

Model: GP-LC7028-Q5D

20W AC-DC Constant Current LED Driver with 1-10V Dimming

Features

- Universal AC Input Range up to 264VAC.
- Support for Constant Current or Constant Voltage Mode.
- Built-in Active PFC Function.
- Fully Isolated Class 2 Plastic Case.
- Constant Current mode with 1-10V Dimming and PUSH Dimming.
- At CV Mode Operation, it Can Support Most of LED Strip Dimming Application.
- Protections: Over Current Protection / Short Circuit Protection.
- 3 years Warranty.

Approvals



Size

105 x 69 x 23mm(L x W x H)

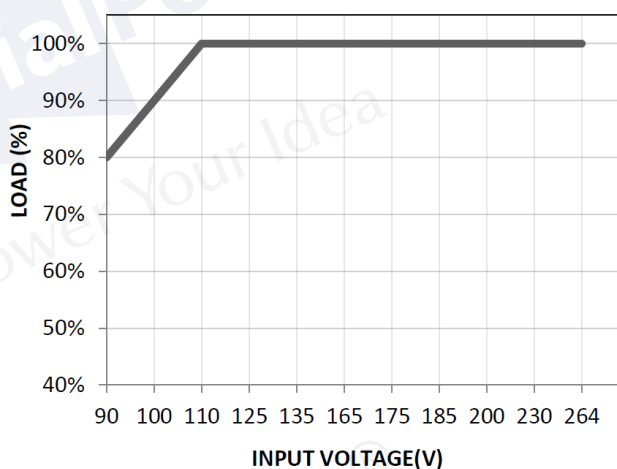
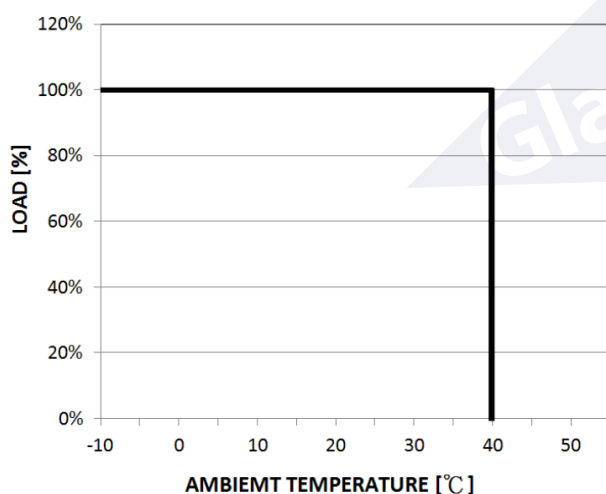


Specifications

Model No.		GP-LC7028-Q5D							
Input	Voltage Range	100 – 240VAC (Refer to output load Static Characteristics)							
	Frequency Range	50Hz / 60Hz							
	AC Current (Max.)	0.28A at 115VAC / 0.14A at 230VAC							
	Power Factor	> 0.95 at 115VAC / >0.90 at 230VAC with full load(28V/0.7A)							
	Inrush Current (Max.)	10A at 230VAC							
	Leakage Current	< 1mA / 240VAC							
Output	According to the switches selection	Rated Power	SPEC.	1	2	3	4	5	6
		7W (C.C)	250mA	–	–	–	–	–	–
		10W (C.C)	350mA	–	–	–	–	–	ON
		12W (C.C)	400mA	–	–	–	–	ON	–
		13W (C.C)	450mA	–	–	–	ON	–	–
		14W (C.C)	500mA	–	–	–	–	ON	ON
		15W (C.C)	550mA	–	–	–	ON	–	ON
		17W (C.C)	600mA	–	–	–	ON	ON	–
		20W (C.C)	700mA	–	–	–	ON	ON	ON
		9W (C.V)	12V DC	–	–	ON	ON	ON	ON
		18W (C.V)	24V DC	–	ON	–	ON	ON	ON
	20W (C.V)	28V DC	ON	–	–	ON	ON	ON	
	Voltage Range	12V~28V for Constant Current mode application							
	No Load Voltage	49Vdc							
Set up Time (Max.)	2S/230VAC at full load								
Current Tolerance	±10%								
Ripple & Noise (Max.) note.2	4.2Vp-p								
Efficiency note.1	> 80% at 28Vdc/0.7A full load								
Dimming Type	1-10V Dimming	DC 1-10V, Electronic Potentiometer or 10V PWM 10V PWM : Puls:Hi=10V Low=0V, Duty:10%~100%, Fsw 0.5-3KHZ							
	PUSH Dimming	Use a PUSH button to turn ON and OFF, dimming up and down							

Protections	Over Current	100% - 120% Constant current limiting, auto-recovery
	Short Circuit	Hiccup mode, recovers automatically after fault condition is removed
Environment	Working Temp.	-10°C ~ 40°C ambient operating at full load (Derating Curve)
	Working Humidity	20% ~ 90% RH non-condensing
	Storage Temp., Humidity	-20 ~ +80°C ,10% ~ 90% RH
Safety & EMC	Safety Standards	meet EN61347-1,EN61347-2-13
	EMC Standards note.3	meet EN55015,EN61000-4-2,3,4,5,6,8,11 ,EN61547
	Withstand Voltage	I/P-O/P: 3.75 KVAC
	Isolation Resistance	I/P-O/P:100m ohms / 500Vdc at 25°C
Connection	Input	3P screw terminal block
	Output	4P screw terminal block
Others	MTBF	100K hours min. at Ta=25°C
	Dimension(L x W x H)	105 x 69 x 23 mm; 128.7g/pcs
Note	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C ambient temperature. Ripple & Noise are measured at 20MHZ bandwidth oscilloscope and with 0.1uf & 47uf parallel capacitor. The power supply is considered a component which will be installed a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. When the driver is operating in constant voltage mode, the maximum output current will only be the 85% of rated current. 	

▪ **Derating Curve**



▪ **1-10V Dimming Control (DC/ PWM)**

(1)DC: 1-10V Dimmable (Typical):

DIM(Voltage)	< 1V	1.1V	2V	3V	4V	5V	6V	7V	8V	9V	10V
Iout (%) typ.	0%	2%	13%	25%	35%	45%	58%	70%	80%	92%	100%

(2)10V / PWM Dimmable (Typical):

DIM(10V/PWM Duty)	< 10%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Iout (%) typ.	0%	2%	13%	25%	35%	45%	58%	70%	80%	92%	100%

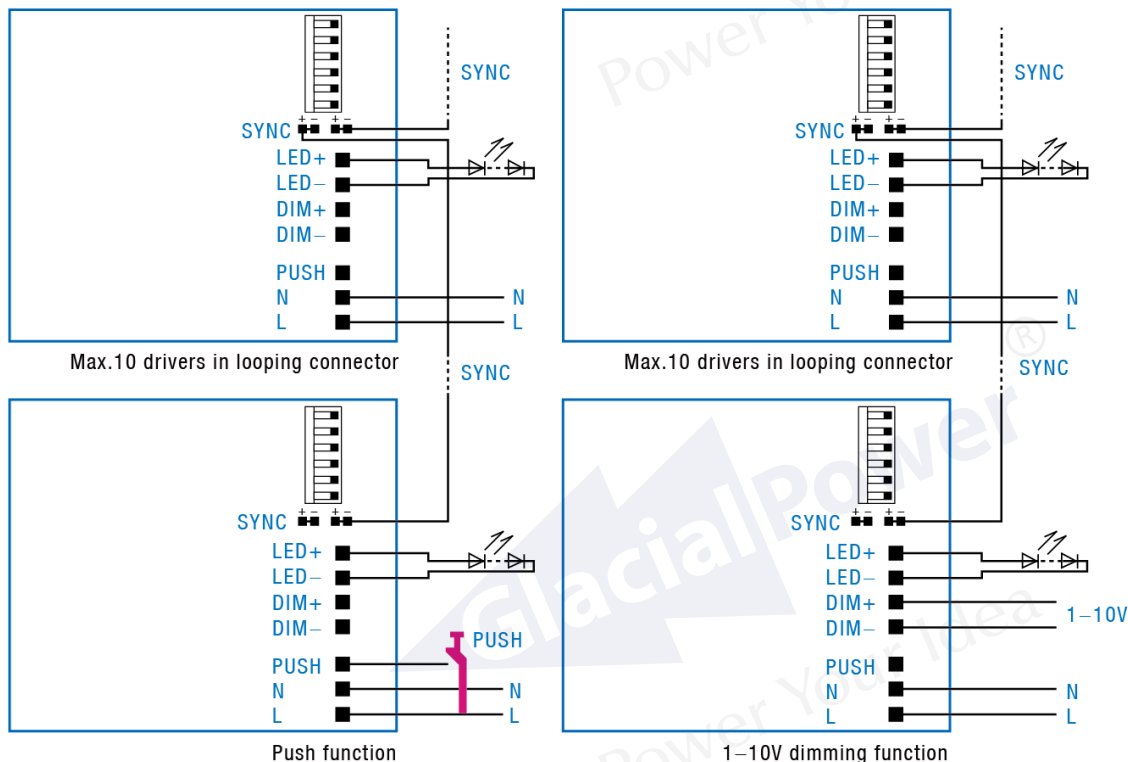
▪ **PUSH Dimming Control**

(1) PUSH Dimmable

Action	Function
Short push	Turn ON / OFF output of the driver
Long push	Every long push to change the dimming direction, dimming up or down

Note: Two dimming modes (1-10V dimming and PUSH dimming) can not be used at the same time.

▪ **Wiring Diagram**

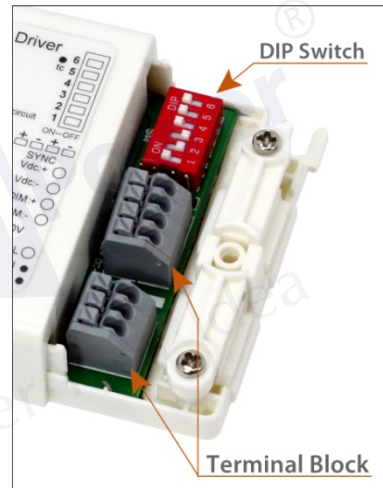
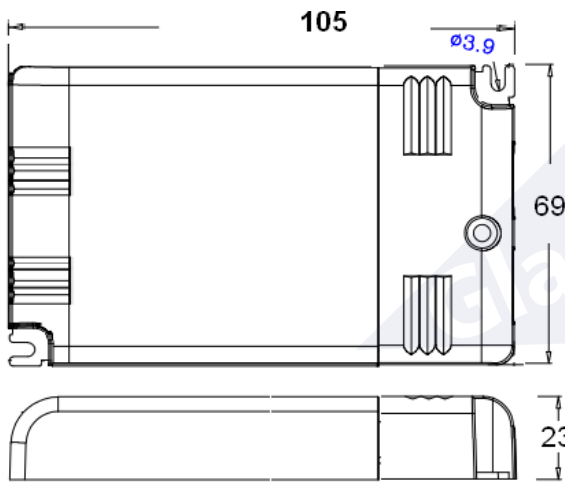


▪ **Operation Mode**

- PUSH dimming:
 - A short push to turn on and off the output
 - Long push in every time can change the dimming direction for dimming up or down. Release the push button when stopping as required, or stopping at the end of each side, the output will reach to the min. or max. values.
 - Up to 5 drivers can perform the PUSH dimming at the same time when using one PUSH button without SYNC cable.
 - If PUSH dimming is chosen, please leave DIM+ and DIM- open.
 - Only normal open PUSH button can be used for PUSH dimming.
 - The additive PUSH button can be connected only between the PUSH terminal and AC/L.
- SYNC function:
 - Synchronization up to 10 drivers (1 master + 9 slaves)
 - SYNC function can operate with either PUSH dimming or 1-10V dimming.

Note: Synchronization cable is separately supplied.

▪ **Mechanical Specification**



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