100W Single Output LED Power Supply — HVGC-100 series

Features :

- Constant current design
- Wide input range 180~528VAC
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Three in one dimming function (0~10Vdc or 10V PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty (Note.7)

TAIWAN EXCELLENCE 2014

IP65 IP67

HVGC-100-350[A] A : IP65 rated. Constant current level can be adjusted through internal potentiometer.
B : IP67 rated. Constant current level adjustable through output cable with 0~10Vdc or 10V PWM signal or resistance.
D (option) : IP67 rated. Timer dimming function, contact MEAN WELL for details.

SPECIFICATION

MODEL		HVGC-100-350□	HVGC-100-700□
OUTPUT	RATED CURRENT	350mA	700mA
	CURRENT ACCURACY	±5.0%	
	OUTPUT VOLTAGE RANGE Note.4	29 ~ 285V	15 ~ 142V
	RATED POWER	99.75W	99.4W
	RIPPLE & NOISE (max.) Note.2	1Vp-p	0.5Vp-p
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only	
		210 ~ 350mA	420 ~ 700mA
	SETUP, RISE TIME	500ms, 80ms 230VAC / 347VAC / 480VAC at full load ; B type 500ms, 280ms 230VAC / 347VAC / 480VAC at 95% load	
	HOLD UP TIME (Typ.)	30ms at full load 480VAC / 347VAC	
INPUT	VOLTAGE RANGE Note.3	180 ~ 528VAC 254VDC ~ 747VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF≧0.98/230VAC, PF≧0.98/277VAC, PF≧0.97/347VAC, PF≧0.93/480VAC at full load (Please refer to "Power Factor Characteristic" curve)	
	TOTAL HARMONIC DISTORTION	THD<20% when output loading≧50% at 230VAC/277VAC/347VAC input ; THD<20% when output loading≧75% at 480VAC input	
	EFFICIENCY (Typ.)	91%	91%
	AC CURRENT (Typ.)	0.38A / 347VAC 0.28A / 480VAC	
	INRUSH CURRENT (Typ.)	COLD START 25A(t_{width}=900μs measured at 50% I_{peak}) at 480VAC	
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	5 units (circuit breaker of type B) / 8 units (circuit breaker of type C) at 480VAC	
	LEAKAGE CURRENT	<0.75mA / 480VAC	
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	300 ~ 320V	150 ~ 160V
		Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down	
ENVIRONMENT	WORKING TEMP.	-40 ~ +70℃ (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)	
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes	
SAFETY & EMC	SAFETY STANDARDS Note.5	UL8750, CSA C22.2 No. 250.0-08, TUV EN61347-1, EN61347-2-13, IP65 or IP67 approved ; design refer to UL60950-1, TUV EN60950-1	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH	
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≧50% load) ; EN61000-3-3, FCC part 15 class B	
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge 4KV), criteria A	
OTHERS	MTBF	186.1K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	236*68*38.8mm (L*W*H)	
	PACKING	1.18Kg; 12pcs/15.2Kg/0.74CUFT	

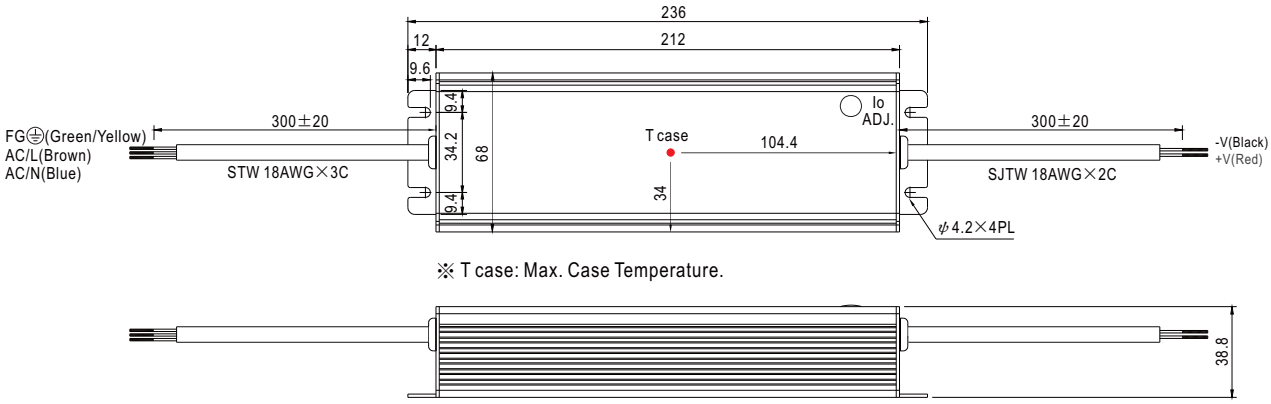
NOTE

1. All parameters NOT specially mentioned are measured at 347VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 2.2uf parallel capacitor.
3. Derating may be needed under low input voltages. Please check the static characteristics for more details.
4. Please refer to "DRIVING METHODS OF LED MODULE" and "DIMMING OPERATION".
5. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1.
6. 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.
7. Refer to warranty statement.
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.

■ Mechanical Specification

Case No.994 Unit:mm

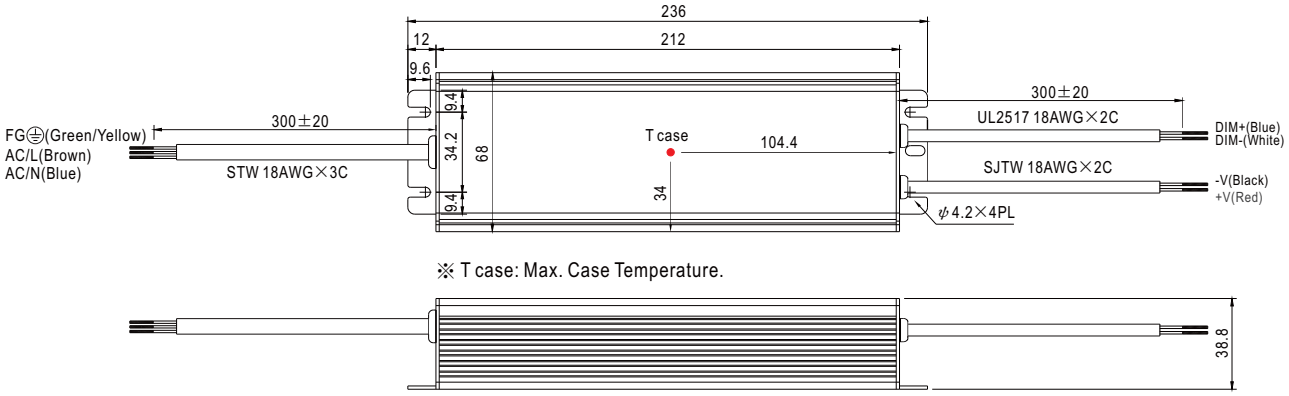
A Type:(HVGC-100-_A)



※ T case: Max. Case Temperature.

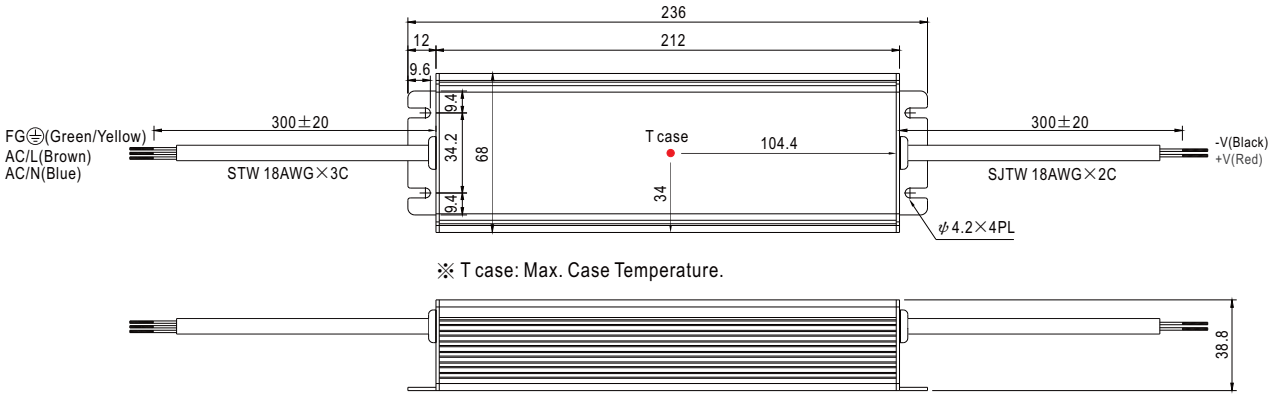
※ IP65 rated. Constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

B Type:(HVGC-100-_B)



※ T case: Max. Case Temperature.

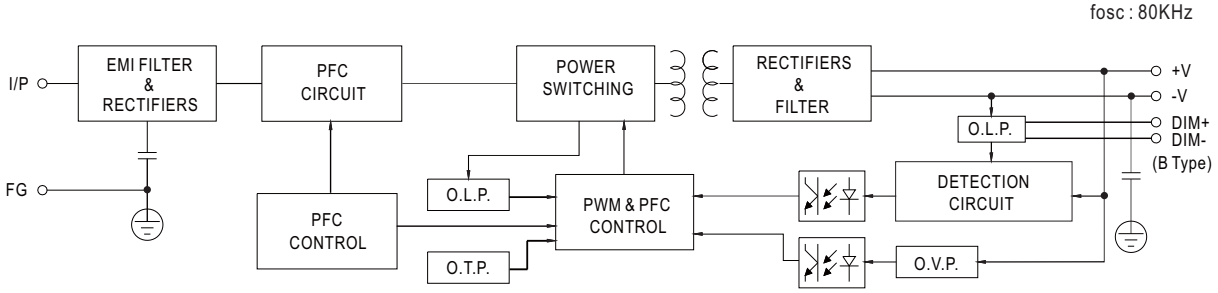
D Type(option):(HVGC-100-_D)



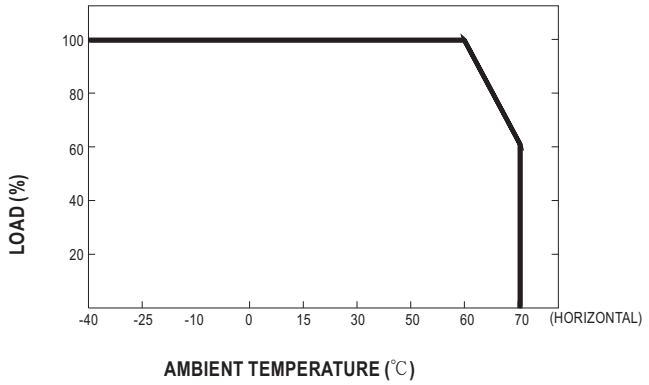
※ T case: Max. Case Temperature.

※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

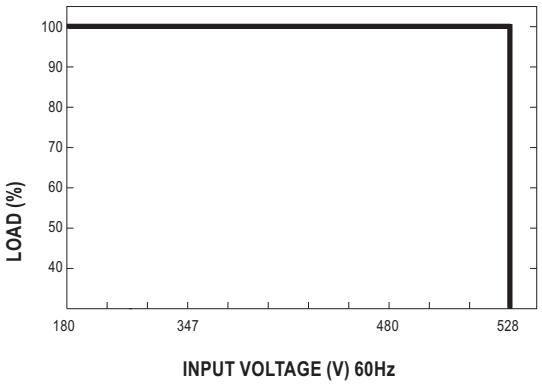
Block Diagram



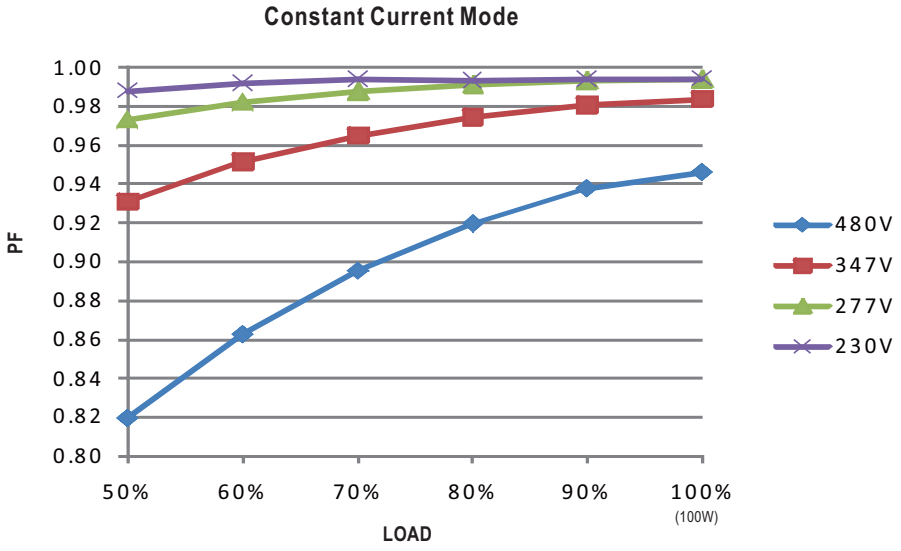
Derating Curve



Static Characteristics

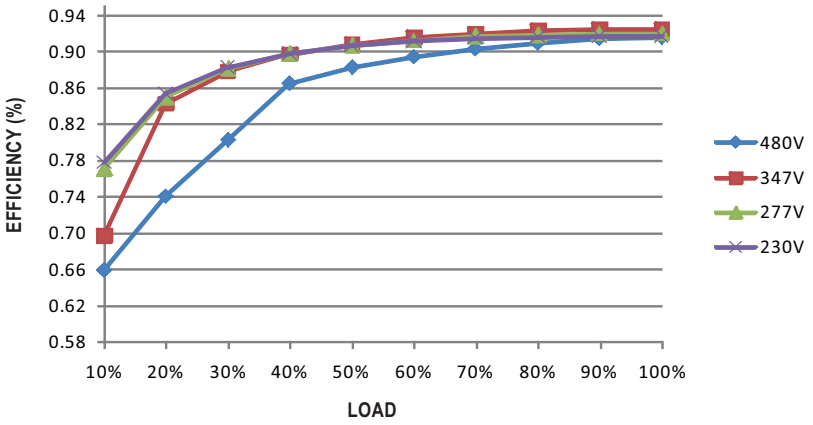


Power Factor Characteristic



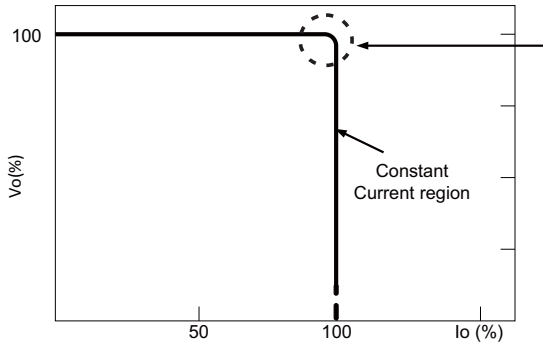
■ EFFICIENCY vs LOAD (HVGC-100-700 Model)

HVGC-100 series possess superior working efficiency that up to 91% can be reached in field applications.



■ DRIVING METHODS OF LED MODULE

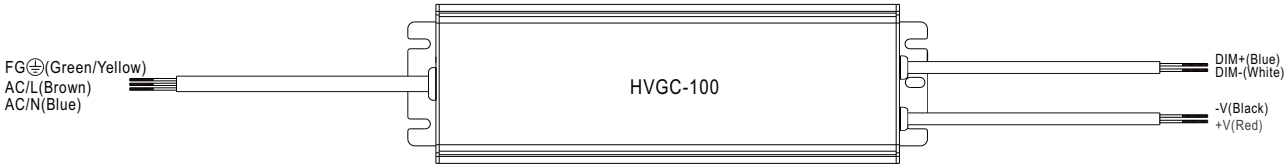
A typical LED power supply may work in "constant current mode (CC)" to drive the LEDs.
Mean Well's LED power supply with CC characteristic can be operated at CC mode (direct drive).



Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.
Should there be any compatibility issues, please contact MEAN WELL.

■ DIMMING OPERATION (for B-type only)



※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

※ Output voltage limit of 50%.

Resistance value	Single driver	Short	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	Short	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	-----
Percentage of rated current		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

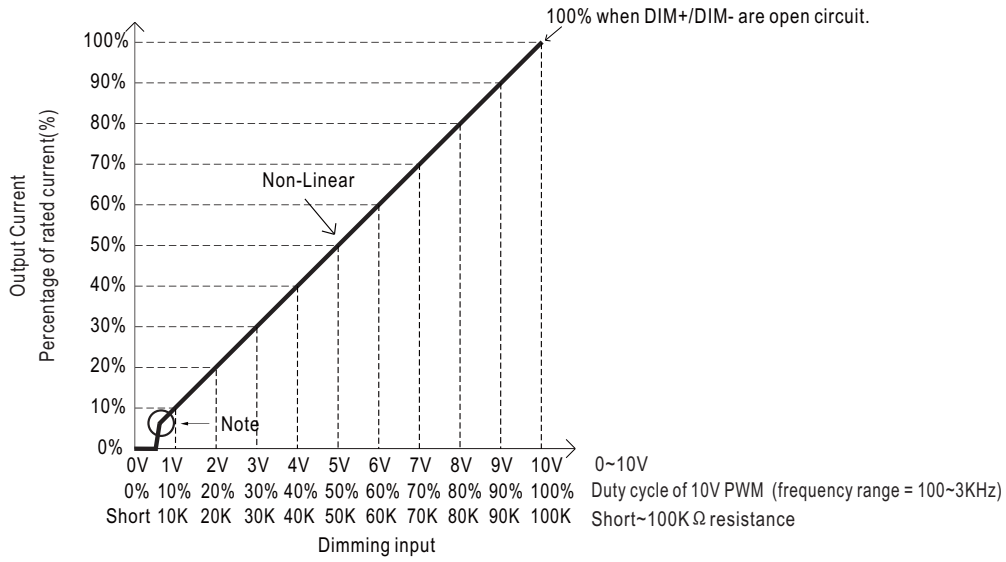
※ 0 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

◎ Dimming Characteristic

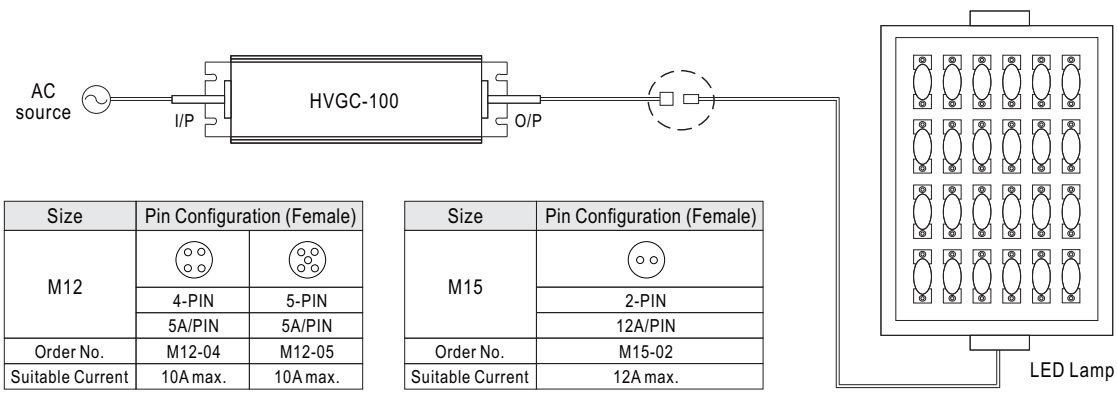


※ Note : The output current drops down to 0% when the dimming input is about 6KΩ or 0.6Vdc, or 10V PWM signal with 6% duty cycle.

■ WATERPROOF CONNECTION

◎ Waterproof connector

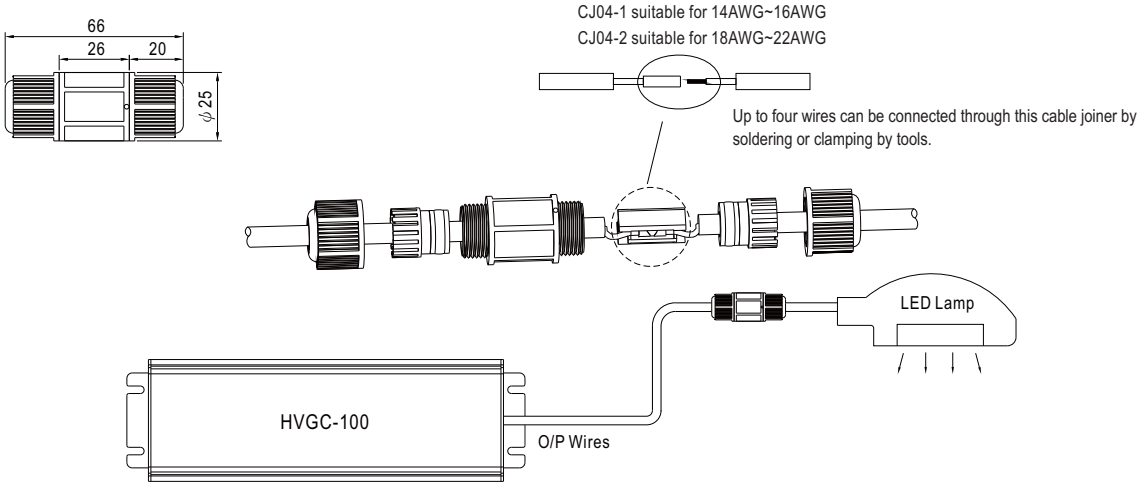
Waterproof connector can be assembled on the output cable of HVGC-100 to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

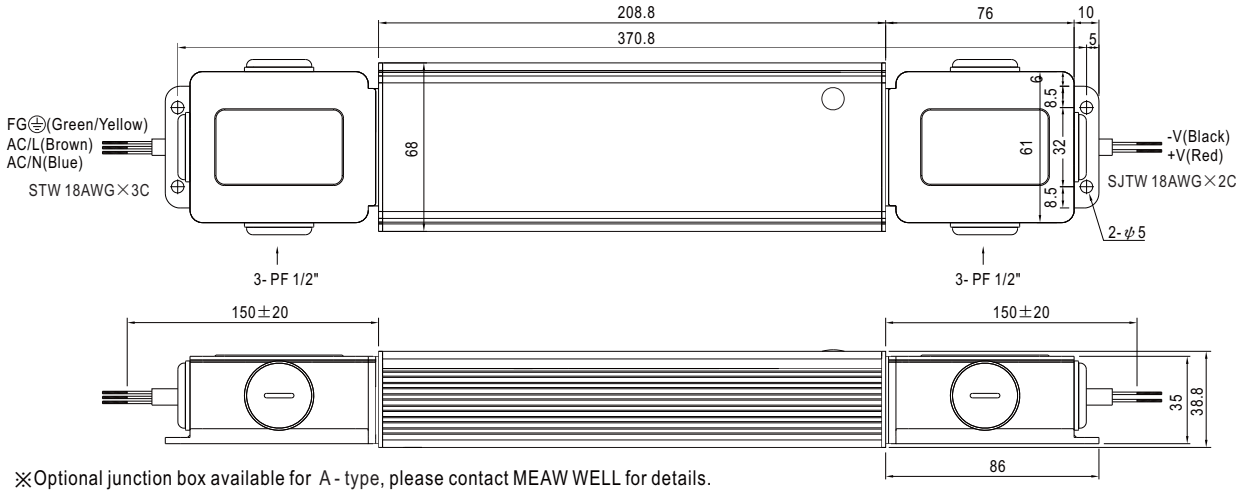
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

◎ **Cable Joiner**



※CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

◎ **Junction Box(Option)**



※Optional junction box available for A - type, please contact MEAW WELL for details.