



Instruction Manual

AE-224PS / AE278PS Power Supplies for Electra Series Screwdrivers



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Thank you for choosing our light and powerful electric screwdrivers. To ensure the tool fully utilizes its maximum performance and extend its life, please read this manual before use.

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GENERAL SAFETY WARNINGS



WARNING: Read all safety warnings and all instructions.



Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.



Save all warnings and instructions for future reference.

Work Area Safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gasses, or dust. Power tools create sparks, which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.
- plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool or its adaptor will increase the risk of electric shock.

Electrical Safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Unmodified
- Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away from heat,

oil, sharp edges, or moving parts. Damaged or entangled cords increase the risk of electric shock.

- When operating a power tool outdoors, use an extension cord suitable for outdoor use. This reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply for its adaptor. Use of an RCD reduces the risk of electric shock.

Personal Safety

- Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.

- Prevent unintentional starting. Ensure the switch is in the off position before connecting to a power source or battery pack, picking up, or carrying the tool.
- Carrying power tools with your finger on the switch, or energizing power tools that have the switch on invites accidents.
- Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

Set-Up

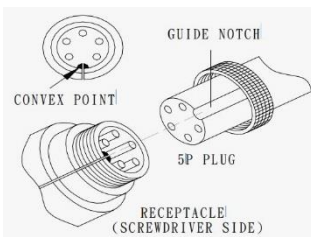
- Use the power supply in an indoor, dry place that has no dust or iron grindings.
- Position the power supply on a stable surface to avoid falling caused by vibration.
- Keep power supply away from high-voltage sources and noise-generating sources to avoid electromagnetic interference.
- Do not place objects on the top of the controller. Keep surroundings clear to allow heat dissipation.
- Do not switch between forward and reverse when the electric screwdriver is in operation.
- We recommend that you use 80% or less of the rated maximum torque to avoid inaccurate clutch escape. Maximum torque may vary with the flexibility of the fastened object. If your application requires more than 80% of the rated maximum torque, using a screwdriver with higher torque is recommended.

Caution During Operation

- Use the power supply only on an AC circuit with an overload relay.
- The plug of the power cord is attached with a ground pin. Ensure the ground pin is connected to a socket equipped with a ground circuit to avoid electric shock.
- Ensure the power cord is tightly plugged into the socket.
- Hold plug firmly when plugging in or unplugging power cord. Do not pull on the cable; doing so could cause a short circuit.
- Ensure that the connecting cable to the screwdriver is aligned properly with the guide slot before inserting; then twist the knob to fix the connection. This will reduce the occurrence of cord breakage due to drag.

Safety Notice

- Stop using the product if there is any unusual noise or smell. Turn off the power immediately and contact your AIMCO service center.
- Keep the two-stage switch in the OFF position when the power supply is not in use. If the power supply will not be used for an extended period of time, disconnect the plug from the socket.
- The power supply is designed only for use with Electra Series electric screwdriver. Do not use it with other tools.



NEW TOOL AND ACCESSORY WARRANTY

Any new tool or accessory branded with the AIMCO, Uryu, AcraDyne or Eagle Industries name, and purchased from AIMCO, or through one of its authorized distributors or agents, is warranted to the original buyer against defects in materials and workmanship for a period of one (1) year* from date of delivery. Under the terms of this warranty, AIMCO will repair or replace any product or accessory warranted hereunder and returned freight prepaid proving to AIMCO's satisfaction to be defective as a result of workmanship or materials. In order to qualify for this warranty, written notice to AIMCO must be given immediately upon discovery of such defect, at which time AIMCO will issue an authorization to return the tool. The defective item must be promptly returned to an authorized AIMCO service center with all freight charges prepaid.

REPAIRED TOOL WARRANTY

Once a tool is beyond the new product warranty period as detailed above, AIMCO repairs are subject to the following warranty periods: pneumatic tools: 90 days*; electric tools and Acra-Feed: 90 days; battery tools: 30 days*; DC Electric tools: 90 days*

EXCLUSION FROM WARRANTY

This warranty is valid only on products purchased from AIMCO, or thru its authorized distributors or agents. AIMCO shall have no obligation pursuant to the AIMCO Warranty with respect to any tools or accessories which in AIMCO's sole judgment have been altered, damaged, misused, abused, badly worn, lost or improperly maintained. This Warranty is null and void if the customer, or any other person other than an authorized representative of AIMCO, has made any attempt to service or modify the tool or accessory prior to its return to AIMCO under this Warranty.

The warranty provision with respect to each such product may be amended by AIMCO from time to time in its sole discretion. The liability of AIMCO hereunder shall be limited to replacing or repairing, at its option, any products which are returned freight prepaid to AIMCO and which AIMCO determines to be defective as described above or, at AIMCO's option, refunding the purchase price of such products.

AIMCO reserves the right to make periodic changes in construction or tool design at any time. AIMCO specifically reserves the right to make these changes without incurring any obligation or incorporating such changes or updates in tools or parts previously distributed.

THE AIMCO WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND AIMCO EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY SETS FORTH THE SOLE AND EXCLUSIVE REMEDY IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE.

THIS WARRANTY IS THE ONLY WARRANTY MADE BY AIMCO WITH RESPECT TO THE GOODS DELIVERED HEREUNDER, AND MAY BE MODIFIED OR AMENDED ONLY BY A WRITTEN INSTRUMENT SIGNED BY A DULY AUTHORIZED OFFICER OF AIMCO.

LIMITATION OF LIABILITY

AIMCO'S LIABILITY PURSUANT TO WARRANTY OF THE PRODUCTS COVERED HEREUNDER IS LIMITED TO REFUND OF THE PURCHASE PRICE. IN NO EVENT SHALL AIMCO BE LIABLE FOR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS BY THE BUYER. IN NO EVENT SHALL AIMCO BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES (INCLUDING WITHOUT LIMITATION, LOSS OF PROFIT) WHETHER OR NOT AIMCO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS, HOWEVER CAUSED, WHETHER FOR BREACH OR REPUDIATION OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE. THIS EXCLUSION ALSO INCLUDES ANY LIABILITY WHICH MAY ARISE OUT OF THIRD PARTY CLAIMS AGAINST BUYER. THE ESSENTIAL PURPOSE OF THIS PROVISION IS TO LIMIT THE POTENTIAL LIABILITY OF AIMCO ARISING OUT OF THIS AGREEMENT AND/OR SALE.

Note: The AIMCO Warranty confers specific legal rights, however some states or jurisdictions may not allow certain exclusions or limitations within this warranty.

* All warranty periods addressed herein are determined using a standard shift, eight-hour work day.

PRODUCT SPECIFICATIONS

Features

- **Universal power source:** Suitable for any power source ranges between 100–240VAC 50/60Hz.
- **Stepless control:** Power supply delivers consistent, uninterrupted power to the tool which facilitates precise tightening of small fasteners regardless of length.
- **Soft start:** Power Supply has an adjustable 0-1 second ramp up feature that can help an operator avoid cross-threaded fastening at the beginning of the tightening event.
- **Output Terminal:** Connection can be made to an external device for control purposes.

Model	AE-224PS	AE-278PS
Input Voltage (VAC)	100~240V, 50/60Hz	
Output Voltage (VDC)	25 – 35 V	20 – 30 V
Soft-start (sec)	0 – 1 sec	0 – 1 sec
Output Voltage Setting	Stepless Control	
Output Pin	5 pin	5 pin
Internal Signal Output	Switch-on Signal/Shut-off Signal	
External Signal Output	Switch-on Signal	
No. of Screwdriver/ Power Supply	1 piece	
Power (W)	59.5 W	75 W
Applicable Electric Screwdriver Models	AE-2020 / AE-2020ESD AE-4020 AE-4520 / AE-4520ESD AE-6300 / AE-6300S AE-6450 / AE-6450S	AE-7010 / AE-7010PS AE-8010 / AE-8010PS
Dimension (mm)	164 x 64 x 42 mm	172 x 84 x 46 mm
Weight (g)	0.66 lb (300 g)	0.84 lb (380 g)
AC Cable Length (M)	1.8 M	
Safety Standards	CB, CE, UL (CUL), CCC, ROHS, REACH	

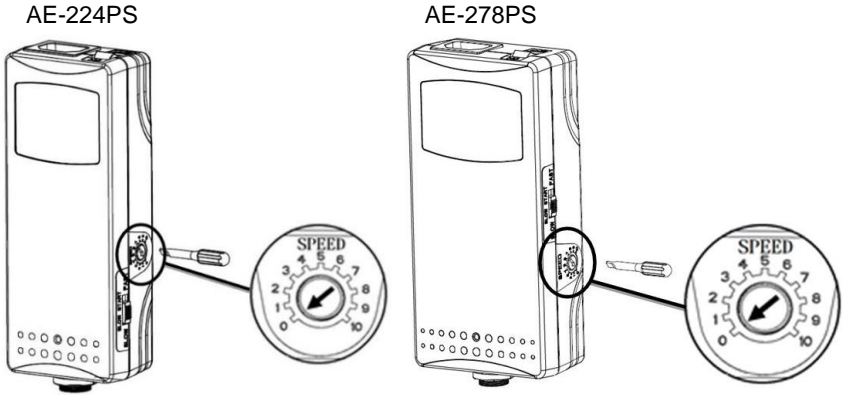
OPERATION

Parts and Functions

Speed Setting

Change the speed setting by turning the speed-setting screw on the side of the power supply with the small screwdriver (standard accessory).

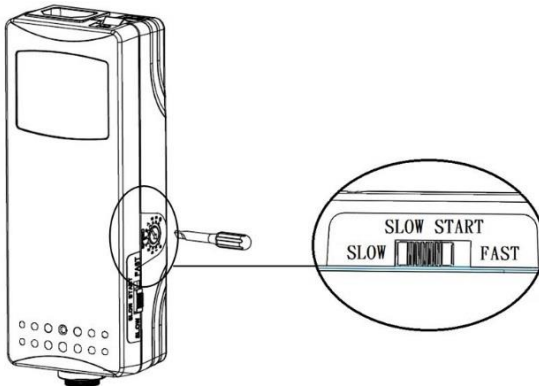
- Turn clockwise ↻ 0→10 to increase the speed.
- Turn counter-clockwise ↺ 10→0 to lower the speed.



Soft-Start Setting

To change the start setting, toggle the two-stage switch on the side of the power supply.

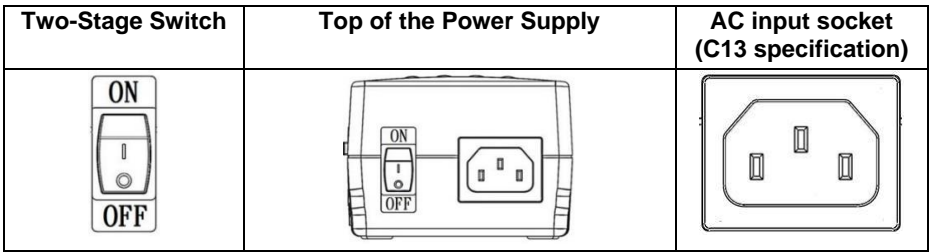
- SLOW: Speed gradually increases to full speed (0–1 second).
- FAST: Constant speed without change.



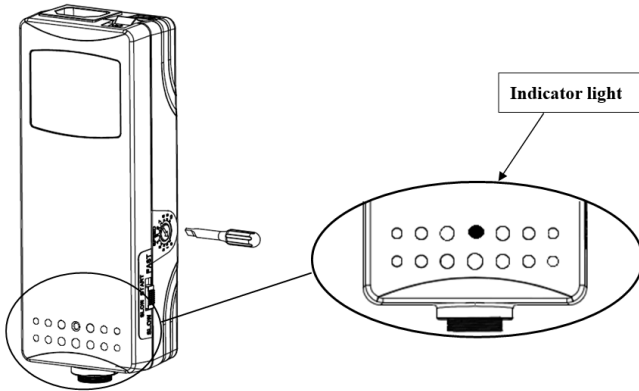
Power Setting and AC Input Socket (C13 Specification)

The input voltage of the power supply is ranged between 100–240VAC, 50/60 Hz. Use the correct voltage to avoid any damage to the power supply.

- Connect one side of the cable to the AC power socket and the other side to the AC input socket (C13 specification).
- Turn the power supply on and off by toggling the two-stage switch on the top of the power supply.



Indicator Light

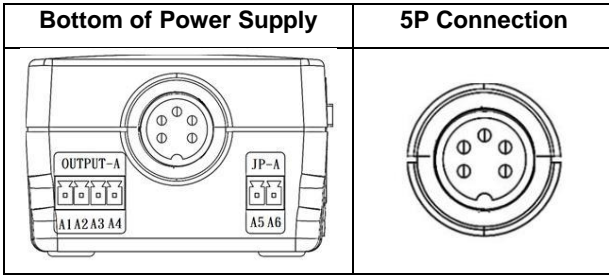


Light Color	Description	AE-224PS	AE-278PS
Green Light	After switched on, the light flashes orange three times, then turns to green	✓	✓
No Light	No DC voltage output	✓	✓
Flashing Green	Short circuit protection	✓	✓
	Over power protection	✓	✓
Red Light	Brakes	✓	✓
Flashing Red	Heating protection (temperature set at 167°–185° F (75°–85° C))		✓

Output (DC) Plug

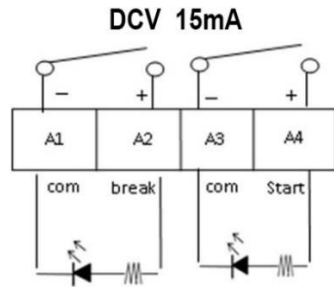
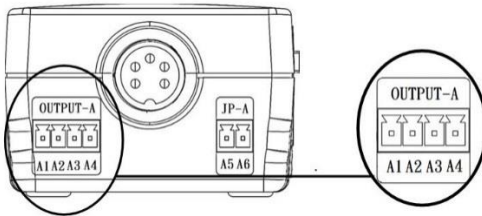
Provides power to the electric screwdriver.

Plug specification



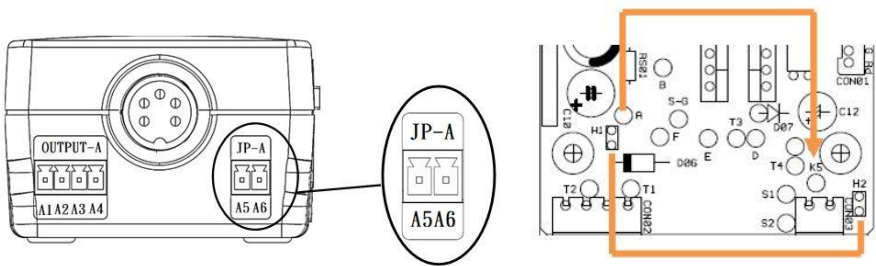
OUTPUT-A: Signal Output Terminal

- **A3 & A4:** “Switch on” signal output. A3 and A4 will export DC voltage when the electric screwdriver switched on.
- **A1 & A2:** “Shut-off” signal output. When the electric screwdriver has reached its set torque and stopped, DC voltage will be exported.
- “Shut-off” and “switch on” signal output voltage will be changed with the speed button setting: AE-224PS (DC 25–35V), AE-278PS (DC 20–30V).



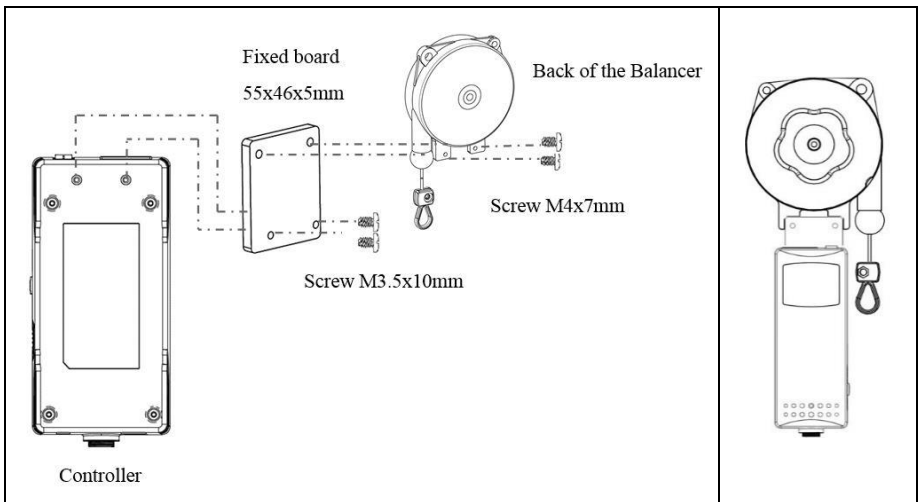
JP-A: External Controller use Terminal

- Connecting the power supply to an external controller:** Connect A line to K5, H2 line to H1. When the lines are connected, the operator can use the external controller to control the power supply (see second picture). This is only for automation use.
- A5 / A6:** Tool start lever must be mechanically pinned to “Tool Start” (lever pressed). The external control source then sends the start signal to commence tool operation. In the absence of the start signal, the tool will cease operation (CW or FWD operation only). Under running condition, with start signal activated from the external control, tool clutch will cause tool to shut off.



Screw Hole for Assembly of Power Supply and Balancer

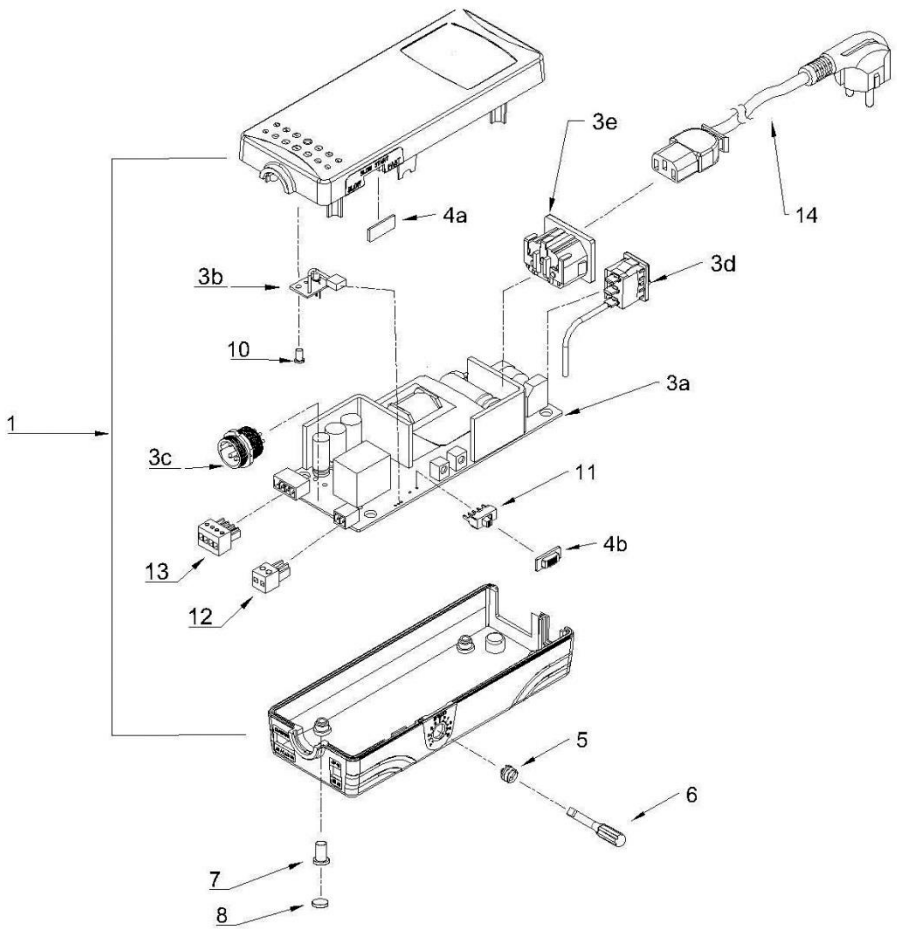
Screw holes at the bottom of the power supply allow it to be mounted on an SB-series balancer (optional accessory) and the fixed board. Please follow the instruction below:



Troubleshooting

Problem	Solution
Screwdriver does not operate	Verify that power plug is correctly and tightly plugged into the designated power source.
	For power supplies with 5-pin output terminals, check DC voltage between pin 1(-) and pin 4(+).
	Check whether the connection wire plug of 5P–5P is broken. If it is broken, replace it with a new connection wire or new plug. (This problem usually occurs at the plug that connects to the screwdriver.)
	AE-224PS: Check to see if the contact points on the relay's braking circuit are melted. Melting could prevent the contact point from activating (NO → NC).
	<i>Inspection tip:</i> Slightly shake the power supply 2–3 times. If you hear a “click” sound, the relay contact point is loose. The relay should be replaced by an authorized AIMCO service technician.
	AE-278PS: Power supply is designed with an electric braking system. If you experience this problem, contact AIMCO's service department.
Screwdriver keeps rotating	AE-224PS: Check to see if the contact points on the relay's braking circuit are melted. Melting could prevent the contact point from disengaging (NO → NC).
	<i>Inspection tip:</i> Slightly shake the power supply 2–3 times. If you hear a “click” sound, the relay contact point is loose. The relay should be replaced by an authorized AIMCO service technician.
	AE-278PS: Power supply is designed with an electric braking system. If you experience this problem, contact AIMCO's service department.
Screwdriver does not stop automatically when the clutch shuts off at preset torque	AE-224PS: Check to see if the contact points on the relay's braking circuit are melted. Melting could prevent the contact point from disengaging (NC → NO).
	<i>Inspection tip:</i> Slightly shake the power supply 2–3 times. If you hear a “click” sound, the relay contact point is loose. The relay should be replaced by an authorized AIMCO service technician.
	AE-278PS: Power supply is designed with an electric braking system. If you experience this problem, contact AIMCO's service department.

Assembly Drawing



Parts List

Index #	Part #	Description	Qty.
Parts for AE-224PS			
1	6Z2070	Plastic Housing Upper Cover	1
	6Z2071	Plastic Housing Lower Cover	1
3	2A2918	PCB Sub Ass'y	1
3A	2A2918-MP	PCB Sub Ass'y	1
3B	2A2917-LP	LED Pcb Sub Ass'y	1
3C	6G1001	Plastic Plug 5 Pin	1
3D	2S2038-1	On/Off Switch	1
3E	2G4010	AC Inlet	1
Parts for AE-278PS			
1	6Z2072	Plastic Housing Upper Cover	1
	6Z2074	Plastic Housing Lower Cover	1
3	2A2928	PCB Sub Ass'y	1
3A	2A2928-MP	PCB Sub Ass'y	1
3B	2A2917-LP	LED PCB Sub Ass'y	1
3C	6G1001	Plastic Plug 5 Pin	1
3D	2S2038-1	On/Off Switch	1
3E	2G4010	AC Inlet	1
Common Parts			
4A	6V1064	Screen	1
4B	6V1063	Push Button	1
5	6R3016	Adjustment Button	1
6	6R3017	Plastic Screwdriver	1
7	8T2090	Screw M3 x L:16	1
8	6B3020	Foot 6.5 x 3.0	1
10	8T2663	Screw M2.5 x L:6	1
11	2A7091	Switch Sub Ass'y	1
12	2T6011	Terminal Block 2P	1
13	2T6012	Terminal Block 4P	1
14	2W1024	AC Cable (USA Type)	1



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