



■ Features

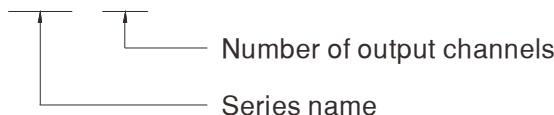
- Universal AC input / Full range (up to 305VAC)
- Convert DALI signal to PWM signal
- 4 DALI addressable output channels
- Built-in push dim function
- Comply with DALI standards (IEC62386-101, 102, 207)
- PWM active high or active low selectable by jumper
- Linear or logarithm dimming curve selectable (comply with IEC62386-207)
- Dimming range : 1 ~ 100%
- Built-in relay for ON/OFF control of LED power supply
- Fully isolated plastic case
- Class II power unit, no FG
- IP20 design
- Power consumption < 0.5W (Note.1)
- 3 years warranty

■ Description

DAP-04 is a "DALI signal to PWM signal" converter, specifically working with the MEAN WELL AC/DC LED power supplies with 3-in-1 dimming function (1~10V / PWM / Resistance).

■ Model Encoding

DAP - 04



■ Applications

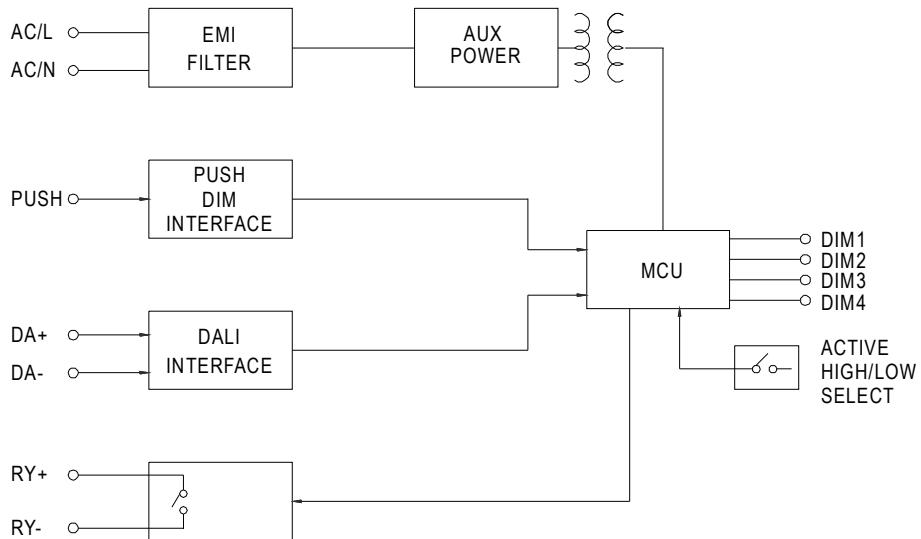
- Indoor lighting
- Office lighting
- Decorative lighting
- Input signal : DALI or push dim
Output signal : open collector PWM signal



SPECIFICATION

| MODEL | DAP-04 | |
|--------------|--|--|
| OUTPUT | NUMBER OF OUTPUT CHANNELS | 4 |
| | OUTPUT SIGNAL | PWM, 1KHz (Typ.) |
| | OUTPUT PWM LOGIC | Active high or active low selectable by jumper ; Factory setting is active high |
| | DIMMING RANGE | 1 ~ 100% |
| INPUT | VOLTAGE RANGE | 90 ~ 305VAC 127 ~ 431VDC [DC input operation possible by connecting AC/L(+), AC/N(-)] |
| | FREQUENCY RANGE | 47 ~ 63Hz |
| | AC CURRENT (Typ.) | 0.1A |
| | INRUSH CURRENT (Typ.) | COLD START 7A($t_{width}=500\mu s$ measured at 50% I_{peak}) at 230VAC |
| | LEAKAGE CURRENT | <0.5mA / 240VAC |
| | POWER CONSUMPTION (Typ.) | 0.5W |
| FUNCTION | INPUT SIGNAL | DALI or push dim |
| | RELAY SWITCH | 240VAC / 8A, ON / OFF control refer to DIM1 |
| ENVIRONMENT | WORKING TEMP. | -30~ +60°C |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing |
| | STORAGE TEMP., HUMIDITY | -40 ~ +80°C, 10 ~ 95% RH |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes |
| SAFETY & EMC | SAFETY STANDARDS | EN61347-1, EN61347-2-11, EN61058-1 Clause 8/17/20/25 approved |
| | DALI STANDARDS | Comply with IEC62386-101, 102, 207 |
| | WITHSTAND VOLTAGE | I/P-O/P:3.75KVAC |
| | ISOLATION RESISTANCE | I/P-O/P:>100M Ohms / 500VDC / 25°C / 70% RH |
| | EMC EMISSION | Compliance to EN55015, EN61000-3-2,3 |
| OTHERS | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547 light industry level (surge 2KV), criteria A |
| | MTBF | 246.9K hrs min. MIL-HDBK-217F (25°C) |
| | DIMENSION | 165*46*23mm (L*W*H) |
| NOTE | PACKING | 0.16Kg; 84pcs/14.4Kgs/1.14CUFT |
| | 1. Power consumption<0.5W is measured at 230VAC. | |

■ Block Diagram



■ DIMMING OPERATION

※ PUSH dim(primary side)

| Function | Pushing time |
|-----------------------|--------------|
| No change of state | <0.05 sec. |
| Turn ON-OFF | 0.1~1 sec. |
| Dimming up or down | 1.5~10 sec. |
| Setting light to 100% | >11 sec. |

- Maximum length of the cable, from push button to last driver, is 20 meter.
- Factory default dimming setting : 100%.
- It will always dim up when light intensity is lower than 10%, whereas it will always dim down when light intensity is higher than 90%.

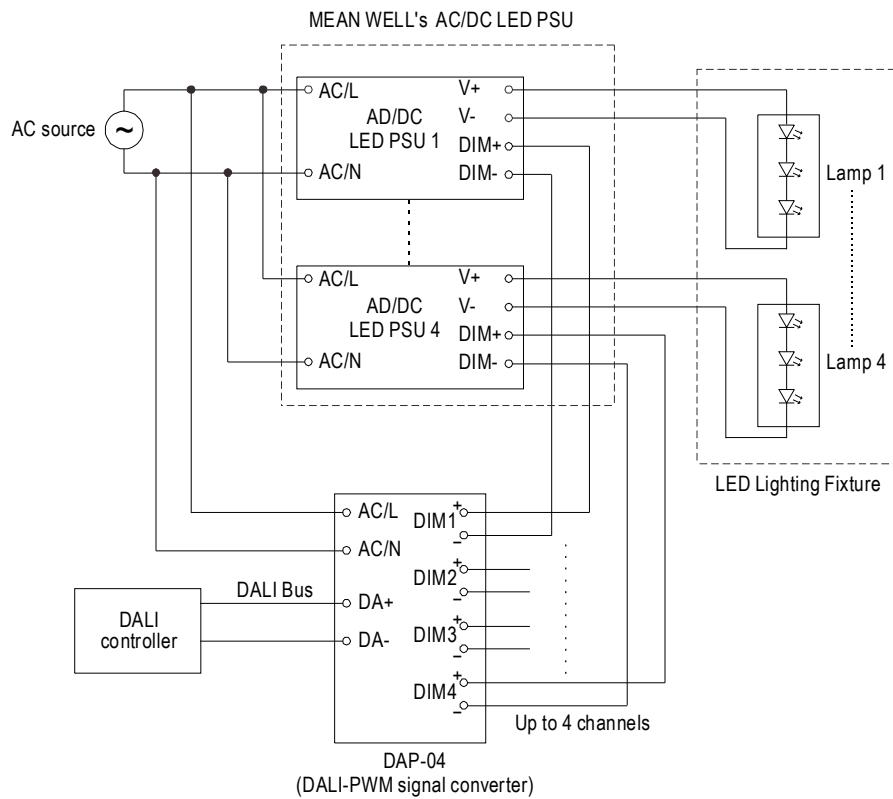
※ DALI interface(primary side)

- DALI protocol including 16 groups and 64 addresses.

■ Connection of Dimming Operation

- DALI Dimming solution :

DAP-04 with MEAN WELL's LED power supply

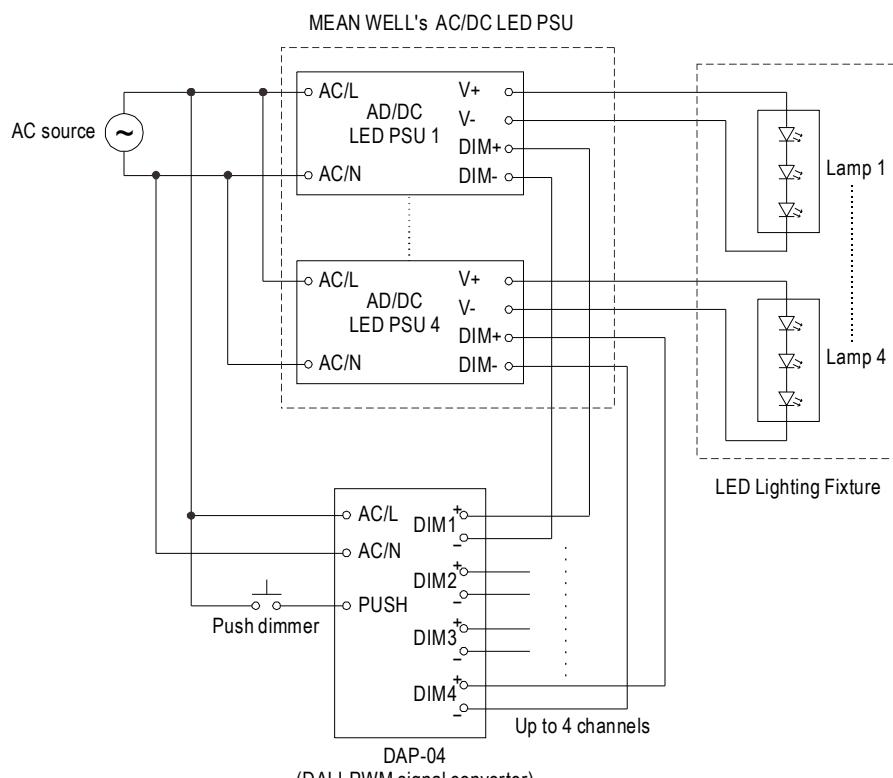


(DALI-PWM signal converter)

※Note: Choose a suitable cable for connecting the DAP-04 and DALI controller and make sure the maximum voltage drop between these two units should not be higher than 2V. (Maximum cable length for 1.5mm² cables is 300m.)

- Push Dimming Solution :

DAP-04 with MEAN WELL's LED power supply



(DALI-PWM signal converter)

※Note: Only use Normally Open Push Button without light indicator .

■ Dimming with LED PSU ON/OFF

- The DAP-04 is equipped with a relay that can be used to turn ON/OFF MEAN WELL LED PSUs. The relay is in the closed position when the DIM1 generates dimming signal; the relay is in the open position when there is no output signal on the DIM1.

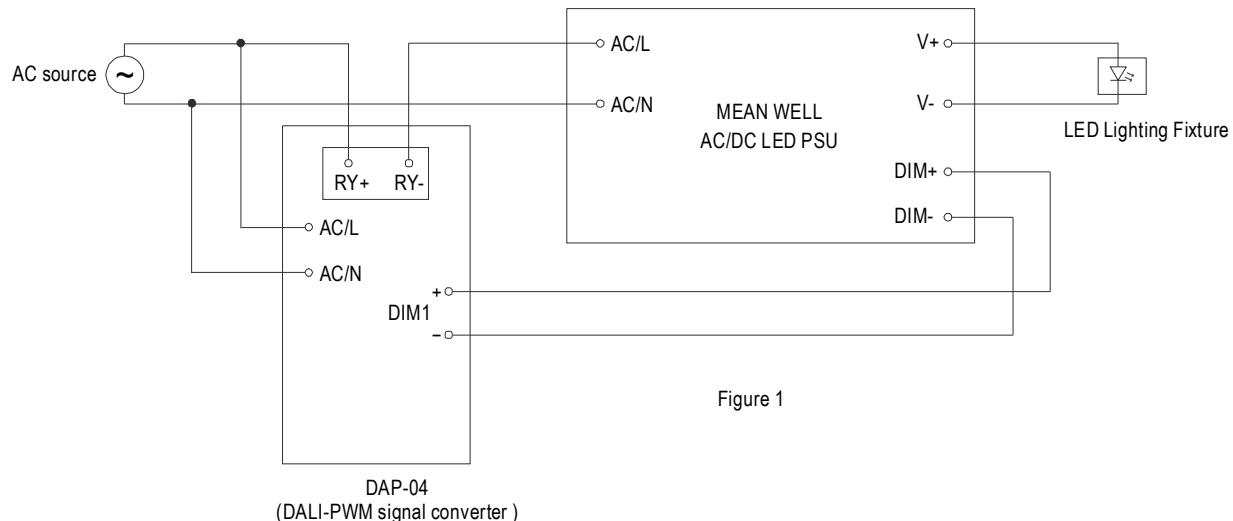


Figure 1

- An additional magnetic switch is needed when the total input current of the selected LED PSUs is higher than 8A or used with LED PSUs whose inrush current is greater than 50A, please refer to the figure 2.

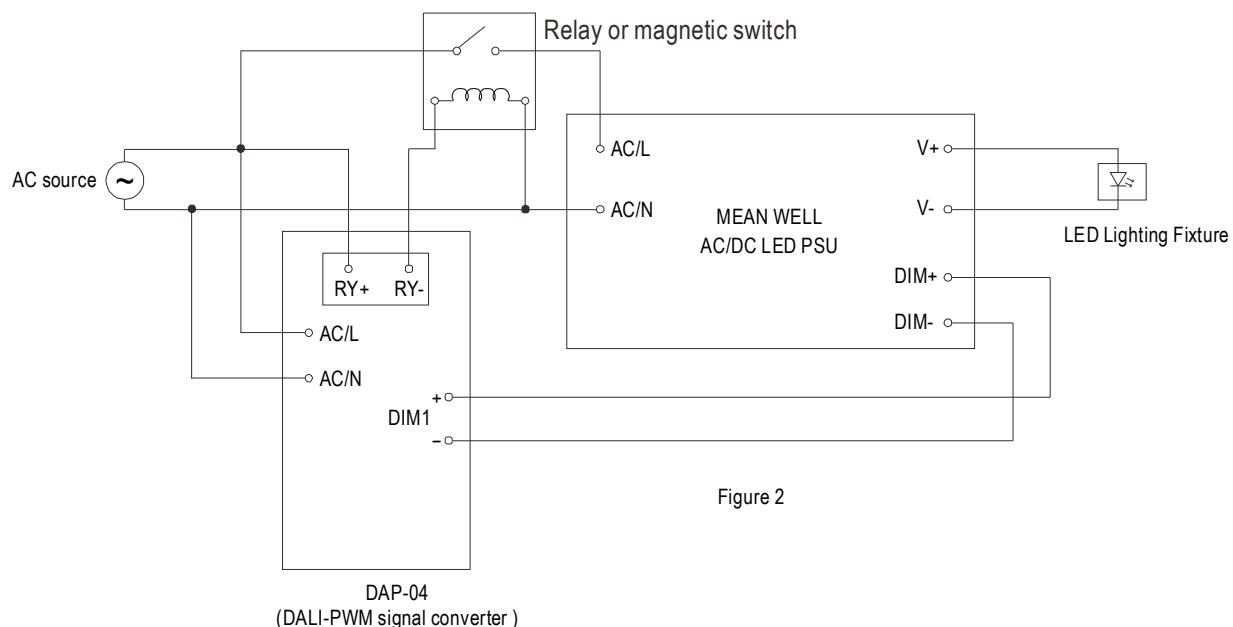
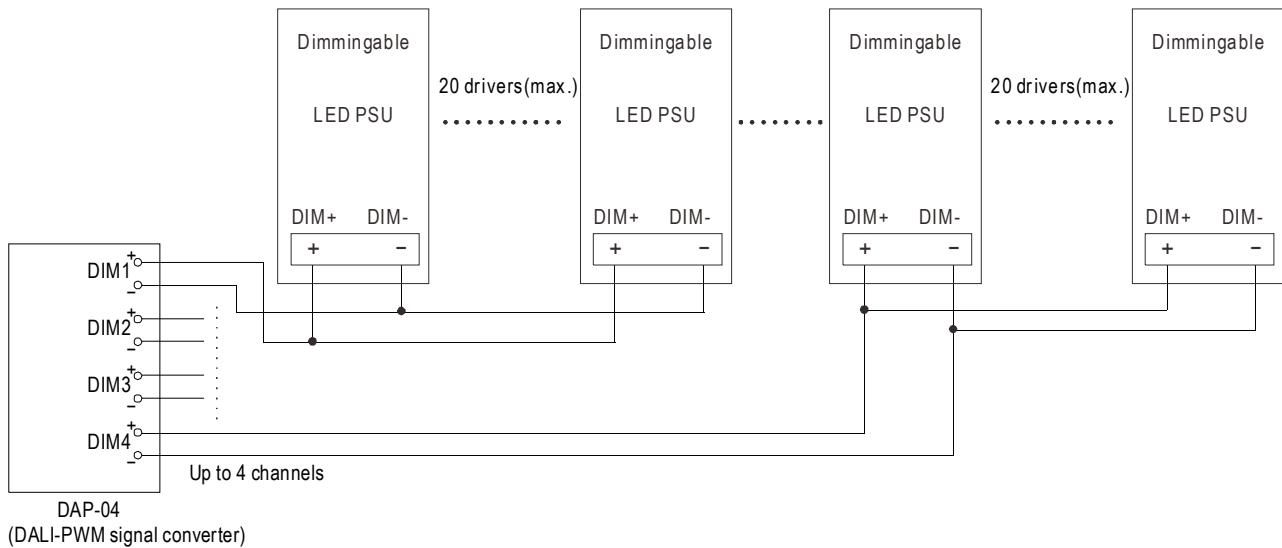


Figure 2

■ SYNCHRONIZATION OPERATION

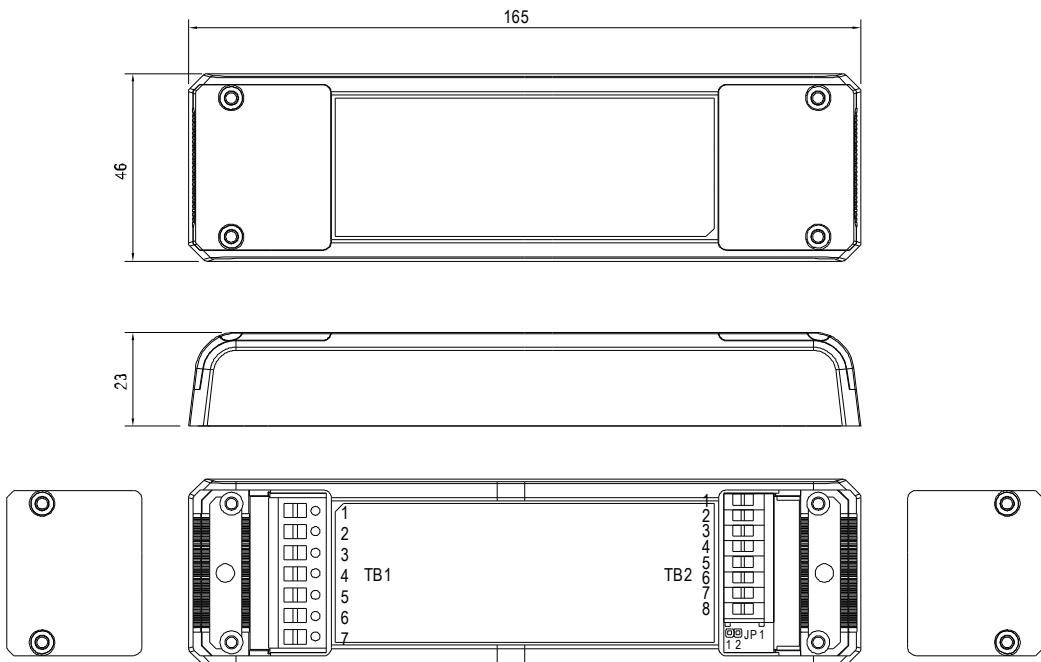
- DAP-04 provides 4-channel outputs; every channel controls up to 20 units of MEAN WELL LED PSU.
The 4 channels can thus control up to 80 units of MEAN WELL LED PSU. (Note. 1)
- The dimming percentage of the MEAN WELL LED PSUs controlled by the same channel of DAP-04 is the same.
The dimming percentage per DAP-04 channel can be controlled independently.
- The maximum allowable voltage drop between the DAP-04 and LED PSUs should not be higher than 0.5V.



Note. 1 : Light intensity of LEDs in the same group may be decreased when one of the LED PSUs is AC OFF.

■ Mechanical Specification

Case No.DAP-04 Unit:mm



Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1 | AC/L | 5 | DA- |
| 2 | AC/N | 6 | RY+ |
| 3 | PUSH | 7 | RY- |
| 4 | DA+ | | |
| 5 | DA- | | |
| 6,7 | RY+ / RY- | | |

Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1 | DIM1+ | 5 | DIM3+ |
| 2 | DIM1- | 6 | DIM3- |
| 3 | DIM2+ | 7 | DIM4+ |
| 4 | DIM2- | 8 | DIM4- |

Terminal Pin No. Assignment(JP1)

| Pin No. | Assignment |
|---------|------------|
| 1,2 | ACT-HI |

■ Function Description of TB1

| Pin No. | Function | Description |
|---------|-----------|--|
| 1 | AC/L | AC Line connection. |
| 2 | AC/N | AC Neutral connection. |
| 3 | PUSH | Dimming input. One pushbutton connected between the PUSH and AC/L. |
| 4 | DA+ | DALI Signal positive. |
| 5 | DA- | DALI Signal negative. |
| 6,7 | RY+ / RY- | Relay contact rating(max.) : 240VAC / 8A resistive "Short" when DIM1 output duty cycle >0 ; "Open" when DIM1 output duty cycle=0 |

■ Function Description of TB2

| Pin No. | Function | Description |
|---------|----------|---|
| 1,3,5,7 | DIM+ | Dimming output Connect to DIM+(Blue) line of dimmable LED power. |
| 2,4,6,8 | DIM- | Dimming output Connect to DIM-(White) line of dimmable LED power. |

■ Function Description of JP1

| Pin No. | Function | Description |
|---------|----------|--|
| 1,2 | ACT-HI | PWM active High / Low selection. Short : Active High. Open : Active Low. Factory setting is Active High. |

■ Installation Manual

 Please refer to : <http://www.meanwell.com/search/dap-04/DAP-04.pdf>