the split-window (Type C), Terminal X1 (+) is a common terminal. Terminal X2 is a negative pole of upper illumination and Terminal X3 is a negative pole of lower illumination. (AC/DC)



Terminal Connection Using Jumpers

• For terminal connection of types F, H, L, V, and G (except Type C), jumpers can be used as shown below.

SLC30 Series

	Terminal X1	Terminal X2	Terminal C
Fingersafe, Spring-up Terminal (Note 1)	SLCN-JP34 SLCN-JP35	SLCN-JP34 SLCN-JP35	_
Others	SLC-JP30	SLC-JP33	SLC-JP32

Note 1: Fingersafe, spring-up terminals are used in one-color full illuminated type (6, 12, 24V AC/DC, 100/110, 200/220V AC, 110V

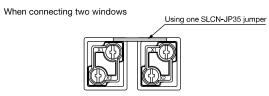
• For Type C, jumpers can be used on Terminal X1 only as shown below

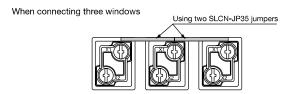
Direction	When using Type C only When using Type C and Two-color alternate
Vertical	SLC-JP33
Horizontal	SLC-JP30

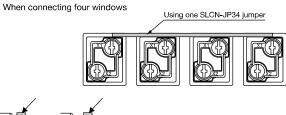
Note: Jumpers cannot be used when using both Type C and fingersafe spring-up terminals.

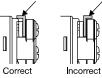
[Examples of Using Jumpers]

Fingersafe Spring-up Terminal)



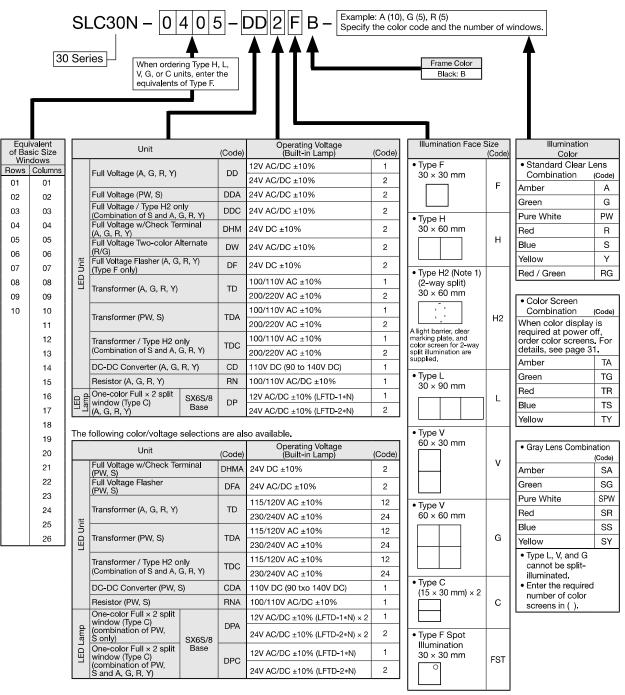






Jumpers (SLCN-JP34/35) have an orientation. Ensure that jumpers are installed correctly.

Part No. Development



Note 1: Type H2 (2-way split) can be configured with the combination described below.

Left	Right							
Standard Clear Lens	Standard Clear Lens							
Color Screen	Color Screen							
Grey Lens	Grey Lens							

 When more than one color is required for LED.
 When a particular arrangement of

No entry is required in designations

RRRRR

GGGGG

Y | Y | Y | Y | Y

AAAAA

No entry is required in designations.

Color Code

ΡW

PW R R

PW | G | G

Specify each color code on the

R R

Specify each color code on the specification sheet.

Ordering Information

When ordering SLC Series Combination Display Lights, use the specification sheet provided on page 36.

Designation Procedure

- 1. Part No.: Refer to Part No. Development Configuration on page 12.
- 2. Quantity: Enter the required number of identical assemblies.

Counting of Windows

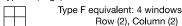
Count the number of windows in the equivalent of Type F (basic size)

Leaf Spring (for one-window type only)

Leaf spring for temporary fastening is not attached, and can be supplied free of charge upon request when ordering (Part No. SLD44KVP).

[Conversion Rate]

- Type H (horizontal)
- Type F equivalent: 2 windows Row (1), Column (2)
- Type L (horizontal)
 - Type F equivalent: 3 windows Row (1), Column (3)
- Type V (vertical)
 - Type F equivalent: 2 windows Row (2), Column (1)
- Type G (large)



- Type C (split-window)
 - Type F equivalent: 1 window
 Row (1), Column (1)

Units in one color

R (20)

Color screen: Type F, 20 windows

 When color screen is required, specify the color screen code.

R (9)

Color screen: Type H, 9 windows

 When color screen is required, specify the color screen code.

- Color Code

- Color Code

- Color Screen Code

Color Screen Code

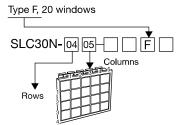
Ex. T *

Ex. ∓<u>*</u>

R (9) = 9

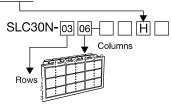
[Designation Examples]





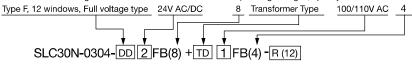
(Ex. 2) SLC30 Series

Type H, 9 windows (Type F equivalent: 3 rows by 6 columns)



(Ex. 3) SLC30 Series (Type F, 12 windows)

When ordering a combination of units with different operating voltages, specify Part No. as follows.



Specify the position of the units and each voltage on the specification sheet.

Ex. 4) When ordering a combination of units with different illumination colors, specify Part No. as follows.

Example: Full voltage 24V AC/DC, Red (6), Pure White (2)

 $\frac{\text{SLC30N-}\underline{0204-\text{DD2FB(6)}}}{\text{Red}} + \frac{\text{DDA2FB(2)}}{\text{Pure White}} - \frac{\text{R(6)PW(2)}}{\text{Designation}}$

(Ex. 5) When ordering a combination of units with different illumination colors for four windows of type C, specify Part No. as follows.

Example: Full voltage 24V AC/DC

SLC30N-0202-DPA2CB(1) DPC2CB(3) - R(1)G(1)A(1)S(1)PW(4)

Blue, Pure white

Red, green, Designation amber, pure white Red: 1, green: 1, blue 1, amber 1, pure white 4

