



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

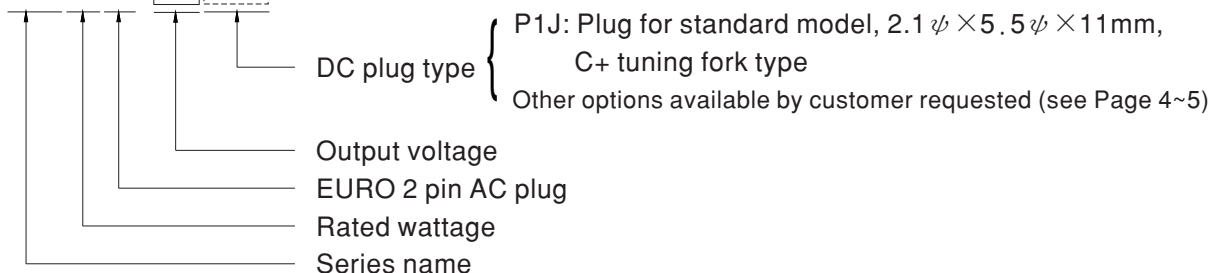
- Consumer electronic devices
- Telecommunication devices
- Office facilities
- Industrial equipments

## 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

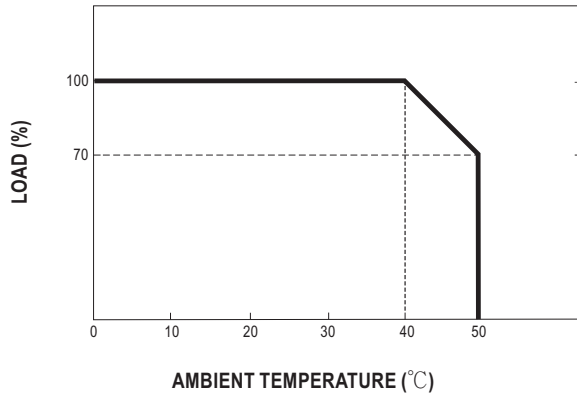
GS 15 E - 1 P1J



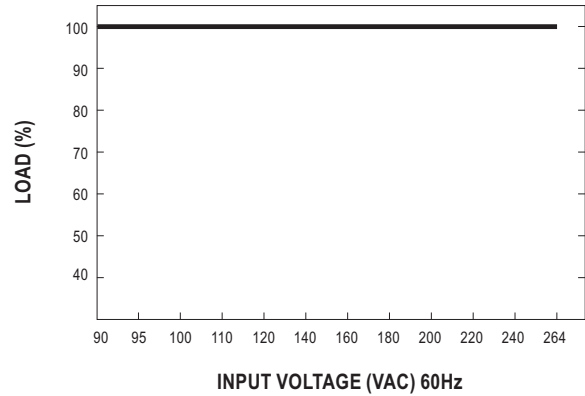
**SPECIFICATION**

| 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                                                    |                  |            |            |                                                                              |                                        |            |            |
|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                         |                  |            |            |                                                                              |                                        |            |            |
| ENVIRONMENT                 | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 ~ +50℃ (Refer to "Derating Curve")                                                                                    |                  |            |            |                                                                              |                                        |            |            |
|                             | 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 & EMC<br>(Note. 7)   | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | TUV EN60950-1, EAC TP TC 004 approved                                                                                   |                  |            |            |                                                                              |                                        |            |            |
|                             | 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

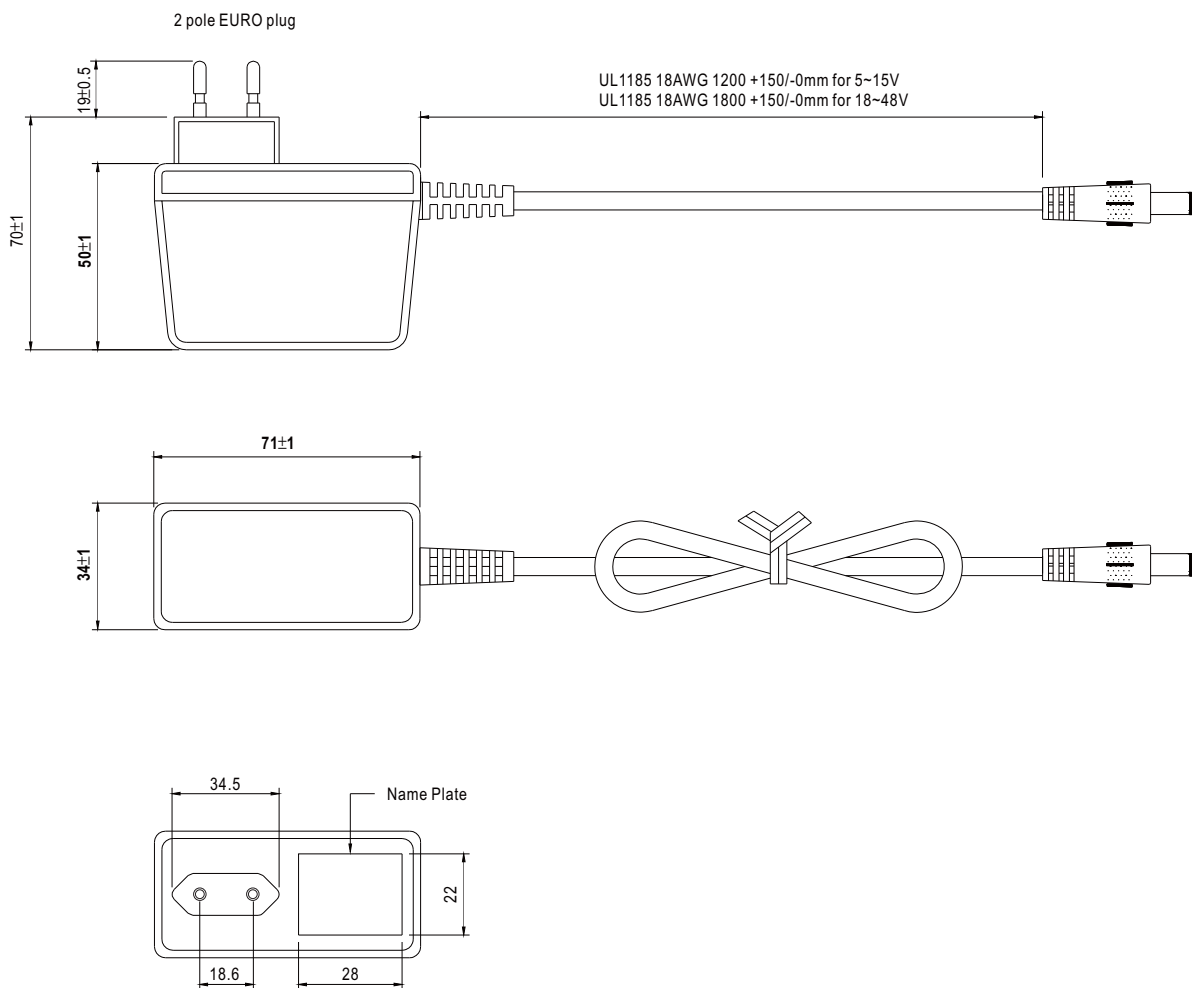


### Static Characteristics



### Mechanical Specification

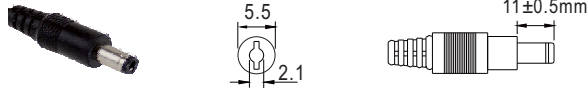
Unit:mm



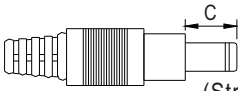
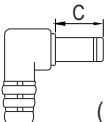
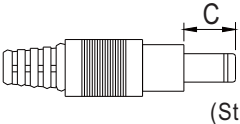
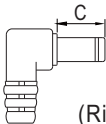
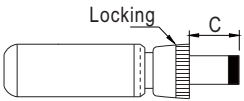
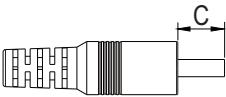
### ■ DC output plug

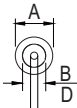
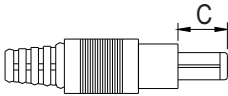
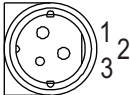
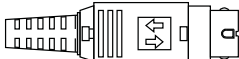
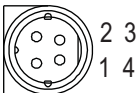
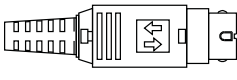
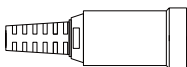
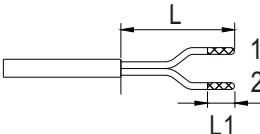
◎ Standard plug: P1J

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>(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>(Straight)                                    | P2I        | 5.5     | 2.1     | 9.5    |
|                                                                                     |                                                                                                                                      | P2J        | 5.5     | 2.1     | 11.0   |
|                                                                                     |                                                                                                                                      | P2L        | 5.5     | 2.5     | 9.5    |
|                                                                                     |                                                                                                                                      | P2M        | 5.5     | 2.5     | 11.0   |
|                                                                                     | <br>(Right-angled)                                | 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>Locking<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>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 |        |      |            |
|   <br>KYCON KPPX-3P equivalent          | R6B         | PIN No.        | Output |      |            |
|                                                                                                                                                                                                                                                                                            |             | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | +Vo    |      |            |
| Min. DIN 4 Pin with Lock (male)                                                                                                                                                                                                                                                            | Type No.    | Pin Assignment |        |      |            |
|   <br>KYCON KPPX-4P equivalent          | R7B         | PIN No.        | Output |      |            |
|                                                                                                                                                                                                                                                                                            |             | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 4              | +Vo    |      |            |
| Min. DIN 4 Pin with Lock (female)                                                                                                                                                                                                                                                          | Type No.    | Pin Assignment |        |      |            |
|   <br>KYCON KPJX-CM-4S equivalent | R7BF        | PIN No.        | Output |      |            |
|                                                                                                                                                                                                                                                                                            |             | 1              | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 3              | -Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 4              | +Vo    |      |            |
| Stripped and tinned leads                                                                                                                                                                                                                                                                  | Type No.    | Pin Assignment |        |      |            |
|  <br>Length of Land L1 by request<br>(MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)                       | by customer | PIN No.        | Output |      |            |
|                                                                                                                                                                                                                                                                                            |             | 1<br>( White ) | +Vo    |      |            |
|                                                                                                                                                                                                                                                                                            |             | 2<br>( Black ) | -Vo    |      |            |

# Installation Manual

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