



EN60950-1



## Features

- Universal AC input / Full range
- 2 pole EURO plug, Class II power unit
- No load power consumption < 0.075W
- **Energy efficiency Level VI**
- Comply with EU ErP and meet CoC Version 5
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- Pass LPS
- 2 years warranty

## Applications

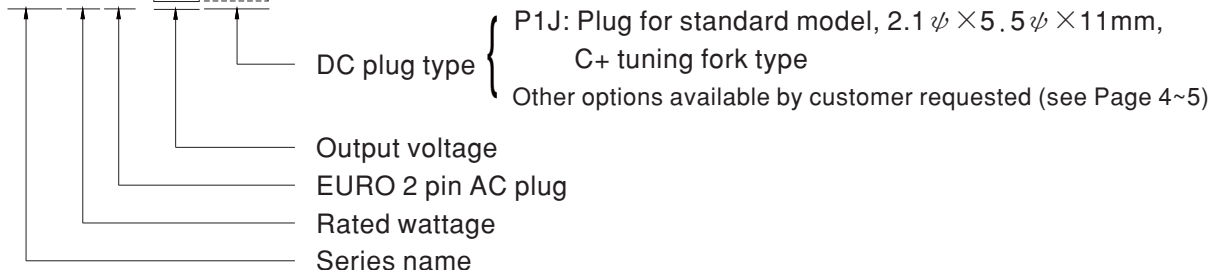
- Consumer electronic devices
- Telecommunication devices
- Office facilities
- Industrial equipments

## Description

GS15E is a highly reliable, 15W wall-mounted style single-output green adaptor series. This product is a class II power unit (no FG), equipped with a 2-Pin standard European AC power plug, adopting the input range from 90VAC to 264VAC. The entire series supplies different models with output voltages ranging between 5VDC and 48VDC that can satisfy the demands for various types of consumer electronic devices. With the efficiency up to 87% and the extremely low no-load power consumption below 0.075W, GS15E is compliant with EU ErP, and meet Code of Conduct(CoC) Version 5. The supreme feature allows the adaptor to save the energy when it is either under the operating mode or the standby mode. The entire series utilizes the 94V-0 flame retardant plastic case, providing the double insulation that effectively prevents electrical shock. GS15E is certified for the international safety regulations.

## Model Encoding

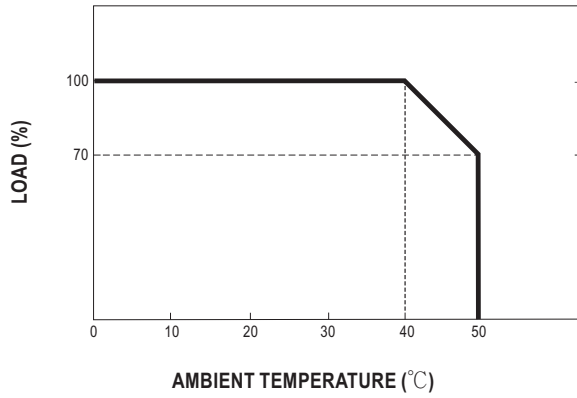
GS 15 E - 1 P1J



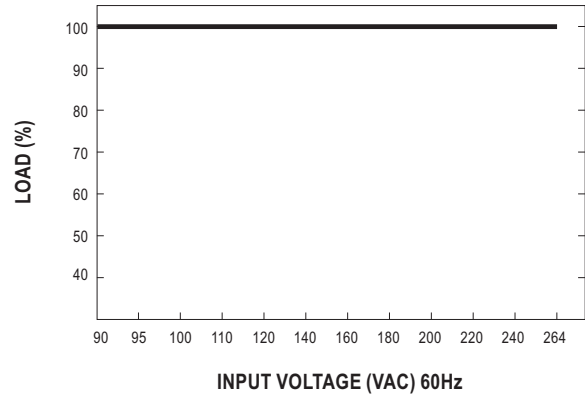
**SPECIFICATION**

| ORDER NO.                   |                                           | GS15E-1P1J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | GS15E-11P1J      | GS15E-2P1J | GS15E-3P1J | GS15E-4P1J                                                                   | GS15E-5P1J                             | GS15E-6P1J | GS15E-8P1J |
|-----------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------|------------|------------------------------------------------------------------------------|----------------------------------------|------------|------------|
| OUTPUT                      | SAFETY MODEL NO.                          | GS15E-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GS15E-1-1        | GS15E-2    | GS15E-3    | GS15E-4                                                                      | GS15E-5                                | GS15E-6    | GS15E-8    |
|                             | DC VOLTAGE <span>Note.2</span>            | 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7.5V             | 9V         | 12V        | 15V                                                                          | 18V                                    | 24V        | 48V        |
|                             | RATED CURRENT                             | 2.40A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.60A            | 1.66A      | 1.25A      | 1.00A                                                                        | 0.83A                                  | 0.625A     | 0.31A      |
|                             | CURRENT RANGE                             | 0 ~ 2.40A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0 ~ 1.60A        | 0 ~ 1.66A  | 0 ~ 1.25A  | 0 ~ 1.00A                                                                    | 0 ~ 0.83A                              | 0 ~ 0.625A | 0 ~ 0.31A  |
|                             | RATED POWER                               | 12W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12W              | 15W        | 15W        | 15W                                                                          | 15W                                    | 15W        | 15W        |
|                             | RIPPLE & NOISE (max.) <span>Note.3</span> | 50mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80mVp-p          | 80mVp-p    | 80mVp-p    | 100mVp-p                                                                     | 120mVp-p                               | 150mVp-p   | 240mVp-p   |
|                             | VOLTAGE TOLERANCE <span>Note.4</span>     | ±5.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±5.0%            | ±5.0%      | ±3.0%      | ±3.0%                                                                        | ±3.0%                                  | ±2.0%      | ±2.0%      |
|                             | LINE REGULATION <span>Note.5</span>       | ±0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±0.5%            | ±0.5%      | ±0.5%      | ±0.5%                                                                        | ±0.5%                                  | ±0.5%      | ±0.5%      |
|                             | LOAD REGULATION <span>Note.6</span>       | ±5.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±5.0%            | ±5.0%      | ±3.0%      | ±3.0%                                                                        | ±3.0%                                  | ±2.0%      | ±2.0%      |
| SETUP, RISE, HOLD UP TIME   |                                           | 3000ms, 50ms, 16ms at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |            |            |                                                                              |                                        |            |            |
| INPUT                       | VOLTAGE RANGE                             | 90 ~ 264VAC 135 ~ 370VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |            |            |                                                                              |                                        |            |            |
|                             | FREQUENCY RANGE                           | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |            |            |                                                                              |                                        |            |            |
|                             | EFFICIENCY (Typ.)                         | 80%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 82.5%            | 85%        | 85%        | 85%                                                                          | 85%                                    | 85.5%      | 87%        |
|                             | AC CURRENT                                | 0.5A / 100VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |            |            |                                                                              |                                        |            |            |
|                             | INRUSH CURRENT (max.)                     | Cold start 30A/ 115VAC 50A / 230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |            |            |                                                                              |                                        |            |            |
|                             | LEAKAGE CURRENT(max.)                     | 0.25mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |            |            |                                                                              |                                        |            |            |
| PROTECTION                  | OVERLOAD                                  | 105 ~ 250% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |            |            |                                                                              |                                        |            |            |
|                             | OVER VOLTAGE                              | >120% rated output voltage<br>Protection type : Clamp by zener diode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |            |            |                                                                              |                                        |            |            |
|                             | WORKING TEMP.                             | 0 ~ +50℃ (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |            |            |                                                                              |                                        |            |            |
| ENVIRONMENT                 | WORKING HUMIDITY                          | 20% ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |            |            |                                                                              |                                        |            |            |
|                             | STORAGE TEMP., HUMIDITY                   | -20 ~ +85℃, 10 ~ 95% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |            |            |                                                                              |                                        |            |            |
|                             | TEMP. COEFFICIENT                         | ±0.03% / °C (0 ~ 40℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |            |            |                                                                              |                                        |            |            |
|                             | VIBRATION                                 | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |            |            |                                                                              |                                        |            |            |
|                             | SAFETY STANDARDS                          | TUV EN60950-1, EAC TP TC 004 approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |            |            |                                                                              |                                        |            |            |
| SAFETY & EMC<br>(Note. 7)   | WITHSTAND VOLTAGE                         | I/P-O/P:3KVAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |            |            |                                                                              |                                        |            |            |
|                             | ISOLATION RESISTANCE                      | I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |            |            |                                                                              |                                        |            |            |
|                             | EMC EMISSION                              | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Standard         |            |            |                                                                              | Test Level / Note                      |            |            |
|                             |                                           | Conducted emission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EN55032(CISPR32) |            |            |                                                                              | Class B                                |            |            |
|                             |                                           | Radiated emission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EN55032(CISPR32) |            |            |                                                                              | Class B                                |            |            |
|                             |                                           | Harmonic current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EN61000-3-2      |            |            |                                                                              | Class A                                |            |            |
|                             |                                           | Voltage flicker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EN61000-3-3      |            |            |                                                                              | -----                                  |            |            |
|                             | EMC IMMUNITY                              | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Standard         |            |            |                                                                              | Test Level /Note                       |            |            |
|                             |                                           | ESD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EN61000-4-2      |            |            |                                                                              | Level 3, 8KV air; Level 2, 4KV contact |            |            |
|                             |                                           | RF field susceptibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EN61000-4-3      |            |            |                                                                              | Level 2, 3V/m                          |            |            |
|                             |                                           | EFT bursts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EN61000-4-4      |            |            |                                                                              | Level 2, 1KV                           |            |            |
|                             |                                           | Surge susceptibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | EN61000-4-5      |            |            |                                                                              | Level 3, 1KV/L-N                       |            |            |
| Conducted susceptibility    |                                           | EN61000-4-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |            |            | Level 2, 3V                                                                  |                                        |            |            |
| Magnetic field immunity     |                                           | EN61000-4-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |            |            | Level 1, 1A/m                                                                |                                        |            |            |
| Voltage dips , interruption |                                           | EN61000-4-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |            |            | >95% dip 0. 5 periods, 30% dip 25 periods,<br>>95% interruptions 250 periods |                                        |            |            |
| OTHERS                      | MTBF                                      | 500Khrs min. MIL-HDBK-217F(25℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |            |            |                                                                              |                                        |            |            |
|                             | DIMENSION                                 | 34*71*50mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |            |            |                                                                              |                                        |            |            |
|                             | PACKING                                   | 180g ; 60pcs / 12Kg / CARTON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |            |            |                                                                              |                                        |            |            |
| CONNECTOR                   | PLUG                                      | See page 4~5 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |            |            |                                                                              |                                        |            |            |
|                             | CABLE                                     | See page 4~5 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |            |            |                                                                              |                                        |            |            |
| NOTE                        |                                           | 1.All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient.<br>2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.<br>3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor.<br>4.Tolerance: includes set up tolerance, line regulation, load regulation.<br>5.Line regulation is measured from low line to high line at rated load.<br>6.Load regulation is measured from 0% to 100% rated load.<br>7.The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."<br>(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) |                  |            |            |                                                                              |                                        |            |            |

### Derating Curve

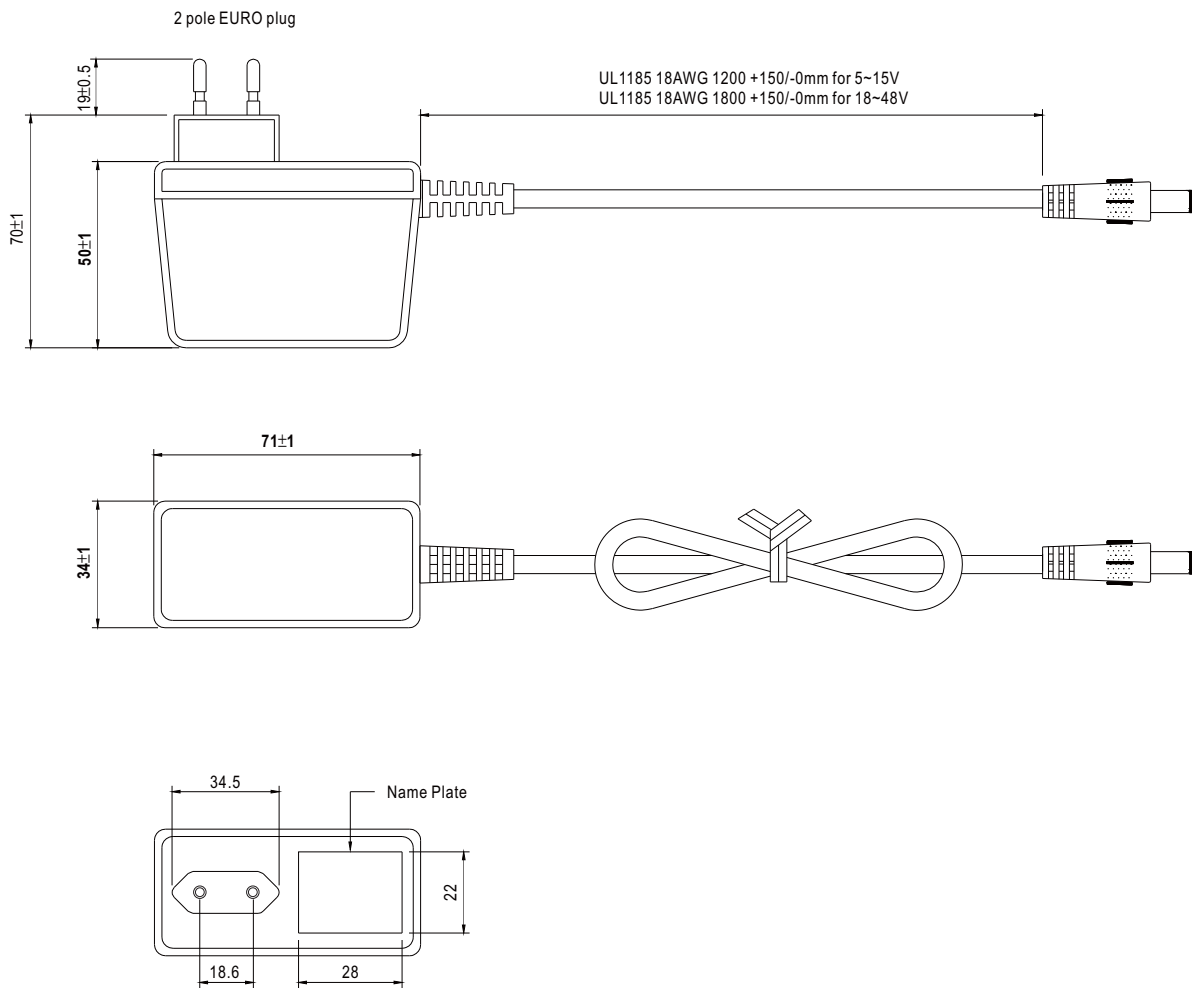


### Static Characteristics



### Mechanical Specification

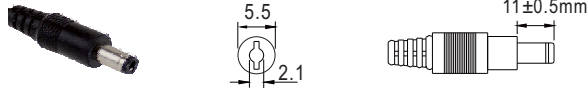
Unit:mm



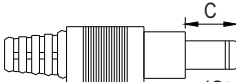
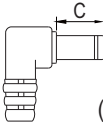
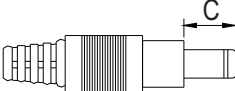
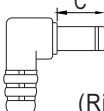
### DC output plug

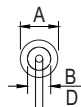
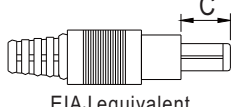
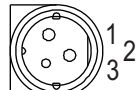
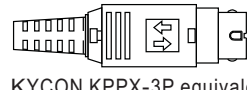
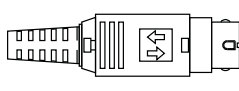
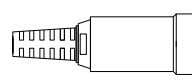
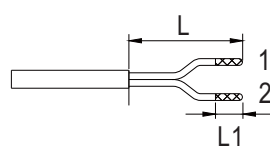
☉ Standard plug: P1J

Unit:mm

| P1J                                                                               | Pin Assignment                                                                                     |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|  |                 |
|                                                                                   | Outside  Inside |

☉ Optional DC plug:

| Tuning Fork Style                                                                                                                                                                                                |                                                                                                       | Type No. | A<br>OD | B<br>ID | C<br>L |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------|---------|---------|--------|
| <br>                                         | <br>(Straight)       | P1I      | 5.5     | 2.1     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P1L      | 5.5     | 2.5     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P1M      | 5.5     | 2.5     | 11.0   |
|                                                                                                                                                                                                                  | <br>(Right-angled)  | P1IR     | 5.5     | 2.1     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P1JR     | 5.5     | 2.1     | 11.0   |
|                                                                                                                                                                                                                  |                                                                                                       | P1LR     | 5.5     | 2.5     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P1MR     | 5.5     | 2.5     | 11.0   |
| Barrel Style                                                                                                                                                                                                     |                                                                                                       | Type No. | A<br>OD | B<br>ID | C<br>L |
| <br>                                       | <br>(Straight)     | P2I      | 5.5     | 2.1     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P2J      | 5.5     | 2.1     | 11.0   |
|                                                                                                                                                                                                                  |                                                                                                       | P2L      | 5.5     | 2.5     | 9.5    |
|                                                                                                                                                                                                                  | <br>(Right-angled) | P2M      | 5.5     | 2.5     | 11.0   |
|                                                                                                                                                                                                                  |                                                                                                       | P2IR     | 5.5     | 2.1     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P2JR     | 5.5     | 2.1     | 11.0   |
|                                                                                                                                                                                                                  |                                                                                                       | P2LR     | 5.5     | 2.5     | 9.5    |
|                                                                                                                                                                                                                  |                                                                                                       | P2MR     | 5.5     | 2.5     | 11.0   |
| Lock Style                                                                                                                                                                                                       |                                                                                                       | Type No. | A<br>OD | B<br>ID | C<br>L |
| <br><br>SWITCHCRAFT original or equivalent | P2S(S761K)                                                                                            | 5.53     | 2.03    | 12.06   |        |
|                                                                                                                                                                                                                  | P2K(761K)                                                                                             | 5.53     | 2.54    | 12.06   |        |
|                                                                                                                                                                                                                  | P2C(S760K)                                                                                            | 5.53     | 2.03    | 9.52    |        |
|                                                                                                                                                                                                                  | P2D(760K)                                                                                             | 5.53     | 2.54    | 9.52    |        |
| Min. Pin Style                                                                                                                                                                                                   |                                                                                                       | Type No. | A<br>OD | B<br>ID | C<br>L |
| <br><br>EIAJ equivalent                    | P3A                                                                                                   | 2.35     | 0.7     | 11.0    |        |
|                                                                                                                                                                                                                  | P3B                                                                                                   | 4.0      | 1.7     | 11.0    |        |
|                                                                                                                                                                                                                  | P3C                                                                                                   | 4.75     | 1.7     | 11.0    |        |

| Center Pin Style                                                                                                                                                                                                                                                                           | Type No.    | A              | B      | C    | D          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|--------|------|------------|
|                                                                                                                                                                                                                                                                                            |             | OD             | ID     | L    | Center Pin |
|   <br>EIAJ equivalent                   | P4A         | 5.5            | 3.4    | 11.0 | 1.0        |
|                                                                                                                                                                                                                                                                                            | P4B         | 6.5            | 4.4    | 11.0 | 1.4        |
|                                                                                                                                                                                                                                                                                            | P4C         | 7.4            | 5.1    | 11.0 | 0.6        |
| Min. DIN 3 Pin with Lock (male)                                                                                                                                                                                                                                                            | Type No.    | Pin Assignment |        |      |            |
|                                                                                                                                                                                                                                                                                            |             | PIN No.        | Output |      |            |
|   <br>KYCON KPPX-3P equivalent          | R6B         | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | +Vo    |      |            |
| Min. DIN 4 Pin with Lock (male)                                                                                                                                                                                                                                                            | Type No.    | Pin Assignment |        |      |            |
|                                                                                                                                                                                                                                                                                            |             | PIN No.        | Output |      |            |
|   <br>KYCON KPPX-4P equivalent          | R7B         | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 4              | +Vo    |      |            |
| Min. DIN 4 Pin with Lock (female)                                                                                                                                                                                                                                                          | Type No.    | Pin Assignment |        |      |            |
|                                                                                                                                                                                                                                                                                            |             | PIN No.        | Output |      |            |
|   <br>KYCON KPJX-CM-4S equivalent | R7BF        | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 4              | +Vo    |      |            |
| Stripped and tinned leads                                                                                                                                                                                                                                                                  | Type No.    | Pin Assignment |        |      |            |
|                                                                                                                                                                                                                                                                                            |             | PIN No.        | Output |      |            |
|  <br>Length of Land L1 by request<br>(MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)                       | by customer | 1<br>( White ) | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2<br>( Black ) | -Vo    |      |            |

# Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>