

## PISE-A040A (Pb-Free) 40W Selectable Output Power

38V - 77V / 0.35A - 0.5A - 0.7A / 40W

### 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	38 - 77	0.35 - 0.7A	Max. 40W	Up to 88%	< 20%	6kV	4kV	> 0.9

### Input Specifications

Parameter	Min.	Typ.	Max.	Unit	Remark
Input Voltage	108	-	305	VAC	
Input Current	-	-	0.4	A	@ Vin=108V / Max. Load
Input Frequency	47	-	63	Hz	
Power Factor	0.9	-	-	PF	@ Over 75% Output Load
Inrush Current	-	-	60	Apk	Based on IEC60555

### Output Specifications

Parameter	Min.	Typ.	Max.	Unit	Remark
Output Voltage	38	-	77	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	-	-	1000	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	-	90	-	VDC	Output Voltage
Output Short Circuit Protection	-	-	-	A	Latch Off
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	-	324	-	FITs	@ Tc=80°C
MTBF	-	3,000	-	KHr	@ Tc=80°C

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

## Environmental Specifications

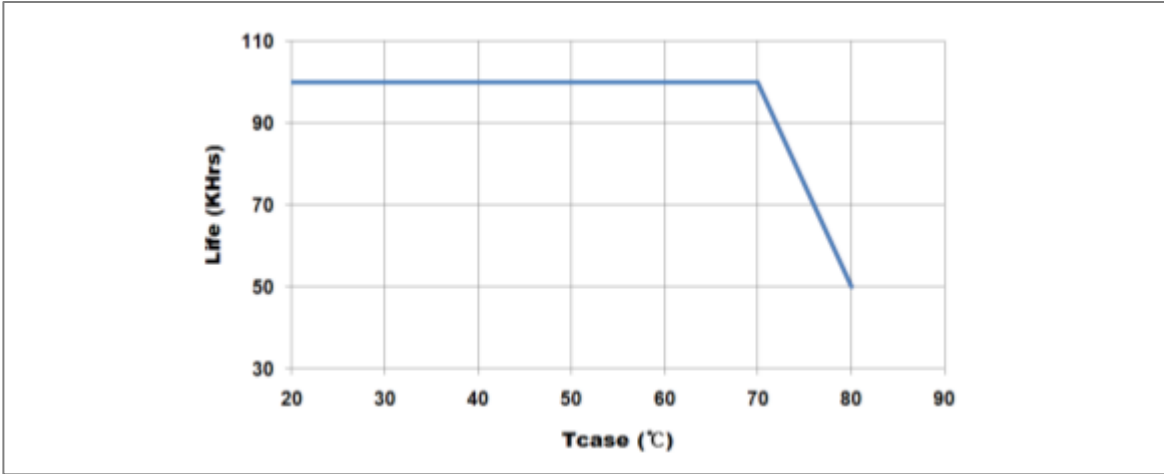
Parameter	Min.	Typ.	Max.	Unit	Remark
Operation Temperature	-40	-	55	°C	@ Ta
	-	-	80	°C	@ Tc
Storage Temperature	-40	-	85	°C	@ Ta
Humidity	10	-	90	%	Relative humidity for operation
	-	-	90	%	Relative humidity for storage

## Standards

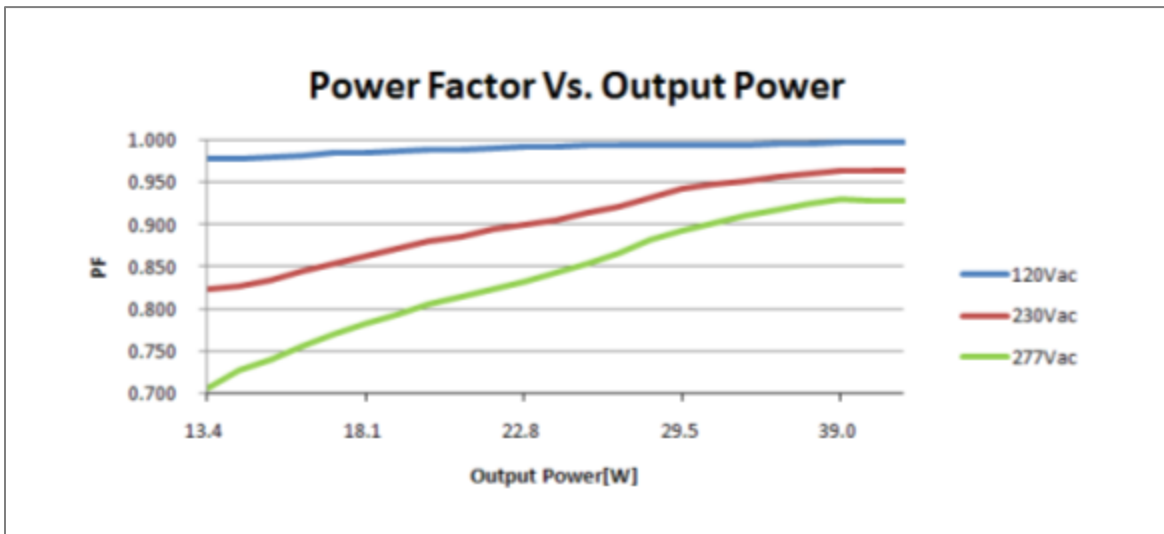
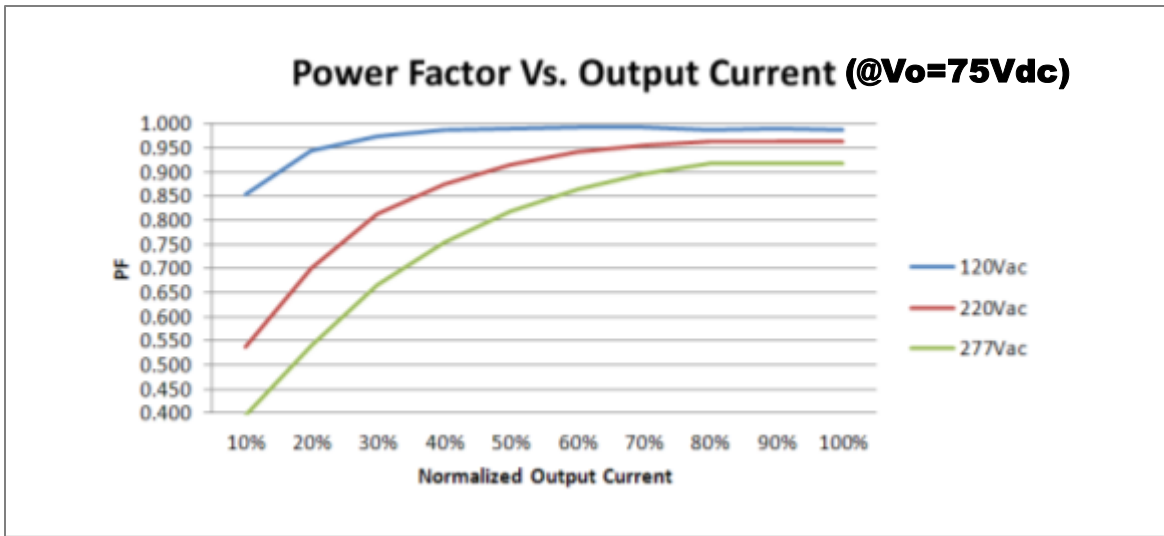
Parameter	Condition	Remark
Safety Standards	To be designed to meet the requirements as follows ; - UL 8750 - EN 61347-1/A1:2011/A2:2013 - EN 61347-2-13:2014	Protection Type : Manual Resetting Type
EMI / RFI Standards	To be designed to meet the requirements as follows ; - FCC part 15, Class B verification - 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**

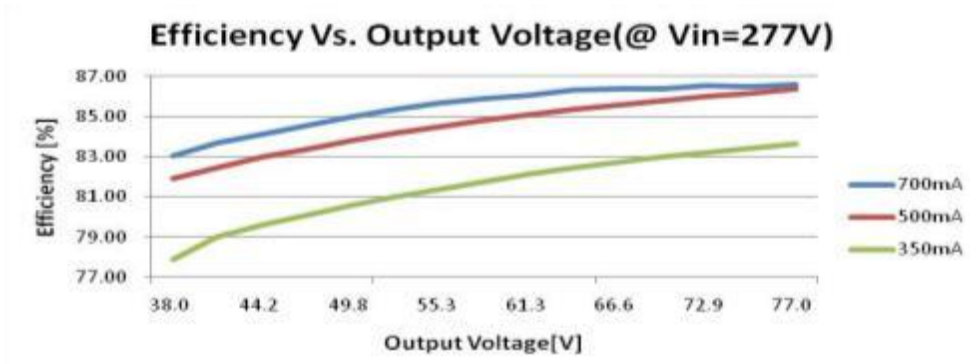
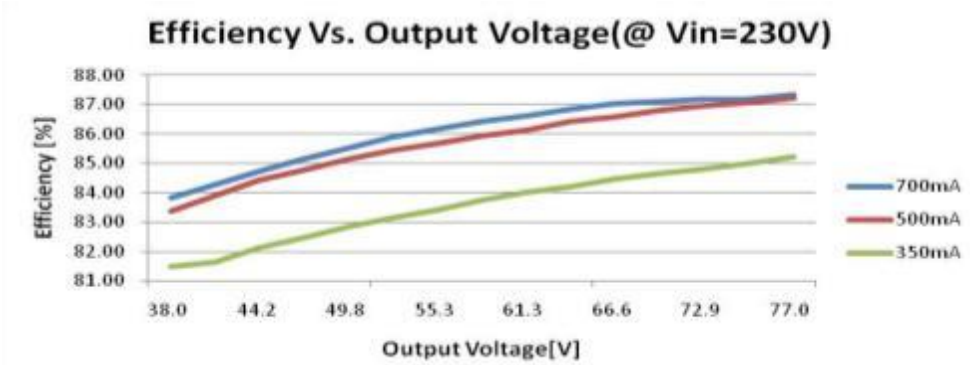
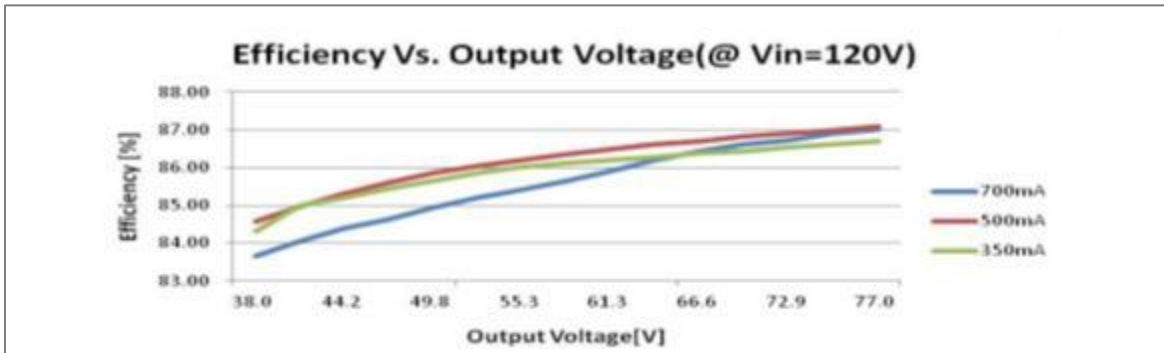
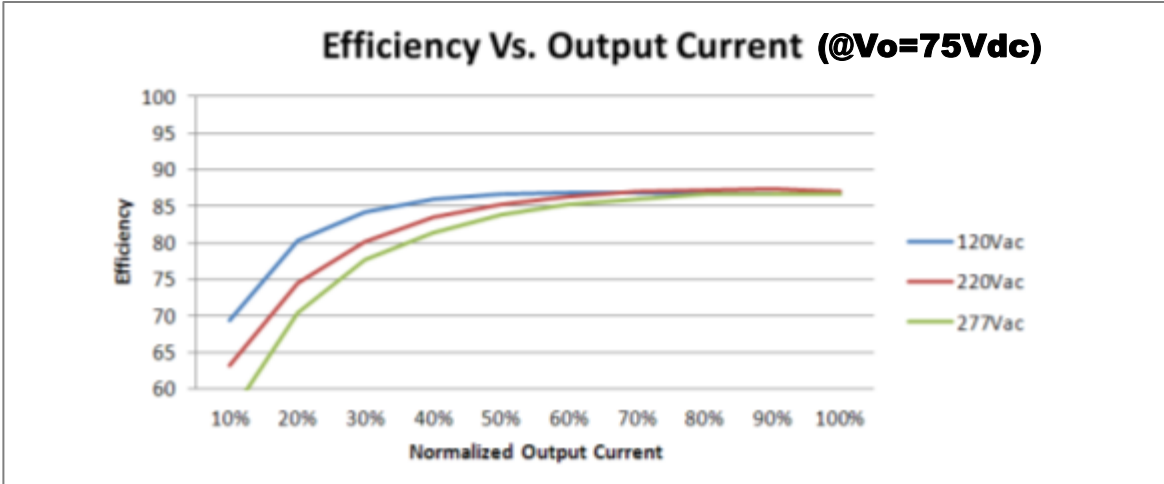


**Power Factor Characteristics**



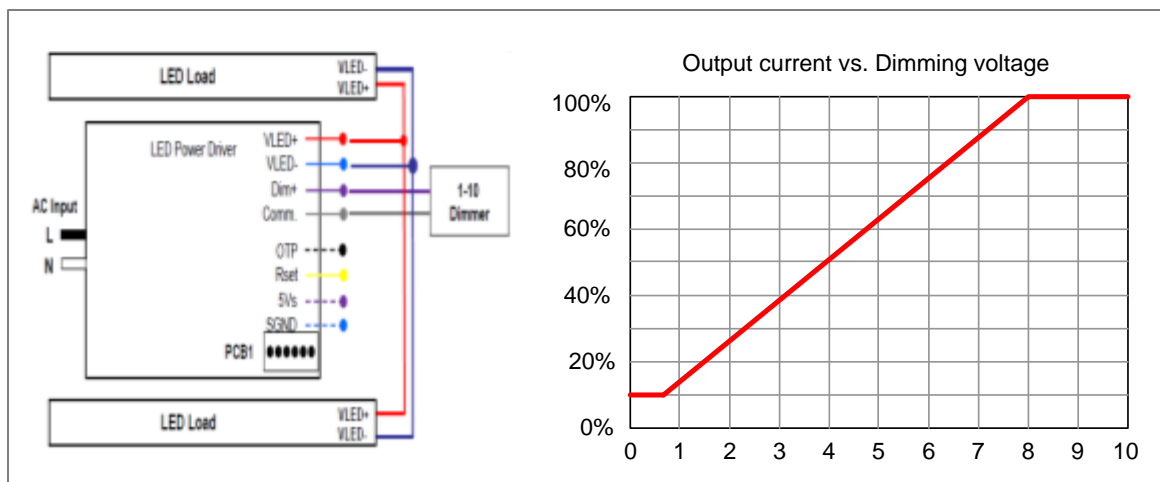
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**Efficiency Characteristics**

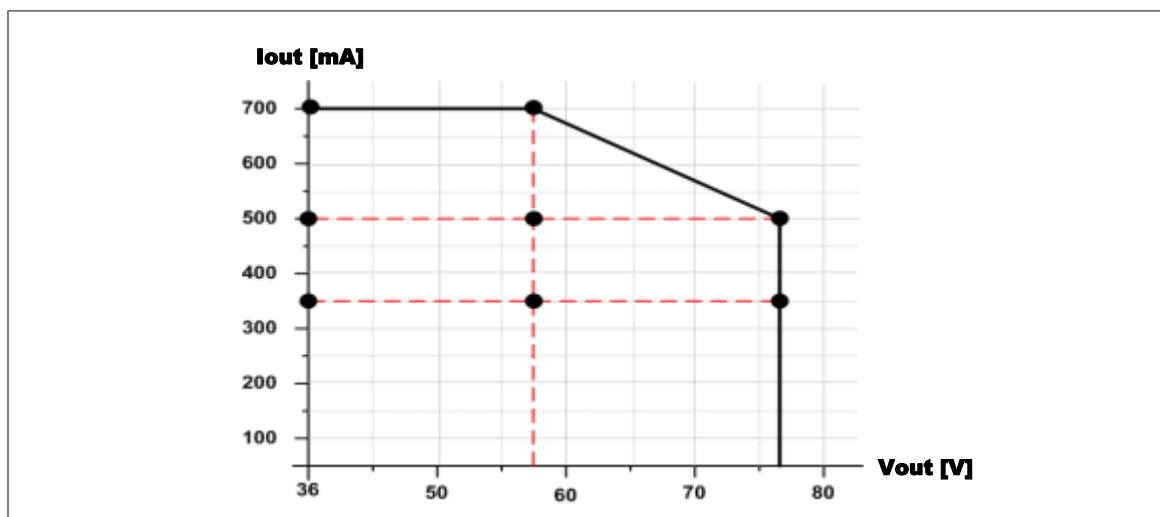


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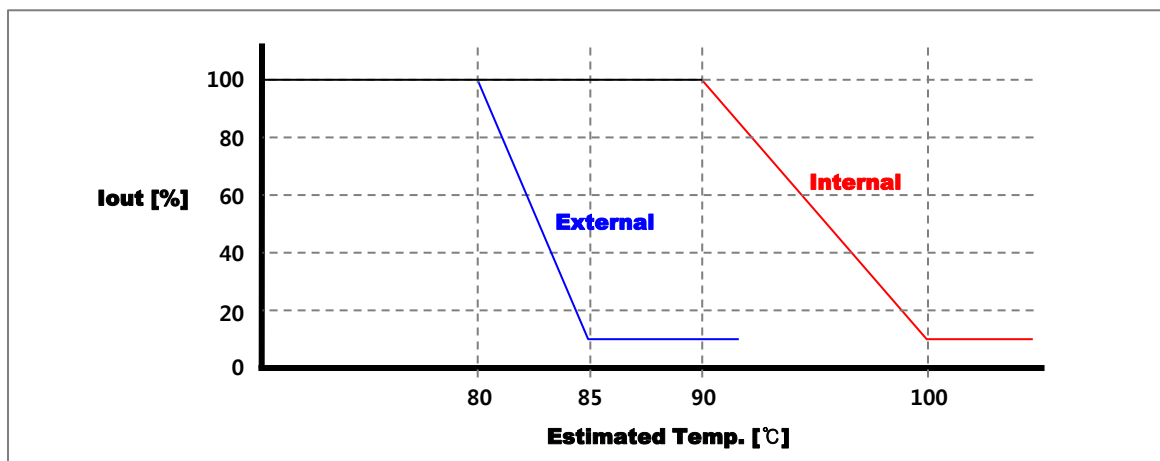
**Dimming Control (1 - 10V Dimming)**



**Constant Power Control (Iout vs Vout Curve)**



**Iout vs NTC Temp. (OTP)**



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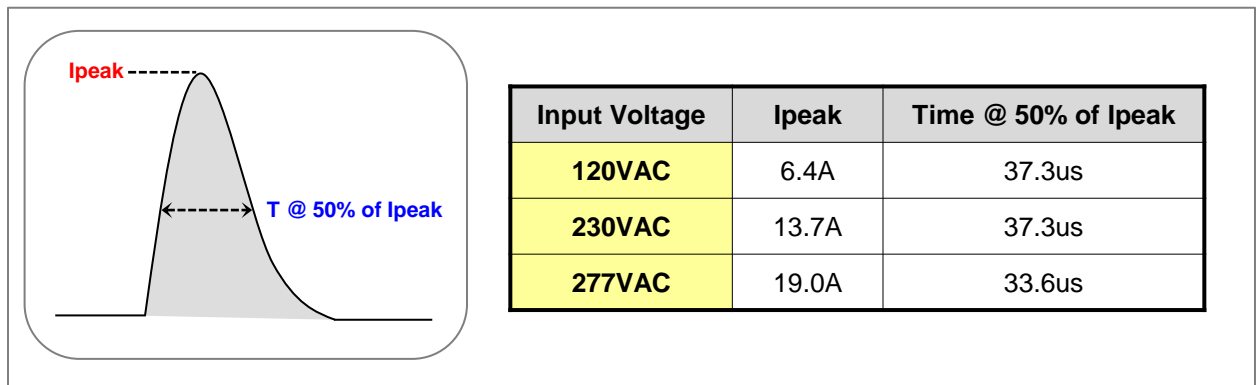
## Isolation

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 < 0.6 MIU
- ▶ The leakage current must be measured again on the luminaire side.

## Inrush Current Information

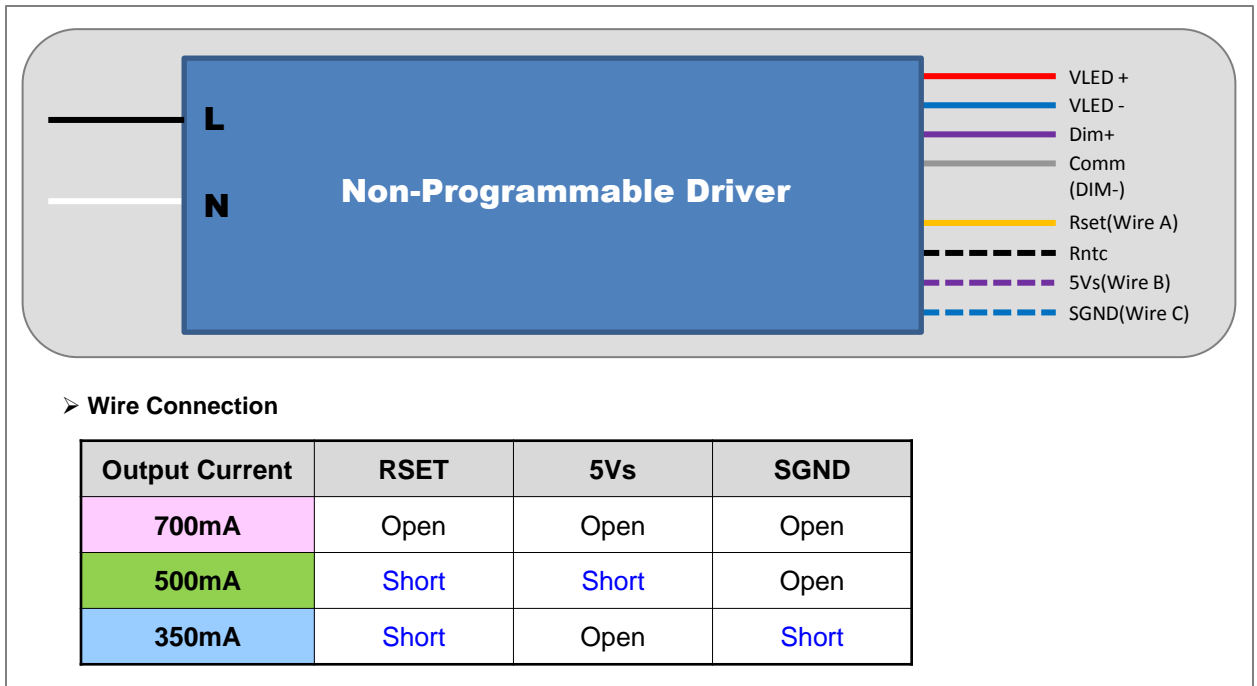


## Maximum Number of Drivers per MCB

Item	Max. Number of Drivers (PISE-A040A)		
	120	230	277
Input Voltage [VAC]	120	230	277
MCB B type 10A	12	6	6
MCB B type 13A	20	10	8
MCB B type 16A	26	12	10
MCB B type 20A	36	18	16
MCB B type 25A	70	34	28

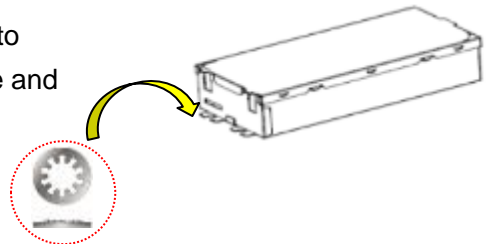
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## Output Current Setting



## 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.



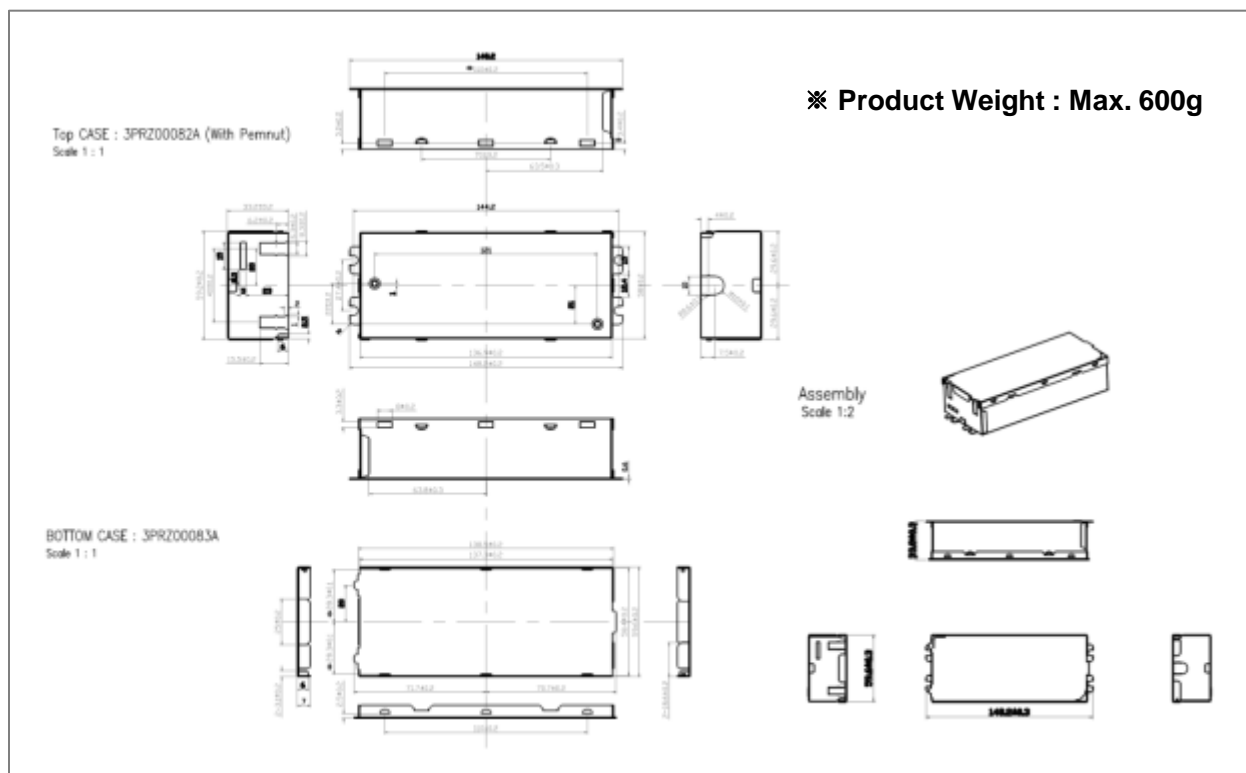
## Guidelines for Driver Wire Length

Model	Output Wires (LED+, LED-)	Control Wires (DIM, COMM, NTC, RSET, 5Vs, SGND)
PISE-A040A	Max. 10 meter	Max. 0.5 meter

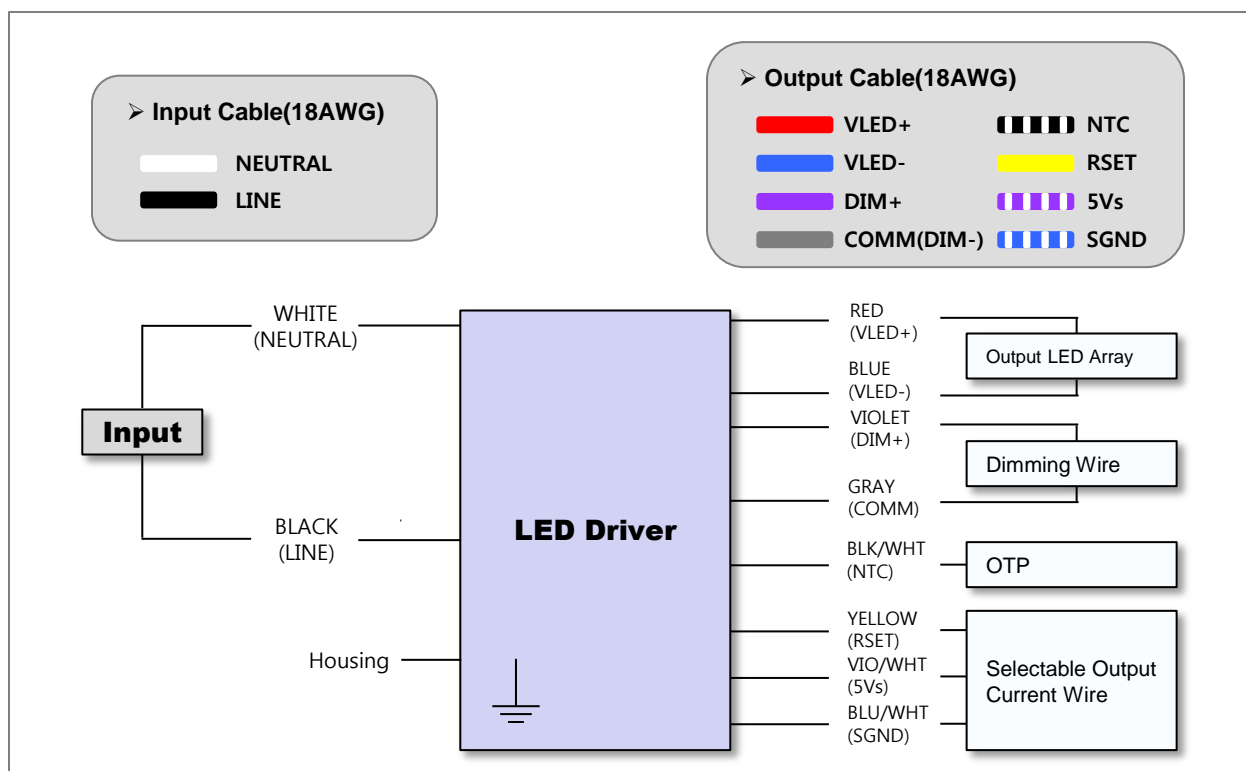
- ※ Maximum output cable length is limited by EMI and cross-sectional diameter.
- ※ All connections must be kept as short as possible to ensure good EMI performance.

## 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"> <li>- Inrush current</li> <li>- LED output voltage range</li> <li>- Output power tolerance</li> <li>- Failure rate / MTBF</li> <li>- Functional GND connection</li> <li>- Input cable : double or reinforced insulation</li> <li>- Isolation table</li> </ul>	
2013/12/30	3.0	Added and revised below information, <ul style="list-style-type: none"> <li>- Surge protection level (common and differential mode)</li> <li>- Graphics showing efficiency vs output voltage</li> <li>- Graphic showing Power factor vs output power</li> </ul>	
2014/02/05	4.0	Output Short Circuit Protection (Page 2) (Remark : Auto Recovery → Latch Off)	- A typing error
2014/05/09	5.0	Revised below information, <ul style="list-style-type: none"> <li>- Failure rate / MTBF Result</li> </ul>	- Based on the final report
2014/06/15	6.0	Added below information, <ul style="list-style-type: none"> <li>- Leakage current specification</li> <li>- Inrush current information</li> </ul>	
2015/01/30	7.0	Added below information, <ul style="list-style-type: none"> <li>- IP level</li> <li>- Product weight</li> <li>- Maximum number of drivers per MCB</li> <li>- Guidelines for driver wire length</li> </ul>	
2016/04/11	8.0	Added below information, <ul style="list-style-type: none"> <li>- BIS R-41033308 Output Safety Certifications Approved</li> </ul>	