

Features & Benefits

Universal AC Input Voltage(120-277VAC)

Compact design, Gray PC case

Selectable output current by 8 positions DIP switch(DIP Style)

External current select switch with programming feature, please contact LUMIGEAR for details(PC Style)

Comply with phase cut dimming and isolated 0-10V dimming, dim down to true 1%

Suitable for indoor use

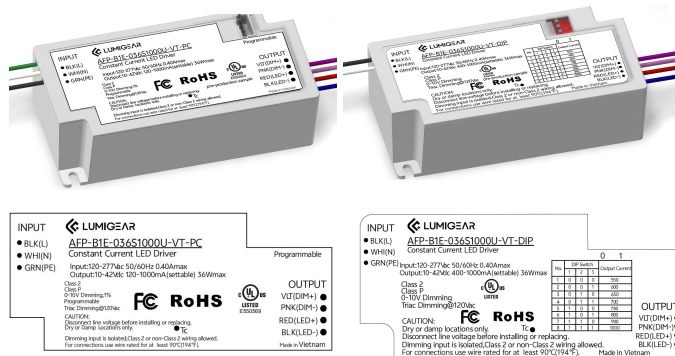
Flicker free, excellent camera compatibility

UL Class2,Class P

Combination Wave 2KV, Ringwave 2.5KV

Operating temperature: -25℃~+50℃

Comply with IEEE1789, UL8750



Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
AFP-B1E-012S0420U-VT-DIP	120-277VAC	12W max.	100-420mA	10-42VDC	85%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.
AFP-B1E-024S0850U-VT-DIP	120-277VAC	24W max.	280-850mA	10-42VDC	86%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.
AFP-B1E-036S1000U-VT-DIP	120-277VAC	36W max.	400-1000mA	10-42VDC	87%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.
AFP-B1E-012S0420U-VT-PC	120-277VAC	12W max.	42-420mA	10-42VDC	85%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.
AFP-B1E-024S0850U-VT-PC	120-277VAC	24W max.	84-850mA	10-42VDC	86%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.
AFP-B1E-036S1000U-VT-PC	120-277VAC	36W max.	100-1000mA	10-42VDC	87%	85.6*41.6*24.7mm/ 3.3×1.6×0.9 in.

Optional Function

· Aux power, 100mA/12V

Approvals

TRIAC **0/1-10 V** **UL** LISTED **CLASS P**

Model name code

AFP-B1E	-	012	S	0420	U	-	VT	-	PC
①		②	③	④	⑤		⑥		⑦
①	Series			Architecture FlexFit Series					
②	Output power			Maximum output power:12W					
③	Output Channel			Single channel					
④	Output current(max)			Maximum output current:420mA					

⑤	Input voltage	120-277VAC
⑥	Dimming Control	Triac&0-10V
⑦	Programmable	PC=USB-PC DIP=DIP Switch

Specification:

Parameters	Symbols	Test Conditions / Comment								Min	Typ	Max	Units																
INPUT																													
Input Voltage	V _{IN}									108		305	V _{AC}																
Rated Input Voltage	V _{IN RATED}									120		277	V _{AC}																
	V _{IN RATED_TRIAC}	Phase Cut Dimming									120		V _{AC}																
Input Frequency	f _{line}									47	50/60	63	Hz																
Input Current	I _{IN}	AFP-B1E-012, Full Load, V _{IN} = 120V _{AC}										0.15	A																
		AFP-B1E-024, Full Load, V _{IN} = 120V _{AC}										0.27	A																
		AFP-B1E-036, Full Load, V _{IN} = 120V _{AC}										0.4	A																
Inrush Current	I _{INRUSH}	Cold Start, V _{IN} = 277V _{AC}										20	A																
Leakage Current	I _{Leakage}	V _{IN} = 277V _{AC} 60Hz										0.75	mA																
Number of Drivers per MCB(Circuit Breaker)	MCB type	B10	C10	D10	B13	C13	D13	B16	C16	D16	B20	C20	D20																
	120V _{AC}	16	18	21	21	24	28	26	30	34	32	37	43																
	277V _{AC}	15	25	50	19	32	65	24	40	81	30	50	101																
<table><thead><tr><th colspan="2">Input Voltage</th><th>Inrush Current</th><th>t(us)10%-10%</th></tr></thead><tbody><tr><td colspan="2">120VAC</td><td>8.0A</td><td>254</td></tr><tr><td colspan="2">277VAC</td><td>15.8A</td><td>208</td></tr><tr><td colspan="2">347VAC</td><td>NA</td><td>NA</td></tr></tbody></table>														Input Voltage		Inrush Current	t(us)10%-10%	120VAC		8.0A	254	277VAC		15.8A	208	347VAC		NA	NA
Input Voltage		Inrush Current	t(us)10%-10%																										
120VAC		8.0A	254																										
277VAC		15.8A	208																										
347VAC		NA	NA																										
General Characteristics																													
Power Factor	PF	20-100% load, V _{IN} = 120V _{AC}								0.9			PF																
		50-100% load, V _{IN} = 277V _{AC}								0.9																			
Total Harmonic Distortion	THD	20-100% load, V _{IN} = 120V _{AC}										20	%																
		50-100% load, V _{IN} = 277V _{AC}										20	%																
Turn On Delay Time	T _{on_delay}	Cold Start, Without Dimmer										0.5	S																
Efficiency	η	AFP-B1E-012, I _{OUT} =300mA, V _{IN} =120V _{AC} , Steady state								84	85		%																
		AFP-B1E-024 DIP, I _{OUT} =500mA, V _{IN} =120V _{AC} , Steady state								85	86		%																
		AFP-B1E-024 PC, I _{OUT} =500mA, V _{IN} =120V _{AC} , Steady state								85	86		%																
		AFP-B1E-036 , I _{OUT} =750mA, V _{IN} =120V _{AC} , Steady state								85	86		%																
		AFP-B1E-012, I _{OUT} =300mA, V _{IN} =277V _{AC} , Steady state								83	84		%																
		AFP-B1E-024 DIP, I _{OUT} =500mA, V _{IN} =277V _{AC} , Steady state								85	86		%																
		AFP-B1E-024 PC, I _{OUT} =500mA, V _{IN} =277V _{AC} , Steady state								85	86		%																
		AFP-B1E-036, I _{OUT} =750mA, V _{IN} =277V _{AC} , Steady state								86	87		%																

OUTPUT

Output Current Tolerance	t	$I_{OUT} = (40-100\%) I_{MAX}$			5	%
		$I_{OUT} = (10-39\%) I_{MAX}$			7	%
Output Current Range	I_{OUT}		0.1		100	$I_{MAX}\%$
Output Voltage	V_{OUT}		10		42	V
Line Regulation	$V_{OUT-LINE}$				1	%
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	%
Output Current Overshoot	$I_{OVERSHOOT}$	Turning Power ON			10	%

0~10V or Resistor Dimming

The 0~10V or resistor dimming can be used to dim the output current via a standard commercial wall dimmer (0~10V_{DC}) or an external control voltage source (0~10V_{DC}) or external resistor.

Dimming Curve	Linear. please see "Dimming curve".					
Absolute Maximum Voltage on 0~10V Pin	V_{DIM}		0		300	V_{AC}
Source Current on 0~10V Dimming Pin	I_{DIM}			200		μA
Light On	V_{DIM-on}	Programmable		0.9		V
Light Off	$V_{DIM-off}$	Programmable		0.7		V
Dimming Voltage for Full Bright	$V_{DIM-MAX}$	Programmable		8		V
Standby power	$P_{STANDBY}$	Light Off, $V_{in}=120VAC$			0.6	W

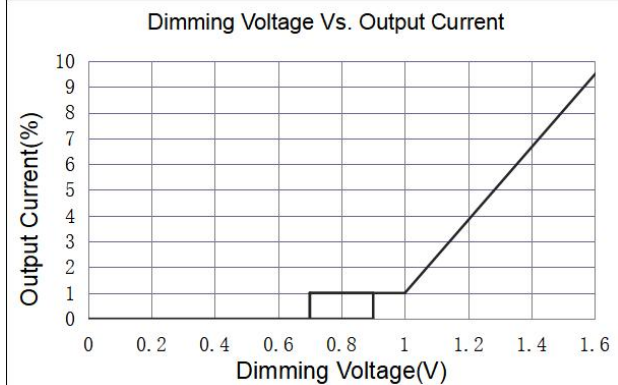
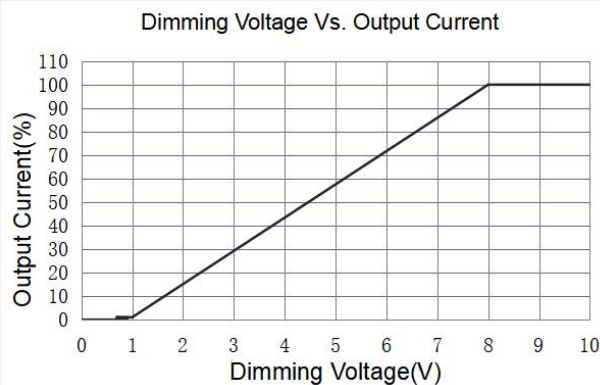
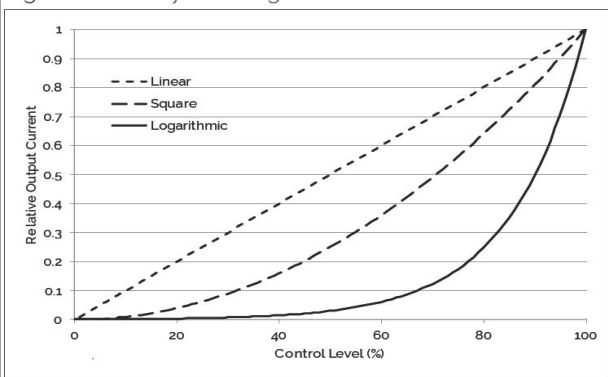


Figure 1: Intensity Dimming Profile Characteristics



Phase Cut Dimming

The unit is compatible With Leading-edge and Trailing-edge Dimmer.

Input Voltage	$V_{IN-TRIAC DIM}$			120		V_{AC}
Suggest Load Range	$P_{Suggest}$	$V_{IN} = 120 V_{AC}$	40		100	%

Compatible Phase Cut Dimmer List

No.	Mfg.	Model	Remark	No.	Mfg.	Model	Remark
1	Lutron	MACL-153M		12	Leviton	1B34L1	
2	Lutron	LGCL-153PL		13	Leviton	IPL06	
3	Lutron	GLU12-F23622		14	Leviton	SureSlide 6633	
4	Leviton	111506		15	Leviton	IPE04	
5	Lutron	GLV-600		16	Leviton	IPL06-102	
6	Lutron	D-600P		17	Lutron	DVCL-153P	
7	Lutron	DVLV-600P		18	Legrand	LSLV603	
8	Lutron	MALV-600		19	Legrand	RHCL453P	
9	Lutron	NT-1000		20	Lutron	1K35O2	
10	Lutron	SLV-600P		21	Lutron	DV-600P	
11	Lutron	MA-600					

Programming(PC Type)

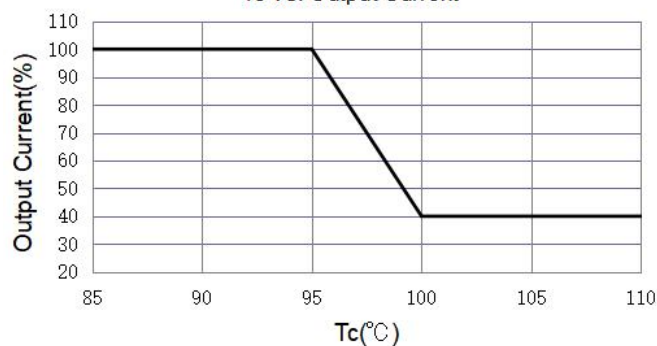
The driver is programmable , Please contact LUMIGEAR for details.

NO.	Item	Default Setting					
1	Output current(1mA step)	See"Model list" for each model					
2	Dim to off(0-10V)	Enable					
3	Min Dimming Level	1%					
4	0-10V Dimming curve: Log/linear/customer dim curves	See "0~10V or Resistor Dimming" section					
5	Over Temperature Protection: Foldback mode, Linear decrease mode	See "Protection" section					
6	Over load protection	See "Protection" section					
7	Fade time	10mS					
8	Programmable RMS voltage with turn-on , turn-off and full brightness for phase cut dimming	Turn on at 18V _{AC} , turn off at 15V _{AC} , Clamp at 30V _{AC} , full brightness at 108V _{AC}					
P2.0 Female Plug	Programming software	"LUMIGEAR Programming Tool"					
	Programming tool	"Lumigear tool box"					
	Operating voltage			5	5.5	V	

Protection

Over Voltage Protection	V_{OVP}	The unit will recover automatically after fault conditions is removed.		60		V
Over Temp. Protection	T_{OTP}	Current linear reduced when hotspot greater than T_{OTP}		95		°C
Over load protection	P_{OLP}	AFP-B1E-012, Programmable. Output current will decrease when output power reach P_{OLP}	5		14	W
		AFP-B1E-024, Programmable. Output current will decrease when output power reach P_{OLP}	9.6		24	W
		AFP-B1E-036, Programmable. Output current will decrease when output power reach P_{OLP}	14.4		36	W
OLP tolerance	t_{OLP}		100		110	%
Short Circuit Protection	The unit will recover automatically after fault conditions is removed.					

Tc Vs. Output Current



Environment

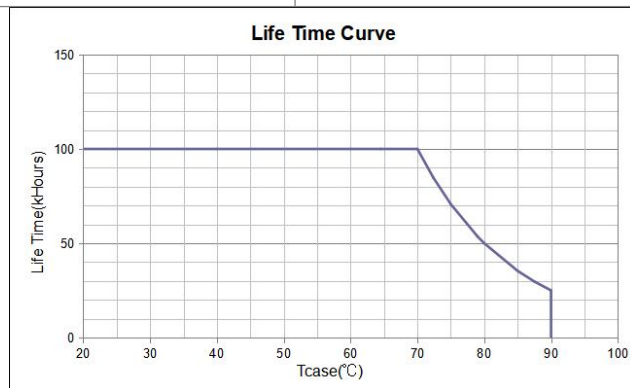
Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T_a		-25	-	+50	°C
Max. Case Temperature	T_c	Hot spot on case			90	°C
Operating Relative Humidity	H_a	Non-Condensing	10		90	%
Acoustic Noise		Measured from 1 m w/o dimmer.			24	dBA
Cooling	Convection Cooling					
IP Rating	Dry and damp UL approved					

Others

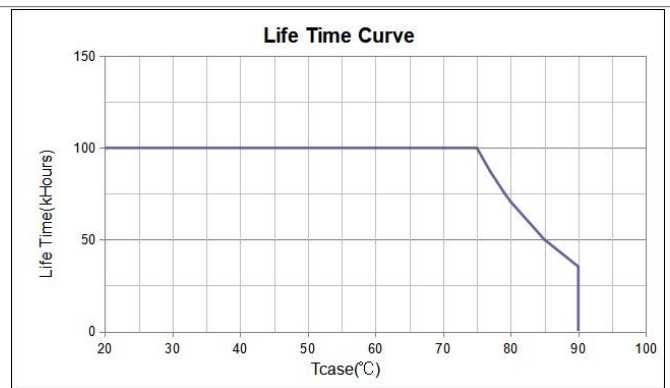
Life Time	T_{Life}	AFP-B1E-012 and AFP-B1E-024, Full Load, 80°C case temperature	50			kHrs
		AFP-B1E-036, Full Load, 85°C case temperature	50			kHrs
T	T_F	Full Load, 25°C ambient temperature	200			kHrs
Net Weight	W_{NET}			150		g
Warranty	AFP-B1E-012 and AFP-B1E-024, 5 Years Warranty at $T_c \leq 80^\circ\text{C}$					
	AFP-B1E-036, 5 Years Warranty at $T_c \leq 85^\circ\text{C}$					

Flicker

IEEE 1789, title 24



AFP-B1E-012 and AFP-B1E-024 life time curve



AFP-B1E-036 life time curve

Safety Compliance

CUL/UL

UL8750, CAN/CSA-C22.2 No. 250.13

Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15	Class B at 120V _{AC} , Class A at 277V _{AC}
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	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)

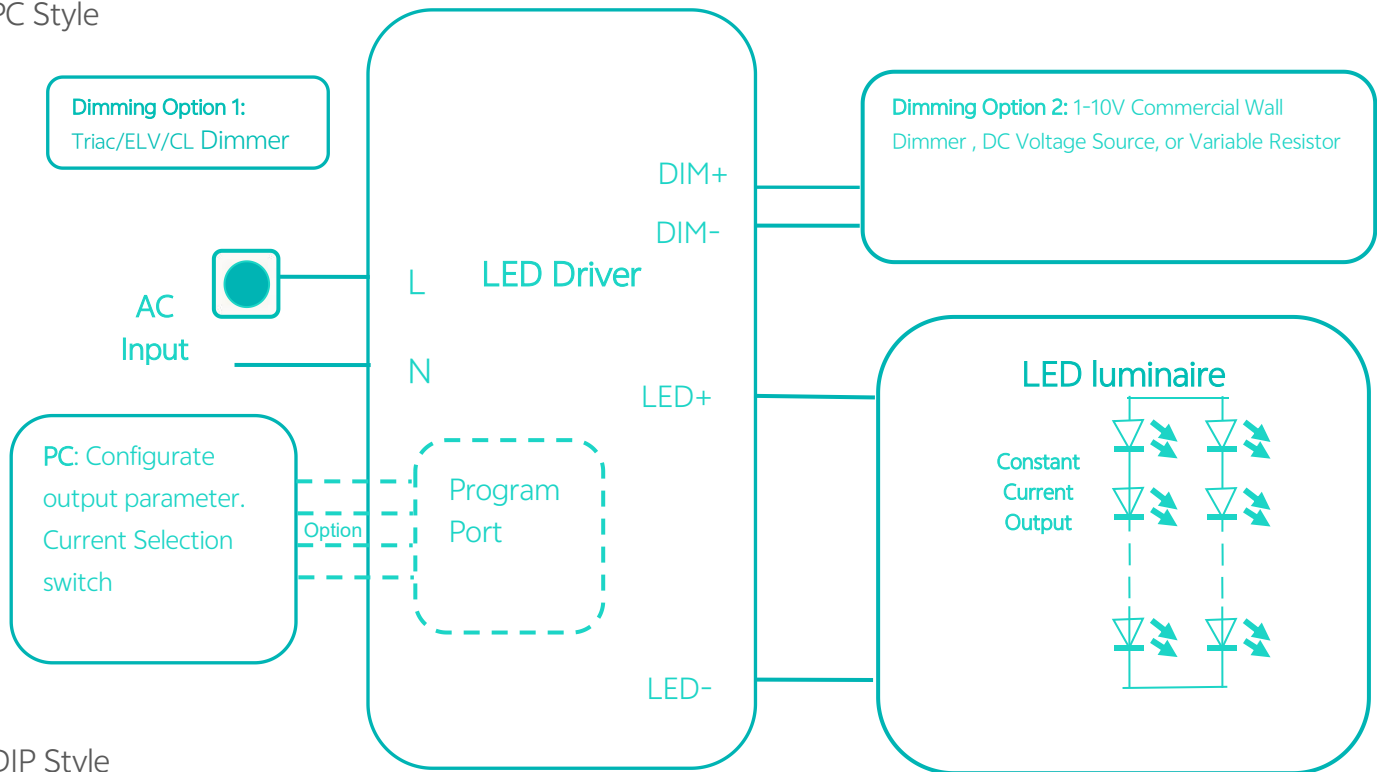
Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and rated voltage.

Output Current Code Table(DIP Type):

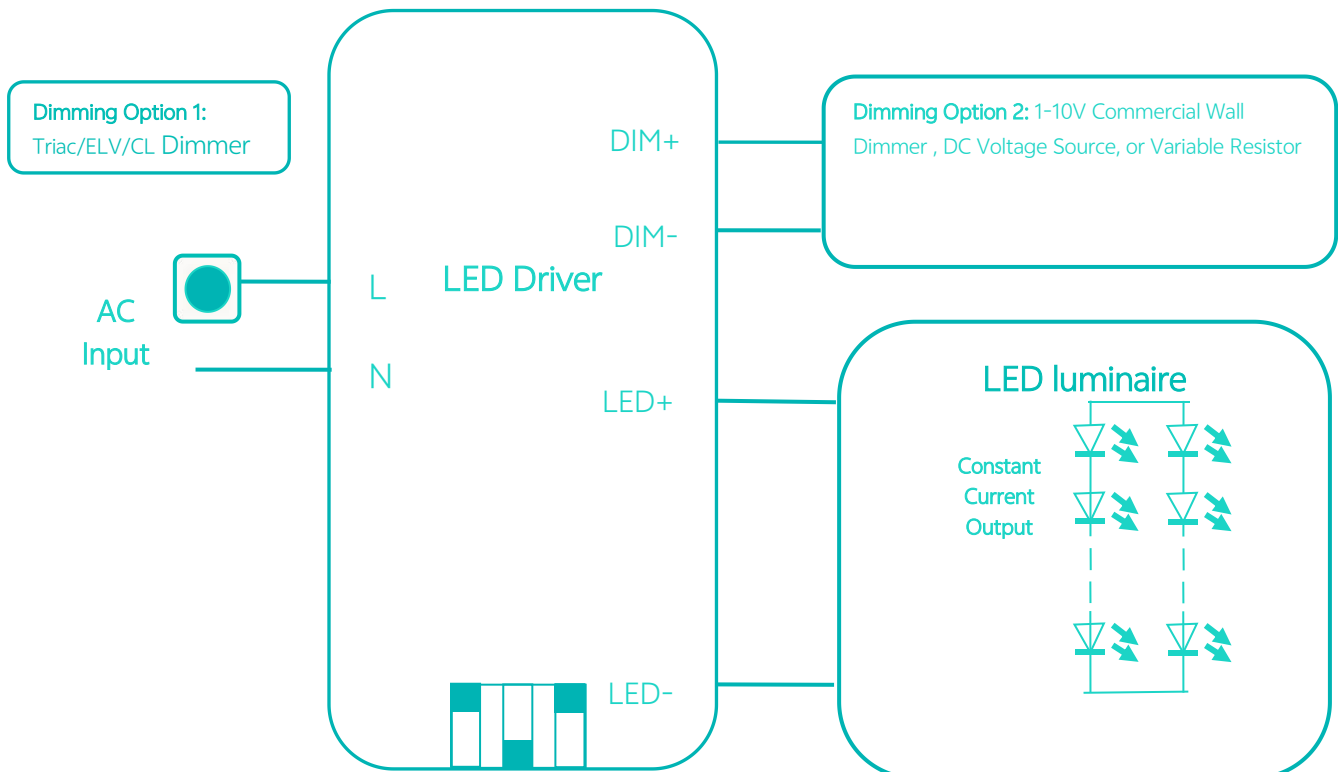
Mode Name	Switch's status (0 or 1)			Output Current(mA)
	1	2	3	
AFP-B1E-012S0420U-VT-DIP	0	0	0	100
	0	0	1	140
	0	1	0	180
	0	1	1	220
	1	0	0	260
	1	0	1	300
	1	1	0	350
	1	1	1	420
AFP-B1E-024S0850U-VT-DIP	0	0	0	350
	0	0	1	400
	0	1	0	450
	0	1	1	500
	1	0	0	550
	1	0	1	600
	1	1	0	650
	1	1	1	700
AFP-B1E-036S1000U-VT-DIP	0	0	0	550
	0	0	1	600
	0	1	0	650
	0	1	1	700
	1	0	0	750
	1	0	1	800
	1	1	0	900
	1	1	1	1000

Typical Application

PC Style



DIP Style



Packaging

Driver quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L*W*H(mm)
80	6	13.5	L365*W340*H270

Mechanical Drawing:

