

# YS12C-USERIES

## 12W



### Features

- Energy efficiency level VI
- Class II Power Supply
- 3 Years Warranty
- Universal AC input/Full range
- No load power consumption < 0.1W
- Protections: Short Circuit /Over Load / Over Voltage
- -20~+60℃ wide range working temperature

### Applications

- Digital Equipment
- Industrial Equipments
- Consumer Electronic Devices
- Telecommunication Devices

CB  
SCHEME

FC

c UL US

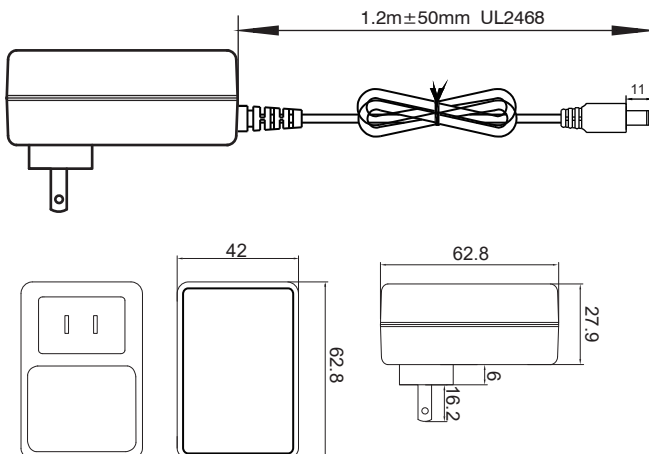
### Model Description

YS12C- XXXYYYY U- D1J

- DC Plug Type { D1J: standard model,  $\phi 2.1 \times \phi 5.5 \times 11\text{mm}$ , C+, tuning fork type  
Other options available by customer requested (see Page3-5)
- US Plug
- Output Current
- Output Voltage
- Series Name

### Dimensions and installation

(Unit: mm , tolerance:  $\pm 1\text{mm}$ )



|                |                                      |
|----------------|--------------------------------------|
| Standard Cable | 1.2m UL2468 (Option: UL2464, UL1185) |
| 5 ~ 12V        | 22AWG                                |
| 15 ~ 36V       | 24AWG                                |

Outside  Inside 

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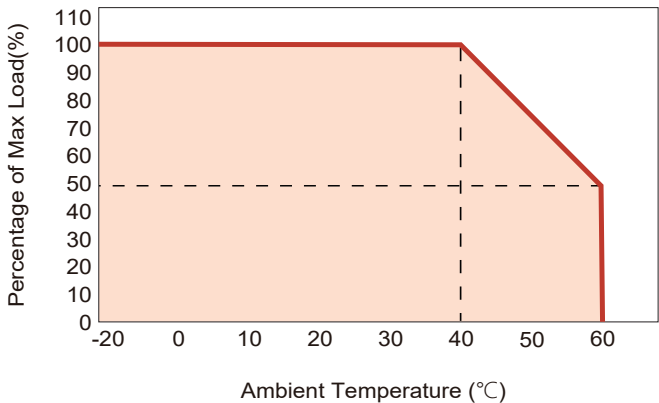
### Specification

| Model                                          | Order P/N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | YS12C-0502000U-D1J                                                      | YS12C-0901300U-D1J  | YS12C-1201000U-D1J | YS12C-1500800U-D1J                  | YS12C-2400500U-D1J | YS12C-3600350U-D1J |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------|--------------------|-------------------------------------|--------------------|--------------------|
|                                                | Safety Model No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | YS12C-0502000                                                           | YS12C-0901300       | YS12C-1201000      | YS12C-1500800                       | YS12C-2400500      | YS12C-3600350      |
| Output                                         | DC Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5V                                                                      | 9V                  | 12V                | 15V                                 | 24V                | 36V                |
|                                                | Rated Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2A                                                                      | 1.3A                | 1A                 | 0.8A                                | 0.5A               | 0.35A              |
|                                                | Rated Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10W                                                                     | 11.7W               | 12W                | 12W                                 | 12W                | 12W                |
|                                                | Ripple & Noise(max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 150mVp-p                                                                | 150mVp-p            | 150mVp-p           | 150mVp-p                            | 240mVp-p           | 300mVp-p           |
|                                                | Voltage Tolerance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±5%                                                                     | ±5%                 | ±5%                | ±5%                                 | ±5%                | ±5%                |
|                                                | Line Regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±3%                                                                     | ±3%                 | ±3%                | ±3%                                 | ±3%                | ±3%                |
|                                                | Load Regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±5%                                                                     | ±5%                 | ±5%                | ±5%                                 | ±5%                | ±5%                |
|                                                | Setup,Rise,Hold up Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.0s,30ms,25ms/230VAC(at full load)2.0s,30ms,12ms/115VAC(at full load)  |                     |                    |                                     |                    |                    |
| Input                                          | Rated Voltage Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 100-240VAC                                                              |                     |                    |                                     |                    |                    |
|                                                | Voltage Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 90-264VAC                                                               |                     |                    |                                     |                    |                    |
|                                                | Frequency Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 50/60Hz                                                                 |                     |                    |                                     |                    |                    |
|                                                | AC Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.4A/115VAC                                                             |                     | 0.2A/230VAC        |                                     |                    |                    |
|                                                | Inrush Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cold Start 50A/200us at 230VAC 50Hz                                     |                     |                    | Cold Start 25A/200us at 115VAC 50Hz |                    |                    |
|                                                | Leakage Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <0.25mA/230VAC                                                          |                     |                    |                                     |                    |                    |
|                                                | Efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 79%                                                                     | 83%                 | 83%                | 83.5%                               | 83.5%              | 84%                |
|                                                | No Load Power Consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <0.1W                                                                   |                     |                    |                                     |                    |                    |
| Protection                                     | Over Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 105~150%                                                                |                     |                    |                                     |                    |                    |
|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Hiccup mode, recovers automatically after fault condition is removed.   |                     |                    |                                     |                    |                    |
|                                                | Short Circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Shut down o/p voltage, re-power on to recover.                          |                     |                    |                                     |                    |                    |
|                                                | Over Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 120~180%                                                                |                     |                    |                                     |                    |                    |
| Shut down o/p voltage, re-power on to recover. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                         |                     |                    |                                     |                    |                    |
| Ambient                                        | Working TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -20 ~ +60 C (Please refer to “Derating Curve”section)                   |                     |                    |                                     |                    |                    |
|                                                | Working Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20 ~ 95%RH Non-condensing                                               |                     |                    |                                     |                    |                    |
|                                                | Storage TEMP. Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -40 ~ +85 C ,10 ~ 95%RH Non-condensing                                  |                     |                    |                                     |                    |                    |
|                                                | TEMP. Coefficient                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ±0.03%/(0 ~ 40 C )                                                      |                     |                    |                                     |                    |                    |
|                                                | Vibration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes |                     |                    |                                     |                    |                    |
| Safety                                         | Safety Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IEC/UL 62368-1                                                          |                     |                    |                                     |                    |                    |
|                                                | Withstand Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P: 3KVAC/1min                                                     |                     |                    |                                     |                    |                    |
|                                                | Isolation Resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P-O/P:100M Ohms / 500VDC / 25 C / 70% RH                              |                     |                    |                                     |                    |                    |
| EMC                                            | EMC Emission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Parameter                                                               | Standard            |                    | Test Level                          |                    |                    |
|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Conducted                                                               | FCC Part15(CISPR22) |                    | CLASS B                             |                    |                    |
|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Radiated                                                                | FCC Part15(CISPR22) |                    | CLASS B                             |                    |                    |
| Others                                         | Packing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 110g/pcs; 40 x 37.5 x 21.5 cm; 100pcs/carton                            |                     |                    |                                     |                    |                    |
|                                                | Dimension (LxWxH)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 62.8 x 42 x 27.9 mm                                                     |                     |                    |                                     |                    |                    |
|                                                | Plug and Cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | See page 3~5; Other type available by customer requested                |                     |                    |                                     |                    |                    |
|                                                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 235.5Khrs min. MIL-HDBK-217F(25 C )                                     |                     |                    |                                     |                    |                    |
| Note                                           | 1. Tolerance: includes set up tolerance, line regulation and load regulation.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3.Line regulation is measured from low line to high line at rated load.<br>4.Load regulation is measured from 0% to 100% rated load.<br>5. All parameters NOT specially mentioned are measured at nominal voltage input, rated load and 25 C of ambient temperature.<br>6. De-rating may be needed under low input voltages. Please refer to “Static Characteristic” sections for details.<br>7. The power supply is considered as a component that will be operated in combination with final equipment.Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. |                                                                         |                     |                    |                                     |                    |                    |

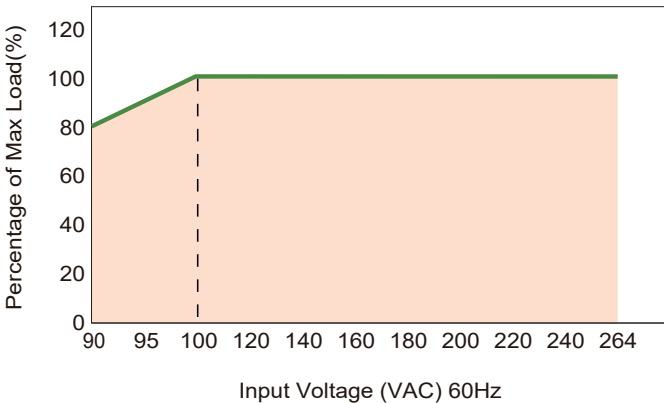
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Feature Curves

1. Derating Curve

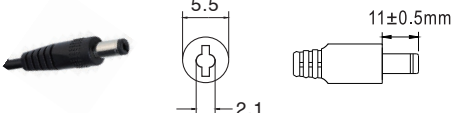
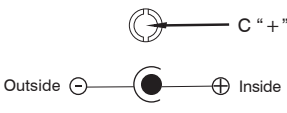


2. Static Characteristics

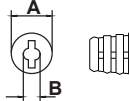
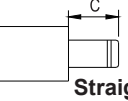


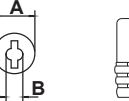
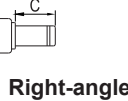
DC Output Plug (Option)

Standard Model : D1J

| D1J                                                                                 | Pin Assignment                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |

Optional DC plug:  
(Unit: mm , tolerance: ±0.5mm)

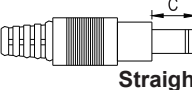
| Tuning Fork Style |  |  |  |
|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Type No.          | A                                                                                   | B                                                                                   | C                                                                                   |
|                   | OD                                                                                  | ID                                                                                  | L                                                                                   |
| D1I               | 5.5                                                                                 | 2.1                                                                                 | 9.5                                                                                 |
| D1L               | 5.5                                                                                 | 2.5                                                                                 | 9.5                                                                                 |
| D1M               | 5.5                                                                                 | 2.5                                                                                 | 11.0                                                                                |

| Tuning Fork Style |  |  |  |
|-------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Type No.          | A                                                                                     | B                                                                                     | C                                                                                     |
|                   | OD                                                                                    | ID                                                                                    | L                                                                                     |
| D1IR              | 5.5                                                                                   | 2.1                                                                                   | 9.5                                                                                   |
| D1JR              | 5.5                                                                                   | 2.1                                                                                   | 11.0                                                                                  |
| D1LR              | 5.5                                                                                   | 2.5                                                                                   | 9.5                                                                                   |
| D1MR              | 5.5                                                                                   | 2.5                                                                                   | 11.0                                                                                  |

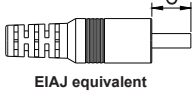
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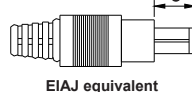
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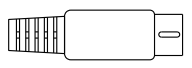
### DC Output Plug (Option)

| Barrel Style |  |  |  | Straight |
|--------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------|
| Type No.     | A                                                                                 | B                                                                                 | C                                                                                 |          |
|              | OD                                                                                | ID                                                                                | L                                                                                 |          |
| D2I          | 5.5                                                                               | 2.1                                                                               | 9.5                                                                               |          |
| D2J          | 5.5                                                                               | 2.1                                                                               | 11.0                                                                              |          |
| D2L          | 5.5                                                                               | 2.5                                                                               | 9.5                                                                               |          |
| D2M          | 5.5                                                                               | 2.5                                                                               | 11.0                                                                              |          |

| Barrel Style |  |  |  | Right-angled |
|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------|
| Type No.     | A                                                                                   | B                                                                                   | C                                                                                   |              |
|              | OD                                                                                  | ID                                                                                  | L                                                                                   |              |
| D2IR         | 5.5                                                                                 | 2.1                                                                                 | 9.5                                                                                 |              |
| D2JR         | 5.5                                                                                 | 2.1                                                                                 | 11.0                                                                                |              |
| D2LR         | 5.5                                                                                 | 2.5                                                                                 | 9.5                                                                                 |              |
| D2MR         | 5.5                                                                                 | 2.5                                                                                 | 11.0                                                                                |              |

| Tuning Fork Style |  |  |  | EIAJ equivalent |
|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|
| Type No.          | A                                                                                   | B                                                                                   | C                                                                                   |                 |
|                   | OD                                                                                  | ID                                                                                  | L                                                                                   |                 |
| D3A               | 2.35                                                                                | 0.7                                                                                 | 11.0                                                                                |                 |
| D3B               | 4.0                                                                                 | 1.7                                                                                 | 11.0                                                                                |                 |
| D3C               | 4.75                                                                                | 1.7                                                                                 | 11.0                                                                                |                 |

| Center Pin Style |  |  |  | EIAJ equivalent |
|------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------|
| Type No.         | A                                                                                     | B                                                                                     | C                                                                                     | D               |
|                  | OD                                                                                    | ID                                                                                    | L                                                                                     | Center Pin      |
| D4A              | 5.5                                                                                   | 3.4                                                                                   | 11.0                                                                                  | 1.0             |
| D4B              | 6.5                                                                                   | 4.4                                                                                   | 11.0                                                                                  | 1.4             |
| D4C              | 7.4                                                                                   | 5.1                                                                                   | 11.0                                                                                  | 0.6             |

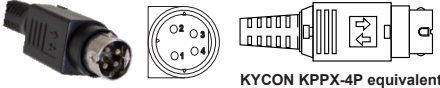
| Barrel Style |  |  |  |
|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Type No.     | Pin Assignment                                                                      |                                                                                     |                                                                                     |
|              | PIN No.                                                                             | Output                                                                              |                                                                                     |
| M1B          | 1                                                                                   | -Vo                                                                                 |                                                                                     |
|              | 2                                                                                   | -Vo                                                                                 |                                                                                     |
|              | 3                                                                                   | +Vo                                                                                 |                                                                                     |
|              | 4                                                                                   | -Vo                                                                                 |                                                                                     |
|              | 5                                                                                   | +Vo                                                                                 |                                                                                     |

| MIN.Din 3Pin with Lock(male) |  |  |  | KYCON KPPX-3P equivalent |
|------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------|
| Type No.                     | Pin Assignment                                                                        |                                                                                       |                                                                                       |                          |
|                              | PIN No.                                                                               | Output                                                                                |                                                                                       |                          |
| M6B                          | 1                                                                                     | +Vo                                                                                   |                                                                                       |                          |
|                              | 2                                                                                     | -Vo                                                                                   |                                                                                       |                          |
|                              | 3                                                                                     | +Vo                                                                                   |                                                                                       |                          |

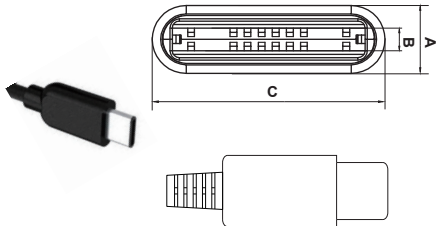
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DC Output Plug (Option)

| MIN.Din<br>4Pin with<br>Lock(male) |  |        |
|------------------------------------|-----------------------------------------------------------------------------------|--------|
|                                    | KYCON KPPX-4P equivalent                                                          |        |
| Type No.                           | Pin Assignment                                                                    |        |
|                                    | PIN No.                                                                           | Output |
| M7B                                | 1                                                                                 | +Vo    |
|                                    | 2                                                                                 | -Vo    |
|                                    | 3                                                                                 | -Vo    |
|                                    | 4                                                                                 | +Vo    |

| MIN.Din<br>4Pin with<br>Lock(female) |  |        |
|--------------------------------------|-------------------------------------------------------------------------------------|--------|
|                                      | KYCON KPJX-CM-4S equivalent                                                         |        |
| Type No.                             | Pin Assignment                                                                      |        |
|                                      | PIN No.                                                                             | Output |
| M7BF                                 | 1                                                                                   | +Vo    |
|                                      | 2                                                                                   | -Vo    |
|                                      | 3                                                                                   | -Vo    |
|                                      | 4                                                                                   | +Vo    |

| Type-C   |  |     |      |
|----------|-------------------------------------------------------------------------------------|-----|------|
| Type No. | A                                                                                   | B   | C    |
|          | OD                                                                                  | ID  | L    |
| C1       | 2.4                                                                                 | 1.3 | 8.25 |

| Stripped<br>and<br>tinned<br>leads |  <p>Length of Land L1 by request<br/>YJ's standard length, L: 30 mm, L1: 5 mm<br/>NOTE: The wire color is for reference only,<br/>please refer to the actual product</p> |        |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Type No.                           | Pin Assignment                                                                                                                                                                                                                                                |        |
|                                    | PIN No.                                                                                                                                                                                                                                                       | Output |
| by<br>customer                     | 1                                                                                                                                                                                                                                                             | +Vo    |
|                                    | 2                                                                                                                                                                                                                                                             | -Vo    |