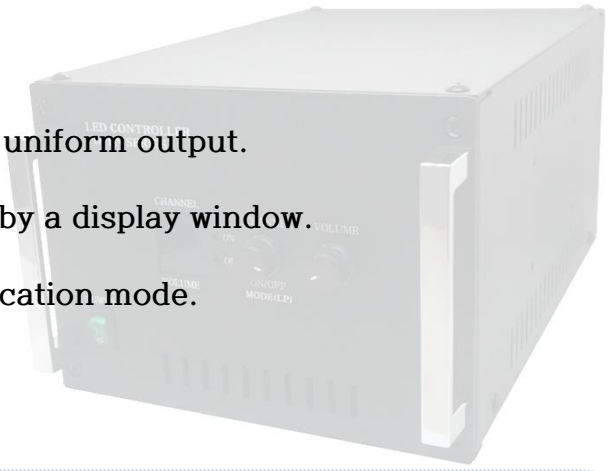
Controller
Spec & Manual

PDML-GLC300-13CH

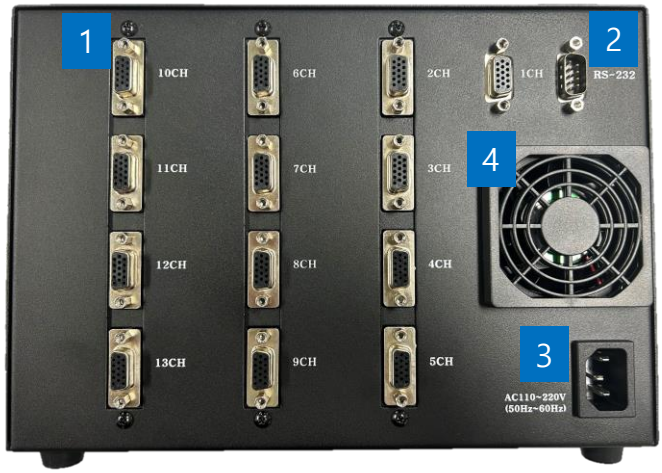
1. Controller feature

- Digital controller.
- This Controller Support 1~13CH..
- Current control method. It maintain the uniform output.
- It can check easily the output condition by a display window.
- It can control through RS-232 communication mode.



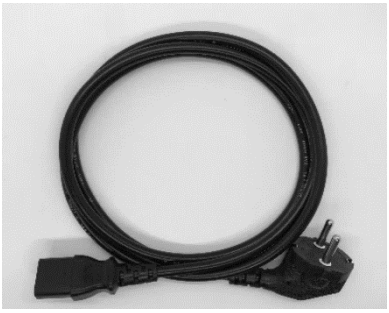
2. Controller composition

① Power
② Display window
③ LED On/Off Command
④ DIOPTER On/Off Command
⑤ Channel setting knob
⑥ Brightness adjust knob
⑦ DIOPTER adjust knob



① Object connecting port
② RS-232 communication connecting port
③ Power connecting port
④ Cooling fan

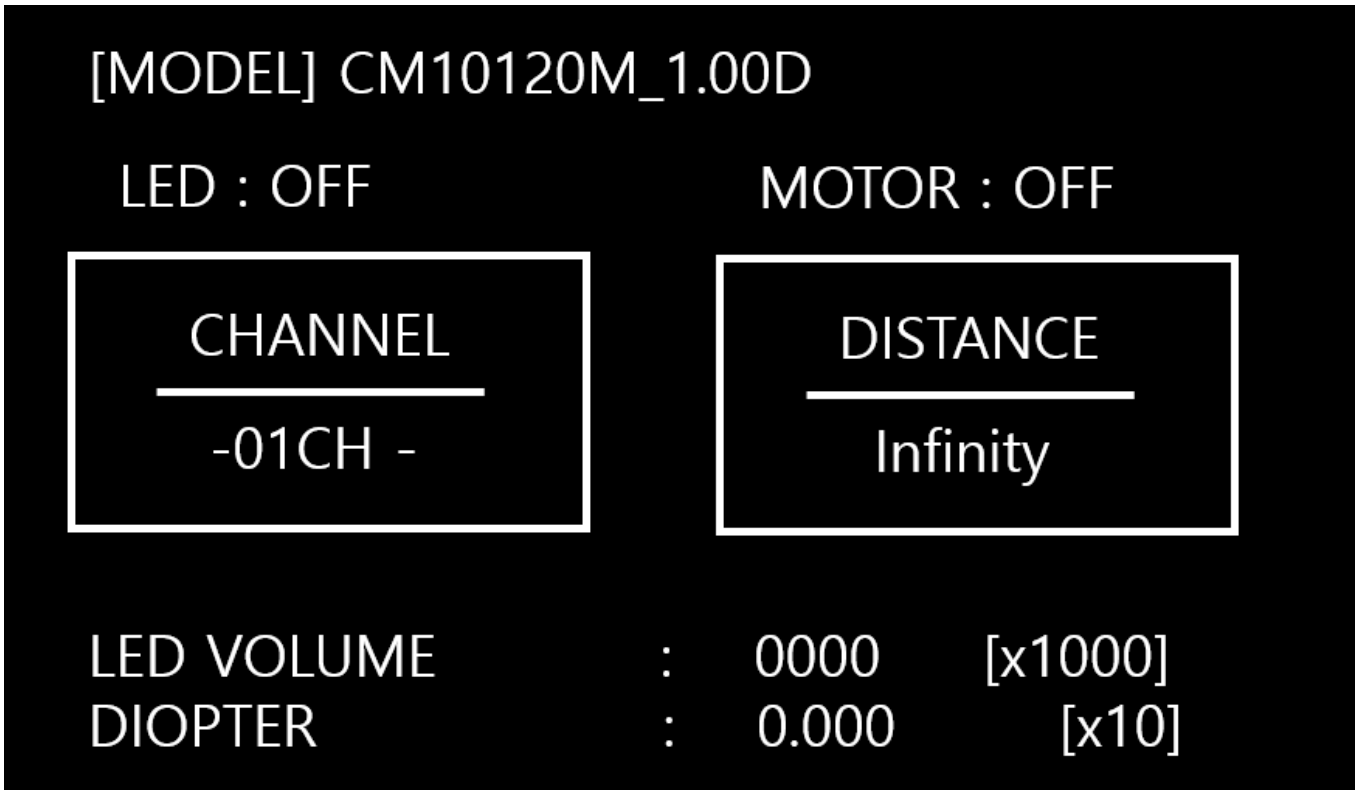
3. How to use a Controller



- Connect the power cable. Push the power switch on.

- Change the channel by turning the channel knob to the left and right.
- Adjust the brightness by turning the volume knob to the left and right.
- Adjust the distance by turning the DIPOTER knob left and right
- For unused channels, push the channel knob to change off setting.

3. How to use a Controller(main)

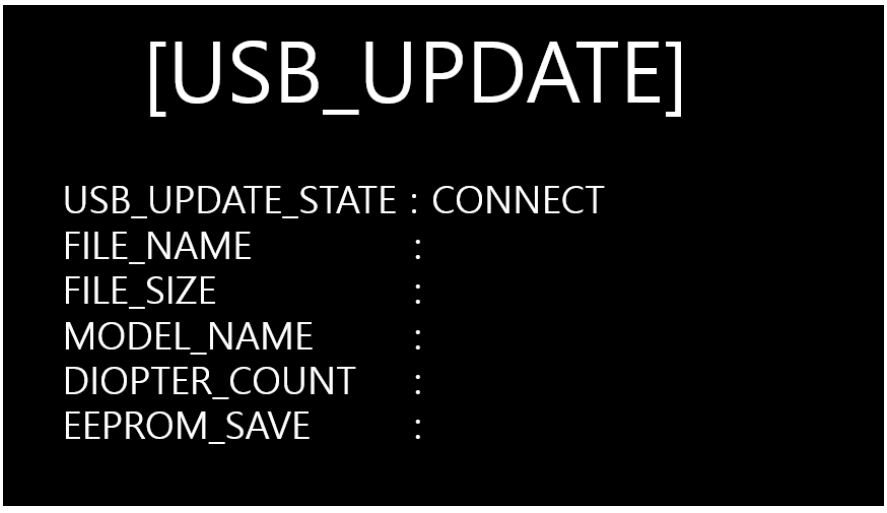


- You can adjust the volume magnification by pressing and holding the LED VOLUME knob.
- You can adjust the DIOPTER magnification by pressing and holding the DIOPTER knob..
- For unused channels, push the channel knob to change off setting.

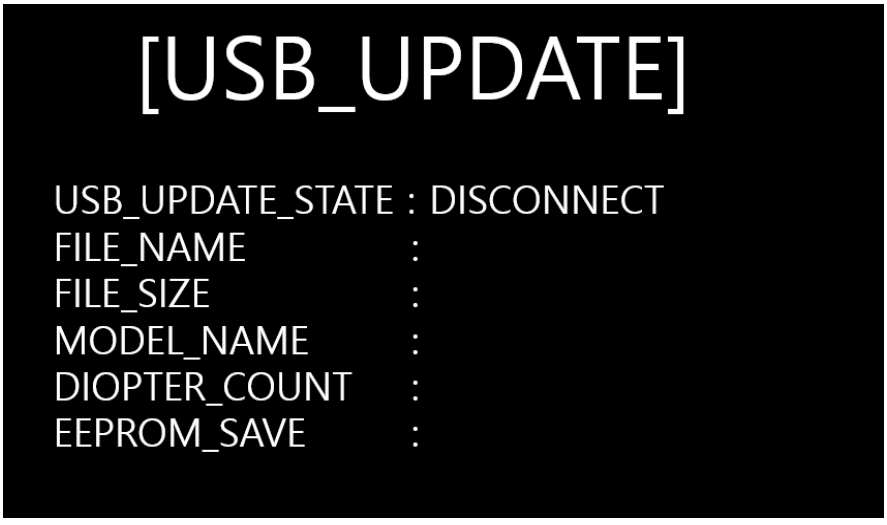
3. How to use a Controller(OFFSET)

- Press the CHANNEL knob button and the DIOPTER knob button at the same time for more than 5 seconds to activate the MOTOR OFFSET window.
- The DIOPTER (STEP) position value of each channel can be adjusted with the DIOPTER knob..
- Press the DIOPTER knob button to store the adjustment value in the EEPROM..

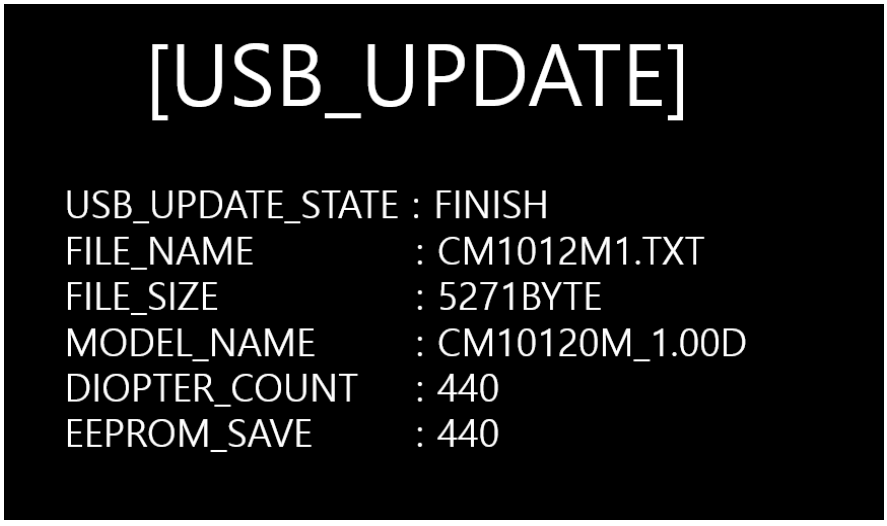
3. How to use a Controller(USB)



When USB is inserted on the main screen, the phrase "connect" is activated.



If you remove USB, the phrase DISCONNECT is activated.

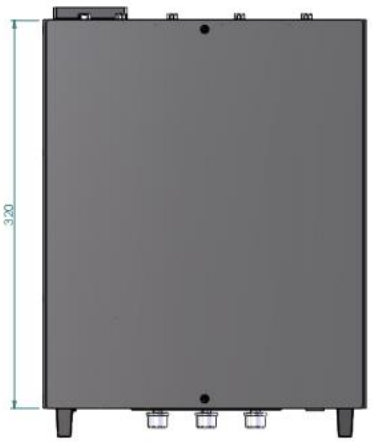


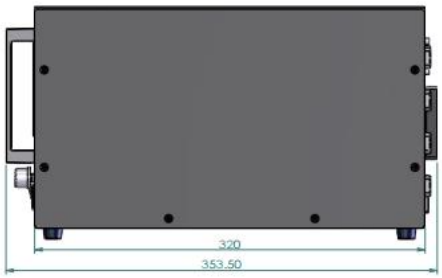
Pressing the CHANNEL knob button will progress the update, activate the phrase FINISH, and save it to the EEPROM.

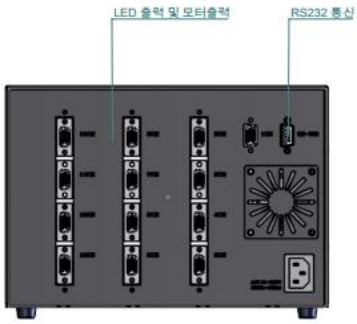
4. Controller SPEC

MODEL.	PDML-GLC300-13CH
Channel	1~13
LED OUT	1~13
MOTOR_OUT	1~13
LED_MODE	Current Control
MOTOR_MODE	DC_Motor_Control
LED_Volt Range	6V~9V
MOTOR_Volt_Range	12V
LED_Output Range	0~1200mA.
MOTOR_Output Range	200mA. (Rated Load 1A)
LED_Control Function	Manual & RS232, Bright 0~4095 Step, ON/OFF Control.
MOTOR_Control Function	Manual & RS232, DIOPTER Step, ON/OFF Control.
Input Voltage	AC110~220V(50Hz/60Hz)
MAX POWER	200W
USB	FAT32
Communication mode	RS-232
OUT CONNECTOR	D-SUB 3ROW_15PIN(DS1038-15F)
SIZE	264 X 182 X 353

5. Dimension diagrams







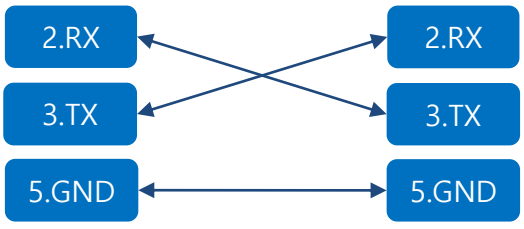
6. PIN_MAP

(1) Pin_map (Controller out)

PIN	FUNCTION
1	LED+
2	LED-
3	5V
4	GND
5	3.3V
6	GND
7	GND
8	GND
9	GND
10	PI_INPUT
11	GND
12	MOTOR+
13	MOTOR-
14	ENCODER_A
15	ENCODER_B

7. RS232 Protocol

(1) Protocol

*RS-232 PIN_MAP (DSUB 9PIN-MALE)	*UART(RS232) SPEC.
	

Baud Rate	9600bps
DATA BIT	8BIT(ASCII)
STOP Bit	1Bit
Parity Bit	None Parity Bit

(2) PC → Controller

1) LED Channel data control

L	C	n1	n2	n3	n4	CR	LF

- L : LED
- C : Command
- n1 : 1~9, A~G(10~16) Channel number, T → All channel
- n2 : Send data high nibble(0~F)
- n3 : Send data middle nibble(0~F)
- n3 : Send data low nibble(0~F)
- Ex) Control each channel brightness → LC1FFF[CR][LF]
  Control All channel brightness → LCTFFF[CR][LF]

✓ Return

R	C	n1	n2	n3	n4	CR	LF

- Ex) RLC1FFF[CR][LF], RLCTFFF[CR][LF]

2) LED Channel On/Off

L	H	n1	n2	n3	n4	CR	LF

- L : LED.
- H : command.
- n1 : 1~9, A~G(10~16) Channel number, T → All channel
- n2 : None
- n3,n4 : "ON", "OF"
- Ex) Control On/Off each channel → LH10ON[CR][LF], LH10OF[CR][LF]
  Control On/Off all channel → LHT0ON[CR][LF], LHT0OF[CR][LF]

✓ Return

R	C	n1	n2	n3	n4	CR	LF

- Ex) RLC10OK[CR][LF], RLC10ER[CR][LF]

3) LED Confirmation of the condition

L	S	n1	n2	n3	n4	CR	LF

- L : LED.
- S : Command.
- n1: 1~9, A~G(10~16) Channel number.
- n2, n3, n4 : "000" => Check brightness, “001” => ON/OFF Check,
  “002” => Check error
- Ex) Brightness → S1000[CR][LF]
  ON/OFF → S1001[CR][LF]
  Error → S1002[CR][LF]

✓ Return

R	S	n1	n2	n3	n4	CR	LF

Ex) Brightness → RLS1FFF[CR][LF]
ON/OFF → RLS10ON[CR][LF], RS10OF[CR][LF]
ERROR → RLS10OK[CR][LF], RS10ER[CR][LF]

1) MOTOR Channel data control

M	C	n1	n2	n3	n4	CR	LF

- M : MOTOR
- C : Command
- n1 : 1~9, A~G(10~16) Channel number, T → All channel
- n2 : Send data high nibble(0~F)
- n3 : Send data middle nibble(0~F)
- n3 : Send data low nibble(0~F)
- Ex) Control each channel Diopter(Step) → MC1FFF[CR][LF]
  Control All channel Diopter(Step) → MCTFFF[CR][LF]

✓ Return

R	C	n1	n2	n3	n4	CR	LF

- Ex) RMC1FFF[CR][LF], RMCTFFF[CR][LF]

2) MOTOR Channel On/Off

M	H	n1	n2	n3	n4	CR	LF

- M : MOTOR.
- H : command.
- n1 : 1~9, A~G(10~16) Channel number, T → All channel
- n2 : None
- n3,n4 : "ON"
- Ex) Control On each channel → MH10ON[CR][LF]
  Control On all channel → MHT0ON[CR][LF]

✓ Return

R	C	n1	n2	n3	n4	CR	LF

- Ex) RMC10OK[CR][LF], RMC10ER[CR][LF]

3) MOTOR Confirmation of the condition

M	S	n1	n2	n3	n4	CR	LF

- M : MOTOR.
- S : Command.
- n1: 1~9, A~G(10~16) Channel number.
- n2, n3, n4 : "000" => Check Diopter(Step), “001” => ON/OFF Check,
  “002” => Check error
- Ex) Diopter(Step) → S1000[CR][LF]
  ON/OFF → S1001[CR][LF]
  Error → S1002[CR][LF]

✓ Return

R	S	n1	n2	n3	n4	CR	LF

Ex) Diopter(Step) → RMS1FFF[CR][LF]
ON/OFF → RMS10ON[CR][LF], RS10OF[CR][LF]
ERROR → RMS10OK[CR][LF], RS10ER[CR][LF]

3) MOTOR Diopter(step) Offset

M	O	n1	n2	n3	n4	CR	LF

- M : MOTOR.
- O : Command.
- n1: 1~9, A~G(10~16) Channel number.
- n2, n3, n4 : “+01" => Step +1, “-01” => Step -1,
- n1, n2, n3, n4 : “SAVE“=> All Channel Save EEPROM

✓ Return

R	O	n1	n2	n3	n4	CR	LF

Ex) 1Ch +1 Offset → RMO1+01[CR][LF]
Save EEPROM → RMOSAVE[CR][LF]