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



Features :

- Constant current design
- Wide input range 180~480VAC
- 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.6)

IP65 IP67

HVGC-100-350[A] A : IP65 rated. Output voltage and 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.

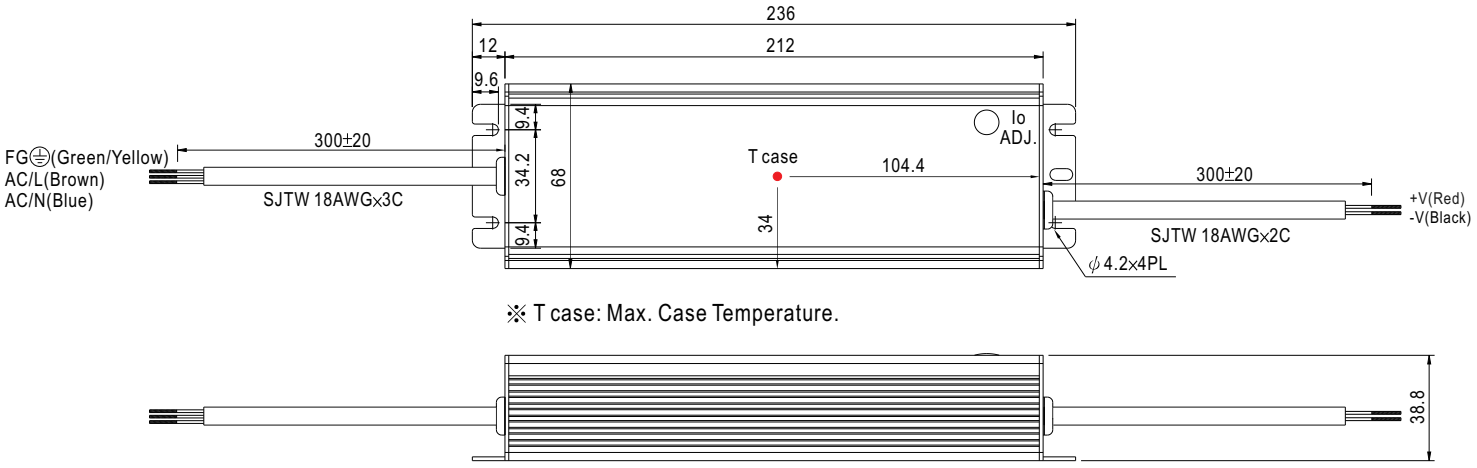
SPECIFICATION

MODEL		HVGC-100-350□	HVGC-100-700□
OUTPUT	RATED CURRENT	350mA	700mA
	CURRENT ACCURACY	±5.0%	
	MAX. OUTPUT VOLTAGE	3 ~ 285V	3 ~ 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 or through output cable	
		210 ~ 350mA	420 ~ 700mA
	SETUP, RISE TIME	3000ms, 150ms at full load 440VAC / 347VAC ; B type 5000ms, 150ms at 95% load 440VAC / 347VAC	
	HOLD UP TIME (Typ.)	30ms at full load 440VAC / 347VAC	
INPUT	VOLTAGE RANGE Note.3	180 ~ 480VAC 254VDC ~ 679VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF≧0.98/230VAC, PF≧0.98/277VAC, PF≧0.97/347VAC, PF≧0.94/440VAC at full load (Please refer to "Power Factor Characteristic" curve)	
	EFFICIENCY (Typ.)	91%	91%
	AC CURRENT (Typ.)	0.32A / 347VAC 0.26A / 440VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A / 440VAC	
	LEAKAGE CURRENT	<0.75mA / 440VAC	
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	100℃ ±10℃ (RTH2)	
		Protection type : 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.4	UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent, IP65 or IP67 approved	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC	
	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	186.1Khrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	236*68*38.8 mm (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. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1. 5. 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. 6. Refer to warranty statement.		

■ Mechanical Specification

Case No.994 Unit:mm

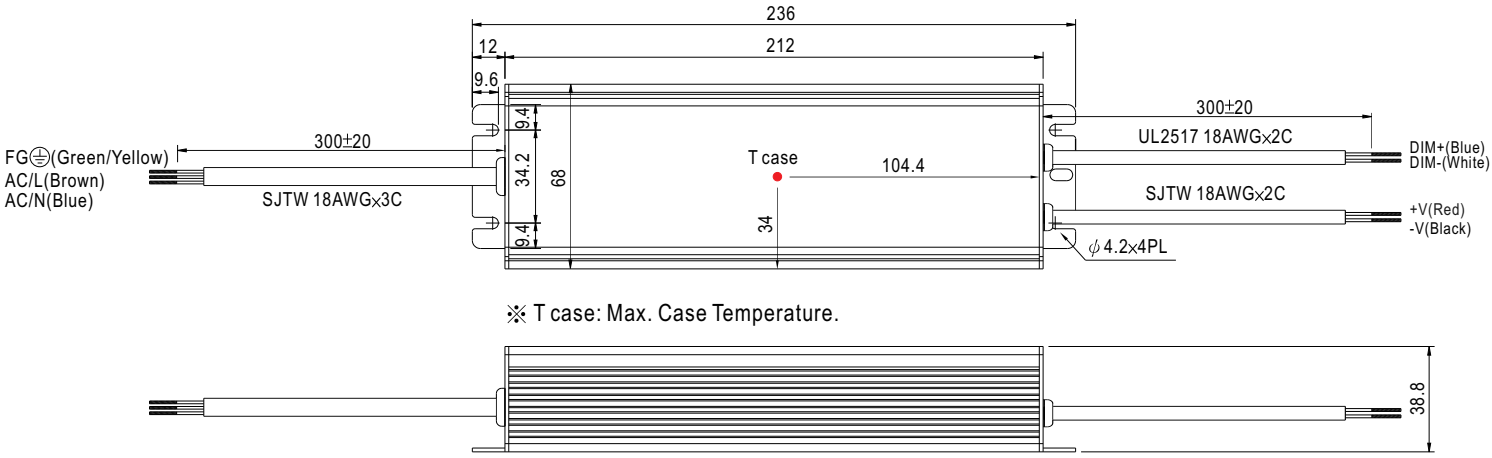
A Type:(HVGC-100-_A)



※ T case: Max. Case Temperature.

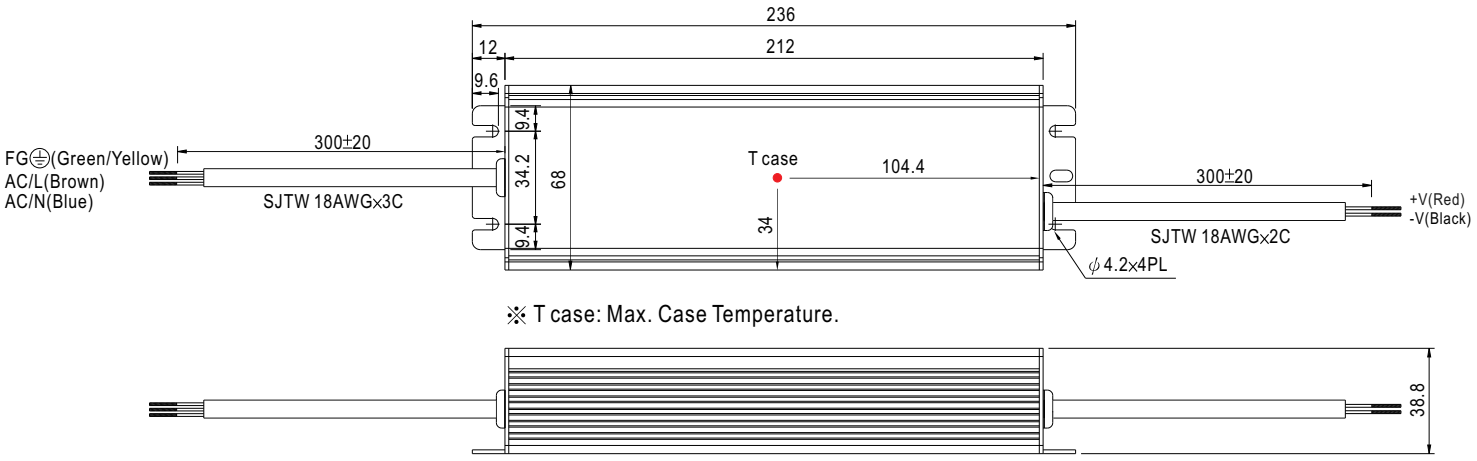
※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

B Type:(HVGC-100-_B)



※ T case: Max. Case Temperature.

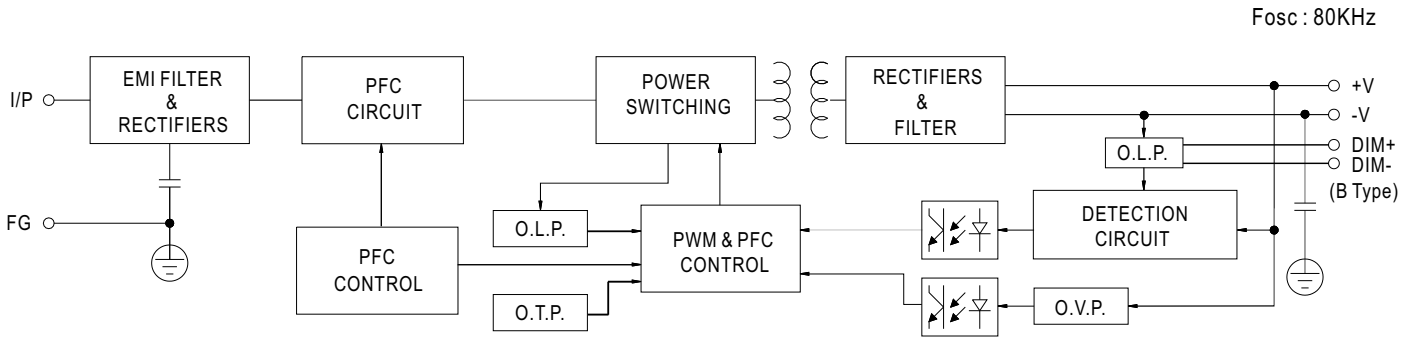
D Type(option):(HVGC-100-_D)



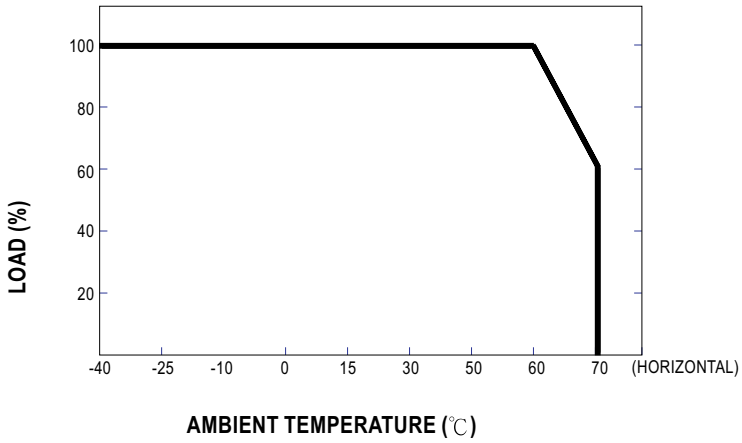
※ T case: Max. Case Temperature.

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

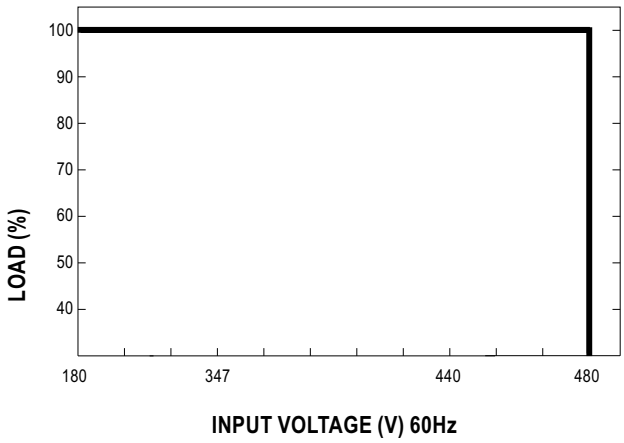
Block Diagram



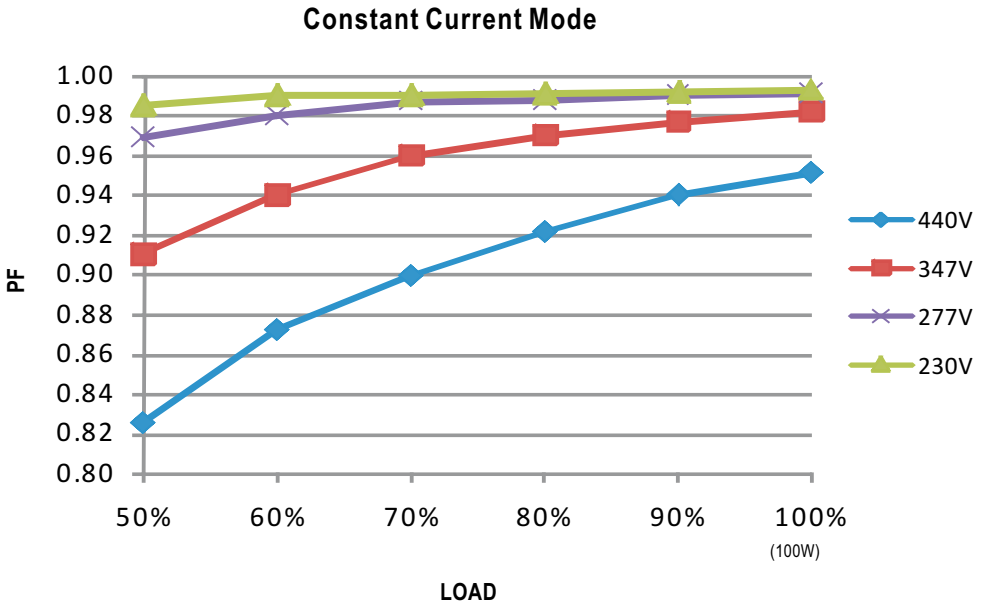
Derating Curve



Static Characteristics

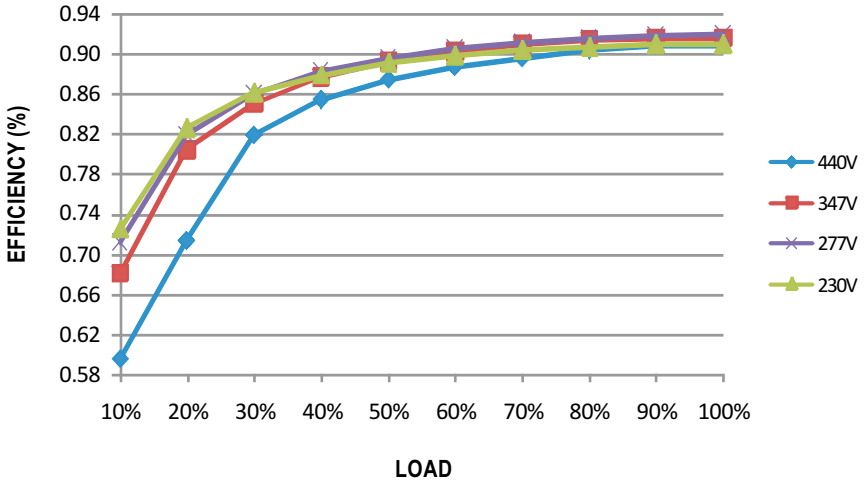


Power Factor Characteristic



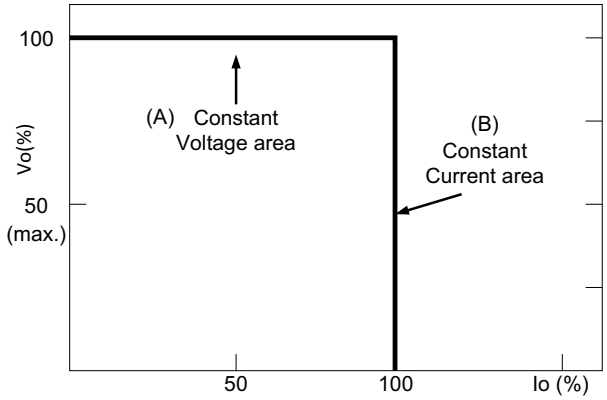
■ EFFICIENCY vs LOAD (HVGC-100-700 Model)

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



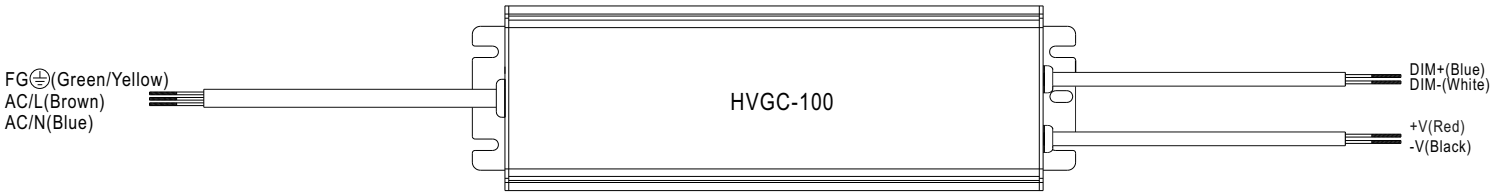
■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.
Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve

■ DIMMING OPERATION



※ 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)

Resistance value	Single driver	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	-----
Percentage of rated current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~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%	102%~108%

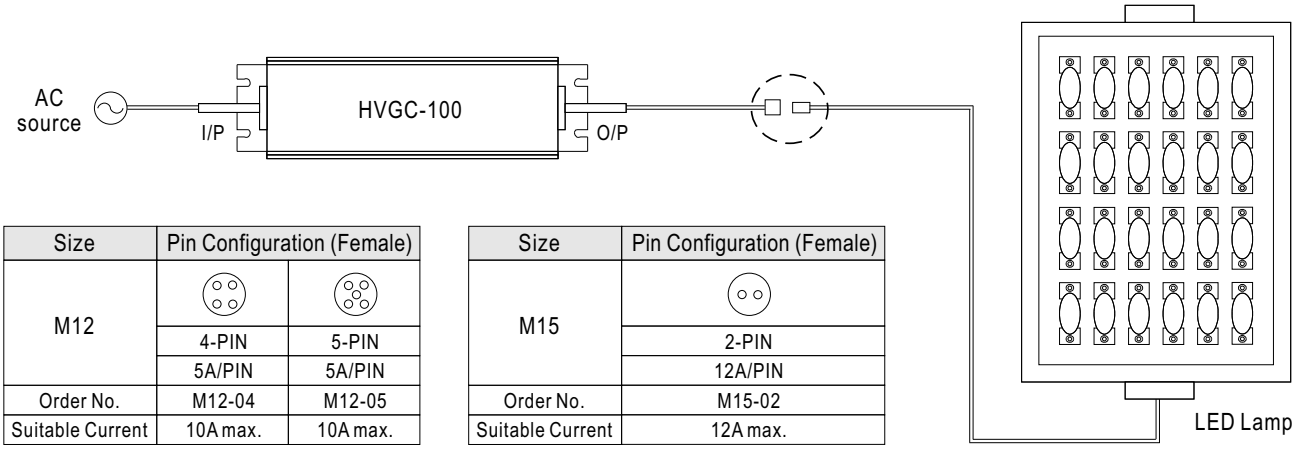
※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

■ WATERPROOF CONNECTION

◎ Waterproof connector

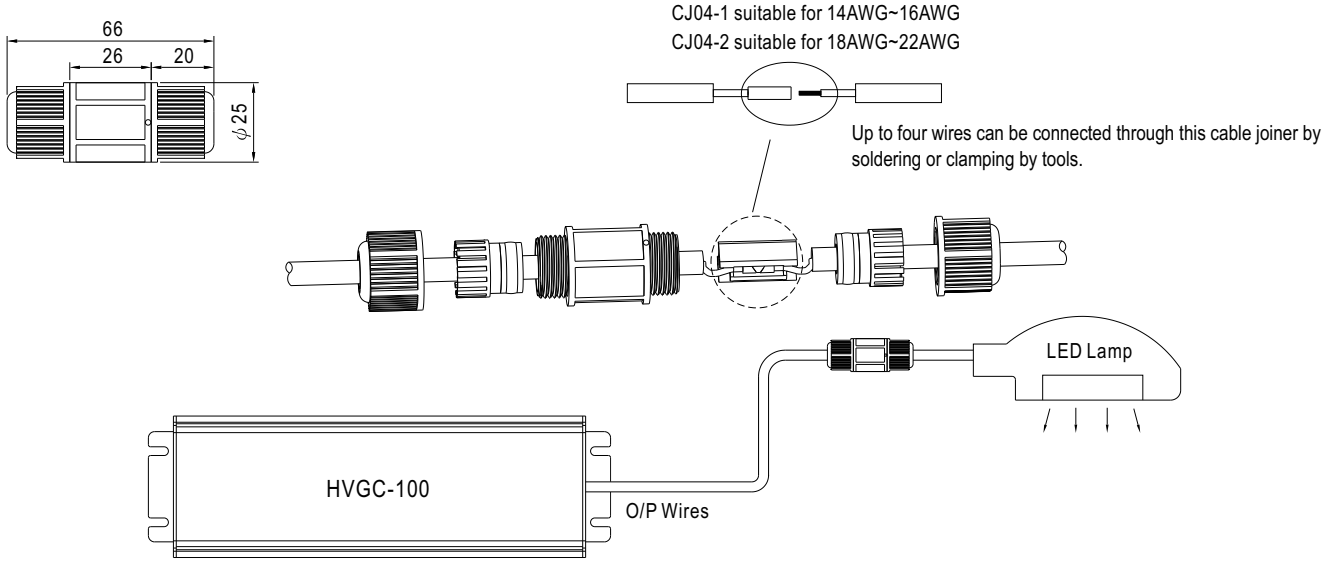
Waterproof connector can be assembled on the output cable of HVGC-100 to operate in dry/wet/damp or outdoor environment.



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.

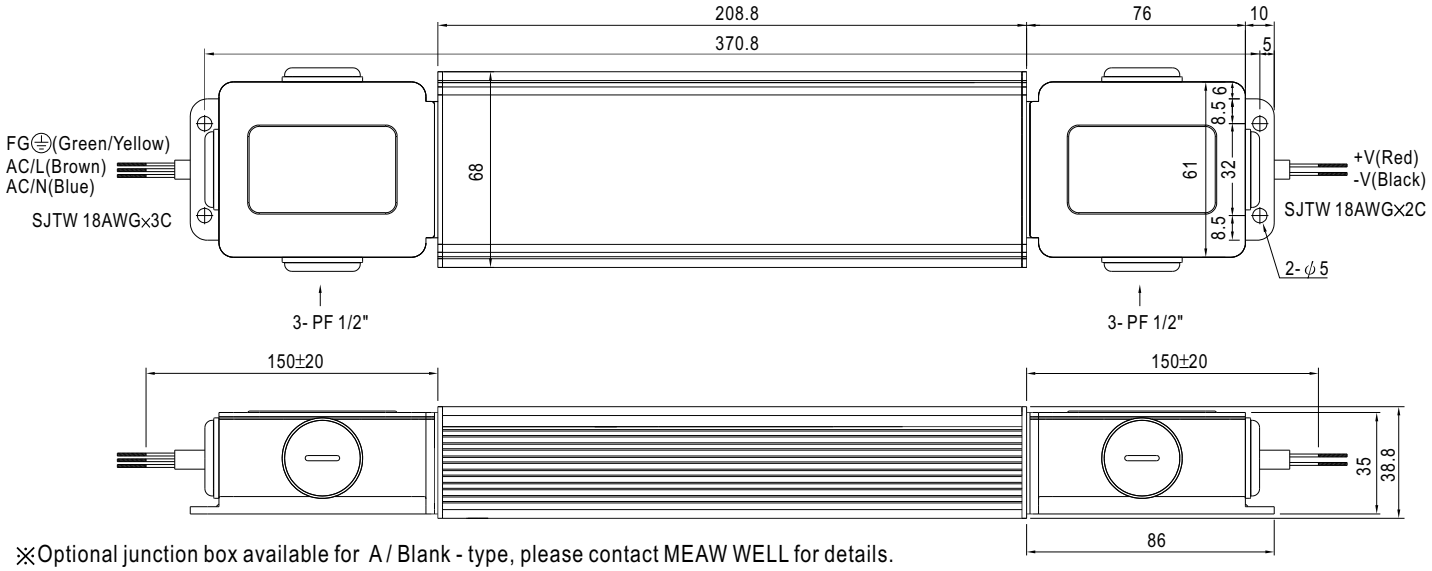
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

◎ **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 / Blank - type, please contact MEAW WELL for details.