

**■ Features & benefits:**

- Universal AC Input Voltage
- Linear form factor, Metal sheet case
- Isolated 0-10V dimming
- NFC control
- Suitable for indoor use
- Flicker free, excellent camera compatibility
- Class2, Class P
- Operating temperature: -25°C~+50°C
- Meet IEEE1789, UL8750

**■ Optional Function**

- Input voltage: 120-277V<sub>AC</sub> or 120-277V<sub>AC</sub>
- Minimum dimming level: 1%
- Aux power: 12V/200mA
- Programmable (NFC interface)
  - Output current for each position of 3-level selection switch (1mA step)
  - Enable/disable soft start function
  - Enable/disable for dim-to-off
  - Dimming curve (Linear)



**■ Model List:**

Model Name	Rated Input Voltage	Max Output Power	Default Output Current	Programmable current	Rated Output Voltage	Note
VPL60xxxMVHDA-10V-P-NFC-MD-AD	120-277V <sub>AC</sub>	55W max.	1300mA	130-1300mA	20-48V <sub>DC</sub>	NFC control
VPL40xxxMVHDA-10V-P-NFC-MD-AD	120-277V <sub>AC</sub>	36W max.	1000mA	100-1000mA	20-48V <sub>DC</sub>	NFC control

**Model name code:**

VPL60 xxx MV HDA 10V P NFC AD  
 ①      ②      ③      ④      ⑤      ⑥      ⑦      ⑧

①	Series	40/60W programmable series driver
②	Output current	Maximum output current: 100 = 1000mA; 130 = 1300mA
③	Input voltage	MV: 120-277V <sub>AC</sub>
④	HDA	H: High Power Factor D: Dimmable A: Class 2 Output
⑤	10V	0-10V dimming
⑥	P	Class P
⑦	NFC	N: NFC control
⑧	AD	Programmable: Aux Power Programmable: Dim-to-off

## ■ Specification:

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
<b>INPUT</b>						
Input Voltage	$V_{IN}$	VPL60xxxMVHDA-10V-P-NFC, VPL40xxxMVHDA-10V-P-NFC	108		305	$V_{AC}$
Rated Input Voltage	$V_{IN\ RATED}$	VPL60xxxMVHDA-10V-P-NFC, VPL40xxxMVHDA-10V-P-NFC	120		277	$V_{AC}$
Input Frequency	$f_{line}$		47	50/60	63	Hz
Input Current	$I_{IN}$	Full Load, $V_{IN} = 120V_{AC}$ , VPL40xxxMVHDA-10V-P-NFC			0.36	A
		Full Load, $V_{IN} = 120V_{AC}$ , VPL60xxxMVHDA-10V-P-NFC			0.65	A
Inrush Current	$I_{INRUSH}$	VPL60xxxMVHDA-10V-P-NFC, VPL40xxxMVHDA-10V-P-NFC Cold Start, $V_{IN} = 277V_{AC}$			75	A
Leakage Current	$I_{Leakage}$	$V_{IN} = 277V_{AC}$ for VPL60xxxMVHDA-10V-P-NFC, VPL40xxxMVHDA-10V-P-NFC, 60Hz			0.75	mA
<b>General Characteristics</b>						
Power Factor	PF	Full load, $V_{IN} = 120V_{AC}$	0.95			PF
		Full load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	VPL40xxxMVHDA-10V-P-NFC, Full Load, $V_{IN} = 120-277V_{AC}$			20	%
		VPL60xxxMVHDA-10V-P-NFC, Full Load, $V_{IN} = 120-277V_{AC}$			20	%
Efficiency	$\eta_{120}$	VPL40xxxMVHDA-10V-P-NFC, 20-40W load, $V_{IN} = 120V_{AC}$ , After thermal balance	84	85		%
		VPL60xxxMVHDA-10V-P-NFC, 30-60W load, $V_{IN} = 120V_{AC}$ , After thermal balance	85	86		%
	$\eta_{277}$	VPL40xxxMVHDA-10V-P-NFC, 20-40W load, $V_{IN} = 277V_{AC}$ , After thermal balance	84	85		%
		VPL60xxxMVHDA-10V-P-NFC, 30-60W load, $V_{IN} = 277V_{AC}$ , After thermal balance	85	86		%
Turn On Delay Time	$T_{on\_delay}$	Cold Start, without dimmer, 700-1300mA for VPL60xxxMVHDA-10V-P-NFC, 500-1000mA for VPL40xxxMVHDA-10V-P-NFC			0.5	S
<b>OUTPUT</b>						
Programmable Output Current	$I_{OUT}$	VPL40xxxMVHDA-10V-P-NFC, Set via NFC	100		1000	mA
		VPL60xxxMVHDA-10V-P-NFC, Set via NFC	130		1300	mA
Output current tolerance	$t$	$I_{OUT} = 700-1300mA$ for VPL60xxxMVHDA-10V-P-NFC; $I_{OUT} = 500-1000mA$ for VPL40xxxMVHDA-10V-P-NFC;			5	%
Output Voltage	$V_{OUT}$	See "Operating window"	20		48	V
Output Power	$P_{OUT}$	VPL40xxxMVHDA-10V-P-NFC, Set by GUI			40	W
		VPL60xxxMVHDA-10V-P-NFC, Set by GUI			55	W
Line Regulation	$V_{OUT-LINE}$				3	%
Load Regulation	$I_{OUT-LOAD}$	$V_{OUT}$ from MIN. to MAX.			5	%
Ripple Current	$I_{OUT-RIPPLE}$	Full Load, $(I_{omax} - I_{omin}) / (I_{omax} + I_{omin})$			10	%

**NFC control series**

Output Current Overshoot	I <sub>OVERSHOOT</sub>	Turning Power ON			10	%
<b>0~10V or Resistor Dimming</b>						
The 0~10V or resistor dimming can be used to dim the output Current via a standard commercial wall dimmer (0~10V <sub>DC</sub> ) or an external control voltage source (0~10V <sub>DC</sub> ) or external resistor.						
Absolute Maximum Voltage on 0~10V Pin	V <sub>DIM</sub>		0		10	V
Source Current on 0~10V Dimming Pin	I <sub>DIM</sub>		200		500	uA
Light On	V <sub>DIM-on</sub>	Programmable, default		0.8		V
Light Off	V <sub>DIM-off</sub>	Programmable, default		0.7		V
Dimming Voltage for Full Bright	V <sub>DIM-MAX</sub>	Programmable, default		9.1		V
Output Current range	I <sub>OUT</sub>	Programmable, default	1		100	%
External Resistor Value at Full Bright	R <sub>External</sub>			45		kΩ
<b>Auxiliary source 12V (Optional)</b>						
Voltage range	V <sub>AUX</sub>			12		Vdc
Current range	I <sub>AUX</sub>				0.2	A
<b>Protection</b>						
Over Voltage Protection	V <sub>OVp</sub>				60	V
Short Circuit Protection	It will recover automatically after fault conditions is removed.					
<b>Environment</b>						
Storage Temperature	T <sub>Storage</sub>	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T <sub>a</sub>		-30	-	+50	°C
Max. Case Temperature	T <sub>c</sub>	Hot spot on case			90	°C
Operating Relative Humidity	H <sub>a</sub>	Non-Condensing	10		90	%
Acoustic Noise		Measured from 1 m w/o dimmer.			24	dBA
Cooling	Convection Cooling					
IP Rating	Dry and damp UL approved					
<b>Others</b>						
Life Time	T <sub>Life</sub>	Full Load, 90°C case temperature, V <sub>IN</sub> = 120/277V <sub>AC</sub>	50			kHrs
MTBF	T <sub>MTBF</sub>	Full Load, 25°C ambient temperature V <sub>IN</sub> = 120/277V <sub>AC</sub>	200			kHrs
Net Weight	W <sub>NET</sub>			400		g
Warranty	5 Years Warranty at T <sub>c</sub> ≤ 80°C					
Flicker	IEEE 1789					
<b>Safety Compliance</b>						
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13					
<b>Electromagnetic Compliance</b>						
<b>EMC Requirements</b>	<b>Standard</b>	<b>Conditions</b>				
EMI Emissions	FCC Title 47 Part 15B	Class B at 120V <sub>AC</sub> , Class A at 277V <sub>AC</sub>				

Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	IEC 61000-4-5 or ANSI/IEEE C62.41-2002	± 2kV Common and Differential Mode, test at 2 Ω, 5 strikes/1minute interval (40 total strikes)
	ANSI/IEEE C62.41.1-2002	2.5kV Ring Wave, test at 30Ω 7 Strikes/1 minute interval, Common and Differential mode, 56 total strikes
	IEC 61000-4-11	>95% dip, .5 period; 30% dip, 25 periods; 95% reduction, 250 periods
	IEC 61000-4-4	± 2kV Direct couple to Line input, 5kHz repetition rate, 15mS duration, 300mS period. 7 coupling paths, 1 minute per path (14 total combinations)

Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and rated voltage.

■ Typical Characteristics Curve:

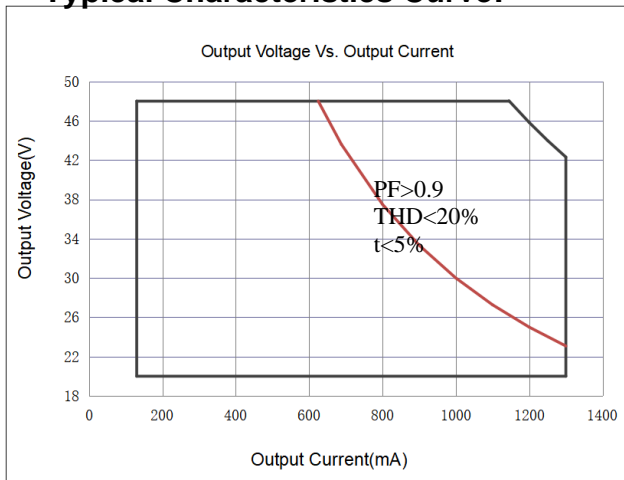


Fig.1 Operating window (VPL60xxxMVHDA)

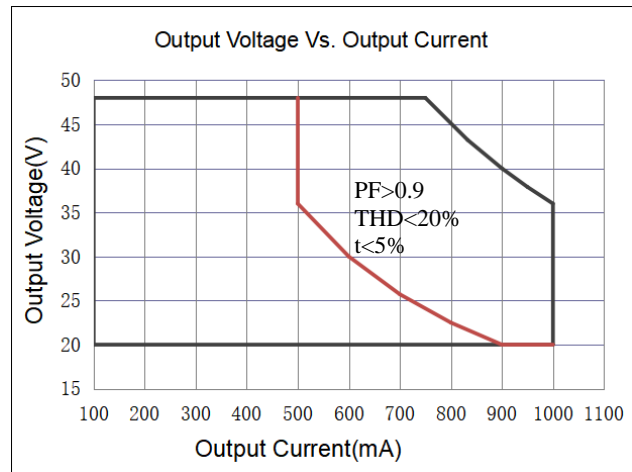


Fig.2 Operating window (VPL40xxxMVHDA)

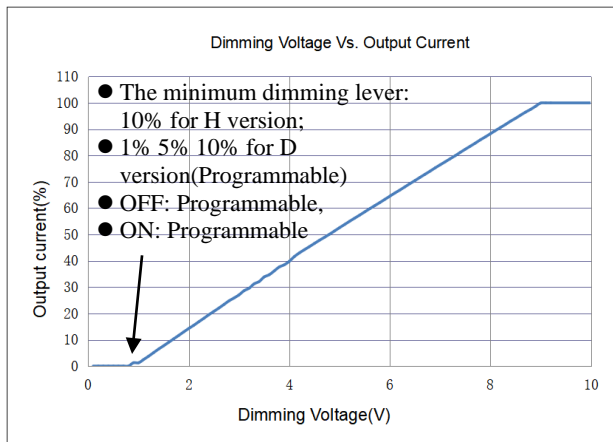


Fig.3 Dimming Curve(1%, dim-off version)

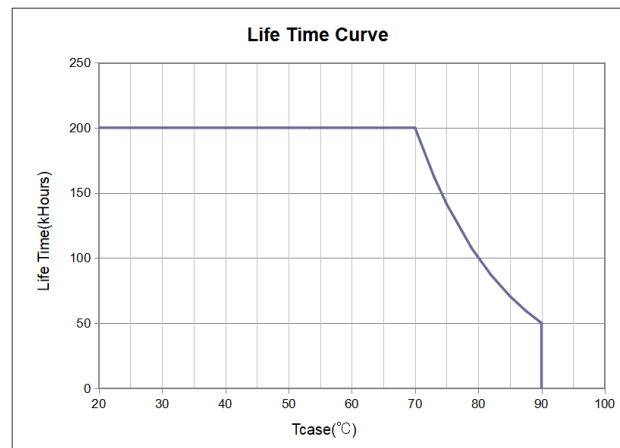


Fig.4 Life curve

■ Mechanical Drawing:

Dimensions (Unit: mm)

Default tolerance:  $\pm 1$ mm

