

Delta-Q Technologies ICL Series

900W-1500W Battery Charger for Lithium Battery Chemistries

The ICL Series is Delta-Q Technologies' lithium-specific line of battery chargers for industrial and motive applications. Designed to optimally charge lithium battery systems with any chemistry (e.g. LCO, NCA, NMC, LMO, LFP, LTO). CAN bus communication, with the battery management system (BMS), ensures seamless machine integration to grant original equipment manufacturers (OEMs) wide flexibility in their design and deployment.



ICL1500

Available Models



ICL1200

120V 85V 57V

ICL1500	✓	✓	
ICL1200	✓	✓	✓
ICL900			✓

Charger Features



High Reliability

IP66-rated, rugged, sealed aluminum die-cast enclosure protects against vibration, shock, dirt, chemicals, and fluids. Automotive reliability and tested to an 8-year service life.



Charge Quality

Charge algorithms to precisely charge lithium batteries while balancing charge time, battery life and application requirements.



Lithium Safety

Custom lithium algorithms providing the first line of safety for lithium battery charging; state-of-the-art battery labs and experts for testing and validating of battery packs and BMS.



Global + Efficient

Wide AC input voltage range capable of operating on any single-phase grid worldwide. 93% efficient and meets energy efficiency standards, such as CEC.



OEM System Integration

CAN bus enables OEMs to update the software of the charger, algorithms, and extract charger status, charger history, fault and error logs.



Global Standard Compliance






Compliance with North American, UNECE R10 and European touch-safe voltage regulations allows for easy integration into electric vehicles.

OEM Features

- CAN bus communication for machine BMS/telematic integration with CANopen and J1939 protocols
- Charge cycle data logging for insight into usage and troubleshooting
- OEM customizable, field replaceable cable design
- Optional multi-colored remote or charger mounted LED indicator for battery charging status, error and fault indication
- Interlock prevents vehicle from moving while charging

Application Examples



DC Output	ICL900 57V	ICL1200 85V	ICL1200 120V	ICL1200 57V	ICL1500 85V	ICL1500 120V
Lithium final charging voltage	36-57 VDC	55-85 VDC	80-120 VDC	36-57 VDC	55-85 VDC	80-120 VDC
Lithium cells in series	9 to16	14 to 24	21 to 34	9 to 16	14 to 24	21 to 34
Max DC output voltage	57 VDC	85 VDC	120 VDC	57 VDC	85 VDC	120 VDC
Max DC output current. V _{in} > 200	27.0 A	20.0 A	15.0 A	33.3 A	25.0 A	18.7 A
Max DC output Power. V _{in} > 200	900 W (V _{out} > 36V)	1200 W (V _{out} > 60V)	1200 W (V _{out} > 80V)	1200 W (V _{out} > 36V)	1500 W (V _{out} > 60V)	1500 W (V _{out} > 80V)
Max DC output current. V _{in} < 200	27.0 A	18.2 A	12.5 A	33.3 A	20.8 A	15.6 A
Max DC output Power. V _{in} < 200	900 W (V _{out} > 36V)	1000 W (V _{out} > 60V)	1000 W (V _{out} > 80V)	1200 W (V _{out} > 36V)	1200 W (V _{out} > 60V)	1200 W (V _{out} > 80V)
Dry contact interlock current rating	0.3 A					
Reverse polarity	Poka-Yoke DC terminals and electronic protection with auto-reset					
Short circuit	Electronic current limit					
AC Input	ICL900 57V	ICL1200 85V	ICL1200 120V	ICL1200 57V	ICL1500 85V	ICL1500 120V
AC input voltage range	85-270 VAC					
Nominal AC input voltage range	100-240 VAC					
Nominal AC input frequency	50/60 Hz					
Max AC input current	10.5 A	11.5 A	11.5 A	14.0 A	13.0 A	13.0 A
Nominal AC input current	8.4 A @ 120 VAC	9.3 A @ 120 VAC	9.3 A @ 120 VAC	11.1 A @ 120 VAC	11.1 A @ 120 VAC	11.1 A @ 120 VAC
	4.4 A @ 230 VAC	5.7 A @ 230 VAC	5.7 A @ 230 VAC	5.7 A @ 230 VAC	7.2 A @ 230 VAC	7.2 A @ 230 VAC
Nominal AC power factor	>0.99 @ 120 VAC, >0.98 @ 230 VAC					
Mechanical	ICL900 57V	ICL1200 85V	ICL1200 120V	ICL1200 57V	ICL1500 85V	ICL1500 120V
Dimensions	300 x 179 x 80 mm (11.8 x 7.0 x 3.2")					
Weight	3.65 kg (8.0 lbs)			3.55 kg (7.8 lbs)		
AC input connector	IEC320/C14 with Delta-Q country-specific AC cord					
DC output connector	Poka-Yoke threaded fasteners for ring terminals. Negative: M6; Positive: M8					
Mounting holes	M6 diameter slots					
Cooling	Natural convection			Forced convection with variable speed fan		
Regulatory	All Models					
Efficiency	93% peak efficiency; California Energy Commission (CEC) and Department of Energy (DoE) compliant					
Safety	All Models: UL1564, EN 60335-2-29, AZ/NZS60335 (RCM) ICL900 57V and ICL1200 57V: Voltage Class A (less than 60 VDC)					
Emissions	FCC Part 15 / ICES 003 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-3, CISPR 14.1, UNECE R10					
Immunity	CISPR 14.2, EN 61000-6-2, UNECE R10					
Environmental	All Models					
Enclosure	IP66 (NEMA4)					
Mechanical shock & vibration	Shock: ISO 16750-3 chap. 4.2.2. Vibration: ISO 16750-3 chap. 4.1.2.4 (Test IV: vehicle body) GMW 3172					
Operating temperature	-40°C to +65°C (-40°F to 149°F)					
Storage temperature	-40°C to +85°C (-40°F to 185°F)					
Regulatory	All Models					
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Please note the above specifications are subject to change.

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