

SYLVANIA Lamps

SubstiKIT™ LED T8 Type C System

Applications

SubstiKIT LED T8 Type C System pairs a dimmable direct current external driver with high fidelity (high color rendering) LED lamps to not only maximize energy savings through controls, but to provide the best quality of light for office, education, and retail applications.

Benefits and Features

- Color Fidelity – Rf value ≥ 90 (per IES TM-30-18)
- DLC approved system
- No warm-up time, instant-on with full light output and stable lamp-to-lamp color
- No UV emission
- System Efficacy ≥ 120 LPW
- 3000K, 3500K, 4100K, 5000K color temperatures
- Dimmable down to 10% with 0-10V driver to maximize energy saving & optimize light levels
- Beam angle: 220° with frosted glass optics

Electrical

- Compatible with direct current dimmable SubstiKIT LED driver (290mA for 2 or 3ft lamp, 350mA for 4ft lamp) with input voltage 120-277V per system table
- Power factor > 0.90
- THD $< 10\%$
- Flicker $\leq 10\%$

Rated Life

- 50,000 hours (L_{70})

Warranty

- System (external direct-current driver & lamps) is covered by a 5-year limited warranty. For additional details, please visit www.ledvanceUS.com/warranty



Wattage Comparison

Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
32W T8 Fluorescent with QHE2x32 ISN	55	35	36%

Ambient Operating Range

- -4°F to 131°F (-20°C to 55°C)

Max Case Temperature

- 167°F (75°C)

Certifications and Listings

- cULus¹
- ETL
- RoHS
- Lead Free
- Mercury Free
- NSF²

1. UL 8750 (Drivers), 1993 (Component lamp), 1598C (Retrofit Kit)
2. NSF/ANSI Standard 2 – Food Equipment

Installation

- Please refer to the Installation manual included inside the packaging and the applications information listed below for more information.



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Guide (Lamps)

LED	XX	T8	LXX	FG	DIM	9	XX	DC	XXX
Product Name	Wattage	Lamp Type	Length	FG = Frosted	DIM =	CRI	Color Temperature	DC = DC Driver	Driver Output
LED	8 = 8 Watts 12 = 12 Watts 15 = 15 Watts	T8	24 = 24" 36 = 36" 48 = 48"	Glass	Dimmable	9 = 90	30 = 3000K 35 = 3500K 41 = 4100K 50 = 5000K	External Type C	Current/Channel 290 = 290mA 350 = 350mA

Ordering Information (Lamps)

Item Number	Ordering Abbreviation	Power (W) ¹	Length	Lens Material	Typical Lumens (lm)	Color Fidelity (Rf) ²	CRI	CCT	Beam Angle (°)	Package Qty	DLC Listed ³
40950	LED8T8L24FGDIM930DC290	8	2ft	Glass	1200	≥90	90	3000K	220	25	Yes
40951	LED8T8L24FGDIM935DC290	8	2ft	Glass	1200	≥90	90	3500K	220	25	Yes
40952	LED8T8L24FGDIM941DC290	8	2ft	Glass	1200	≥90	90	4100K	220	25	Yes
40953	LED8T8L24FGDIM950DC290	8	2ft	Glass	1200	≥90	90	5000K	220	25	Yes
40954	LED12T8L36FGDIM930DC290	12	3ft	Glass	1650	≥90	90	3000K	220	25	Yes
40955	LED12T8L36FGDIM935DC290	12	3ft	Glass	1650	≥90	90	3500K	220	25	Yes
40956	LED12T8L36FGDIM941DC290	12	3ft	Glass	1650	≥90	90	4100K	220	25	Yes
40957	LED12T8L36FGDIM950DC290	12	3ft	Glass	1650	≥90	90	5000K	220	25	Yes
40958	LED15T8L48FGDIM930DC350	15	4ft	Glass	2250	≥90	90	3000K	220	25	Yes
40959	LED15T8L48FGDIM935DC350	15	4ft	Glass	2250	≥90	90	3500K	220	25	Yes
40960	LED15T8L48FGDIM941DC350	15	4ft	Glass	2250	≥90	90	4100K	220	25	Yes
40961	LED15T8L48FGDIM950DC350	15	4ft	Glass	2250	≥90	90	5000K	220	25	Yes

1. Average Lamp Power and Average Lamp Lumens on compatible driver.

2. Rf≥90 per TM-30-18, CRI≥93

3. See "System Data" Table on Page 4 for DLC listed driver combinations.

Ordering Guide (Drivers)

SYLDC	X-X	XXX	TLED	UNV	XC	XXX	DIM
Product Name	Number of channels	Max System Wattage/Channel	LED Tube	Universal Input Voltage	Max No. of Channels	Driver Output Current/Channel	Dimmable Driver
SYLVANIA				120-277V	2C = 2Channels 4C = 4Channels	290 = 290mA 350 = 350mA	0-10V
DC Driver	1-2 = 1&2 Channel 3-4 = 3&4 Channel	X14 = 14 Watts X17 = 17 Watts					

Ordering Information (Drivers)

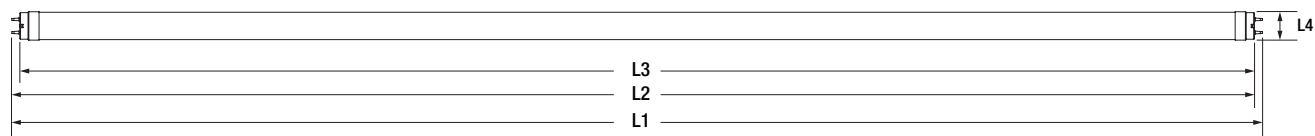
Driver Input

Item Number	Ordering Abbreviation	Input Voltage (V _{AC})	Input Current Max (A)	Power Factor @ Full Load	THD @ Load	System Input Power (W)	Frequency (Hz)	Inrush Current Peak (A) @ 277V	Package Qty
75690	SYLDC1-2X14TLEDUNV2C290DIM	120/277V	0.28/0.13	0.95/0.93	≤10%	28 (14 x 2 Chl)	50/60Hz	<30	25
75691	SYLDC3-4X14TLEDUNV4C290DIM	120/277V	0.56/0.24	0.95/0.93	≤10%	56 (14 x 4 Chl)	50/60Hz	<30	25
75692	SYLDC1-2X17TLEDUNV2C350DIM	120/277V	0.36/0.16	0.95/0.93	≤10%	35 (17.5 x 2 Chl)	50/60Hz	<30	25
75693	SYLDC3-4X17TLEDUNV4C350DIM	120/277V	0.72/0.32	0.95/0.93	≤10%	70 (17.5 x 4 Chl)	50/60Hz	<30	25

Driver Output

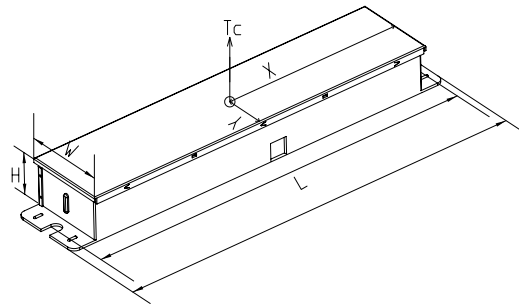
Item Number	Ordering Abbreviation	Output Voltage (V _{OC})	Output Current (mA)	0-10V Dimming
75690	SYLDC1-2X14TLEDUNV2C290DIM	24-48	580 (290 x 2 Chl)	10%-100%
75691	SYLDC3-4X14TLEDUNV4C290DIM	24-48	1160 (290 x 4 Chl)	10%-100%
75692	SYLDC1-2X17TLEDUNV2C350DIM	24-48	700 (350 x 2 Chl)	10%-100%
75693	SYLDC3-4X17TLEDUNV4C350DIM	24-48	1400 (350 x 4 Chl)	10%-100%

Physical Information (Lamps)



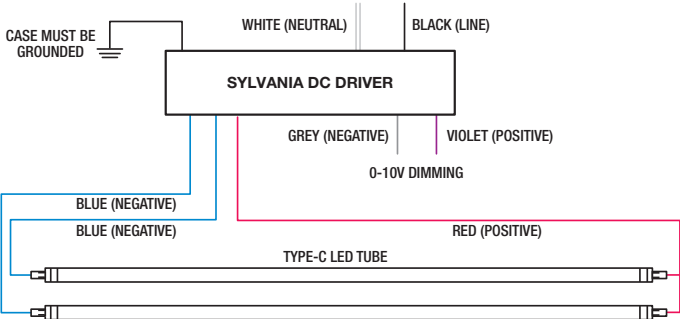
Lamp Description	L1 End of Base Pin to End of Opposite Pin End	L2 Base Face to Opposite Base Pin	L3 Base Face to Base Face	L4 Bulb Outside Diameter
LED8T8L24FGDIM9xxDC	23.72" ±0.055" (602.6mm ±1.4mm)	23.45" ±0.05" (595.65mm ±1.25mm)	Max 23.22" (589.8mm)	1.02" ±0.08" (25.9mm ±2.0mm)
LED12T8L36FGDIM9xxDC	35.72" ±0.055" (907.4mm ±1.4mm)	35.45" ±0.05" (900.45mm ±1.25mm)	Max 35.22" (894.6mm)	1.02" ±0.08" (25.9mm ±2.0mm)
LED15T8L48FGDIM9xxDC	47.725" ±0.055" (1212.2mm ±1.4mm)	47.45" ±0.05" (1205.25mm ±1.25mm)	Max 47.22" (1199.4mm)	1.02" ±0.08" (25.9mm ±2.0mm)

Physical Information (Drivers)

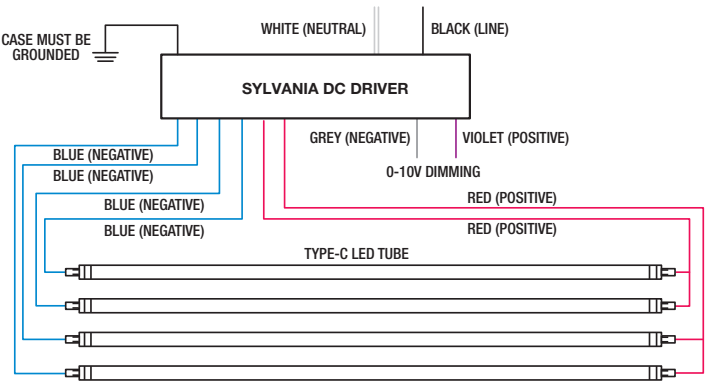


Product Description	L x W x H Length x Width x Height	Mounting	X x Y Tc Location	Wiring Diagram
SYLDC1-2X14TLEDUNV2C290DIM	6.0" x 1.3" x 1.1" (155mm x 33mm x 29mm)	5.7" (145mm)	2.75" x 0.67" (70mm x 17mm)	A
SYLDC3-4X14TLEDUNV4C290DIM	9.5" x 1.3" x 1.1" (241mm x 33mm x 29mm)	8.9" (226mm)	4.13" x 0.67" (105mm x 17mm)	B
SYLDC1-2X17TLEDUNV2C350DIM	6.0"x 1.3" x 1.1" (155mm x 33mm x 29mm)	5.7" (145mm)	2.75" x 0.67" (70mm x 17mm)	A
SYLDC3-4X17TLEDUNV4C350DIM	9.5" x 1.3" x 1.1" (241mm x 33mm x 29mm)	8.9" (226mm)	4.13" x 0.67" (105mm x 17mm)	B

Wiring Diagram A



Wiring Diagram B



Wire Information

Product Description	Input Wire (18AWG)	Output Wire (20AWG)	DIM Wire (22AWG)
SYLDC1-2X14TLEDUNV2C290DIM	1x Black (L) = 12" (300mm) 1x White (N) = 12" (300mm)	2x Blue (-) = 12" (300mm) 1x Red (+) = 12" (300mm)	1x Violet = 12" (300mm) 1x Grey = 12" (300mm)
SYLDC3-4X14TLEDUNV4C290DIM	1x Black (L) = 12" (300mm) 1x White (N) = 12" (300mm)	4x Blue (-) = 12" (300mm) 2x Red (+) = 12" (300mm)	1x Violet = 12" (300mm) 1x Grey = 12" (300mm)
SYLDC1-2X17TLEDUNV2C350DIM	1x Black (L) = 12" (300mm) 1x White (N) = 12" (300mm)	2x Blue (-) = 12" (300mm) 1x Red (+) = 12" (300mm)	1x Violet = 12" (300mm) 1x Grey = 12" (300mm)
SYLDC3-4X17TLEDUNV4C350DIM	1x Black (L) = 12" (300mm) 1x White (N) = 12" (300mm)	4x Blue (-) = 12" (300mm) 2x Red (+) = 12" (300mm)	1x Violet = 12" (300mm) 1x Grey = 12" (300mm)

System Data (Drivers)

Driver Description	Lamp Description	Number of Lamps	System Wattage (W)	System Lumens (lm)	System Efficacy (LPW)	DLC Listed
SYLDC1-2X14TLEDUNV2C290DIM	LED8T8L24FGDIM9xxDC290	1	10	1200	120	–
		2	20	2400	120	Std
SYLDC3-4X14TLEDUNV4C290DIM	LED8T8L24FGDIM9xxDC290	3	30	3600	120	Std
		4	40	4800	120	Std
SYLDC1-2X14TLEDUNV2C290DIM	LED12T8L36FGDIM9xxDC290	1	14	1650	118	–
		2	28	3300	118	Std
SYLDC3-4X14TLEDUNV4C290DIM	LED12T8L36FGDIM9xxDC290	3	42	4950	118	N/A
		4	56	6600	118	N/A
SYLDC1-2X17TLEDUNV2C350DIM	LED15T8L48FGDIM9xxDC350	1	17.5	2250	128	–
		2	35	4500	128	Std
SYLDC3-4X17TLEDUNV2C350DIM	LED15T8L48FGDIM9xxDC350	3	52.5	6750	128	Std
		4	70	9000	128	Std

Application Information

1. These LED lamps require an external driver and are intended to be used with SYLVANIA branded direct-current drivers included in this specification as a UL Approved Type C System.
2. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off. Lamps should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations.
3. Ensure lamp holders/sockets are in good operating condition before installation.
4. Insert and align tubes properly in lamp holders. Partial insertion results in a poor or intermittent electrical contact that can result in short lamp life and arcing. Arcing at the lamp holder can result in localized overheating.
5. Approved for use with shunted or un-shunted lamp holders.
6. To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.
7. De-lamp is allowed for only 1 lamp (for example, 4 channel driver can de-lamp to 3 lamps or 2 channel driver can be de-lamped to 1 lamp).
8. Operating temperature range between -4°F and 131°F (-20°C and 55°C).
9. Storage temperature range between -40°F and 185°F (-40°C and 85°C).
10. Suitable for use in dry and damp environments.
11. Suitable for open and enclosed fixtures.
12. Glass lamps with G13 medium bipin base are suitable for use with tube guards.
13. Please read all installation instructions before attempting installation.
14. For detailed warranty information, please see www.ledvanceUS.com.

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