

## ***Lithium-Ion Charging Stations IP54***

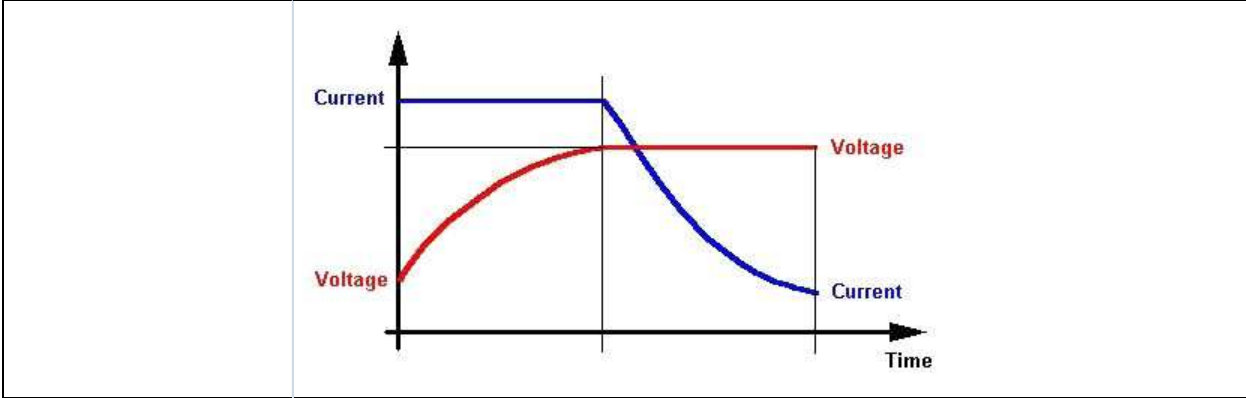
- **Fully automatic, universal** charging station for Lithium-Ion batteries
- **Output Voltages up to 800 V, Output Currents up to 800 A**
- **Output Power** ratings: **12, 24, 36, 48, 60, 75, 90 kW**
- **Robust and reliable construction. Protection Rating IP54**
  - Suitable for outdoor installation
  - Operating temperature from -20°C to 50°C
  - Operating humidity up to 90% non condensing
- **Alphanumeric LCD 16x2 characters alphanumeric** (Output Voltage and Current, Capacity charged (Ah), Charging time (Hours – Minutes), Warning/Error messages, Battery Identification, History Log, Programming and Maintenance menus).
- **4 status LEDs** (Battery Connected, Charge in Progress, Charge Complete, Fault/Alarm)
- **Built-in control interface to BMS system**, user configurable and widely customizable (PWM, analog or CANBUS signals, 12V isolated supply)
- Complete **electronic protection** system:
  - Wrong battery
  - Reverse polarity (without fuses)
  - Auto test at startup
  - Emergency timer
  - Over temperature, overload, output short circuit
- **Automatic shutdown** on battery disconnection, with **Anti-arcing** protection
- **Real Time Clock**, programmable charging times, fast/slow charging periods, time tags included in history logs.



- **Charge history** (600 charge cycles, expandable) and multiple **remote control solutions: RS-485, USB (optional), wireless (optional).**
- Compatible with WEB-based **fleet management** and **remote monitoring** system ([www.doctorfleet.com](http://www.doctorfleet.com))
- Standard input voltage Versions:
  - Euro 1** 1x 240 V (+/-15%) 50/60 Hz
  - Euro 3** 3x 240/400 V (+/-15%) 50/60 Hz
  - USA/Canada A1** 1x 208/240 V (+/-15%) 50/60 Hz
  - USA/Canada A3** 3x 208/240 V (+/-15%) 50/60 Hz
  - USA/Canada B3** 3x 480/600 V (+/-15%) 50/60 HzDifferent versions available on request.
- **High frequency** charge controller, based on **IGBT** switch mode converter
  - Efficiency >93%**
  - Power factor >0.95** (three phase models), or **>0.90** (single phase models)
- Cabinet sizes
  - 12kW: mm 500 x 440 x 900
  - 24kW: mm 800 x 500 x 1600
  - 60kW: mm 800 x 500 x 1600
- Warranty:
  - 10 years on power transformer
  - 5 years of power electronics
  - 3 years on control electronics
- **CE** Certified, **UL/CSA** Listed
- Reference Standards
  - DIN 41772 – 41774
  - IEC 801/2 – 801/3 – 801/4 – 529, IEC 529
  - EN50081 – 50082 – 55011 – EN61204-7:2006
  - EN61000-6-4:2001 – EN61000-6-2:2005
  - UL 1584, CSA 22.2

<b>INPUT</b>	
Standard voltage	Standard ranges: 85-135, 180-250, 350-430, 420-480, 440-520, 550-630 VAC Wide ranges (available on request): 150-260, 330-450 VAC 1 or 3 phases 50/60 Hz
Efficiency at full load	>90 % (1 phase) >94 % (3 phases)
Power factor	>0.90 (1 phase) >0.95 (3 phases)
<b>OUTPUT</b>	
Voltage	Standard Voltage range 50-600 VDC Available extended voltage version, up to 800 VDC
Current ratings	Standard Current ratings 50-125-250-320-400-500-800 Amps Available with fixed or adjustable current limit (0-100% of the rated value)
Regulation	Static: <1% for simultaneous variations of input voltage (+/- 15%) and load (100%) Dynamic: +/- 2% for 10%-100% and 100%-10% load variation, settling time <100 msec
Output ripple	< 1% Standard at low frequency < 1% Standard at switching frequency
<b>PROTECTION</b>	
Battery polarity reversal	If the battery is connected with reverse polarity, the charging station remains in stand-by mode and gives error/warning message.
Output short circuit	The charging station can operate continuously at constant current with the outputs in short circuit. If a short circuit occurs during full power operation, the current spike is limited to no more than 125% of the maximum rated value.
Overtemperature	A thermal sensor protects the electronic components of the charging station.
Sparks on battery connection	When the battery is connected, no sparks and/or electric arcs will be generated at the connectors.
Self-test at startup	Every time the charging station is powered, an automatic self-test of the power electronics and the control boards is executed in less than 10 seconds. In case of fault, the unit remains in stand-by mode and gives fault message.
<b>MECHANICAL</b>	
External dimensions	Box B: 500 x 440 x 900(h) mm output power up to 12 kW Box M: 800 x 600 x 1800(h) mm output power between 24 kW and 60 kW
Enclosure	2 mm steel. Hinged front and back access door. Optional wheels kit for easy moving.
Cooling	Forced ventilation, temperature controlled.

**Standard Charge curve "IU" - Controlled by BMS**



**STANDARD MODELS**

LION12-A	12kW, 50A, 50-600VDC
LION24-A	24kW, 125A, 50-600VDC
LION60-A	60kW, 125A, 50-600VDC



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