



UL62368-1 US TPTC004 AS/NZS62368.1 CB CE UK

Features

- · Built-in battery charger and UPS function
- TTL signals for status detection: AC OK, Battery disconnect, Battery reverse polarity, Battery low, Battery full and Discharge (Blank version only)
- UART Communication (U version only)
- Built-in buzzer alarm (U version only)
- Built-in AC and battery circuit ON/OFF switchs enhance safetyness during maintenance
- · Forced UPS mode for battery maintenance
- Protections: Short circuit / Overload / Over voltage / Over temperature / Battery low voltage / Battery reverse polarity (No damage)
- -20 ~ +60 $^{\circ}$ C wide operating temperature
- Output voltage adjustable (-20%~+5%) for CH1 by VR
- · Suitable for lead acid and lithium-ion batteries
- Design refer to GB17945/GB4717(U version only) system requirement
- 1U low profile (30 mm)
- 3 years warranty

Description

LAD-360 series is a 360W economical AC/DC low profile security power supply with UPS function. Adopting the input range from 90Vac to 264Vac (115Vac/230Vac selectable by switch) and supports output 27.6V, 41.5V and 55.2Vdc. With high efficiency up to 86.5% and built-in AC, battery switch for easy maintenance. In addition, LAD-360 series not only provide TTL signals for AC OK, battery disconnect, battery reverse polarity (No damage), battery low detection, battery full and discharge, but also possess UART version so the users can monitor and control the status of the units, that enhance easy way for integration into security and fire systems directly.

| Model Encoding | |
|----------------|---|
| LAD - 360 B U | |
| | Blank: TTL signal only U: UART Communication only Output voltage(B: 27.6V, C: 41.5V, D: 55.2V) Rated wattage |
| | – Series name |





Applications

- Fire emergency and evacuation system
- Public safety battery back-up
- Security system
- Uninterruptible DC-UPS system
- · Central monitoring system
- Industrial automation

GTIN CODE

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



SPECIFICATION FOR TTL FUNCTION MODEL (Blank Version) MODEL I AD-360D LAD-360B LAD-360C OUTPUT NUMBER CH1 CH1 CH2 CH2 CH1 CH2 DC VOLTAGE 27.6V 41.5V 41.5V 27.6V 55.2V 55.2V RATED CURRENT 11.5A 1.5A(Battery Charger) 7.14A 1.5A(Battery Charger 1.5A(Battery Charger) 5.03A CURRENT RANGE 0~6.53A 0~13A 0~8.64A RATED POWER 358.8W 358.56W 360.46W OUTPUT RIPPLE & NOISE (max.) Note.2 150mVp-p 240mVp-p -----240mVp-p VOLTAGE ADJ. RANGE CH1: 32.4 ~ 43.5V CH1: 21.6 ~ 29V CH1: 43.5 ~ 58V VOLTAGE TOLERANCE Note.3 $\pm 1.0\%$ $\pm 1.0\%$ $\pm 0.5\%$ -----LINE REGULATION ±0.5% ±0.5% ±0.5% LOAD REGULATION +0.5%+0.5%-----±0.5% SETUP, RISE TIME 2000ms, 50ms/115VAC at full load 2000ms, 50ms/230VAC HOLD UP TIME (Typ.) 16ms/230VAC 12ms/115VAC at full load BATTERY STATIC DISCHARGE <100uA CURRENT VOLTAGE RANGE 90 ~ 132VAC / 180 ~ 264VAC by switch 240 ~ 370VDC (Default switch at 230VAC) FREQUENCY RANGE 47 ~ 63Hz INPUT EFFICIENCY (Typ.) 86% 86.5% 86.5% AC CURRENT (Typ.) 8A/115VAC 4A/230VAC INRUSH CURRENT (Typ.) COLD START 60A/115VAC 60A/230VAC LEAKAGE CURRENT <0.5mA/240VAC CH1:105~135% CH2:90 ~ 110% Protection type : CH1 OLP, CH2 with battery: The unit will enter to UPS mode when CH1 is around 105%~120% when total output of CH1 + CH2 reach around 125%~135% output shuts down OVERLOAD CH1 OLP, CH2 without battery:Shut down o/p voltage,re-power on to removed CH2 : Constant current limiting; fault condition does not affect CH1 working, recovers automatically after fault condition is removed (External fuse is mandatory in series connection with battery for protection) PROTECTION CH1:59~69V CH1:31~36V CH1:47~55V **OVER VOLTAGE** Protection type : Shut down o/p voltage, re-power on to removed Protection type : Shut down o/p voltage, re-power on to removed **OVER TEMPERATURE** BATTERY REVERSE POLARITY Protected when reverse polarity, no damage, recovers automatically after fault condition is removed **BATTERY CUTOFF** 21.5V±0.5V 32V±0.5V 43V±0.5V TTL signal, High / Open : AC Fail ; Low : AC OK ; Ice : max. 30mA@ 50VDC AC OK **BATTERY DISCONNECT/** TTL signal, High / Open : Battery connect/normal ; Low : Battery disconnect/reverse polarity; Ice : max. 30mA@ 50VDC REVERSE POLARITY FUNCTION TTL signal, High / Open : Battery normal ; Low : Battery low; Ice : max. 30mA@ 50VDC **BATTERY LOW** BATTERY FULL TTL signal, High / Open : Battery charging ; Low : Battery full ; Ice : max. 30mA@ 50VDC TTL signal, High / Open : Charge ; Low : Discharge ; Ice : max. 30mA@ 50VDC DISCHARGE -20 ~ +60°C (Refer to "Derating Curve") WORKING TEMP. WORKING HUMIDITY 20 ~ 95% RH non-condensing -30 ~ +85°C, 10 ~ 95% RH non-condensing ENVIRONMENT STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT ±0.03%/°C (0 ~ 50°C) 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes VIBRATION UL62368-1, BS EN/EN62368-1, AS/NZS62368.1, EAC TP TC 004 approved; Design refer to GB 17945-2010 SAFETY STANDARDS WITHSTAND VOLTAGE I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC **ISOLATION RESISTANCE** I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH Test Level / Note Parameter Standard BS EN/EN55032 (CISPR32), Class A Conducted EAC TP TC 020 EMC EMISSION BS EN/EN55032 (CISPR32), SAFETY & Radiated Class A EAC TP TC 020 EMC Harmonic Current -----(Note 4 & 5) Voltage Flicker Parameter Standard Test Level / Note BS EN/EN61000-4-2 Level 3, 8KV air ; Level 2, 6KV contact; criteria A ESD Radiated BS EN/EN61000-4-3 Level 3, 10V/m ; criteria A EFT / Burst BS EN/EN61000-4-4 Level 3, 2KV ; criteria A EMC IMMUNITY Level 3, 1KV/Line-Line ;2KV/Line-FG ;criteria A BS EN/EN61000-4-5 Surge Conducted BS EN/EN61000-4-6 Level 3. 10V : criteria A Magnetic Field BS EN/EN61000-4-8 Level 4, 30A/m; criteria A MTBE 1394.9K hrs min 153.3K hrs min. MIL-HDBK-217F (25°C) Telcordia SR-332 (Bellcore); OTHERS DIMENSION 215*115*30mm (L*W*H) 0.75Kg; 15pcs/12.25Kg/0.7CUFT PACKING All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. Radiation testing requires adding 13*26*30NIZN magnetic loops or buckles to the battery output wire. The final equipment must be re-confirmed that it still meets 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) 5. This power supply does not meet the harmonic current requirements outlined by BS EN/EN61000-3-2. Please do not use this power supply under the following conditions: NOTE - belong to part of a lighting system Exception Power supplies used within the following end-devices do not need to fulfill BS EN/EN61000-3-2 a) professional equipment with a total rated input power greater than 1000W; b) symmetrically controlled heating elements with a rated power less than or equal to 200W 6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx



360W Economical Security/Fire Alarm PSU with Battery Charger/UPS

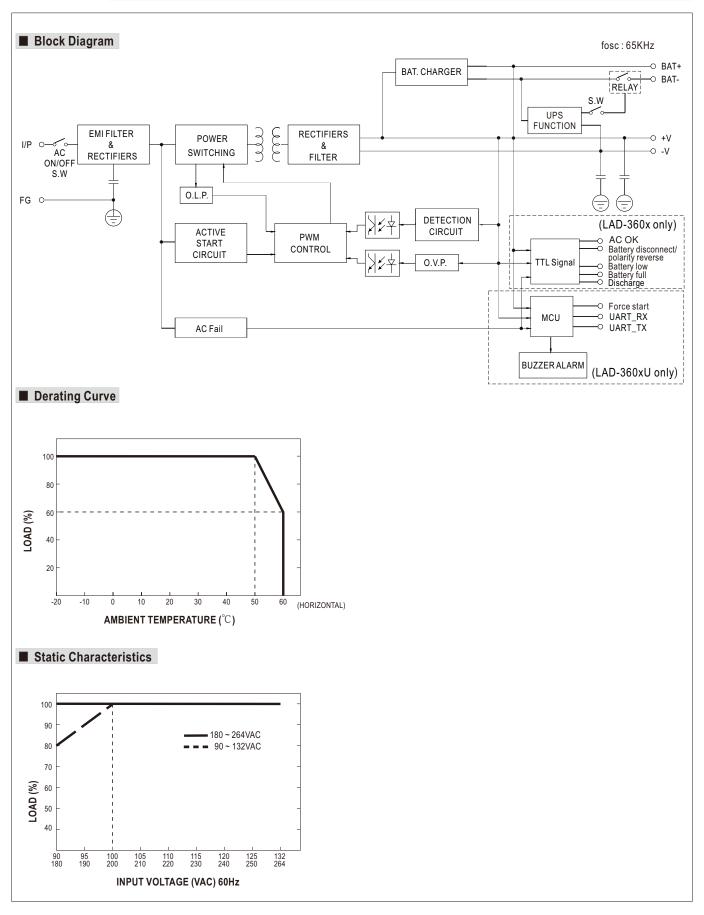
LAD-360 series

| MODEL | CATION FOR UART COM | LAD-360BU | | LAD-360CU | | LAD-360DU | | | |
|--------------|---|---|--|---|---|---|--|--|--|
| MODEL | | | 0110 | | 0110 | | 0110 | | |
| | OUTPUT NUMBER DC VOLTAGE | CH1 27.6V | CH2 27.6V | CH1 41.5V | CH2 41.5V | CH1 55.2V | CH2 55.2V | | |
| | RATED CURRENT | | | | | | | | |
| | CURRENT RANGE | 11.5A | 1.5A(Battery Charger) | | 1.5A(Battery Charger) | | 1.5A(Battery Charge | | |
| | | 0~13A | | 0~8.64A | | 0~6.53A | | | |
| | | 358.8W | | 358.56W | | 360.46W | | | |
| OUTPUT | RIPPLE & NOISE (max.) Note.2 | | | 240mVp-p | | 240mVp-p | | | |
| | VOLTAGE ADJ. RANGE | CH1: 21.6 ~ 29V | | CH1: 32.4 ~ 43.5V | | CH1: 43.5 ~ 58V | 1 | | |
| | VOLTAGE TOLERANCE Note.3 | 11070 | | ±1.0% | | ±0.5% | | | |
| | LINE REGULATION | ±0.5% | | ±0.5% | | ±0.5% | | | |
| | LOAD REGULATION | ±0.5% | | ±0.5% | | ±0.5% | | | |
| | SETUP, RISE TIME | | 2000ms, 50ms/230VAC 2000ms, 50ms/115VAC at full load | | | | | | |
| | HOLD UP TIME (Typ.) | 16ms/230VAC | 12ms/115VAC at full lo | ad | | | | | |
| | BATTERY STATIC DISCHARGE CURRENT | <100µA | | | | | | | |
| | VOLTAGE RANGE | 90 ~ 132VAC / 180 ~ | 264VAC by switch | 240 ~ 370VDC | (Default switch at 230VA | <u>(C)</u> | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | 204WIG by Switch | 240 010100 | Beladit Switch at 200 W | | | | |
| | EFFICIENCY (Typ.) | | | 00.5% | | 00.5% | | | |
| INPUT | AC CURRENT (Typ.) | 86% | 10001100 | 86.5% | | 86.5% | | | |
| | | | /230VAC | <i>и</i> .о | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 60A/ | 115VAC 60A/230\ | /AC | | | | | |
| | LEAKAGE CURRENT | <0.5mA / 240VAC | 0110.00.000 | | | | | | |
| | | CH1:105 ~ 135% Protection type : CH | CH2:90 ~ 110% 1 OLP, CH2 with batter | | to UPS mode when CH | | | | |
| | OVERLOAD | CH | 1 OLD CH2 without be | | of CH1 + CH2 reach arc | | utput shuts down | | |
| | | | | • | voltage,re-power on to re does not affect CH1 wo | | matically after fault | | |
| | | | | | nandatory in series conn | | • | | |
| PROTECTION | | CH1:31 ~ 36V | Solution is remove | CH1:47 ~ 55V | and the price collin | CH1:59 ~ 69V | | | |
| | OVER VOLTAGE | | ut down o/p voltage, re | | d | 011.05 - 050 | | | |
| | OVER TEMPERATURE | | ut down o/p voltage, re | | | | | | |
| | BATTERY REVERSE POLARITY | | | • | | n is removed | | | |
| | | | rse polarity, no dama | 32V±0.5V | tically after fault condition | 1 | | | |
| | BATTERY CUTOFF | 21.5V±0.5V | als AC failure and activ | | 222 475/// | 43V±0.5V | | | |
| | | | iver the main power su | • | • | | | | |
| | AC OK | | • | | • | | | | |
| EUNCTION | | 230VAC Input : Signals AC failure and activates when input voltage <165VAC Recover the main power supply when input voltage >175VAC | | | | | | | |
| FUNCTION | | | | | age >175VAC | | | | |
| | CHARGER CIRCUIT FAIL | | d, battery reverse pola m system selectable b | | | | | | |
| | BUZZER ALARM | <u> </u> | <u> </u> | | ect. overload status (eva | acuation system sel | ectable by UART) | | |
| | WORKING TEMP. | AC fail, Battery low, battery disconnected, battery reverse connect, overload status (evacuation system selectable by UART) -20 ~ +60°C (Refer to "Derating Curve") | | | | | | | |
| | | 20 ~ 95% RH non-co | v , | | | | | | |
| ENVIRONMENT | STORAGE TEMP., HUMIDITY | | 5% RH non-condensing | a | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C | | 5 | | | | | |
| | VIBRATION | , | in./1cycle, 60min. eac | h along X Y 7 axes | | | | | |
| | SAFETY STANDARDS | | | | 4 approved; Design refer | r to GB 17945-2010 | GB4717 | | |
| | WITHSTAND VOLTAGE | , | P-FG:2KVAC 0/P-F0 | , | r approvoa, Booigirioioi | | 00111 | | |
| | ISOLATION RESISTANCE | | -FG:100M Ohms / 500 | | 4 | | | | |
| | IOULATION REDIDIAROE | Parameter | Standard | VDC/23 C/10/8 K | Test Level / Note | | | | |
| | | Falameter | BS EN/EN5503 | | Test Level / Note | | | | |
| | | Conducted | EAC TP TC 02 | · // | Class A | | | | |
| SAFETY & | EMC EMISSION | Radiated | BS EN/EN5503 | (// | Class A | | | | |
| EMC | | | EAC TP TC 02 | :0 | | | | | |
| (Note 4 & 5) | | Harmonic Current | | | | | | | |
| | | Voltage Flicker | | | | | | | |
| | | Parameter | Standard | 00.4.0 | Test Level / Note | 0.0101 | | | |
| | | ESD | BS EN/EN610 | | Level 3, 8KV air ; Level | · · · · · · · · · · · · · · · · · · · | eria A | | |
| | | Radiated | BS EN/EN610 | | Level 3, 10V/m ; criteria | | | | |
| | EMC IMMUNITY | EFT / Burst | BS EN/EN610 | | Level 3, 2KV ; criteria A | | | | |
| | | Surge | BS EN/EN610 | | Level 3, 1KV/Line-Line | ;2KV/Line-FG ;criter | ia A | | |
| | | Conducted | BS EN/EN610 | 00-4-6 | Level 3, 10V ; criteria A | | | | |
| | | Magnetic Field | BS EN/EN610 | 00-4-8 | Level 4, 30A/m ; criteria | A | | | |
| | MTBF | 1160.5K hrs min. | Telcordia SR-332 (Bel | lcore); 126.5K hrs | min. MIL-HDBK-217 | F (25°C) | | | |
| | DIMENSION | 215*115*30mm (L*V | V*H) | | | | | | |
| OTHERS | | 0.75Kg; 15pcs/12.25Kg/0.7CUFT | | | | | | | |
| DTHERS | PACKING | 0.75Kg, 15pcs/12.23 | | out rated load and 3 | 25°C of ambient temper | rature. | | | |
| DIHERS | 1. All parameters NOT special | ly mentioned are me | | | | | | | |
| OTHERS | 1. All parameters NOT special 2. Ripple & noise are measure | ly mentioned are me ed at 20MHz of band | width by using a 12" t | twisted pair-wire terr | | & 47 μ F parallel ca | pacitor. | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid | ly mentioned are me ed at 20MHz of band tolerance, line regula ered a component w | width by using a 12" t tion and load regulation hich will be installed ir | twisted pair-wire terr on. nto a final equipmer | minated with a 0.1 μ F & | e been executed by | mounting the unit on | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla | ly mentioned are me ed at 20MHz of band tolerance, line regula ered a component w ate with 1mm of thick | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing | twisted pair-wire terr on. nto a final equipmer g requires adding 1 | minated with a 0.1 μ F 8 at. All the EMC tests are 3*26*30NIZN magnetic | e been executed by loops or buckles to | mounting the unit on the battery output wi | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b | ly mentioned are me dat 20MHz of band tolerance, line regula ered a component w ate with 1mm of thick e re-confirmed that it | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct | twisted pair-wire terr on. nto a final equipmer g requires adding 1 ctives. For guidance | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the | e been executed by loops or buckles to se EMC tests, plea | mounting the unit on the battery output wi | | |
| OTHERS | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b "EMI testing of component This power supply does noi | ly mentioned are me ad at 20MHz of band tolerance, line regula ered a component w the with 1mm of thick e re-confirmed that it power supplies." (as meet the harmonic | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct available on https://ww | twisted pair-wire terr on. nto a final equipmer g requires adding 1: ctives. For guidance ww.meanwell.com//l | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the Jpload/PDF/EMI_staten | been executed by loops or buckles to se EMC tests, plea nent_en.pdf) | y mounting the unit on the battery output wi se refer to | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b "EMI testing of component This power supply does noi under the following conditio | ly mentioned are me ad at 20MHz of band tolerance, line regula ered a component w the with 1mm of thick e re-confirmed that it power supplies." (as meet the harmonic ns: | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct available on https://ww current requirements of | twisted pair-wire terr on. nto a final equipmer g requires adding 1: ctives. For guidance ww.meanwell.com//l | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the Jpload/PDF/EMI_staten | been executed by loops or buckles to se EMC tests, plea nent_en.pdf) | y mounting the unit on the battery output wi se refer to | | |
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| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b "EMI testing of component This power supply does noi under the following conditio a) the end-devices is used b) the end-devices is conn c) the power supply is: - i | ly mentioned are me ed at 20MHz of band tolerance, line regula ered a component w the with 1mm of thick e re-confirmed that it power supplies." (as i meet the harmonic ns: within the European ected to public mains nstalled in end-devic belong to part of a lig | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct available on https://ww current requirements of Union, and s supply with 220Vac of es with average or con- phing system | twisted pair-wire terr on. nto a final equipmer g requires adding 1: ctives. For guidance ww.meanwell.com//t outlined by BS EN/E or greater rated non ntinuous input powe | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the Jpload/PDF/EMI_staten EN61000-3-2. Please do ninal voltage, and er greater than 75W, or | been executed by loops or buckles to se EMC tests, plea nent_en.pdf) | y mounting the unit on the battery output wi se refer to | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b "EMI testing of component This power supply does noi under the following conditio a) the end-devices is used b) the end-devices is conn c) the power supply is: - i Exception: Power supplies used within a) professional equipment v | ly mentioned are me ad at 20MHz of band tolerance, line regula ered a component w the with 1mm of thick e re-confirmed that it power supplies." (as a meet the harmonic ns: within the European ected to public mains installed in end-device belong to part of a lig the following end-de vith a total rated inpu | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct available on https://ww current requirements of Union, and supply with 220Vac of es with average or con- phting system vices do not need to to t power greater than | twisted pair-wire terr on. tho a final equipmer g requires adding 1: tives. For guidance ww.meanwell.com//L outlined by BS EN/E or greater rated non ntinuous input powe fulfill BS EN/EN6100 1000W; | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the Jpload/PDF/EMI_staten EN61000-3-2. Please do ninal voltage, and er greater than 75W, or 200-3-2 | been executed by loops or buckles to se EMC tests, plea nent_en.pdf) | y mounting the unit on the battery output wi se refer to | | |
| | All parameters NOT special Ripple & noise are measure Tolerance : includes set up The power supply is consid a 360mm*360mm metal pla The final equipment must b "EMI testing of component This power supply does noi under the following conditio a) the end-devices is used b) the end-devices is conn c) the power supply is: - i Exception: Power supplies used within | ly mentioned are me ad at 20MHz of band tolerance, line regula ered a component w the with 1mm of thick e re-confirmed that it power supplies." (as a meet the harmonic ns: within the European ected to public mains nstalled in end-devic belong to part of a lig the following end-de vith a total rated inpun heating elements wit | width by using a 12" t tion and load regulation hich will be installed in ness. Radiation testing still meets EMC direct available on https://ww current requirements of Union, and supply with 220Vac of swith average or con- phing system vices do not need to t t power greater than h a rated power less t | twisted pair-wire terr on. nto a final equipmer g requires adding 1: ctives. For guidance ww.meanwell.com//L outlined by BS EN/E or greater rated non ntinuous input powe fulfill BS EN/EN6100 1000W; than or equal to 200 | ninated with a 0.1 µ F & nt. All the EMC tests are 3*26*30NIZN magnetic on how to perform the Jpload/PDF/EMI_staten EN61000-3-2. Please do ninal voltage, and er greater than 75W, or 00-3-2 | e been executed by loops or buckles to se EMC tests, plea nent_en.pdf) o not use this powe | r mounting the unit or the battery output w se refer to er supply | | |



360W Economical Security/Fire Alarm PSU with Battery Charger/UPS

LAD-360 series

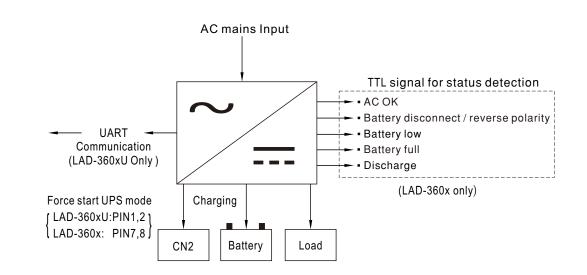




Suggested Application

1.DC-UPS function

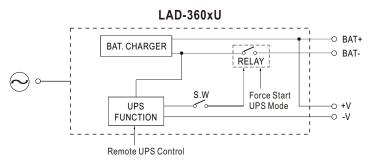
When AC voltage drops below 75/165VAC, The UPS function will activate and power source switch battery backup.



2.UART Communication Function (U version only)

The power supply uploads various fault signals, power supply working status, single battery voltage, main voltage, output voltage and output current to the controller through the UART, and changes the power supply working status according to the controller instructions. For details, please refer to the user manual.

2.1 Forced Start & Remote UPS Control(U version only)



[™] Force start UPS mode:

According to fire safety regulation, UPS power supply must equip with force start UPS function. In case of emergency, maintenance or testing, personal can active the UPS mode of by shorting PIN1 and PIN2 of LAD-360xU to ensure the energy supply to the loads. When operating under UPS mode, the BAT. UVP alarm is still active, but the BAT. UVP protection will be disable, therefore, the battery will be fully discharged until system shuts down.

| Pin 1 & 2 | Status | |
|-----------|--------------|--|
| Short | Forced start | |
| Open | Normal | |
| | | |

Note:

1st priority of UPS mode: Force start UPS function by internal relay.



※ Remote UPS mode:

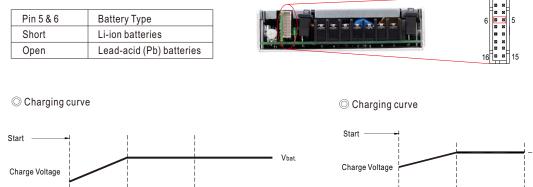
According to fire safety regulation, UPS power supply must equip with remote UPS function. So the power supply unit can be linked to the fire alarm system, user's system will be able to detect the status of PIN3 and PIN4 LAD-360xU with UART communication. When PIN 3 and PIN 4 is shorted, the power supply will enter remote UPS mode, therefore the UPS mode will be active and the status signal will also send to the fire alarm system for indication. Personal or the system can use the signal as trigger threshold for other alarm systems to decide when and how to enter the emergency sequence. Under this condition, BAT. UVP alarm and protection are still active.

| Pin 3 & 4 | Status | |
|-----------|--------------------|--|
| Short | Remote UPS control | |
| Open | Normal | |

Note:

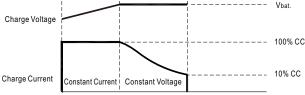
2nd priority of UPS mode: UPS function can be activate by controlling with this signal, since the controller is still normal, the relay can be controlled through communication protocol.

2.2 Charging Curve for Different Battery(U version only)



100% CC

10% CC



◎ Apply to Li-ion batteries

2.3 Mode Selection for Buzzer(U version only)

Constant Current Constant Voltage



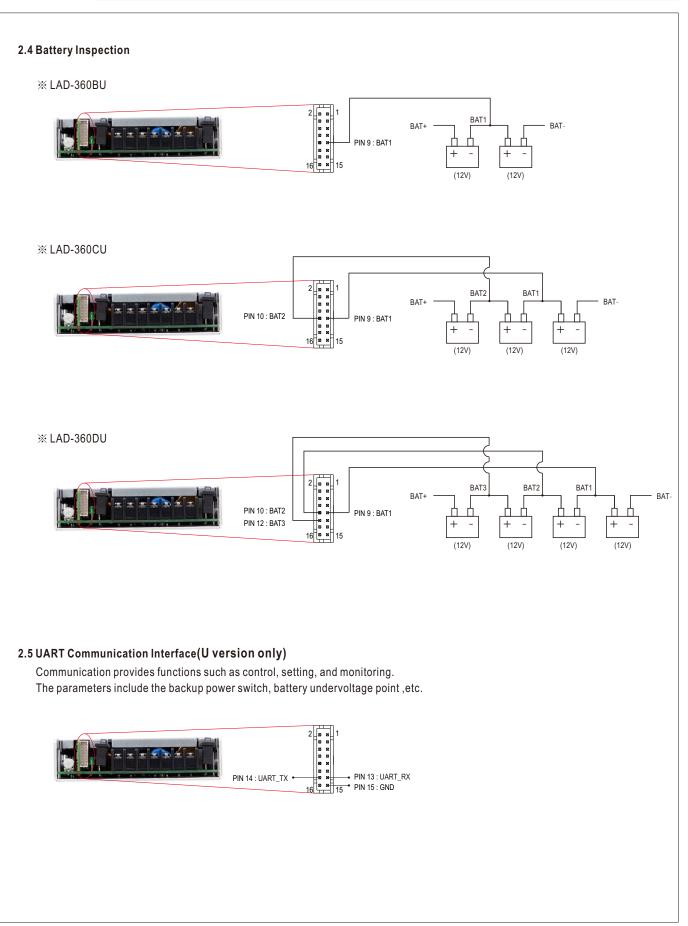
Note:

Charge Current

O Apply to Lead-acid batteries

LAD-360BU Open circuit for fire alarm, Short circuit for evacuation ; LAD-360CU/DU Open circuit for evacuation, Short circuit for fire alarm.

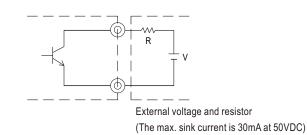






3. Function signals by TTL and UART

- TTL Signal is sent out through pins from CN2.
- External voltage source is required for the TTL signal. The maximum voltage is 50VDC and the maximum sink current is 30mA.



3.1 AC OK : Detection of AC status

• TTL Signal for Blank version

| Between pin 1 and pin 4 | Description |
|---|---|
| Low (0.3V max. at 30mA) | The signal is "Low" when the AC input is normal |
| High or open (External applied voltage 50V max.) | The signal turns to be "High" when the AC input is abnormal |



• Signal for UART Version

AC OK is achievable through UART communication protocol, please refer to for more detail: http://www.meanwell.com/manual.html

3.2 Battery Disconnected/Reverse Polarity: Battery status detection

• TTL Signal for Blank version

| Between pin 2 and pin 4 | Description |
|---|--|
| Low (0.3V max. at 30mA) | The signal is "Low" when the battery is not connected or inversely connected |
| High or open (External applied voltage 50V max.) | The signal turns to be "High" when the battery is connected or normal |



Note. The signals of battery disconnected and reverse polarity can only be detected during the first power transmission, it is can not be detected at any time.

• Signal for UART Version

Battery Disconnected/Reverse Polarity is achievable through UART communication protocol, please refer to for more detail: <u>http://www.meanwell.com/manual.html</u>



3.3 Battery Low: Battery low detection

• TTL Signal for Blank version

| Between pin 3 and pin 4 | Description |
|---|---|
| Low (0.3V max. at 30mA) | The signal is "Low" when the battery is under voltage protected |
| High or open (External applied voltage 50V max.) | The signal turns to be "High" when the battery is normal |



Signal for UART Version
 Battery Low is achievable through UART communication protocol, please refer to for more detail:
 <u>http://www.meanwell.com/manual.html</u>

3.4 Battery Full : Battery full detection

• TTL Signal for Blank version

| Between pin 4 and pin 5 | Description |
|---|---|
| Low (0.3V max. at 30mA) | The signal is "Low" when the battery is fully charged |
| High or open (External applied voltage 50V max.) | The signal turns to be "High" when the battery is charged |



• Signal for UART Version

Battery Full is achievable through UART communication protocol, please refer to for more detail: <u>http://www.meanwell.com/manual.html</u>



3.5 Discharge: Discharge detection

• TTL Signal for Blank version

| Between pin 4 and pin 6 | Description |
|---|--|
| Low (0.3V max. at 30mA) | The signal is "Low" when the power supply is discharging |
| High or open (External applied voltage 50V max.) | The signal is "High" when the main power is working |



 Signal for UART Version
 Discharge is achievable through UART communication protocol, please refer to for more detail: <u>http://www.meanwell.com/manual.html</u>

3.6 Forced Start: Forced start UPS mode

• TTL Signal for Blank version

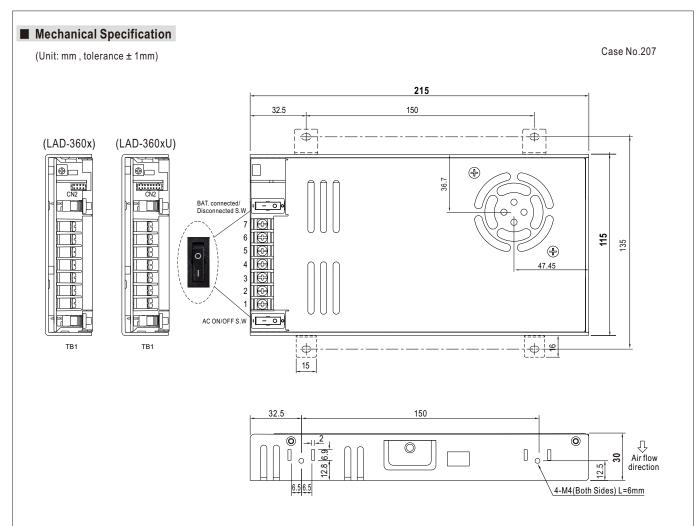
| Pin 7 & 8 | Status |
|-----------|-----------------------|
| Short | Forced start UPS mode |
| Open | Normal |



• Signal for UART Version

Forced Start is achievable through UART communication protocol, please refer to for more detail: <u>http://www.meanwell.com/manual.html</u>





% Connector Pin No. Assignment(CN2) (LAD-360x)

| Pin No. | Assignment(TTL Signal) | Mating Housing | Terminal |
|---------|--|--------------------------|---------------------------------|
| 1 | AC OK | | |
| 2 | Battery disconnect/ reverse polarity | | |
| 3 | Battery low | | |
| 4 | GND | TKP DH2 or equivalent | TKP DHT-1S(LF) or equivalent |
| 5 | Battery full | | or equivalent |
| 6 | Discharge | | |
| 7,8 | Open : normal Short : forced start UPS mode | | |

% Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment |
|---------|--------------|
| 1 | AC/L |
| 2 | AC/N |
| 3 | FG ± |
| 4 | DC OUTPUT -V |
| 5 | DC OUTPUT +V |
| 6 | BAT - |
| 7 | BAT + |

⚠

DC OUTPUT -V and BAT - can not be shorted.

% Connector Pin No. Assignment(CN2) (LAD-360xU)

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|-----------------------------------|--------------------------|---------------------------------|
| 1,2 | Short : forced start | TKP DH2 or equivalent | TKP DHT-1S(LF) or equivalent |
| | Open : normal | | |
| 3,4 | Short : Remote UPS control | | |
| | Open : normal | | |
| 5,6 | Short : Li- ion batteries | | |
| | Open : Lead-acid (Pb) batteries | | |
| 7,8 | Fire alarm/ evacuatione option | | |
| 9 | BAT1 | | |
| 10 | BAT2 | | |
| 11 | NC | | |
| 12 | BAT3 | | |
| 13 | UART_RX | | |
| 14 | UART_TX | | |
| 15 | GND | | |
| 16 | 3.3V | | |

+3.3V(ref) for testing use only;can't supply power over 1mA for a long time



Accessory List **%** Bracket (Optional accessory, Should ordered seperately) MW's Order No. Quantity Item PGG2MHS012 4pcs/per model Installation Diagram 43 Ø Ø Ø) A æ 1 A ₩4*4 32.5mm 150mm -215mm . . 6 . 1 4*M4 L=6 150mm Installation Manual Please refer to : http://www.meanwell.com/manual.html