

PISE-A150A (Pb-Free) 150W Selectable Output Power

125V - 280V / 0.35A - 0.5A - 0.7A / 150W

Features

- ▶ Dimmable Type : 1 -10 Dimming
- ▶ Input Cable : Double or Reinforced Insulation
- ▶ Selectable Output Current (0.35A / 0.5A / 0.7A)
- ▶ Constant Voltage / Constant Current Control
- ▶ High Efficiency & Active Power Factor Correction
- ▶ Protection : UVP, OVP, SCP, OTP and OCP
- ▶ UL8750, UL1012, EN61347, BIS R-41033308 Output Safety Certifications Approved



Critical Specifications

| Input Voltage | Output Voltage | Output Current | Output Power | Efficiency | THD | Surge | | PF |
|---------------|----------------|----------------|--------------|------------|-------|-------|-------|-------|
| | | | | | | Com. | Diff. | |
| 108 - 305 | 125 - 280 | 0.35 - 0.7A | Max. 150W | Up to 93% | < 20% | 6kV | 4kV | > 0.9 |

Input Specifications

| Parameter | Min. | Typ. | Max. | Unit | Remark |
|-----------------|------|------|------|------|------------------------|
| Input Voltage | 108 | - | 305 | VAC | |
| Input Current | - | - | 1.6 | A | @ Vin=108V / Max. Load |
| Input Frequency | 47 | - | 63 | Hz | |
| Power Factor | 0.9 | - | - | PF | @ Over 75% Output Load |
| Inrush Current | - | - | 100 | Apk | Based on IEC60555 |

Output Specifications

| Parameter | Min. | Typ. | Max. | Unit | Remark |
|------------------------------|------|------------------|------|------|---------------------------|
| Output Voltage | 125 | - | 280 | VDC | |
| Output Current | - | 0.35 / 0.5 / 0.7 | - | A | Selectable Output Current |
| Output Dimming Current Range | 10 | - | 100 | % | 1 -10 Dimming |
| Output Current Tolerance | -5 | - | +5 | % | @ Max. Output Current |
| Output Ripple Current | - | - | 10 | % | |
| Start-up Time | - | - | 500 | ms | |
| Output Power Tolerance | -5 | | +5 | | |

Datasheet is subject to change without notice.

Protection Functions

| Parameter | Min. | Typ. | Max. | Unit | Remark |
|---------------------------------|------|------|------|--------|------------------------------|
| Output Over Voltage Protection | - | 290 | - | VDC | Output Voltage |
| Output Short Circuit Protection | - | - | - | A | Auto Recovery |
| Internal Over Temp. Protection | - | 90 | - | °C(Tc) | Maintaining 10% dim. @ 100°C |
| External Over Temp. Protection | - | 80 | - | °C(Ta) | Maintaining 10% dim. @ 85°C |

Reliability Specifications

| Parameter | Min. | Typ. | Max. | Unit | Remark |
|--------------|------|-------|------|------|-----------|
| Life Time | 100 | - | - | KHr | @ Tc=70°C |
| | 50 | - | - | KHr | @ Tc=80°C |
| Failure Rate | - | 544 | - | FITs | @ Tc=80°C |
| MTBF | - | 1,835 | - | KHr | @ Tc=80°C |

※ The life time has been calculated based on Telcordia report.

Environmental Specifications

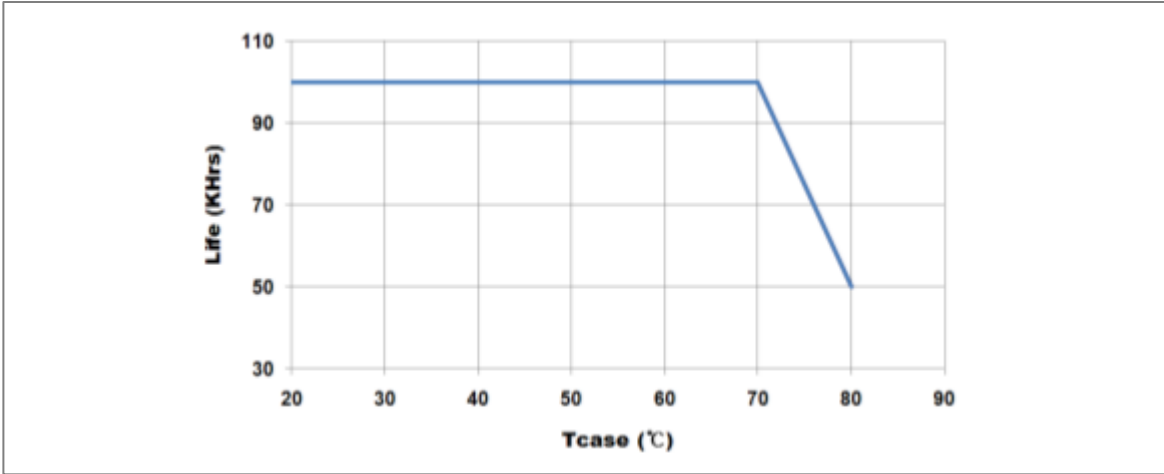
| Parameter | Min. | Typ. | Max. | Unit | Remark |
|-----------------------|------|------|------|------|---------------------------------|
| Operation Temperature | -40 | - | 55 | °C | @ Ta |
| | - | - | 80 | °C | @ Tc |
| Storage Temperature | -40 | - | 85 | °C | @ Ta |
| Humidity | 10 | - | 90 | % | Relative humidity for operation |
| | - | - | 90 | % | Relative humidity for storage |

Standards

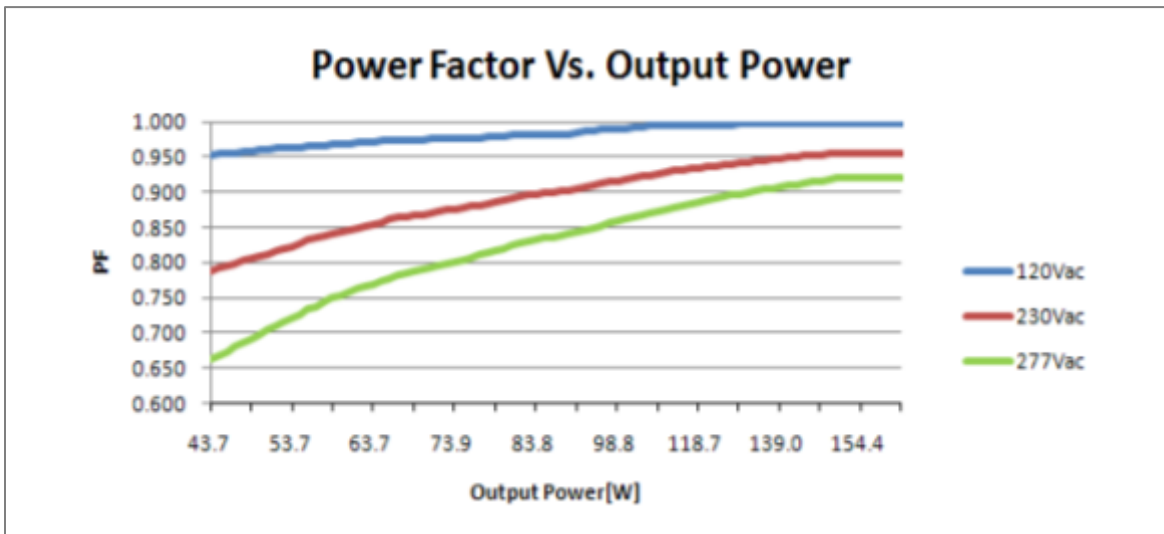
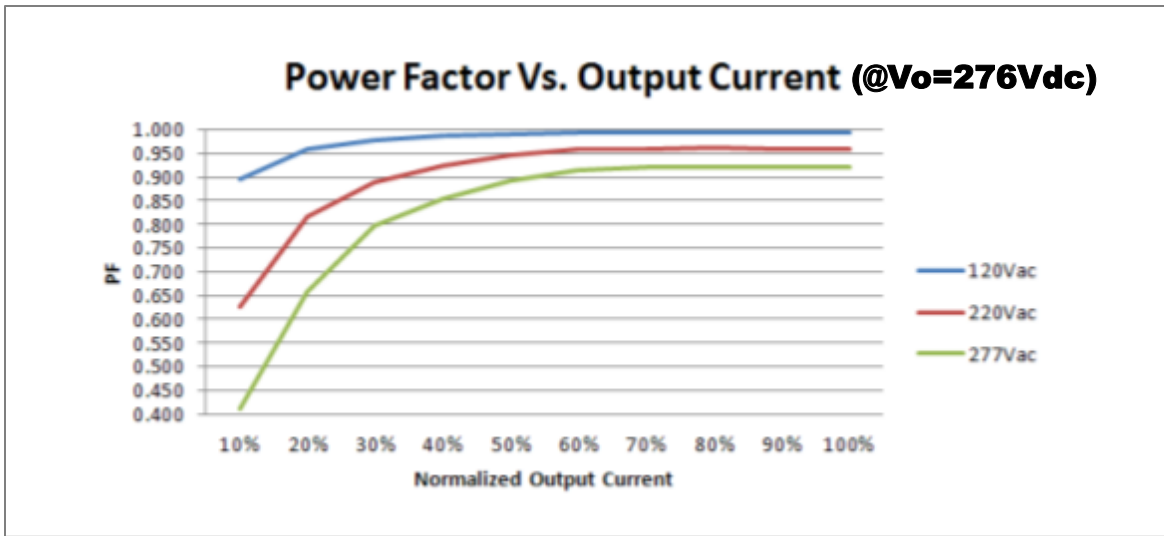
| Parameter | Condition | Remark |
|---------------------|---|--|
| Safety Standards | To be designed to meet the requirements as follows ; - UL 8750 - EN 61347-1/A1:2011/A2:2013 - EN 61347-2-13:2006 | Protection Type : Manual Resetting Type |
| EMI / RFI Standards | To be designed to meet the requirements as follows ; - FCC part 15, Class B verification - EN 55015:2006+A1:2007+A2:2009 - EN 61000-3-2:2006+A1:2009+A2:2009 - EN 61000-3-3:2008 - EN 61547:2009 | |

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Life Time vs. Case Temperature Curve

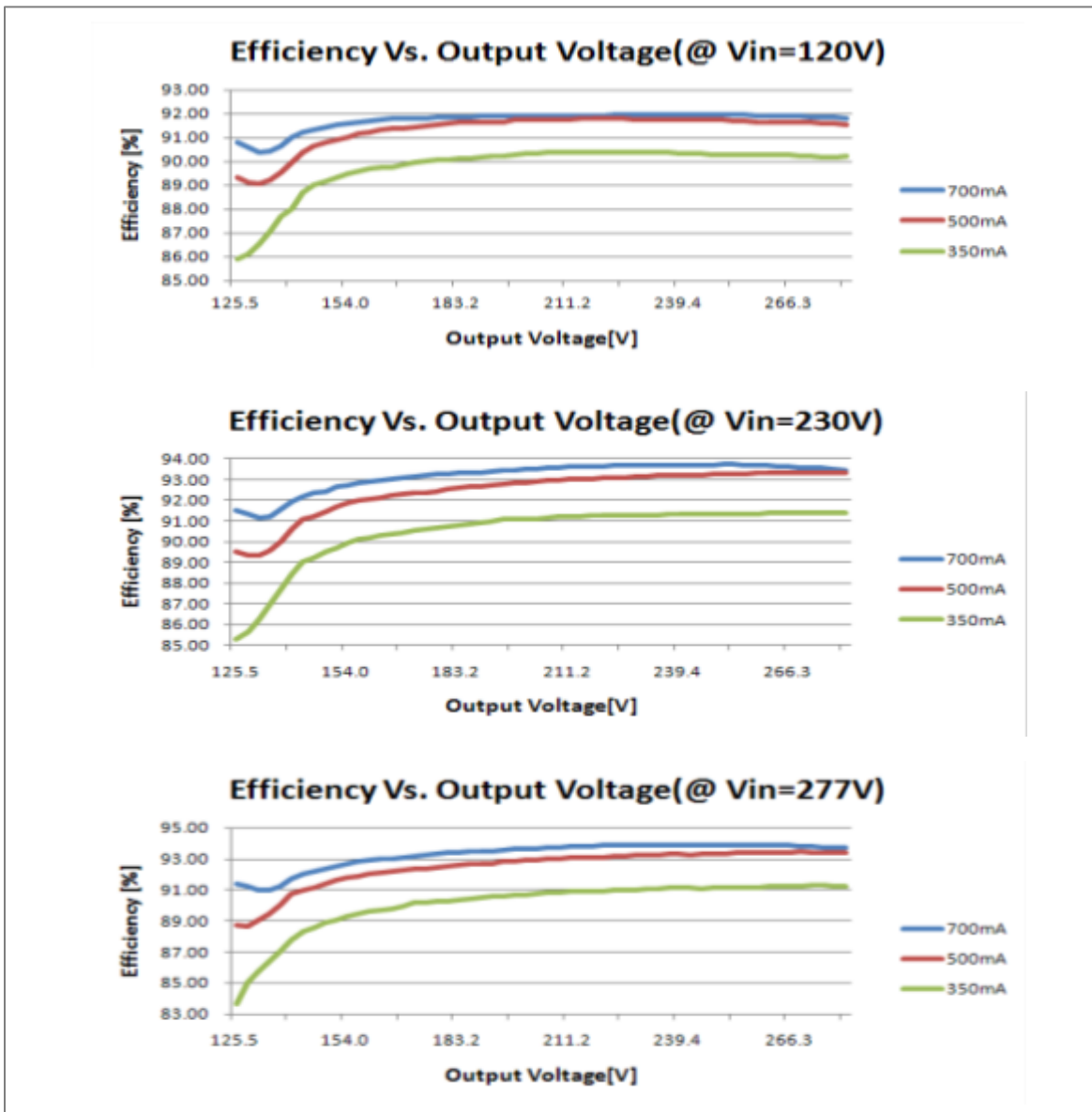
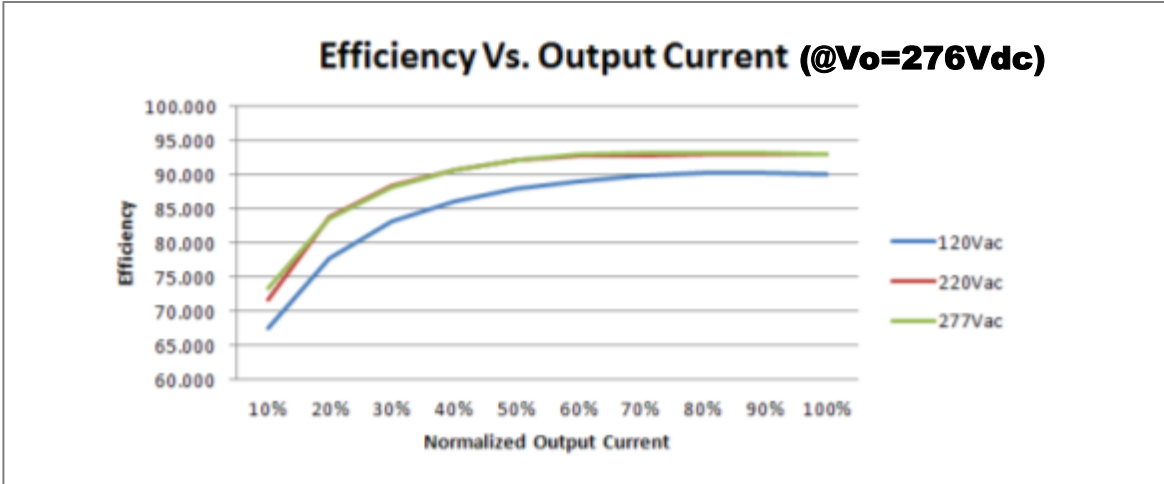


Power Factor Characteristics



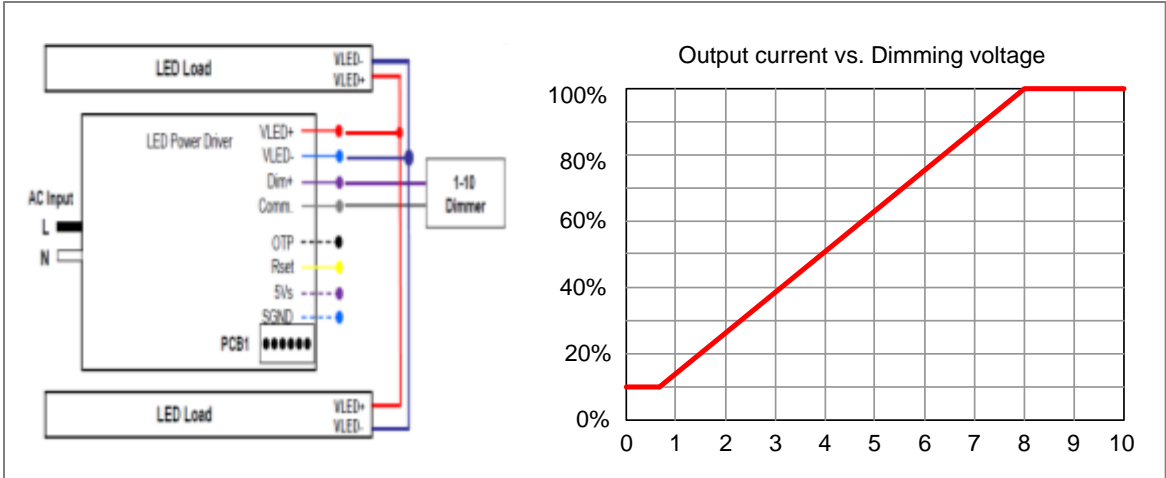
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Efficiency Characteristics

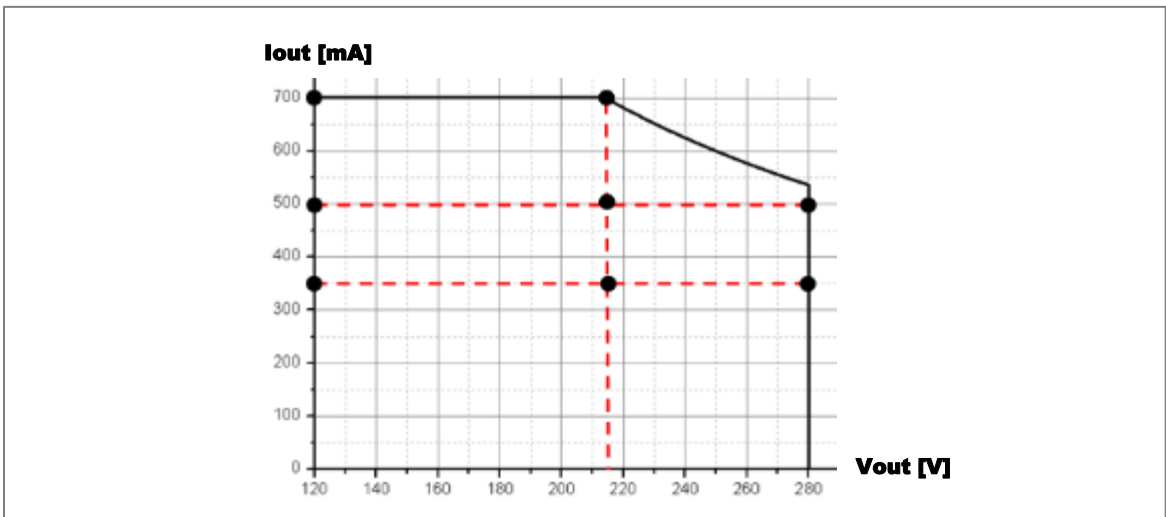


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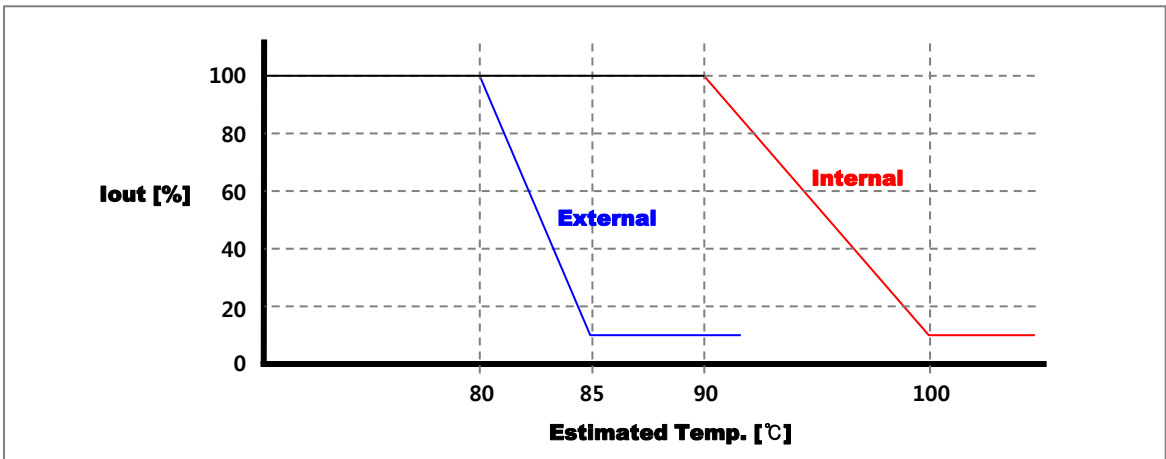
Dimming Control (1 - 10V Dimming)



Constant Power Control (I_{out} vs V_{out} Curve)



I_{out} vs NTC Temp. (OTP)



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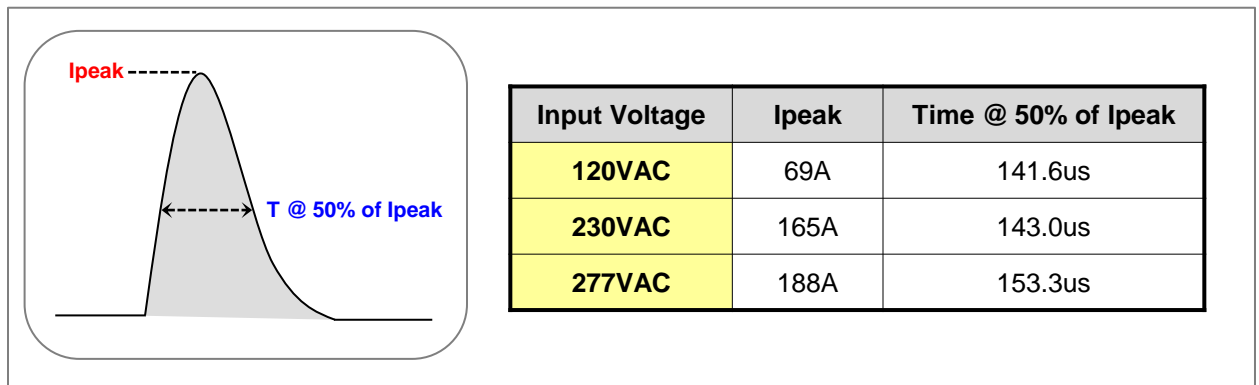
Isolation

| Isolation (V) | Mains Input | LED Output | NTC/Dim | Current Selection | Metal Housing |
|-------------------|-------------|------------|---------|-------------------|---------------|
| Mains Input | NA | 4000 | 4000 | 4000 | 4000 |
| LED Output | 4000 | NA | NA | NA | 4000 |
| NTC/Dim | 4000 | NA | NA | NA | 4000 |
| Current Selection | 4000 | NA | NA | NA | 4000 |
| Metal Housing | 4000 | 4000 | 4000 | 4000 | NA |

Leakage Current

- ▶ Leakage Current < 0.35 MIU
- ▶ The leakage current must be measured again on the luminaire side.

Inrush Current Information

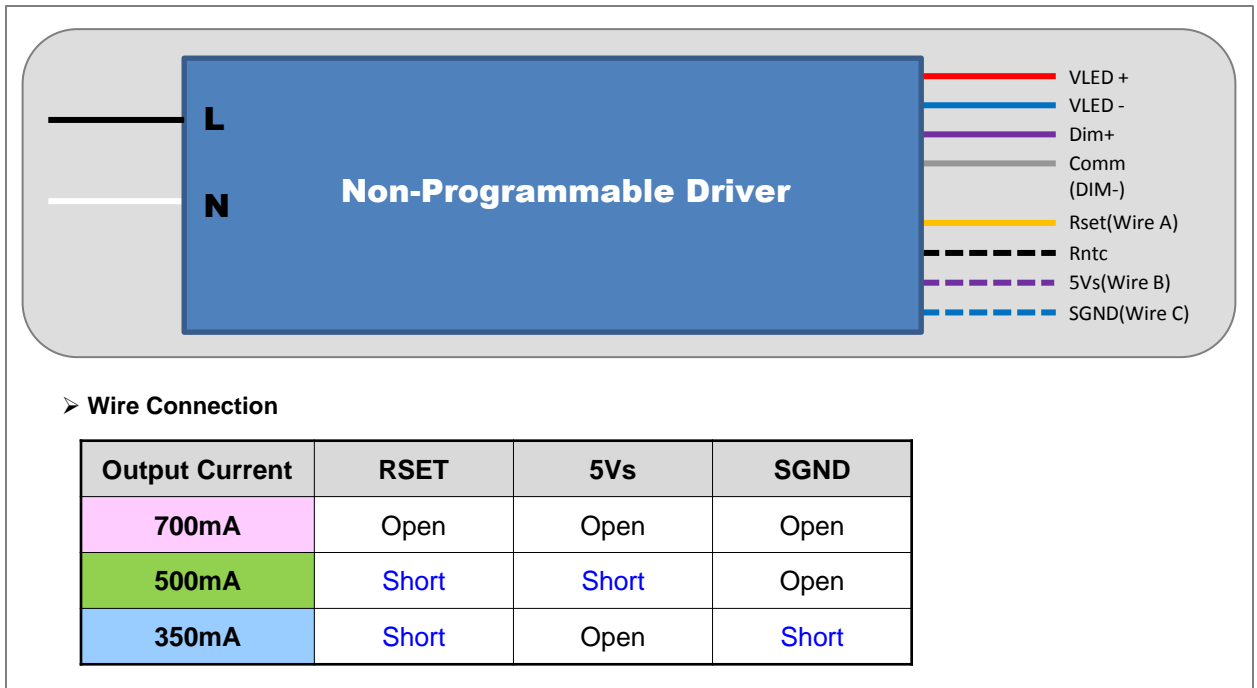


Maximum Number of Drivers per MCB

| Item | Max. Number of Drivers (PISE-A150A) | | |
|---------------------|-------------------------------------|-----|-----|
| | 120 | 230 | 277 |
| Input Voltage [VAC] | 120 | 230 | 277 |
| MCB B type 10A | 6 | 2 | 2 |
| MCB B type 13A | 9 | 4 | 3 |
| MCB B type 16A | 12 | 5 | 4 |
| MCB B type 20A | 17 | 7 | 6 |
| MCB B type 25A | 32 | 13 | 12 |

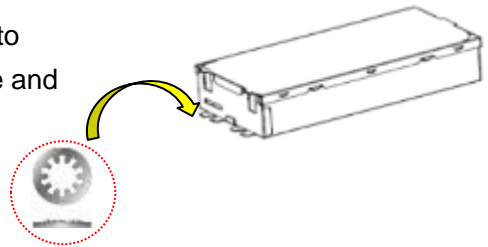
Datasheet is subject to change without notice.

Output Current Setting



Functional GND Connection

- ▶ Functional GND is able to be connected with one of four holes which are located in each corner of the metal case.
- ▶ Sawtooth washer is recommended to be used in order to strengthen mechanical contact between the metal case and functional GND.



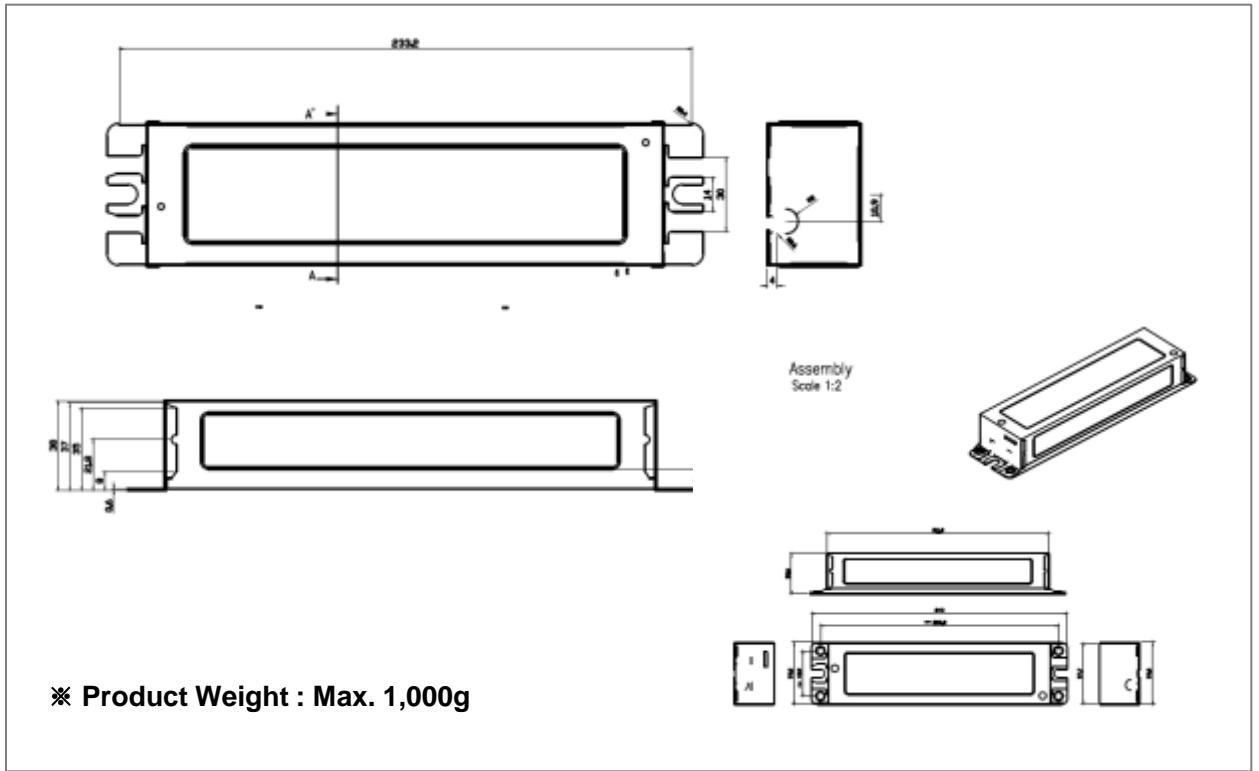
Guidelines for Driver Wire Length

| Model | Output Wires (LED+, LED-) | Control Wires (DIM, COMM, NTC, RSET, 5Vs, SGND) |
|------------|---------------------------|---|
| PISE-A150A | Max. 10 meter | Max. 0.5 meter |

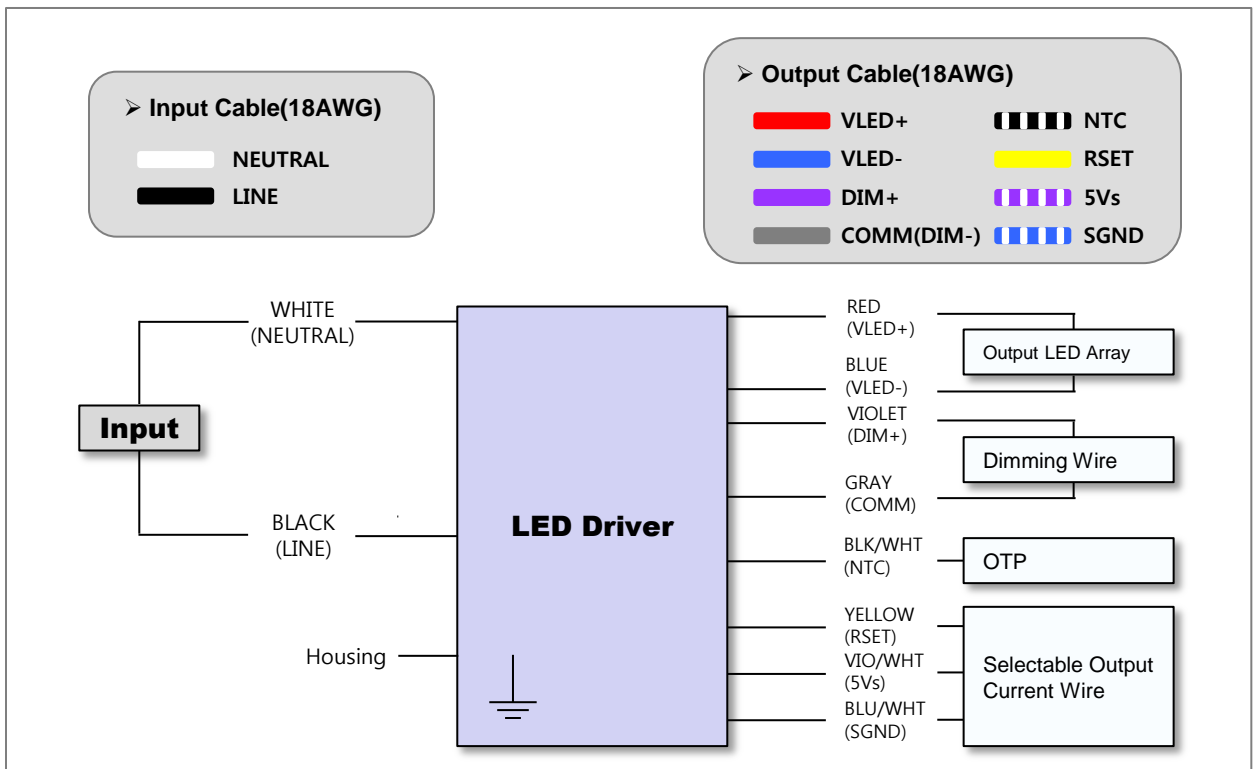
- ※ Maximum output cable length is limited by EMI and cross-sectional diameter.
- ※ All connections must be kept as short as possible to ensure good EMI performance.

Mechanical Outline

1. Case Dimension



2. Connector Wiring Diagram



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Datasheet Revision History

| Change Date | Rev. No. | Description of Change | Remark |
|-------------|----------|--|-----------------------------|
| 2013/11/15 | 1.0 | Initial Release | |
| 2013/12/16 | 2.0 | Added and revised below information, <ul style="list-style-type: none"> - Inrush current - LED output voltage range - Output power tolerance - Failure rate / MTBF - Functional GND connection - Input cable : double or reinforced insulation - Isolation table | |
| 2013/12/30 | 3.0 | Added revised below information, <ul style="list-style-type: none"> - Surge protection level (common and differential mode) - Graphics showing efficiency vs. output voltage - Graphic showing Power factor vs. output power | |
| 2014/05/09 | 4.0 | Revised below information, <ul style="list-style-type: none"> - Failure rate / MTBF Result | - Based on the final report |
| 2014/06/15 | 5.0 | Added below information, <ul style="list-style-type: none"> - Leakage current specification - Inrush current information | |
| 2014/07/02 | 6.0 | Revised below information, <ul style="list-style-type: none"> - Leakage current specification (0.5MIU → 0.35MIU) | |
| 2015/01/30 | 7.0 | Added below information, <ul style="list-style-type: none"> - IP level - Product weight - Maximum number of drivers per MCB - Guidelines for driver wire length | |
| 2016/04/11 | 8.0 | Added below information, <ul style="list-style-type: none"> - BIS R-41033308 Output Safety Certifications Approved | |