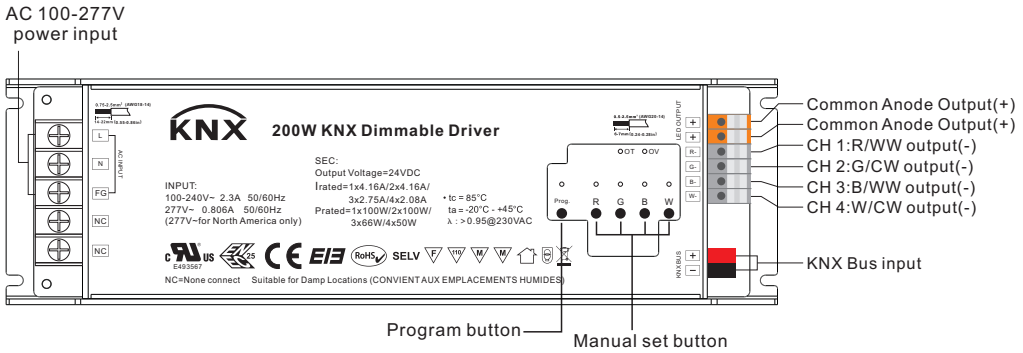
200W KNX LED Driver(Constant Voltage)

70250006

Important: *Read All Instructions Prior to Installation*

Function introduction



Product Data

Output	LED Channel	4	
	DC Voltage	12V DC	24V DC
	Max. Current	Max. 8.3A/ch, ch1+ch2+ch3+ch4=16.6A	Max. 4.1A/ch, ch1+ch2+ch3+ch4=8.4A
	Voltage Tolerance	±1%	
	Rated Power	max. 200W	
Input	Voltage Range	100-277V AC	
	Frequency Range	50/60Hz	
	Power Factor (Typ.)	> 0.98 @ 230VAC	
	Total Harmonic Distortion	THD ≤ 15% (@ full load / 230VAC)	
	Efficiency (Typ.)	93% @ 230VAC full load	
	AC Current (Typ.)	2.3A @ 100VAC, 1A @ 230VAC, 0.9A@277VAC	
	Inrush Current (Typ.)	COLD START Max. 65A at 230VAC	
	Leakage Current	< 0.5mA /230VAC	
	Standby Power Consumption	< 1W	
Connections	Inputs	Using screw connection terminal	
	Outputs	Using screwless connection terminal	
	EIB/KNX	EIB bus connection terminal	

Operation & Display	Button and red LED	For assigning the physical address
	Green LED flashing	Indicate the application layer running normally
	LEDs for Output	Indicate output status per channel, LED on mean the channel has output, LED off mean the channel has not output.
	Manual buttons	Switch via a short operation, relative dimming via a long operation
	OT. LED	Indicate over-temperature, >70 °C
	OV. LED	Indicate over voltage, >40V DC
Protection	Over Current	Yes, recovers automatically after fault condition is removed
	Over Temperature	Yes, recovers automatically after fault condition is removed
Environment	Working Temp.	-20℃ ~ +45℃
	Max. Case Temp.	85℃
	Working Humidity	10% ~ 95% RH non-condensing
	Storage Temp. & Humidity	-40℃ ~ +80℃, 10% ~ 95% RH
Safety & EMC	Safety Standards	UL8750, CAN/CSA C22.2 No. 250.13-14, ENEC EN61347-1, EN61347-2-13 approved
	Withstand Voltage	I/P-O/P: 3.75KVAC
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC / 25℃ / 70% RH
	EMC Emission	EN55015, EN61000-3-2, EN61000-3-3
	EMC Immunity	EN61547, EN61000-4-2,3,4,5,6,8,11, surge immunity Line-Line 1KV
Others	MTBF	185900H, MIL-HDBK-217F @ 230VAC at full load and 25℃ ambient temperature

- Dimmable LED driver with rectangle metal case, dimming range 0.1%-100%
- 4 channels 12/24VDC constant voltage output
- Class 1 power supply, full isolated metal case
- Built-in two-stage active PFC function
- PF > 0.98, Efficiency > 93%
- Low standby power < 1W
- Built-in KNX interface, KNX/EIB Bus Connection Terminal
- Support Physical Address and Group Address
- To control single color, dual color, RGB/RGBW LED lighting
- Relative Dimming Control, Absolute Dimming Control, Scene Control, On/Off Switching
- Commission and Project Design with ETS4
- IP20 rating, suitable for indoor LED lighting applications
- 5 year warranty

Safety & Warnings

• DO NOT install with power applied to the device.
• DO NOT expose the device to moisture.

The dimmer with LED constant current drive can drive LED directly, has four channels, each channel is independent.
The output can connect with some big power dimmable LED lights. These LEDs can be switched, dimmed, recall scene or other operations via the bus.
The devices adopt PUSH terminals to achieve electrical connection; the connection to the EIB/KNX bus is established via a bus connecting terminal. The input need connect a 100-240V AC operation voltage. The following list provides a functional overview:

☆Switching the LED light
☆Relative dimming
☆Absolute dimming
☆Status report, error report
☆Setting 15 scenes
☆Staircase lighting function
☆Bus recovery (or reset) function
☆Preset value and modify preset value functions
☆Switch/relative dimming via manual buttons

The above function of parameters to configure and use are described in the chapter 5. The device has own database file (.vd4) (80120/1 ch). There is added a manual operation function in the normal dimming mode, it is invalid in the staircase lighting mode. Switch via a short operation of manual buttons, relative dimming via a long operation, and in the case of the bus voltage fail the manual operation is invalid.

Application Programming

Introduction
It is able to set different parameters to every output channel, and control various targets by modifying the setup of the internal parameters.

Switch
The output can be switched ON or OFF by 1 bit data. It is able to set the brightness value as the last one or a defined one (1%-100%) when switching on the luminaries. It is able to set a delay time (changing time) to dim UP the luminaries or dim UP gradually in the default period. When receiving the OFF message, the dimmer will be switched off immediately, or dim DOWN gradually after a delay time (changing time) or in the default changing period.

Relative dimming
4 data bits control: the relative dimming command means it is possible to dim UP or DOWN to the needed brightness value during the set brightness threshold range. It is only valid to dim UP when the brightness value is smaller than the low threshold value and dim DOWN when the brightness value is greater than the high threshold value. It is also able to set whether to switch on the luminaries by the message “dim UP to a certain value” when the output is 0 by this function. The relative dimming is used to control the relative changes of the brightness by 4 data bits: the lowest 3 bits are controlling-bit and the highest bit is----- “1” means dim UP, “0” means dim DOWN.

Explanation of setting relative dimming: (1-7: dim DOWN; 0-8 remain unchanged (stop dimming); 9-15 dim UP)

Parameter	0	1	2	3	4	5	6	7
Dim DOWN	Unchange/ stop dimming	255	128	64	32	16	8	4

Parameter	8	9	10	11	12	13	14	15
Dim UP	Unchange/ stop dimming	255	128	64	32	16	8	4

Absolute dimming
8 data bits control: it is able to dim to the needed brightness value by changing the brightness parameters. The setting of the parameters is similar as relative dimming with the brightness value range: one low threshold value and one high threshold value. And it is not allowed to change the brightness value beyond the set range, the max. range is from 0 to 255. This function offers the possibility to dim UP or DOWN to 0 gradually to the target value by setting the delay time or the default time.

The high and low threshold value limits the total output of the dimmer; any brightness value beyond the range is not valid.

When the output is 0, it is able to set switching off the luminaries or remaining to a lower brightness value; and also in this status it is optional to switch on the luminaries by receiving the message “absolute dimming”.

Status Report
1 data bit: the dimmer offers the possibility whether sending the latest brightness value report of the controlled target and the changed report of the switch status to the BUS.

Scene
8 data bits control: the dimmer offers 15 (1-15) scenes for selection. It is possible to set ONE brightness value and the gradual change time of ON for each scene. After setting, it is easy to call any favorite scene. 1 in the highest bit of the scene command it means “saving” command, to save the current brightness value to the relevant scene.

Preset Value
The dimmer can preset scene, the object directly through 1bit data to transfer the preset scene or through 1bit data to let favorite scene to replace original preset scene. There are two preset values per output, there are two brightness values can be transfer for each preset value. Such as in theater, we need a relatively bright lighting effect when coming in, we can through transfer the first brightness value to be achieved this effect, when the movie starts playing, we need a relatively dark lighting effect, we can through transfer the second brightness value to be achieved. We can return to the previous brightness value when the movie ended.

Staircase Lighting Function
The dimmer offers the function of staircase lighting control besides the normal lighting control.
The staircase lighting function serves to switch off the lighting directly until dimming DOWN to 20% of the brightness value after a set period. It is able to set the brightness of the luminaries, the duration of the light ON, the time to dim down to 20% separately.

In this function, it uses 1 data bit control the targets directly by setting a permanent fixed value to the output of the staircase luminaries.

The steps of staircase lighting control: the staircase luminaries will be switched on for a certain time (this time can be set) if the controlled target receives the message of “1”; these luminaries will be switched on again when receiving another message “1” during this period. The luminaries will be switched off when they are dimmed down to 20% of the brightness value (the dim down time can be set) after this period, or switch off the luminaries by sending message “0” to the controlled target. The luminaries will be off after dimming down to 20% when receiving the message “0” (the same dimming down time as above). When enabling the function “On reception switch OBJ=0 switch off”, it is able to use the function "switch off" to turn off the output in the status of "permanent on", or change the status from "switch on" to "permanent on" (message “1” means ON, “0” means OFF).

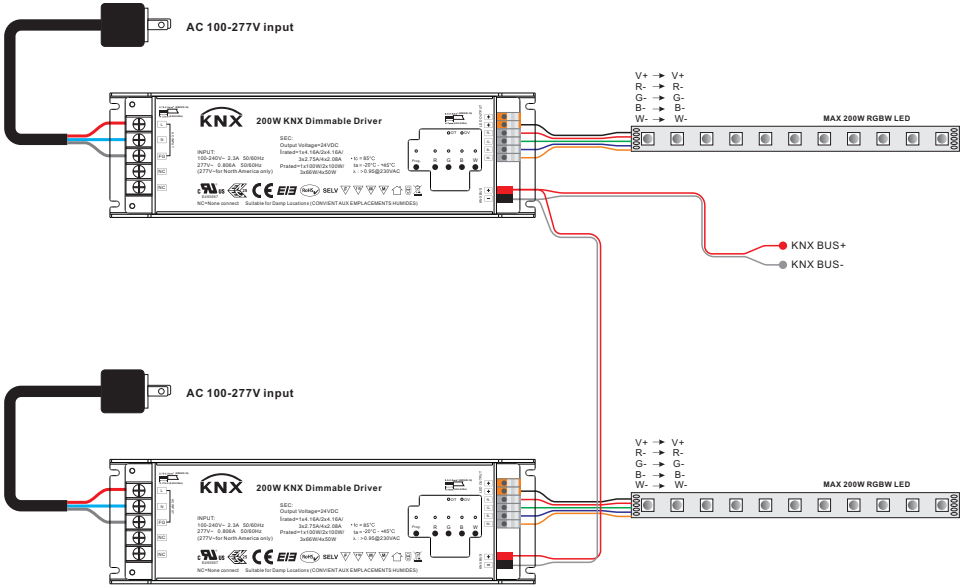
Reset
When the BUS is power off, all the outputs are switched off; the current brightness value will be saved to the memory of the dimmer. When the BUS voltage is recovered, the brightness status may be the last brightness value, or the preset brightness value.

When the BUS is power off, it may have the following situation occurring:

In the normal mode, 2 optional behaviors after the BUS voltage recovery are: the last brightness value before power off, or the set value.

In the staircase lighting mode, the behavior after the BUS voltage recovery is: ON or OFF. No output when it is OFF; start the behavior “switch=1” when it is ON.

Wiring diagram



Product Dimension