

Features

- Input voltage range:90-305VAC
- High efficiency up to 88%
- Constant voltage output
- No load Power consumption $\leq 0.5W$
- All-Around Protection: OVP,SCP,OTP
- Compact Metal Case with Excellent Thermal Performance
- Waterproof(IP67) and UL Dry/Damp/Wet Location
- Input Surge Protection:4kV line-line,6kV line-earth
- High Reliability & Long Lifetime & 5 Years Warranty

Description

The VKH-26-XX IP67 R series is a 26W, constant-voltage IP67 LED driver that operates from 90-305Vac input with excellent power factor. It is created for low bay, tunnel and street lights. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

Model	Input Voltage range	Output Voltage	Output Current Range	Max output Power	Power Factor	Typical Efficiency
VKH-26-12 IP67 R	90~305Vac	12V	0~2.17A	26W	0.95	86%
VKH-26-24 IP67 R	90~305Vac	24V	0~1.08A	26W	0.95	87%
VKH-26-36 IP67 R	90~305Vac	36V	0~0.72A	26W	0.95	88%
VKH-26-48 IP67 R	90~305Vac	48V	0~0.54A	26W	0.95	88%

Note:

1. Test condition: 230Vac/50Hz, at full Load;

Input Specifications

Parameter	Min.	Typ.	Max	Notes
Rated Input Voltage	100V	-	240V	
Range of input voltage	90V	-	305V	Refer to derating curve when input voltage < 100V
Input Frequency	47Hz	-	63Hz	
Leakage Current	-	-	0.7mA	240Vac
Input Current	-	-	0.35A	90Vac, at full load condition
Inrush Current	-	-	10A	230Vac/50Hz, 90° degree phase, full load, cold start, 50%I _{pk} ~50%I _{pk} , duration ≈ 100μS
No Load Loss	-	-	0.5W	230Vac/50Hz, no load
Power Factor	0.9	0.95	-	230Vac/50Hz, at full load condition
THD	-	10%	15%	100Vac~240Vac, 75%~100%Load

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage				
VKH-26-12 IP67 R	-	12V	-	At full load condition
VKH-26-24 IP67 R	-	24V	-	
VKH-26-36 IP67 R	-	36V	-	
VKH-26-48 IP67 R	-	48V	-	
Output Voltage Tolerance	-5%	-	5%	At full load condition
Total Output Voltage Ripple				At full load condition, PK-PK
VKH-26-12 IP67 R	-	-	1.5V	
VKH-26-24 IP67 R	-	-	2.4V	
VKH-26-36 IP67 R	-	-	3.0V	
VKH-26-48 IP67 R	-	-	3.0V	
Startup Overshoot Current	-	-	10%	At full load condition
Load Regulation	-5%	-	5%	
Line Regulation	-5%	-	5%	100Vac~240Vac, full load
Startup times	-	0.5S	1S	

Note:

- 1) All parameters NOT specially mentioned are measured at 220Vac input and 25°C of ambient temperature.
- 2) Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 μF parallel capacitor.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 230Vac input:			-	
VKH-26-12 IP67 R	85%	86%	-	Measured at full load and steady –state temperature in 25℃ ambient
VKH-26-24 IP67 R	86%	87%	-	Efficiency will be about 2% lower if measured immediately after startup
VKH-26-36 IP67 R	87%	88%	-	
VKH-26-48 IP67 R	87%	88%	-	
Efficiency at 120Vac input:				
VKH-26-12 IP67 R	84%	85%	-	Measured at full load and steady –state temperature in 25℃ ambient
VKH-26-24 IP67 R	85%	86%	-	Efficiency will be about 2% lower if measured immediately after startup
VKH-26-36 IP67 R	86%	87%	-	
VKH-26-48 IP67 R	86%	87%	-	
MTBF	-	250,000 Hours	-	Measured at 230Vac input, 80% Load and 25 °C ambient temperature (MIL-HDBK-217F)
Ambient Temperature	-40℃	-	+70℃	Refer to derating curve for the details.
Operating Case Temperature for Safety Tc_s	-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_w	-40℃	-	+75℃	Case temperature for 5 years warranty. Humidity: 10% RH to 100% RH.
Lifetime	-	58,600 Hours	-	Measured at 230Vac input, 100%Load and 75℃ case temperature; See lifetime vs. Case Temperature curve for the details
Storage Temperature	-40℃	-	+85℃	Humidity: 5% RH to 100% RH.
Dimensions	101X64X32mm			With mounting ear, See Mechanical Outline for the detail
Net Weight	-	340g	-	

Safety Standards

Safety Category	Country / Territory	Standards
CE,TUV	Europe	EN61347-1, EN61347-2-13
CCC	China	GB19510.1, GB19510.14

EMC Compliance

EMC Category	Country / Territory	Standards
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		EN 61547
CCC	China	GB 17743, GB 17625.1

Note:

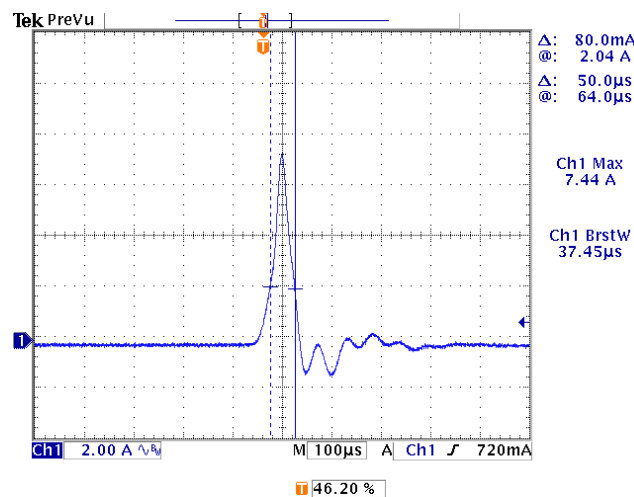
- 1) This LED driver meets the EMI specifications above, but EMI performance of a lighting fixture also depends on the other devices on the fixture.

Protection Functions

Parameter	Min.	Typ.	Max.	Note
Over Load Protection	105%	-	180%	Latch off, Auto Recovery after power off and restart
Short Circuit Protection	-	-	-	Hiccup, Auto Recovery
Over Voltage Protection	-	-	-	Hiccup, Auto Recovery
Over Temperature Protection	-	-	-	Hiccup, Auto Recovery

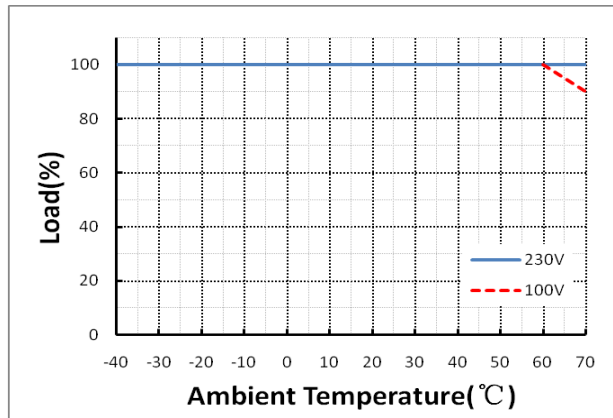
Curve

▲ Inrush Current Waveform

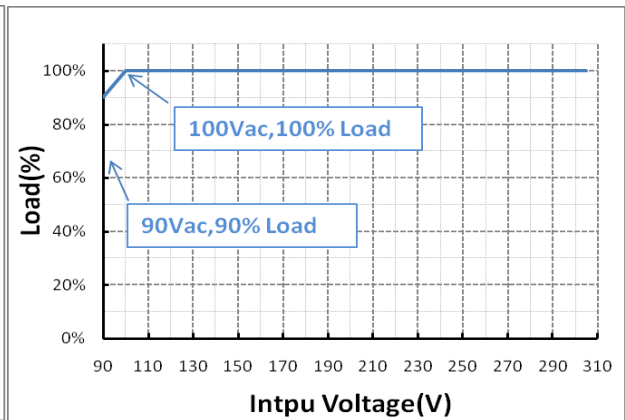


▲ Derating

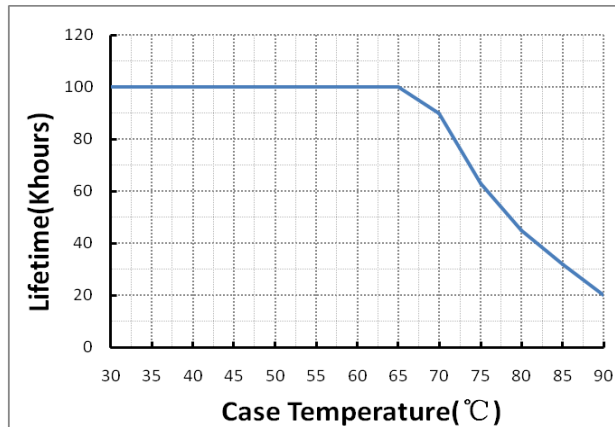
Output Power-Temperature



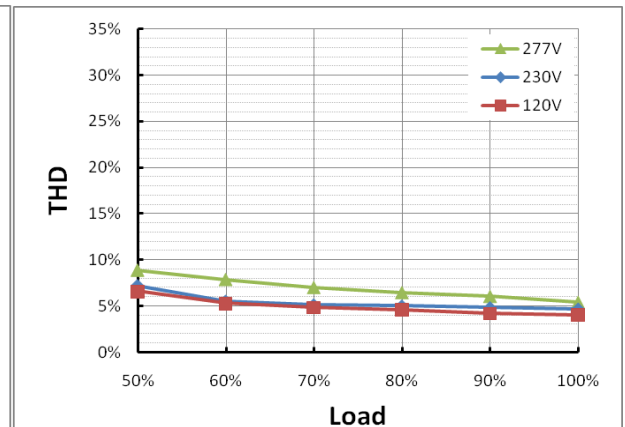
Output Power-Input Voltage



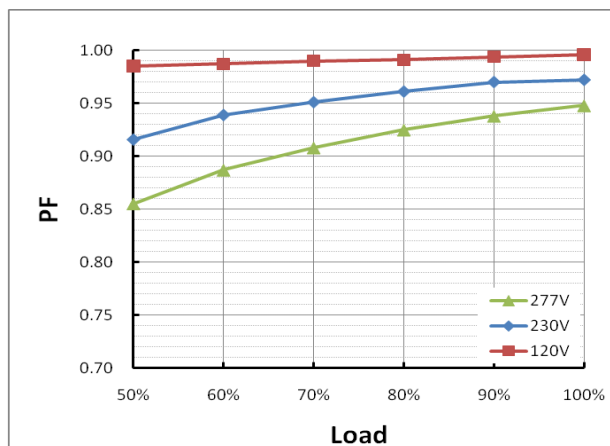
▲ Lifetime



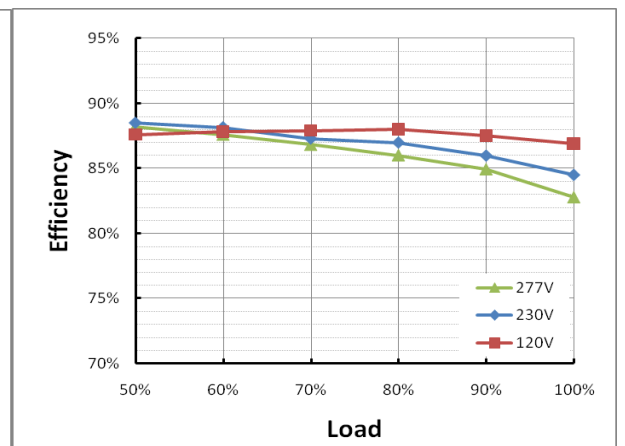
▲ Total Harmonic Distortion



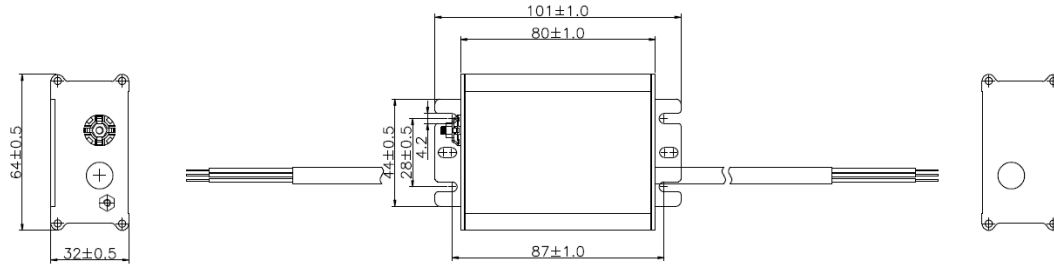
▲ Power Factor



▲ Efficiency@VKH-26-24 IP67 R



Mechanical Outline



Note: Wire length of input and output can be changed as customer's requirement

TYPE	Total Length	Outside Color	Inside Wires Color	Wire Model/Diameter
Input wire	0.65M	Black	Brown/Blue/(Yellow/Green)	H05RN-F. 3X1.0mm ²
Output wire	0.30M	Black	Red/Black	H05RN-F. 2X1.0mm ²