

TOMCARLINE

80W Single Output LED Driver

80H Series



■ Features:

- Universal AC input/Full rang 90~305VAC
- Built-in active PFC function
- Protections: Short circuit/Over current /Over voltage/Over temperature
- Cooling by free air convection
- Built-in 3 in 1 dimming function (1~10VDC or 10V PWM signal or resistance)
- Metal case, IP65 design for indoor or outdoor installations
- Suitable for outdoor LED street lighting, outdoor LED and moving sign applications



80H-42 □ V: IP65Level, I_o adjustable through potentiometer
 D: IP65Level, 3 in 1 dimming function (1~10VDC,10V PWM signal and resistance), I_o adjustable through potentiometer

SPECIFICATION

Parameter Name	Min.	Typ.	Max.	Unit
Input Voltage	100	110;230	277	Vac
Input Current	---	0.4	1.1	A
Power Factor	0.95	0.98	0.99	PF
THD	5	10	15	%
Frequency Rang	47	50\60	63	Hz
Output no-load Voltage	43	46	48	Vdc
Output Serving Voltage	36	42	43	Vdc
Output Current	-3%	1.9	+3%	Adc
Overshoot	---	---	10	%
Ripple & Noise	---	---	300	mV
No Load Power	---	0.5	2	W
Efficiency	88	91	---	% (230VA)
Over Current Protection	---	---	110	%
Short Circuit Protection	Constant Current limiting, recovers automatically after fault condition is removed			
Inrush Current(Max.)	Cold Start 70A(twidth=480us measured at 50% I _{peak})at 230Vac			
MAX. No. of PSUs on 16A Circuit Breaker	3 units (circuit breaker of type B)/6 units (circuit breaker of type C) at 230VAC			

WORKING ENVIRONMENT

Item	Min.	Typ.	Max.	Unit
Working Temp.	-40~+70°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)			
IP Rating	IP65			
MAX. Working Humidity	20~95%RH non-condensing			
Cooling Method	Cooling by free air convection, External LED Driver can improve the lifespan.			
Storage Temp. , Humidity	-40~+80°C,10~95%RH			
Working Atmosphere	70	---	106	Kpa

SAFETY

Item	Min.	Typ.	Max.	Unit
I/P-O/P	3750	---	---	V(AC)
I/P-FG	2000	---	---	V(AC)
O/P-FG	500	---	---	V(DC)
Surge: L-N	2000	---	---	V
Surge :L,N-FG	4000	---	---	V

OTHER

MTBF	≥362.5Khrs	MIL-HDBK-217F (25°C)
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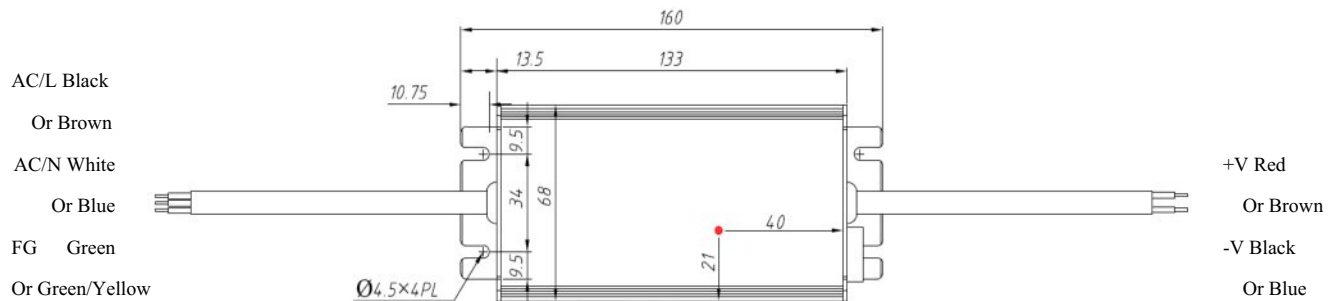
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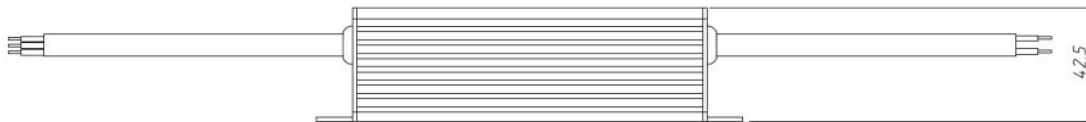
80H Series

MECHANIC SPECIFICATION

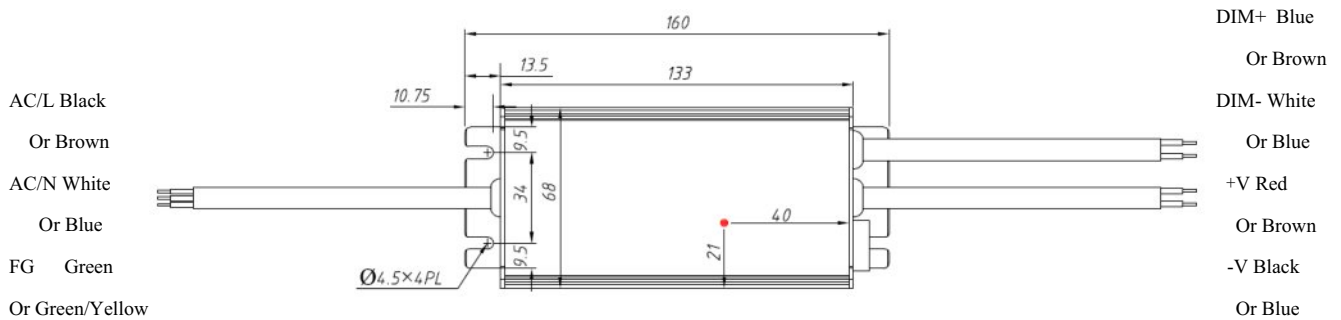
※ V-Type:(80H- 42V)



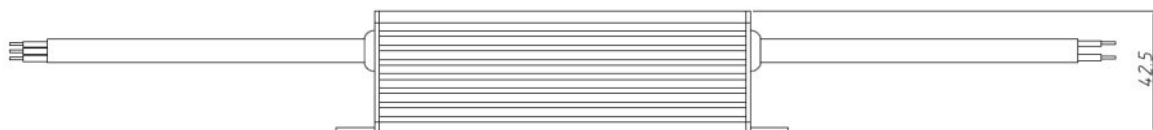
• tc: MAX. Case Temperature



※ D-Type:(80H- 42D)



• tc: MAX. Case Temperature



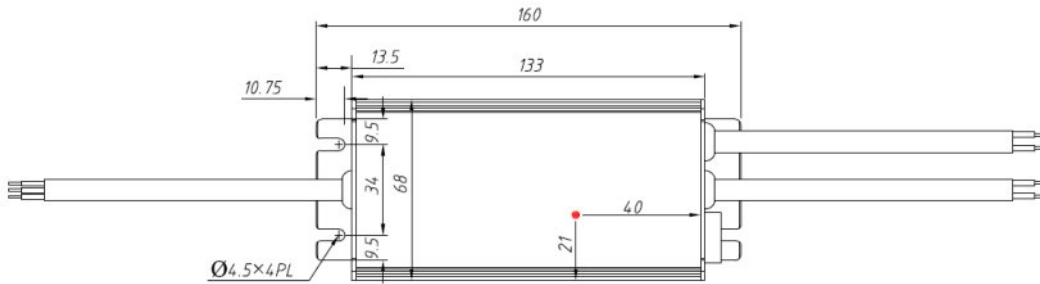
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DIMMING OPERATION

AC/L Black
Or Brown
AC/N White
Or Blue
FG Green
Or Green/Yel

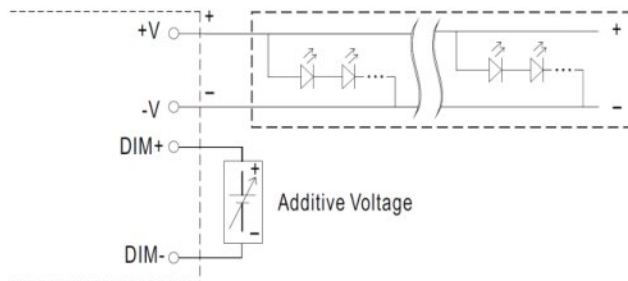


DIM+ Blue
Or Brown
DIM- White
Or Blue
+V Red
Or Brown
-V Black
Or Blue

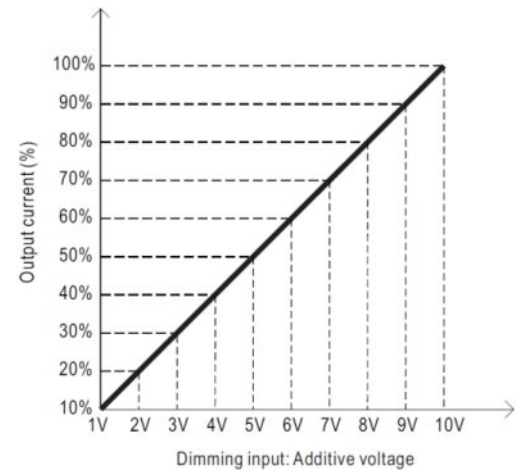
※ 3 in 1 dimming function(for D-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1~10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100uA (typ.).

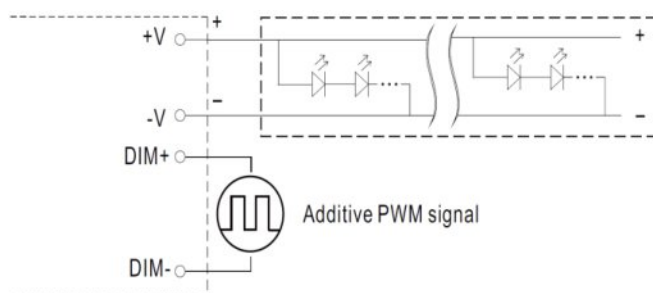
◎ Applying additive 1~10VDC



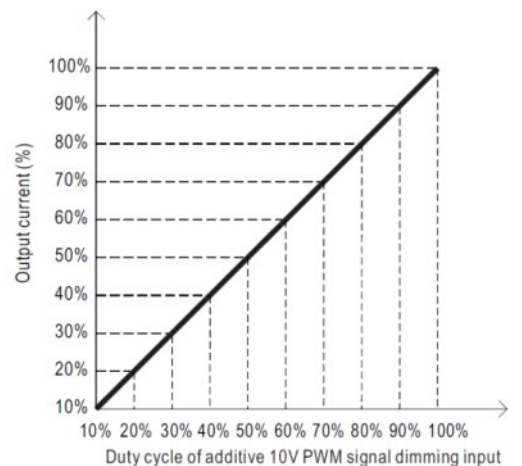
DO NOT connect "DIM- to V-"



◎ Applying additive 10V PWM signal(frequency rang 100Hz~3KHz)



DO NOT connect "DIM- to V-"

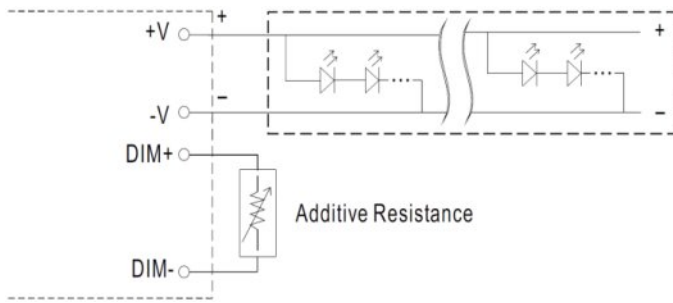


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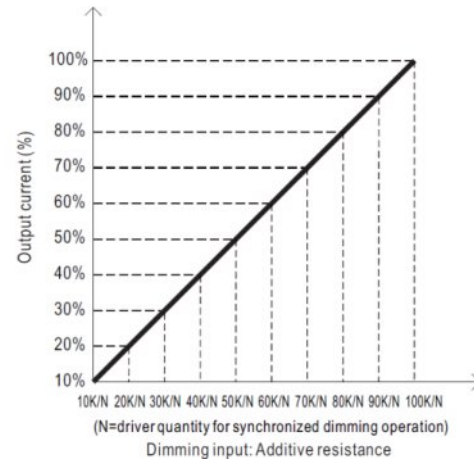
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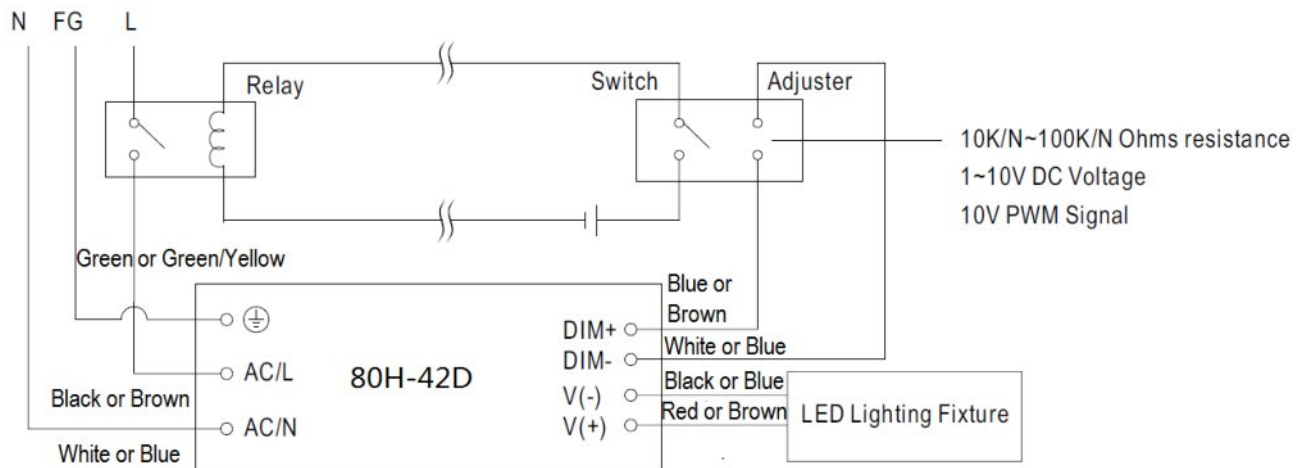
© Applying additive resistance:



DO NOT connect "DIM- to V-"



Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow:



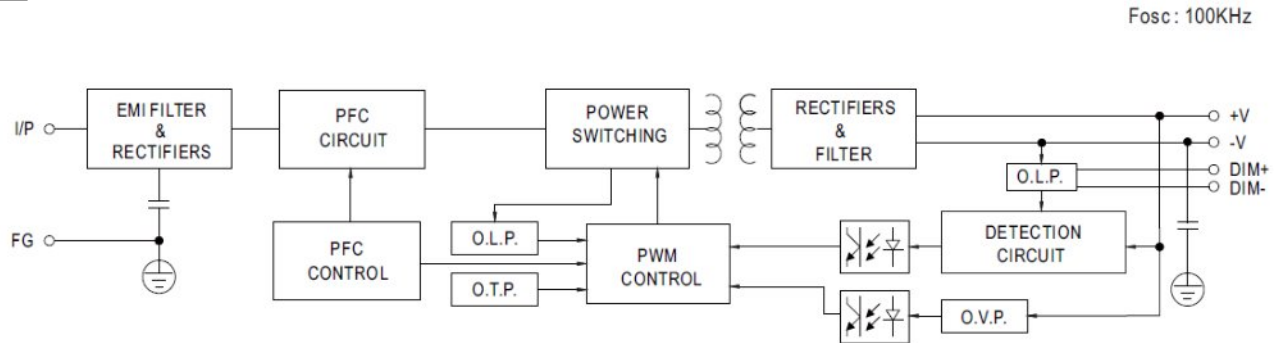
※ Using a switch and relay can turn ON/OFF the lighting fixture.

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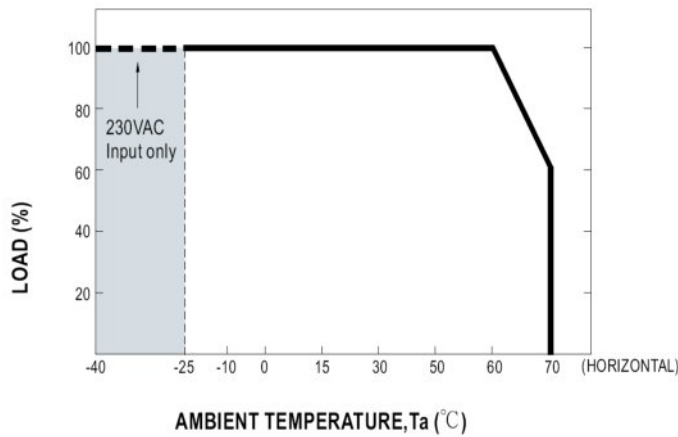
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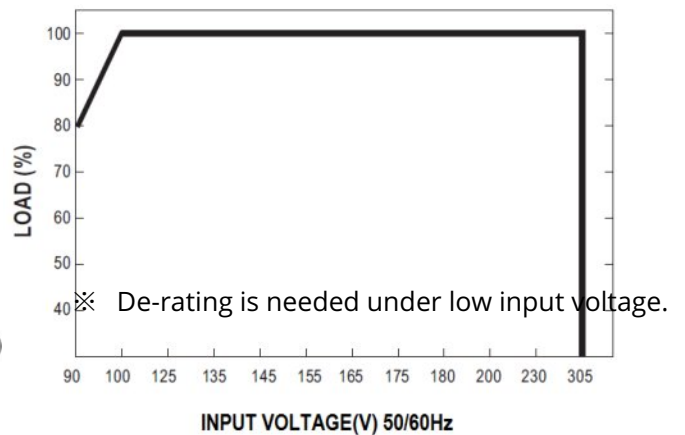
BLOCK DIAGRAM



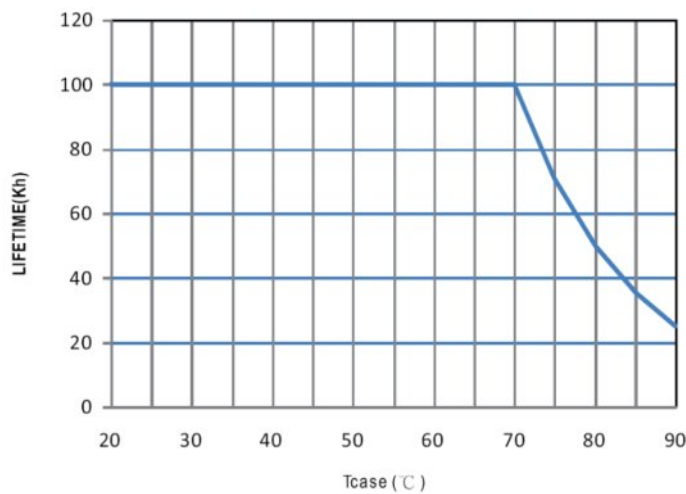
OUTPUT LOAD vs TEMPERATURE



STATIC CHARACTERISTICS



LIFETIME

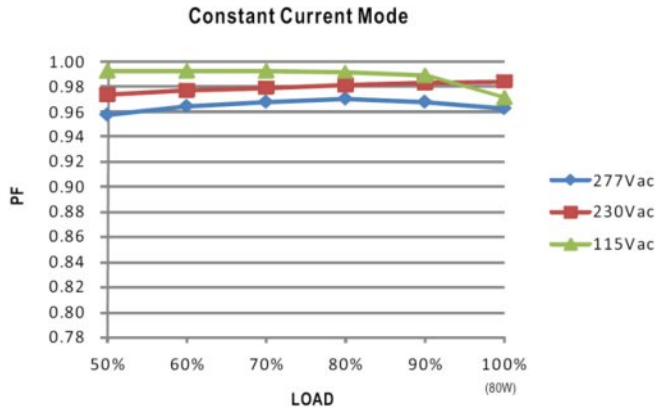


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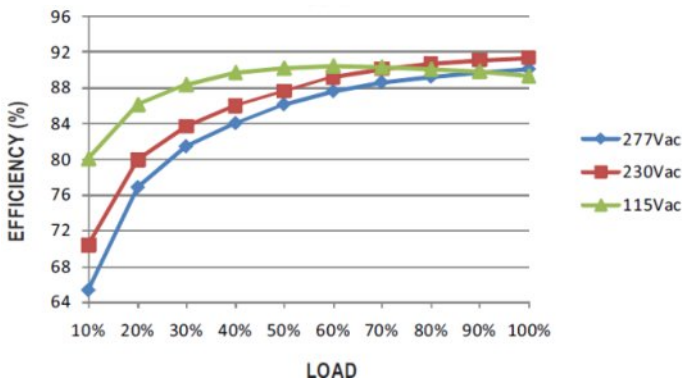
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POWER FACTOR (PF) CHARACTERISTIC



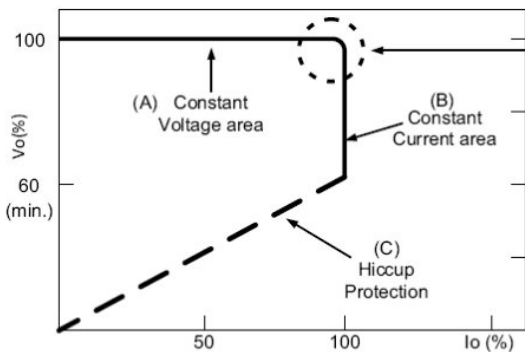
EFFICIENCY vs LOAD

80H series possess superior working efficiency that up to 91% Can be reached in field applications.



DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode(a direct drive way) or Constant Voltage mode (usually through additional DC/DC drive) to drive the LEDs.



In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Typical output current normalized by rated current (%)

