RAP1 Series

40W High Efficiency Dimmable Driver

Features

- For LED Retail & Outdoor Application
- Wide Input Range for Worldwide use (up to 305Vac)
- Built-in PFC Function: up to PF 0.99
- IP65 Design for Outdoor Installation
- Suitable to Dry, Damp, Wet Location
- High Surge Protection: 4kV(IEC61000-4-5)
- 0-10V Dimming Function
- High Reliability & Long Life 50,000hrs
- Constant Current Design
- Isolation Class II Design, No F.G
- Type HL LED Driver for use in Class I Division 2 hazardous location luminaires.
- All-Round Protections: Short Circuit/ Over Voltage/ Over Temperature
- Safety: Meet IEC61347-2-13, UL8750 & EMI EN55015

IP65 SELV Type TL Type HL Class 2

FSP40-ZZAP1(070) VG
VG Type: IP65 rated with 0-10V Dimming Function
G Type: IP65 rated and without Dimming Function

SPECIFICATION

Model Name		FSP40-ZZAP1(035)VG	FSP40-ZZAP1(070)VG	FSP40-ZZAP1(105)VG	FSP40-ZZAP1(140)VG	FSP40-ZZAP1(175)VG
Output	Rated Power	42W	39.2W	42W	42W	42W
	Output Voltage	60-120V	18-56V	18-40V	15-30V	12-24V
	Rated Current	350mA	700mA	1050mA	1400mA	1750mA
	Output Current Accuracy (typ.)	±5%	±5%	±5%	±5%	±5%
	Line Regulation	±1%	±1%	±1%	±1%	±1%
	Turn On Delay Time,Rise time	≤1s max ;≤300ms max				
Input	Input Voltage/ Frequency	90~305Vac/ 47~63Hz				
	Power Factor (typ.)	PF≧0.99/120Vac, PF≧0.97/230Vac, PF≧0.94/277Vac at full load				
	Efficiency (max.)	92%	91%	91%	90%	90%
	Total Harmonic Distortion[3]	THD <10%				
	AC Current (typ.)	≦0.41A /120Vac ; ≦0.21A /230Vac ; ≦0.18A /277Vac				
	Inrush Current (typ.)	6A at 230Vac, 25°C cold start				
	Leakage Current	≤0.75mA/277Vac				
Environment	Operating Temperature	-25°C ~ +70°C (Please Refer to "Derating Curve")				
	Operating Humidity	10~95% RH non-condensing				
	Storage Temperature, Humidity	-40°C~+85°C, 10~95%RH				
	Vibration	0.02g²/Hz at 5 Hz sloping to 0.04g²/Hz at 20 Hz, and maintaining 0.04g²/Hz from 20 Hz to 500 Hz at a constant acceleration of 4.43G for 30 minutes per axis for all three axes				
Protection	Over Voltage Protection	<150V	<79V	<60V	<50V	<45V
		Protection Type: Recovers automatically after fault condition is removed				
	Short Circuit Protection	Recovers automatically after fault condition is removed				
	Over Temperature Protection	Recovers automatically after fault condition is removed				
Safety & EMC	Safety Standards	UL8750, Type HL, LVLE,UL1310 Class 2, CSA-C22.2 No. 250.13, EN61347-1, EN61347-2-13 Approved.				
	EMC Standard	Compliant with EN55015/CISPR22 CLASS B, Compliant with EN61000-3-2 Class C, EN61000-3-3				
	Surge Protection	Differential Mode: 4KV				
	Withstand Voltage (Hipot)	I/P-CASE 3000Vac, O/P-CASE 3000Vac				
	Isolation Resistance	I/P-CASE ,O/P-CASE: 100M ohm @ 500Vdc/ 25°C				
	Type TL	-	76/58°C	76/62°C	82/58°C	76/58°C
Others	Life Time [4]	50,000 hours at Tcase of ≤ 65°C				
	MTBF	200,000 hours, MIL-HDBK-217F(25°C)				
	Dimension (LxWxH)	97.5 x 72 x 32 mm				
	Net Weight / Packing	380g; 36 pcs/ box				

Notes:
1. All data NOT specially mentioned are measured at 230Vac/ 50Hz input, full load and 25°C of ambient temperature
2. The ripple current must be measured under the condition of AC coupling & 20MHz bandwidth. (Rated input and rated output) ; The actual value will depend on LED lighting module.
3. Derating may be needed under low input voltages. Please check the static characteristics for more details
4. Measured at 120V/230Vac input, full load
5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
6. FSP40-ZZAP1(035)VG Safety Pending

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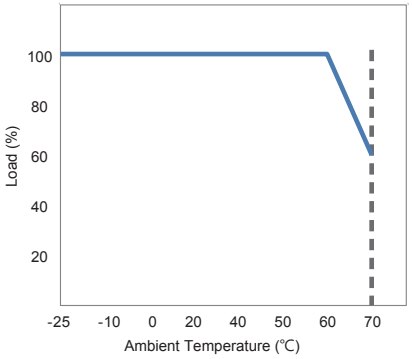
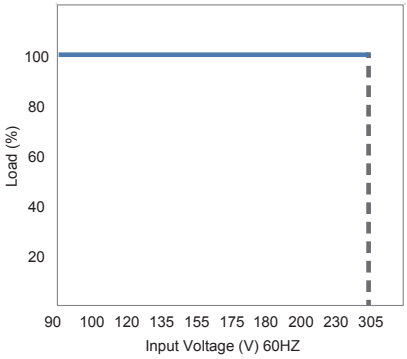
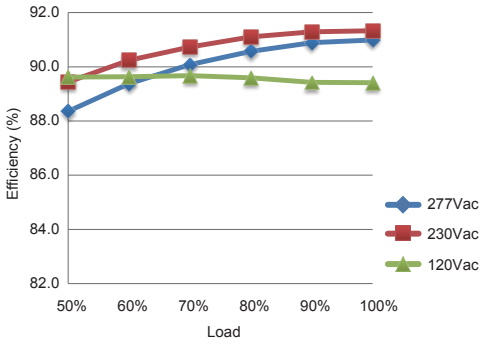
Derating Curve



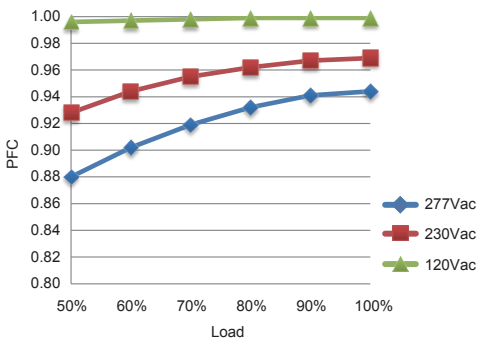
Static Curve



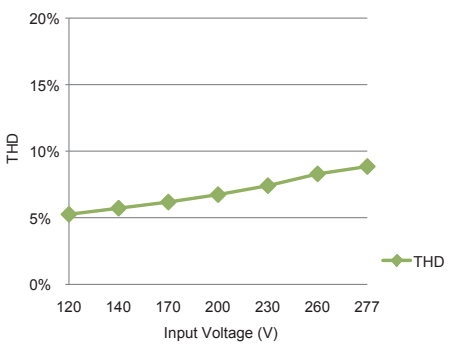
Efficiency



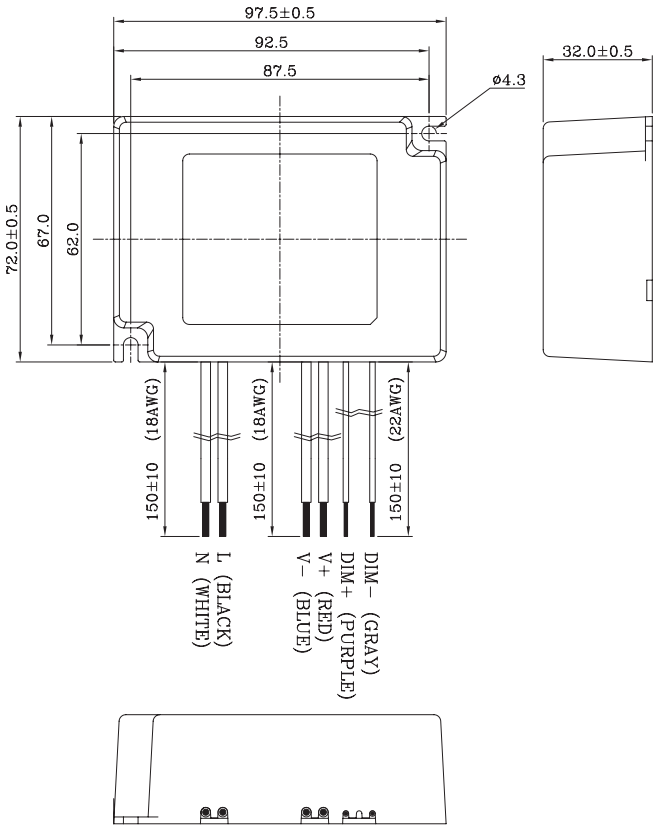
PFC vs Loading



THD vs Input Voltage

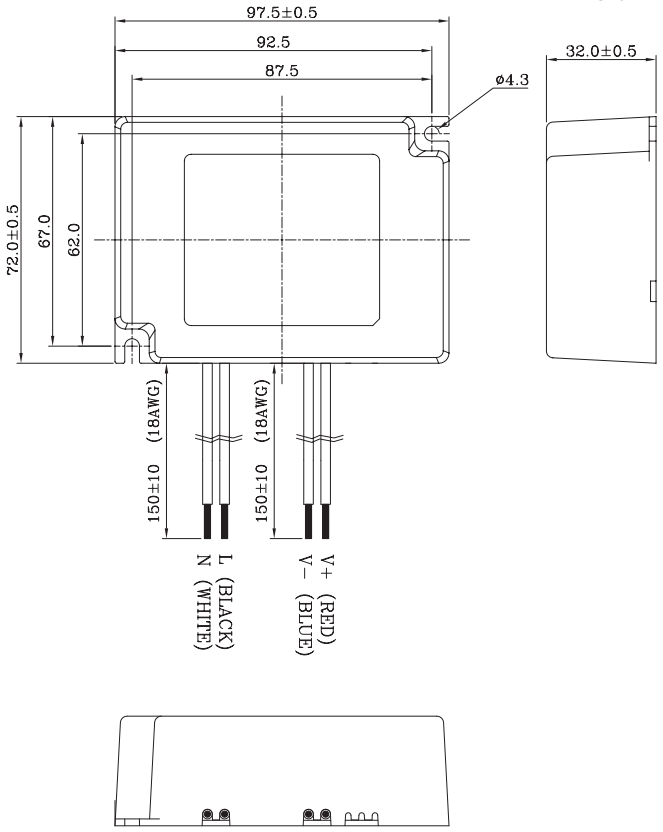


VG Type:
(FSP40-ZZAP1(XXX)VG)



G Type:
(FSP40-ZZAP1(XXX)G)

Unit: mm



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