

# I•D•X COMPANY LIMITED

...Xcellence in Power

## INSTRUCTION MANUAL

*Thank you very much for purchasing the AL-4, Multi purpose charger for IDX NP-L Lithium Ion NP Type, NP & BP Type NiCd and NP & BP Type MiMH Battery Pack. We hope that its careful design will satisfy all your battery charging needs. Please utilise this Operation Manual for help on how to use this charger. If you have any additional questions, please contact the appropriate IDX office, listed below.*

# AL-4



**SIMULTANEOUS FOUR CHANNEL  
FAST CHARGER FOR ALL IDX NP-L LITHIUM ION NP TYPE,  
AND ALL NiCd & NiMH NP & BP TYPE BATERIES**

## FEATURES

- Fast charging on all 4 channels.
- Simultaneous charging of different chemistries
- Automatic battery chemistry detection Lithium Ion, NiCd or NiMH.
- Auto safety features for damaged or misused batteries.
- Direct NP and BP compatible connections.
- Universal A/C inputs for world wide use.

## MULTI PRPOSE OPERATION

AL-4 is a Multi purpose simultaneous quick Charger that will charge a completely discharged IDX NP-L NP type Lithium Ion Battery in approx. 2 and ½ hours. It can also charge NP type Ni-Cd or NiMH batteries in approx. 90 minutes and BP type NiCd batteries in approx. 2 and ½ hours and BP type NiMH batteries in approx. 4 hours. The AL-4 can charge 4 batteries regardless of chemistry simultaneously.

The charger automatically searches each channel for a battery to charge, in a continuous loop. The charging simultaneous loop is interrupted only by the detection of a valid battery to be charged. The AL-4 Charger automatically checks a battery's chemistry & type charges it accordingly.

## OPERATING INSTRUCTIONS

- A. Connect AC power cord firmly.
- B. Set the power switch ON (Green LED will light).
- C. **Basic Operation:-**

### For NP-L Lithium Ion Battery's

- 1) Insert a battery - Standby mode, AL-4 Charge channel LED is orange, while the charger is checking the battery 's Chemistry/
- 2) Battery Check - Within 5 seconds the LED will turn to Red indicating that the AL-4 Charger is in fast charge mode. If a battery is low voltage the AL-4 Charger will be in slow charge mode, until the battery reaches fast charge capability, LED will remain Orange. If a battery can not pick up the Fast charge or if a battery becomes excessive over charge then the Orange LED will start flashing indicating Battery Fault.
- 3) Fast Charging - When a battery is at 12v LED will turn to Red indicating that the AL-4 Charger is in fast charge mode.
- 4) Charge End - When the battery is fully charged the LED will turn to Green, indicating that the battery is ready to use.

### For Nickel Cadmium or Nickel Metal Hydride Batteries:-

- 1) Insert a battery - Standby mode, AL-4 Charger LED is orange, while the charger is checking the battery's Chemistry.
- 2) Battery Check - Within 5 seconds the LED will turn Red for start charging indication. If a battery is low voltage then the AL-4 Charger will be in slow charge mode, LED will remain Orange until it charges up to fast charge capacity. If a battery can not pick up the Fast charge or if a battery becomes excessive over charge then the Orange LED will start flashing indicating Battery Fault.
- 3) Fast Charging - When a battery is at 11v LED will turn to Red indicating that the AL-4 Charger is in fast charge mode.
- 4) Charge End - When the battery is fully charged the AL-4 will turn to trickle charge for NiCd and NiMH batteries and the LED will turn to Green, indicating that the battery is ready to use.

## LED COLOUR STATUS LIST

- Solid Red .....Quick Charge in progress**
- Solid Green .....Charge complete, battery ready**
- Solid Orange .....Standby mode or slow charge mode**
- Flashing Orange .....Defective battery**

## SAFETY FEATURES

The AL-4 has built in safety features to protect the charger as well as the batteries from serious damage in the event an attempt is made to charge a faulty battery. Low voltage batteries are detected prior to applying fast charge current. If a battery is found to be low voltage it will not be fast charged until it reaches to the acceptable fast charge level. This prevents any damage to the unit or to the battery. Batteries reaching an over voltage condition during charging will also be controlled.

## GENERAL NOTES

- a) While in use do not place anything on the charger, do not block ventilation holes.
- b) During charging the temperature of the charger will rise, this is normal and not a malfunction.
- c) When connecting a battery be sure to plug it into the socket or connector firmly.
- d) Do not attempt to use faulty batteries or batteries with incorrect specifications.
- e) Do not expose the charger to direct sunlight, use in a well ventilated place.
- f) Do not operate near equipment that might be influenced by noise such as TV, etc.
- g) Do not open unit or attempt to repair any malfunction by yourself, there are dangerous power supply circuits inside. There are no user serviceable parts.
- h) The unit should be turned on prior to inserting batteries to be charged.

## SPECIFICATION

Applicable batteries	All IDX NP-L NP Type Lithium Ion Battery Packs All IDX BP & NP Type NiCd battery Packs or Equivalent All IDX BP & NP Type NiMH battery Packs or Equivalent
Fast charge current	Lithium Ion 2.1A, NiCd & NiMH 1.9A
Input voltage	100 ~ 240V AC 50/60 Hz Automatic.
Power consumption	280 VA max.
Weight	3.2 Kg approx.
Dimension	232 (w) x 80 (h) x 242 (d) mm