# MU075HxxxAQ_0-10V Series General - Outdoor

DWG NO.：MSSD-4778 A0

## ■ Features

- Input voltage: 90-305VAC
- Built-in active PFC function: 0.99 Typ.
- Low THD: 10% Typ.
- High efficiency: 91% Typ.
- IP67 design for indoor or outdoor installations
- High surge immunity
- Support 0-10V / 10V PWM / VR dimming function
- Compliance to worldwide safety regulations for lighting
- Suitable for dry/damp locations

E348796 **Class 2** Note.4

## ■ Specification

| Model (MU075H**XXX**AQ_0-10V) | | 035 | 045 | 053 | 070 | 105 | 140 | 175 | 210 | 245 | 280 | 315 | 350 | 420 | 500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Input | Efficiency(110Vac)(Typ.)Note.1 | 90% | 90% | 89% | 89% | 89% | 88% | 88% | 87% | 87% | 86% | 86% | 85% | 85% | 84% |
| | Efficiency(220Vac)(Typ.)Note.1 | 91% | 91% | 90% | 90% | 90% | 89% | 89% | 88% | 88% | 87% | 87% | 86% | 86% | 85% |
| | Voltage Range (V)Note.2 | 90～305Vac, OR 127~ 430Vdc (Derating may be need under low inputs, Refer to 'Derating Curve' ) | | | | | | | | | | | | | |
| | Voltage Rate (V)Note.2 | 100Vac-277Vac | | | | | | | | | | | | | |
| | Frequency Range (Hz) | 47~63 | | | | | | | | | | | | | |
| | Power Factor(Typ.) | 0.99 (Typ.) with 70%~100% load,at 110Vac | | | | | | | | | | | | | |
| | | 0.96 (Typ.) with 70%~100% load,at 220Vac | | | | | | | | | | | | | |
| | | >0.9 with 75%~100% load,at 277Vac | | | | | | | | | | | | | |
| | THD(Typ.) | 10% Typical, at 220Vac input, with 70%~100% load conditions | | | | | | | | | | | | | |
| | | 15% Typical, at 110/277Vac input, with 70%~100% load conditions | | | | | | | | | | | | | |
| | AC Current(Typ.) | 1A at 110VAC input, 0.5A at 220VAC | | | | | | | | | | | | | |
| | Inrush Current(Max.) | at 230Vac input 25℃ Cold Start ( time wide=500uS, measured at 50% Ipeak,Not applicable for the inrush current to Noise Filter for less than 0.2 | | | | | | | | | | | | | |
| | Leakage Current(Max.) | 0.75mA at 277Vac/60Hz | | | | | | | | | | | | | |
| Output | Voltage range (V) | 107~214 | 83~166 | 71-142 | 54~108 | 36~72 | 27~54 | 21~43 | 18~36 | 15~31 | 13~27 | 12~24 | 10~20 | 9~18 | 7~15 |
| | Rated Current(mA) | 350 | 450 | 530 | 700 | 1050 | 1400 | 1750 | 2100 | 2450 | 2800 | 3150 | 3500 | 4200 | 5000 |
| | Rated Power (W) | 74.90 | 74.70 | 75.26 | 75.60 | 75.60 | 75.60 | 75.25 | 75.60 | 75.95 | 75.60 | 75.60 | 75.00 | 75.60 | 75.00 |
| | Ripple&Noise Current( Typ.) | ≤30%((PK-AV) /AV) with LED default mode and full load) | | | | | | | | | | | | | |
| | Current ToleranceNote.5 | ±5% | | | | | | | | | | | | | |
| | Line Regulation | ±1% | | | | | | | | | | | | | |
| | Load Regulation | ±3% | | | | | | | | | | | | | |
| | Current ADJ. Range | 10% to 100%, continuously adjustable | | | | | | | | | | | | | |
| | Turn on delay Time | <1.5s, at 110Vac; <0.75s, at 220Vac | | | | | | | | | | | | | |
| Protection | Over Voltage(V) | 217 | 180 | 146 | 112 | 76 | 57 | 46 | 39 | 34 | 30 | 27 | 23 | 21 | 18 |
| | | Protection type : Limit the output voltage , recovers automatically after fault condition is removed | | | | | | | | | | | | | |
| | Over Current | Protection type : constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | | | | | |
| | Short Circuit | Hiccup mode, recovers automatically after fault condition is removed. | | | | | | | | | | | | | |
| | Over temperature | When the Tc of PSU rise to 110℃(Typ.), the PSU will shutdown<br>The power supply should resume its normal operation when the inside temperature of PSU drop to normal temperature | | | | | | | | | | | | | |
| Environment | Operating Temp. | -40~+70℃( Refer to 'Derating Curve' ) | | | | | | | | | | | | | |
| | Tc | 90℃ max | | | | | | | | | | | | | |
| | Operating Humidity | 20~95%RH | | | | | | | | | | | | | |
| | Storage Temp., Humidity | -40~+80℃ , 10-95%RH | | | | | | | | | | | | | |
| | Temp. Coefficient | 0.03%/℃ ( 0~50℃ ) | | | | | | | | | | | | | |
| | Vibration | 10~500Hz, 5G 12min/cycle, period for 72min each along X、Y、Z axes | | | | | | | | | | | | | |
| Safety & EMC | Safety Standard | UL8750, UL1012,UL1310, CSA-C22.2 NO. 107.1,CSA-C22.2 NO. 223-M91, EN61347-1, EN61347-2-13 | | | | | | | | | | | | | |
| | Withstand Voltage | I/P-O/P:3.75KVac, I/P-FG:1.875KV, O/P-FG:1.5KV | | | | | | | | | | | | | |
| | Isolation Resistance | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500Vdc/25℃/70%RH | | | | | | | | | | | | | |
| | EMC Emission | EN55015/FCC Part 15 Class B, EN61000-3-2 Class C, EN61000-3-3 | | | | | | | | | | | | | |
| | EMC Immunity | EN61000-4-2,3,4,5,6,8,11, EN61547 ( Surge: L-N 4KV, L/N-Earth 6KV ) | | | | | | | | | | | | | |
| UL Level | UL,CUL class 2 | | | | | | V | V | V | V | V | V | V | V | V |
| | NON-UL,NON-CUL class 2 | V | V | V | V | V | | | | | | | | | |
| Others | MTBF | 300,000 Hours,measured at full load,25℃ ambient temperature | | | | | | | | | | | | | |
| | Lifetime | 50,000 Hours at Tc 75℃(Refer to"Life Time VS. Tcase (Ref.)") | | | | | | | | | | | | | |
| | Dimension | 173 x 67.5 x 40 (mm) ( LxWxH ) | | | | | | | | | | | | | |
| | Weight | 0.82kg | | | | | | | | | | | | | |

Note.1: Measured at full load and steady-state temperature in 25℃ ambient(Efficiency will be about 2% lower if measured immediately after startup ); Note. 2: Derating may be needed under low to 'Derating Curve' ; Note. 3: All parameters NOT specially mentioned are measured at 220VAC input , rated load and 25℃ of ambient temperature ; Note.4: see UL Level; Note.5: Includes set u and load regulation.



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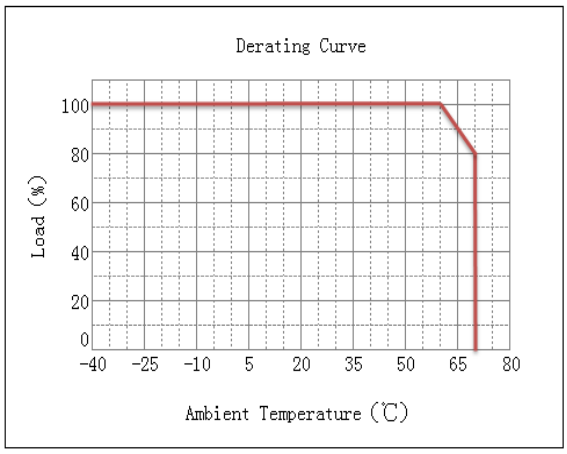
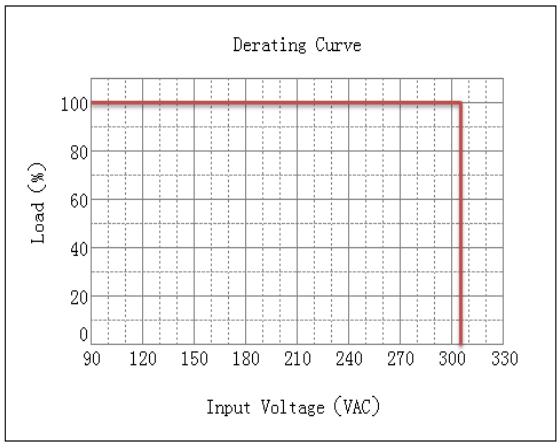
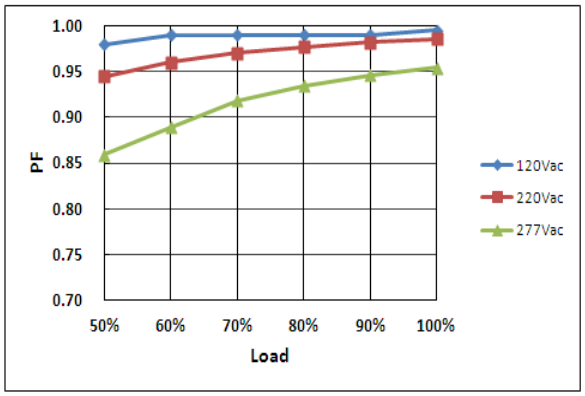
## Derating Curve

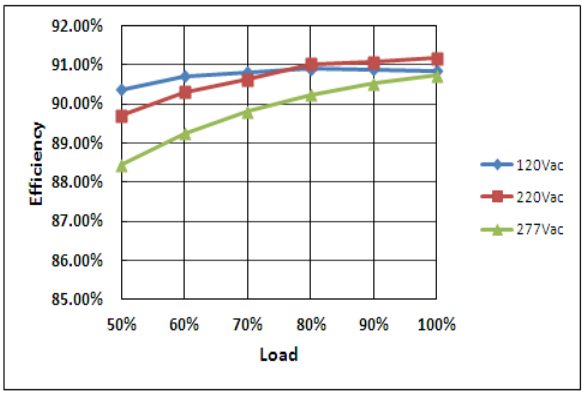


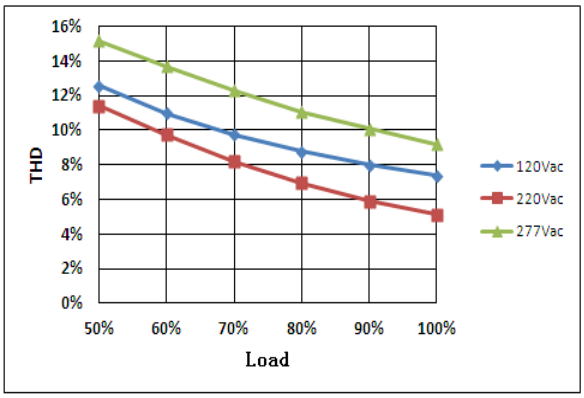

## Power Factor VS. Load Curve



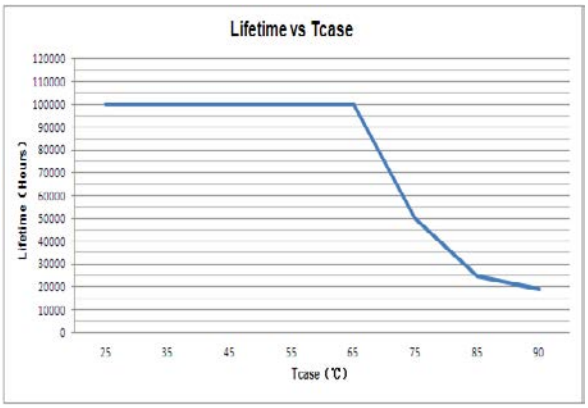

## Efficiency VS. Load Curve




## THD Curve




## Life Time VS. Tcase (Ref.)



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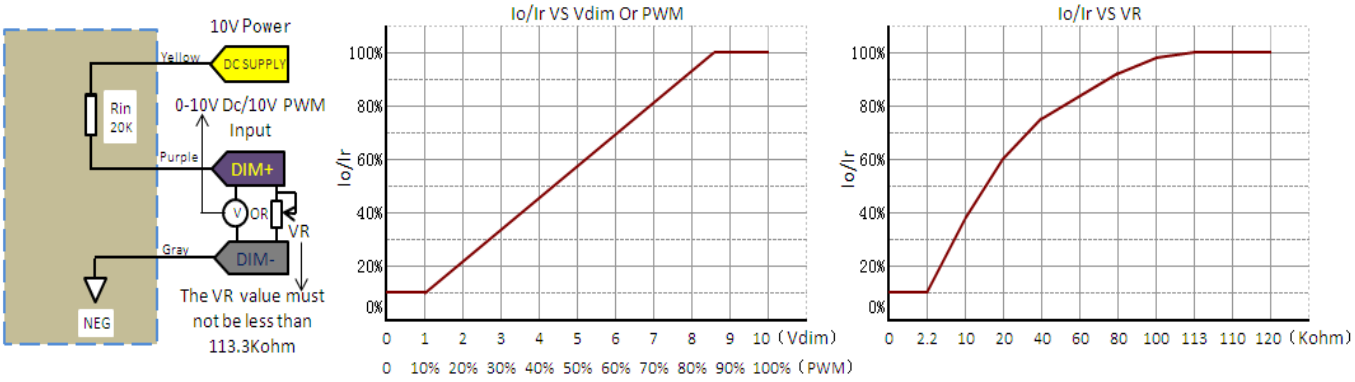
**Dimming function description:**

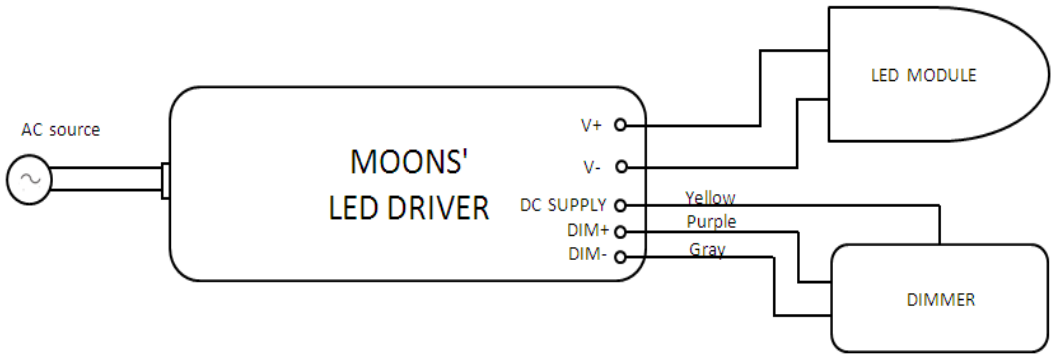
1.The dimmer control may be operated from an input signal of 0 - 10 Vdc / 10V PWM（Frequency range:500Hz to 5KHz,Duty:0-100%）.

2.With one external variable resistor,the VR value must not be less than 113.3Kohm.

**Dimming module diagram and dimming cruve:**




**Dimming connection diagram:**




**Notes:**

1.Io is actual output current with dimming control signal and Ir is rated output current.

2The dimming control signal can be operated output current from 100% to 10% Ir,output voltage must be maintained above 50% of the rated output voltage.

3.Do not connect dimming wire to the output;otherwise,the LED driver can not work normally.

4.The dimming signal is allowed to be less than 1V/10% PWM ,the output current can be maintained 10% Ir.
(about on/off function specification ,please contact MOONS for details).

**Dimming Control Module Parameter(On secondary side)**

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| DC supply output voltage | 8V | 10V | 12V | |
| DC supply output source current | 0 mA | - | 10 mA | |
| Absolute maximum voltage on the DIM+ | -2V | - | 12V | |
| Source current on the DIM+ | 0 mA | - | 0.01 mA | |
| Value of Rin ( the resistor inside the LED driver which locate between the DIM+ and the DC | 19.8k | 20k | 20.2k | |



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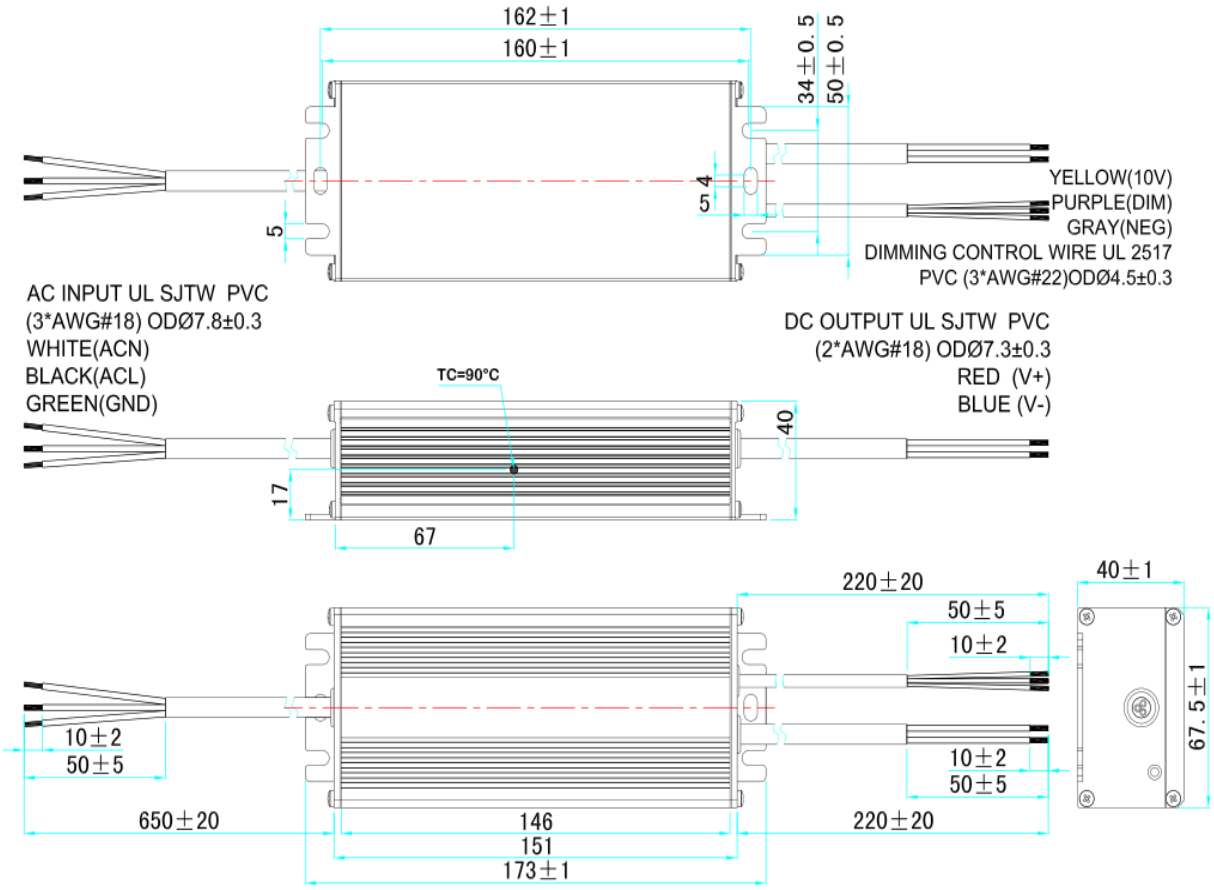
## ■ Mechanical Specification

1.Dimensions(Unit:mm)




### RoHS Compliance:

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.

2.Terminal wire Type

| Products | AC Input | | | DC output | | | Dimming control | | |
|---|---|---|---|---|---|---|---|---|---|
| | Wire Type | Assignmen | Description | Wire Type | Assignmen | Description | Wire Type | Assignmen | Description |
| UL apporval | UL SJTW PVC | BLACK/L | 3*AWG#18 | UL SJTW PVC | RED/+ | 2*AWG#18 | UL2517 PV CODΦ 4.5±0.3mm | YE/10V | 3*AWG#22 |
| | | WHITE/N | | | BLUE/- | | | PU/DIM+ | |
| | | GREEN/GN | | | | | | GR/NEG | |



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