# 65W AC-DC Reliable Wall-mounted Interchangeable Type Green Adaptor NGE65 series

User's Manual



(NGE65I)



(NGE65E)



(NGE65U)

UL62368-1 | ANSI/AAMI ES60601-1 ES60601-1-11 | J62368-1 | R33100 RoHS | GB4943.1 | AS/NZS 62368-1 | TPTC004

IEC62368-1 IEC60601-1/-1-11 IEC61558-1/-2-16 IEC60335-1 | BS EN/EN62368-1 BS EN/EN60601-1/-1-11 BS EN/EN61558-1-2-16 BS EN/EN60335-1

Energy Verified Rendement Énergétique Vérifié

IP21

ECO | Household | Automate | Industrial | Security | Network | Telecom | Medical | 2xMOPP | BF rated

## Features

- MEAN WELL Patent Application Number: 202330347779.4
- Interchangeable AC plugs (I-Type)
- Global certificates in multi-fields (ITE 62368-1, Medical 60601-1, Household 60335-1,Industrial 61558-1/-2-16)
- 80~264Vac Universal AC input
- Ultra slim(30mm)
- No load power consumption< 0.075W
- Energy efficiency Level Ⅵ
- Class Ⅱ power (no earth pin)
- Protections: Short circuit / Overload / Over voltage
- Pass LPS
- Extremely low leakage current <100uA
- -30℃~+70℃ wide range working temperature
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

## Applications

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

## GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

## Description

NGE65 is a highly reliable, 65W wall-mounted style single-output green adaptor series, which is compact and convenient for carry. This product is equipped with 5 types of interchangeable AC plug (European, USA,U.K. ,Australian and China type) that makes it very suitable for travel use.NGE65 is a Class Ⅱ power unit (no FG), accepting the input range from 80VAC to 264VAC that it can satisfy the demands for various types of electrical devices.

With the working efficiency up to 92% and the extremely low no-load power consumption below 0.075W, NGE65 is compliant with the latest USA energy regulation EISA 2007/DoE, Canada NRCan,Australia and New Zealand MEPS,EU ErP and CoC version 5. The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the standby mode. The entire series is approved for ITE, medical, household and industrial appliance safety regulations; moreover, it adopts the 94V-0 flame retardant plastic case that it can effectively prevent users from electric hazard.

## Model Encoding

NGE 65 I 12 - P1J

- DC plug type { P1J:Plug for standard model, 2.1φ×5.5φ×11mm,C+ tuning fork type; Other options available by customer requested (see Page 6~7)
- Output voltage (5V/9V/12V/15V/18V/24V/48V)
- AC Plug (I:Interchangeable Type, E:EU Type, U:US Type)
- Rated wattage
- Series name



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## SPECIFICATION

| ORDER NO. | | | NGE65○05-P1J | NGE65○09-P1J | NGE65○12-P1J | NGE65○15-P1J | NGE65○18-P1J | NGE65○24-P1J | NGE65○48-P1J |
|---|---|---|---|---|---|---|---|---|---|
| | | | ○ = I, U, E | | | | | | |
| OUTPUT | DC VOLTAGE | Note.2 | 5V | 9V | 12V | 15V | 18V | 24V | 48V |
| | RATED CURRENT | | 6A | 5.96A | 4.88A | 4.34A | 3.62A | 2.71A | 1.36A |
| | CURRENT RANGE | | 0 ~ 6A | 0 ~ 5.96A | 0 ~ 4.88A | 0 ~ 4.34A | 0 ~ 3.62A | 0 ~ 2.71A | 0 ~ 1.36A |
| | RATED POWER | | 30W | 53.6W | 58.5W | 65.1W | 65.1W | 65W | 65.2W |
| | RIPPLE & NOISE (max.) | Note.3 | 100mVp-p | 100mVp-p | 120mVp-p | 150mVp-p | 180mVp-p | 240mVp-p | 240mVp-p |
| | VOLTAGE TOLERANCE | Note.4 | ±6.0% | ±5.0% | ±3.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% |
| | LINE REGULATION | Note.5 | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LOAD REGULATION | Note.6 | ±6.0% | ±5.0% | ±3.0% | ±3.0% | ±3.0% | ±2.0% | ±2.0% |
| | SETUP, RISE, HOLD UP TIME | | 1500ms, 50ms, 30ms / 230VAC | | 3000ms, 50ms, 10ms / 115VAC at full load | | | | |
| INPUT | VOLTAGE RANGE | Note.7 | 80 ~ 264VAC | 113 ~ 370VDC | | | | | |
| | FREQUENCY RANGE | | 47 ~ 63Hz | | | | | | |
| | EFFICIENCY (Typ.) | | 84% | 89% | 90% | 90% | 91% | 92% | 92% |
| | AC CURRENT | | 1.5A / 115VAC | 0.8A / 230VAC | | | | | |
| | INRUSH CURRENT (max.) | | COLD START 50A / 115VAC | 100A / 230VAC | | | | | |
| | LEAKAGE CURRENT (max.) | | Touch current < 100uA (rms) @264VAC | | | | | | |
| PROTECTION | OVERLOAD | | 110% ~ 150% rated output power | | | | | | |
| | | | Protection type : 5~24V Hiccup mode, recovers automatically after fault condition is removed.<br>48V Shut down and latch off o/p voltage, re-power on to recover. | | | | | | |
| | OVER VOLTAGE | | 110% ~ 140% rated output voltage | | | | | | |
| | | | Protection type : Clamp by zener diode | | | | | | |
| ENVIRONMENT | WORKING TEMP. | | -30 ~ +70℃ (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% / ℃ (0 ~ 40℃) | | | | | | |
| | VIBRATION | | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | | |
| SAFETY & EMC (Note. 8) | SAFETY STANDARDS | | CB IEC62368-1, IEC60601-1/-1-11, IEC61558-1/-2-16, IEC60335-1;<br>UL UL62368-1, CSA C22.2 NO. 62368-1, ANSI/AAMI ES60601-1/-1-11(3.2 Version), CAN/CSA-C22.2 NO.60601-1/-1-11;<br>ANSI/AAMI ES60601-1-11, CAN/CSA-C22.2 NO.60601-1-11(for U Type only)<br>DEKRA BS EN/EN62368-1, BS EN/EN60601-1/-1-11, BS EN/EN61558-1/-2-16, BS EN/EN60335-1;<br>PSE J62368-1; BSMI CNS15598-1;<br>RCM AS/NZS 61558-1/-2-16; EAC TPTC004;<br>CCC GB4943.1 approved.<br>(Please refer to next page for more details) | | | | | | |
| | WITHSTAND VOLTAGE | | I/P-O/P:4000VAC | | | | | | |
| | ISOLATION RESISTANCE | | I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH | | | | | | |
| | EMC EMISSION | | **Parameter** | **Standard** | | | **Test Level / Note** | | |
| | | | Conducted emission | BS EN/EN55032(CISPR32)/EN55011 , FCC Part15 , CNS15936, GB/T 9254.1-2021 | | | Class B | | |
| | | | Radiated emission | BS EN/EN55032(CISPR32)/EN55011 , FCC Part15 , CNS15936, GB/T 9254.1-2021 | | | Class B | | |
| | | | Harmonic current (Note.9) | BS EN/EN61000-3-2 | | | Class A | | |
| | EMC IMMUNITY | | **Parameter** | **Standard** | | | **Test Level /Note** | | |
| | | | ESD | BS EN/EN61000-4-2 | | | Level 3, 15KV air; Level 2, 8KV contact | | |
| | | | RF field susceptibility | BS EN/EN61000-4-3 | | | Level 2, 3V/m | | |
| | | | EFT bursts | BS EN/EN61000-4-4 | | | Level 3, 2KV | | |
| | | | Surge susceptibility | BS EN/EN61000-4-5 | | | Level 3, 1KV/L-N | | |
| | | | Conducted susceptibility | BS EN/EN61000-4-6 | | | Level 2, 3V | | |
| | | | Magnetic field immunity | BS EN/EN61000-4-8 | | | Level 1, 1A/m | | |
| | | | Voltage dips , interruption | BS EN/EN61000-4-11 | | | ＞95% dip 0. 5 periods, 30% dip 25 periods, ＞95% interruptions 250 periods | | |
| OTHERS | MTBF | | 682.2 Khrs min. MIL-HDBK-217F (25℃) 5852.4 Khrs min. Telcordia TR/SR-332(Bellcore) (25℃) | | | | | | |
| | DIMENSION | | 62*30*65mm (L*W*H) | | | | | | |
| | PACKING | MAIN BODY | 196g; 60pcs/ 13.4Kg / 0.94CUFT for NGE65Ixx/Uxx-P1J 211g; 45pcs/ 11.4Kg / 1.06CUFT for NGE65Exx-P1J | | | | | | |
| | | AC PLUGS | Refer to Page 3 | | | | | | |
| DC OUTPUT CONNECTOR | PLUG | | See page 6~7 ; Other type available by customer requested | | | | | | |
| | CABLE | | See page 6~7 ; Other type available by customer requested | | | | | | |

**NOTE**

1.All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient.
2.DC voltage: The output voltage set at point measure by plug terminal & 50% load.
3.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μF & 47 μF capacitor.
4.Tolerance: includes set up tolerance, line regulation, load regulation.
5.Line regulation is measured from low line to high line at rated load.
6.Load regulation is measured from 0% to 100% rated load
7.Derating may be needed under low input voltage. Please check the derating curve for more details.
8.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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
9.Test harmonic current at 85% load.
10.Design meet US DoE Level VII (from Docket number EERE-2020-BT-STD-0006).
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx



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## ■ Interchangeable AC Plug Specifically for NGE12/18/30/45/65/90 (I-Type)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Order NO. | NGE65Ixx-P1J  | | | | | NGE65Exx-P1J  | NGE65Uxx-P1J  |
| AC plug | Interchangeable Type | | | | | Non-Interchangeable Type | |
| | EU  | US  | UK  | AU  | CN  | | |
| Certificate | CB DEKRA, PS E, cULus, CCC, R33100 RoHS, cULus, EAC, CE, UKCA, FC | | | | | CB DEKRA, EAC, CE | CB, cULus, cULus, R33100 RoHS, PS E, FC |

## ■ AC Plugs Accessory (Sold Seperately)

| MW's order NO. | Per Unit | Per Bag | Per Carton | |
|---|---|---|---|---|
| | | Q'Ty | Q'Ty | G.W. |
| AC PLUG-EU4 |  | 30 pcs | 300 pcs (10 bags) | 5.6Kg |
| AC PLUG-US4 |  | 30 pcs | 300 pcs (10 bags) | 5.3Kg |
| AC PLUG-UK4 |  | 30 pcs | 300 pcs (10 bags) | 7.1Kg |
| AC PLUG-AU4 |  | 30 pcs | 300 pcs (10 bags) | 5.3Kg |
| AC PLUG-CN4 |  | 30 pcs | 300 pcs (10 bags) | 5.3Kg |
| AC PLUG-MIX4 |  (Per Set) | 30 pcs (5 Types*6 mixed bags) | 300 pcs (5 Types*6 mixed bags) (10 bags) | 5.78Kg |

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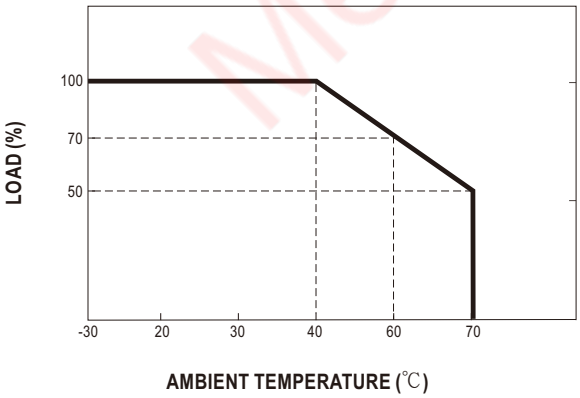
## ■ Interchangeable AC Plug Installation Steps (Convertible with I Type only)

| Step1 | Step2 |
|---|---|
|  |  |
| Slide in AC converter along the guided rail between the metal prongs until it is locked in (with a “click” sound). | Check if the new plug type is stable and correct before use. |

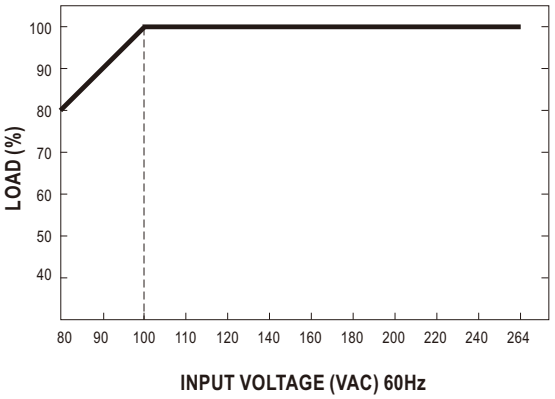
**Note:**

1. NGE65I main body unit and AC inlet plug should be ordered separately.
2. NGE65I needs to be used along with one of the AC inlet plug (EU,US,UK,AU,CN).

## ■ Derating Curve




## ■ Static Characteristics




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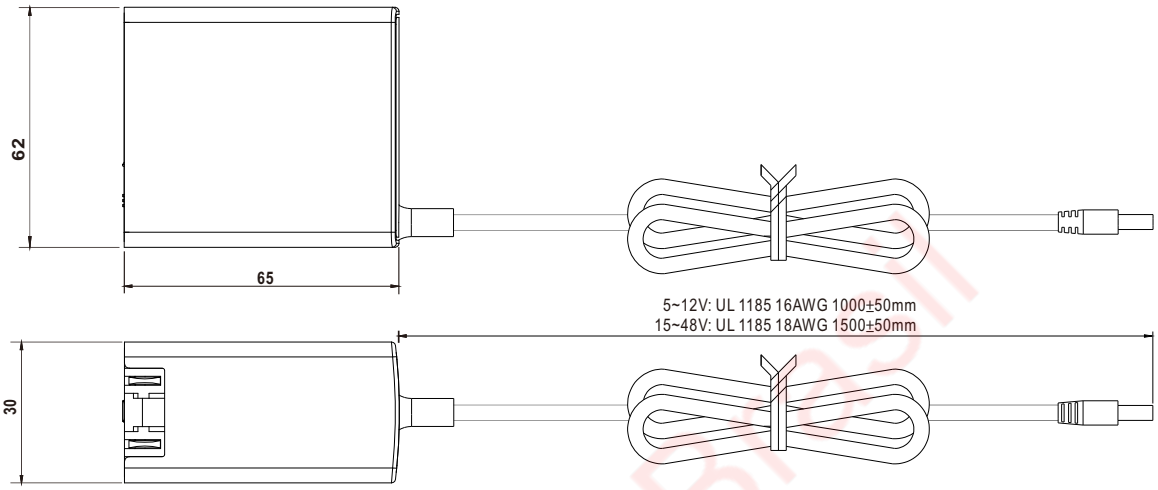
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## ■ Mechanical Specification

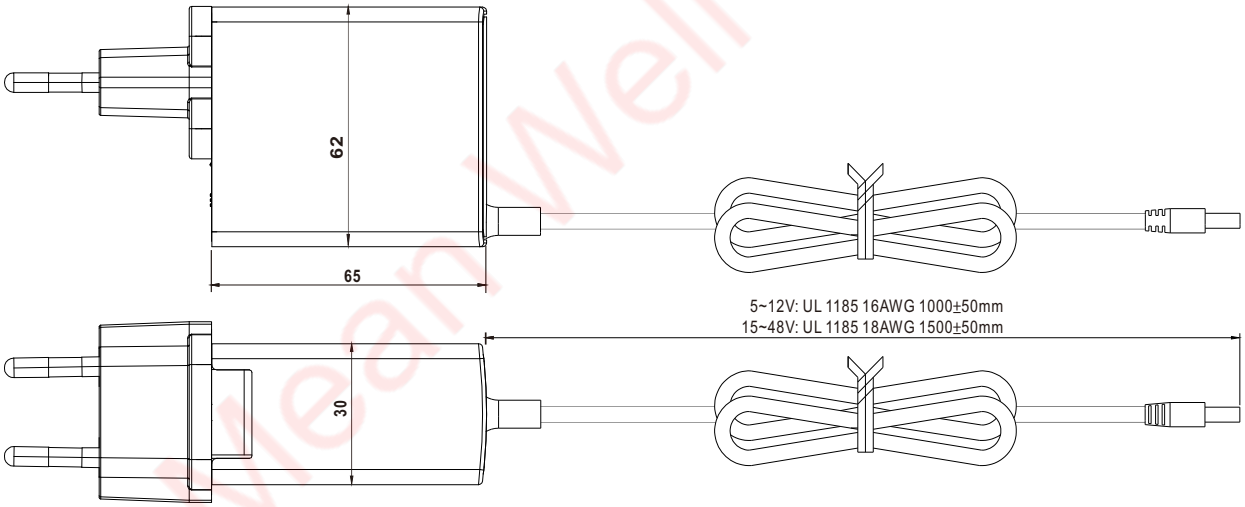
Unit:mm

※ Cable connection

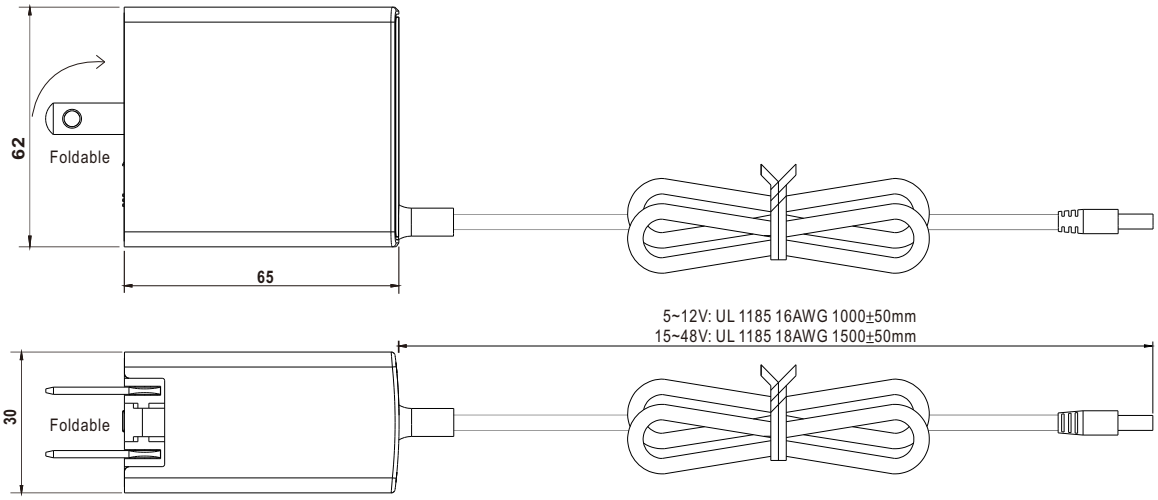
NGE65Ixx-P1J:




NGE65Exx-P1J:




NGE65Uxx-P1J:




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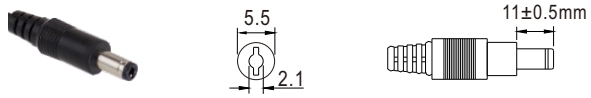
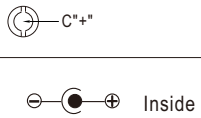


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## ■ DC Output Plug

◎ Standard plug: P1J

Unit:mm

| P1J | Pin Assignment |
|---|---|
|   |   |

◎ DC plug changeable through:

(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

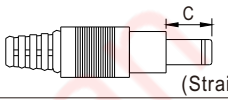
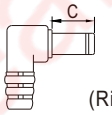
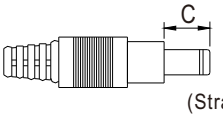
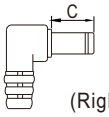
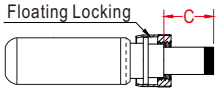
(2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

Example quick adapter accessory:

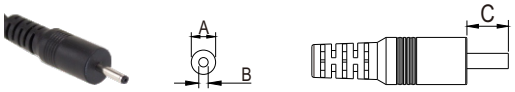


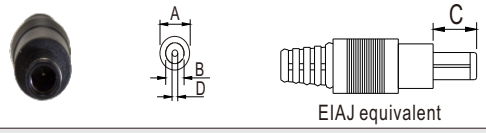
◎ Optional DC plug: (Available in customized cable or quick adapter)

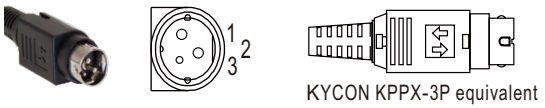
| Tuning Fork Style | | Type No. | A<br>OD | B<br>ID | C<br>L | Quick Adapter Accessory |
|---|---|---|---|---|---|---|
|   |   (Straight) | P1I | 5.5 | 2.1 | 9.5 | Available<br>(Current rating: 7.5A max.) |
| | | P1L | 5.5 | 2.5 | 9.5 | |
| | | P1M | 5.5 | 2.5 | 11.0 | |
| |   (Right-angled) | P1IR | 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 | |
|   |   (Straight) | P2I | 5.5 | 2.1 | 9.5 | None |
| | | P2J | 5.5 | 2.1 | 11.0 | |
| | | P2L | 5.5 | 2.5 | 9.5 | |
| | | P2M | 5.5 | 2.5 | 11.0 | |
| |   (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 | |
|   |   SWITCHCRAFT original or equivalent | P2S(S761K) | 5.53 | 2.03 | 12.06 | None |
| | | P2K(761K) | 5.53 | 2.54 | 12.06 | |
| | | P2C(S760K) | 5.53 | 2.03 | 9.52 | |
| | | P2D(760K) | 5.53 | 2.54 | 9.52 | |

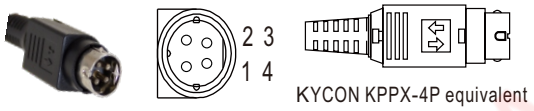


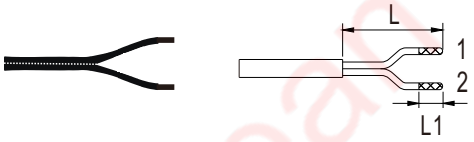
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| Min. Pin Style | Type No. | A<br>OD | B<br>ID | C<br>L | Quick Adapter Accessory |
|---|---|---|---|---|---|
|  | P3A | 2.35 | 0.7 | 11.0 | Available<br>(Current rating: 5A max.) |
| | P3B | 4.0 | 1.7 | 11.0 | |
| | P3C | 4.75 | 1.7 | 11.0 | |

| Center Pin Style | Type No. | A<br>OD | B<br>ID | C<br>L | D<br>Center Pin | |
|---|---|---|---|---|---|---|
|  | P4A | 5.5 | 3.4 | 11.0 | 1.0 | Available<br>(Current rating: 7.5A max.) |
| | 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>PIN No. | Pin Assignment<br>Output | |
|---|---|---|---|---|
|  | R6B | 1 | +Vo | Available<br>(Current rating: 7.5A max.) |
| | | 2 | -Vo | |
| | | 3 | +Vo | |

| Min. DIN 4 Pin with Lock (male) | Type No. | Pin Assignment<br>PIN No. | Pin Assignment<br>Output | |
|---|---|---|---|---|
|  | R7B | 1 | +Vo | Available<br>(Current rating: 7.5A max.) |
| | | 2 | -Vo | |
| | | 3 | -Vo | |
| | | 4 | +Vo | |

| Stripped and tinned leads | Type No. | Pin Assignment<br>PIN No. | Pin Assignment<br>Output | |
|---|---|---|---|---|
| <br>Length of Land L1 by request<br>(MW's standard length, L: 25 mm, L1: 10 mm) | by customer | 1<br>( Ribbed ) | +Vo | None |
| | | 2<br>( Letter ) | -Vo | |

## ■ Installation Manual

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



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