

DALI CONSTANT VOLTAGE DIMMABLE DRIVER FOR LED STRIP 150W 24VDC



Product Description

99DALI15024DC

LF-GSD150YV024B series is a 150W constant voltage LED driver with functions of DALI DT6 dimming and push dimming. Input voltage: 220-240VAC; rated output voltage: 24V; rated output current: 6.25A. It is a reliable constant voltage LED driver with high efficiency and low THD, suitable for indoor LED strip.

Features

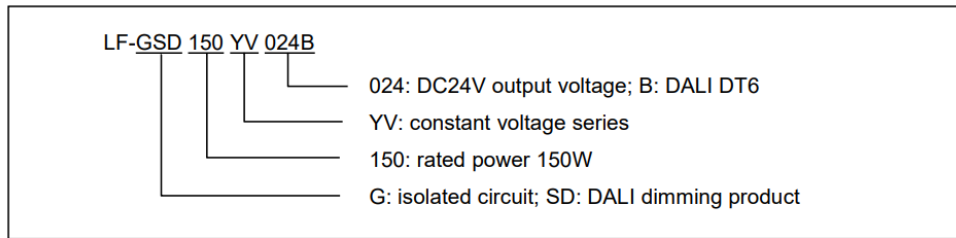
- IP20
- Suitable for Class II light fixtures
- Built-in active power factor correction function
- DALI + Push dimming functions, dimming depth: 0.1%
- Flicker free
- Small size; high efficiency (typical value $\geq 93\%$)
- All-round protections: over temperature, over voltage, over load, short circuit
- 5-year warranty (Please refer to the warranty condition).

Applications

- LED strip
- Luminous character
- Light box

TECHNICAL SPECIFICATION

Naming



Electrical Characteristics

Model		LF-GSD150YV024B				
Output	Output Voltage	24Vdc				
	Output Current	0-6.25A				
	Output Power	150W max @220-240Vac				
	Flicker Index	IEC-Pst \leq 1, CIE SVM \leq 0.9, Modulation Depths \leq 1%, meet with flicker free standard (IEEE Std 1789-2015)				
	Ripple Voltage	240mV max				
	Voltage Tolerance	\pm 2%				
	Temperature Drift	\pm 5%				
	Start-up Time	<1S @230Vac				
Input	Input Voltage	220-240Vac (voltage limit: 198-264Vac)				
	DC Input Voltage	282-340Vdc (voltage limit: 255-373Vdc)				
	Input Frequency	47Hz-63Hz				
	Input Current	1A Max.				
	Power Factor	\geq 0.95@230Vac (full load)				
	THD	\leq 10%@230Vac (full load)				
	Efficiency	\geq 93%@230Vac (full load)				
	Inrush Current	\leq 73A & 230uS @230Vac				
	Load Quantity Carried by the Circuit Breaker	Circuit Breaker Model	B10	C10	B16	C16
		Quantity (pcs)	5	6	9	10
	Leakage Current	\leq 0.7mA				
Standby Power Consumption	\leq 1W (when DALI signal is OFF)					
Protection Characteristics	Open Circuit	<33.6V				
	Over Temperature	No output (auto-recovery)				
	Short Circuit	Hiccup mode (auto-recovery)				
Environment Descriptions	Operating Temperature	-20 $^{\circ}$ C~+50 $^{\circ}$ C				
	Operating Humidity	20-90%RH (no condensation)				
	Storage Temperature/ Humidity	-40 $^{\circ}$ C~+ 80 $^{\circ}$ C (six months under class I environment); 10-90%RH (no condensation)				
	Atmospheric Pressure	86KPa~106KPa				

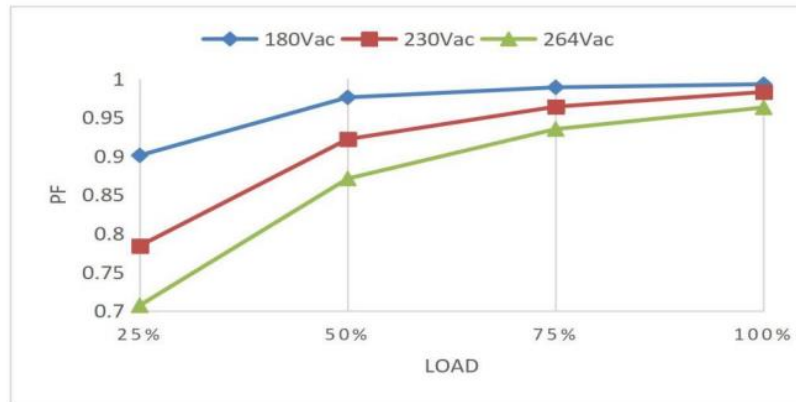
TECHNICAL SPECIFICATION

Safety and Electromagnetic Compatibility	Certifications	TUV-ENEC, CE, CB, RCM, CCC
	Withstanding Voltage	I/P-O/P: 3.75KV, 5mA, 60S
	Insulation Resistance	I/P-O/P: >100MΩ @500Vdc
	Safety Standards	ENEC: EN61347-1:2015, EN 61347-2-13:2014/A1:2017, EN 62384: 2016/A1:2009 CE-LVD: EN 61347-2-13:2014/A1:2017, EN 61347-1:2015, EN 62493:2015 CB: IEC 61347-1:2015, IE61347-2-3:2014, IEC 61347-2-13:2014/AMD1:2016 RCM: AS 61347.2-13:2018 CCC: GB19510.1-2009, GB19510.14-2009 SAA: AS 61347.2-13:2018
	EMI	CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3 CCC: GB/T17743, GB17625.1, GB17625.2
	EMS	CE-EMC/RCM: EN61000-4-2,3,4,5,6,11 CCC:GB/T17626.2,3,4,5,6,11
Others	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 yrs (Tc≤79℃)
	DALI Standard	IEC 62386-101 102 207: DALI 2.0
Remarks	<p>1. It is recommended that customer should install overvoltage and undervoltage protection devices and surge protection devices in the power supply circuits of the light fixtures to ensure safety before connecting to electricity.</p> <p>2. The PC cover, casing, end caps and other parts of the LED driver inside the LED light fixture must conform to UL94-V0 flammability standard or above.</p> <p>3. As an accessory, the LED driver is not the only factor determining the EMC performance of the LED light fixture. The structure and the wiring of the light fixture are also relevant. Thus it's strongly recommended the LED light fixture manufacturer should re-confirm the EMC of the whole LED light fixture.</p> <p>4. Unless otherwise stated, the parameters of PF, THD and efficiency are test results under the conditions of ambient temperature of $25 \pm 5^{\circ}\text{C}$, humidity of 50%, input voltage of 230Vac and full load.</p>	

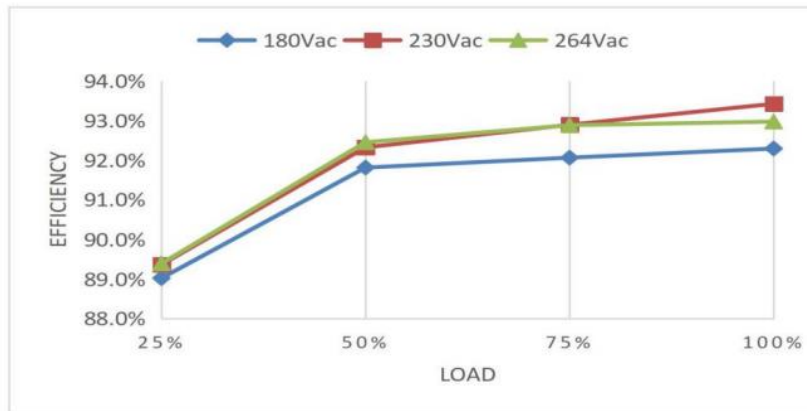
TECHNICAL SPECIFICATION

Characteristic Curve

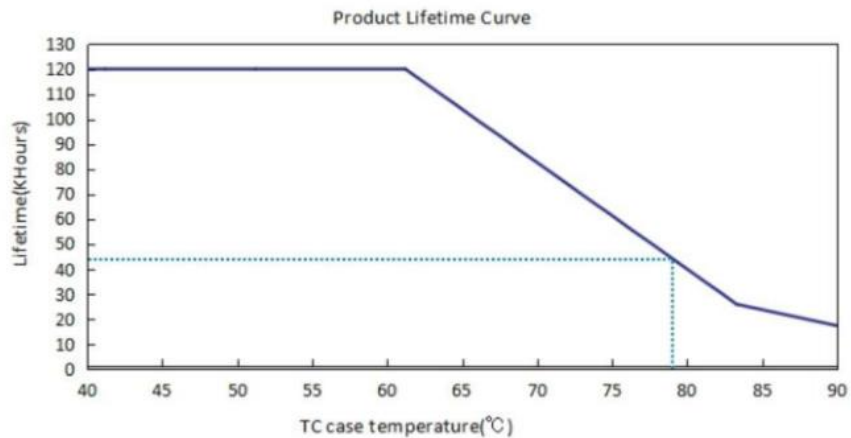
■ PF Curve



■ Efficiency Curve



■ Lifetime Curve



TECHNICAL SPECIFICATION

Operations of Dimming

■ Definitions of Input/Output Terminals

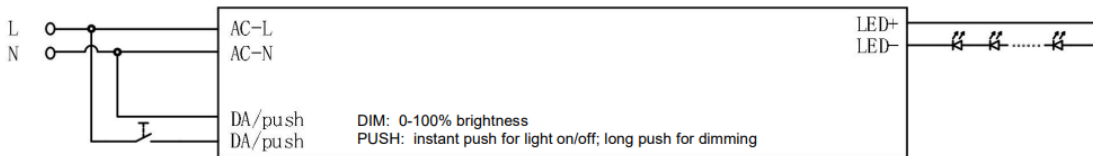
INPUT

AC-L	AC live wire input
AC-N	AC neutral wire input
NC	Vacant
DA/PUSH	DALI/PUSH dimming signal input
DA/PUSH	DALI/PUSH dimming signal input

OUTPUT

LED+	Positive electrode output of driver
LED-	Negative electrode output of driver

■ Wiring Diagram of Brightness Changing in Push Dimming Mode



⚠ Remark: Before using PUSH dimming function, please connect AC-L/AC-N to electricity FIRST, then connect the PUSH terminal to electricity. Otherwise the PUSH terminal will be burned.

■ Brightness Changing in Push Dimming Mode

Operation	Operation Time	Function
Instant Push	0.1 - 0.5 sec	LED Light on / off
Long Push	0.6 - 5 sec	Dim up / down
Reset Push	> 9 sec	Reset to the 50% luminance

The push operation won't cause any variation if it's less than 0.1 sec.

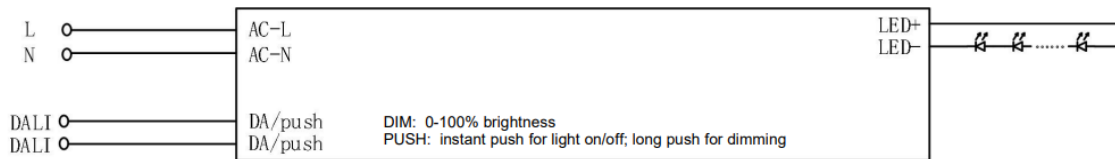
- The minimum dimming depth of push dimming is 1% (Iout).
- When entering to the push dimming mode for the first time, it's default to be 100% luminance output.
- For the first long press on the push button, the luminance dims down.
- In subsequent operations, the brightness changing direction (dim up or dim down) of every long press on the push button is opposite to the last one.

DALI dimming operations

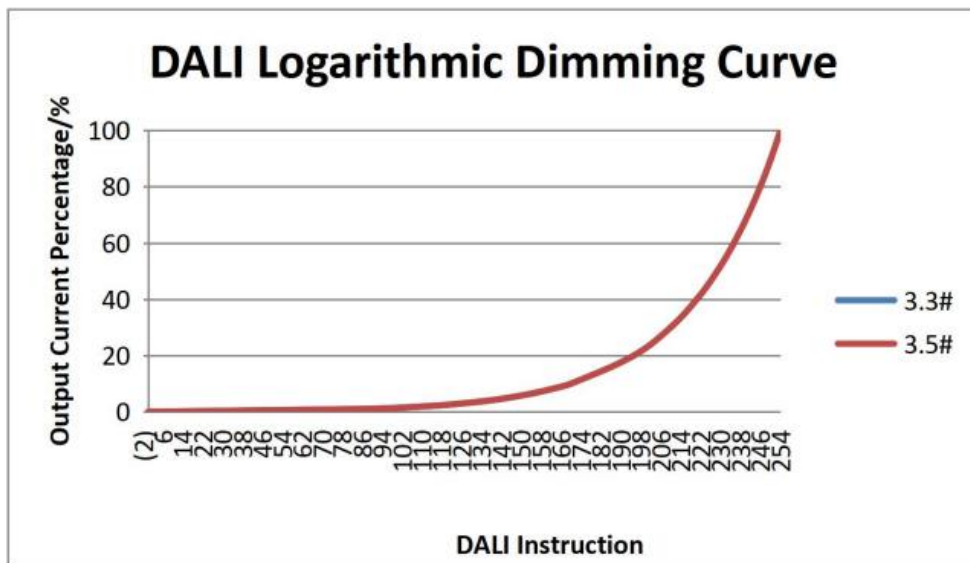
- Factory default setting is 100% luminance and logarithmic dimming curve
- Connect the DALI signal to the DA/PUSH terminals, no positive or negative designation.
- DALI protocol includes 16 groups and 64 IP addresses.
- The minimum dimming depth of the DALI dimming is 0.1% (Iout).

TECHNICAL SPECIFICATION

Wiring Diagram of DALI Dimming Operation



DALI Logarithmic Dimming Curve

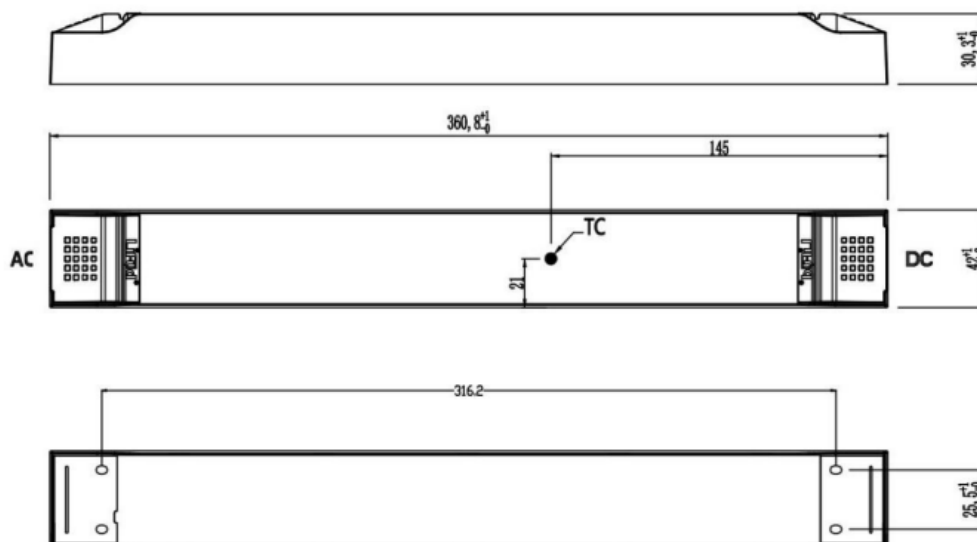


Instructions of switching dimming modes

- For the first time being powered on, it's default to be in the DALI dimming mode at 100% luminance output
- Switching between the DALI dimming and the push dimming modes:
- Switch to the push dimming mode: Long press the push button for over 0.6 sec and then it's switched to the push dimming mode. The current output status is the same as the previous one.
- Switch to the DALI dimming mode: Receiving any DALI instruction will switch to the DALI dimming mode. If it's a non-dimming instruction, the output status remains the same. If it's a dimming instruction, the light will be dimmed as the instruction tells

TECHNICAL SPECIFICATION

Dimensions (unit: mm)



Attention:

- Please use this product according to its specifications otherwise there may be malfunction.
- Use light fixtures that have not been certified or are not compatible with the LED drivers may cause fire or other hazards.
- Man-made damage, any use beyond the specification and non-original-factory modification are not covered by warranty

