



**POWER, RELIABILITY AND EASE OF USE  
FOR INDUSTRIAL APPLICATIONS OF ANY TYPE**



## Product Description

The RLD is a motive battery charger designed for industrial applications of any type and complexity.

It combines the intelligence of the newest microprocessor technology, with the reliability of taper charging system.

The well-established Wa-curve is used as the standard charging characteristic, but other curves are available: WoWa, WSA-pulsed, AirPump.

The RLD features lower gas development in the gassing phase, reduced water consumption and battery temperature rise, resulting in a maximized battery life.

Based on a solid and well tested design, the RLD ensures many years of trouble-free operation.

## Typical Applications

- Material Handling Vehicles
- Airport Ground Support Equipment

## Options

- Air-Pump
- Cable management kit
- Anti-Arcing protection
- Outdoor rated enclosure

## Main Features

- Fully automatic operation
- Robust and reliable construction, standard cabinet rating **IP21** (indoor). Optional cabinet rating **IP54** (outdoor)
- User interface with digital display:
  - Output current (A)
  - Battery voltage (V/cell)
  - Capacity charged (Ah)
  - Time of Charge
  - Warning messages
- Full electronic protection:
  - Battery undervoltage/overvoltage
  - Output fuse blown
  - Black-out of the main supply
  - Emergency timer
- Programmable Gassing Voltage
- Automatic Equalization and Refresh
- Automatic saving of the charge parameters in case of black-out of the mains and autorestart
- Worldwide input voltage configurations
- 5 years warranty
- Designed and built by **ISO9001:2008** Certified company
- Product certifications:
  - **CE**
  - **cCSAus** (UL 1564 + CSA 22.2)

## Product Specifications

AC INPUT	
STANDARD VOLTAGES	Single-phase 220-230-240 VAC $\pm$ 10% Three-phase 200, 220-240, 400-415, 440, 480, 600 VAC $\pm$ 10% Frequency 50/60 Hz $\pm$ 5 Hz
EFFICIENCY	>90%
POWER FACTOR	>0,9
DC OUTPUT	
STANDARD VOLTAGES	Nominal battery voltages from 24V to 96 VDC Other voltages available on request
CURRENT RATINGS	From 40A to 320A
CHARGING CURVE	Standard curve Wa (DIN 41774) Optional curves: WoWa, Wsa (pulsed), AirPump Automatic Weekly Equalization Automatic Refresh System
PROTECTION	
WRONG BATTERY	If the battery voltage is outside the acceptable limits the charger remains in stand-by mode and gives error/warning message.
ELECTRONIC OVERLOAD PROTECTION	Complete protection in case of output short circuit or overload.
ANTI-ARCING	<b>WITHOUT AUXILIARY WIRES:</b> When the battery is connected, no arcing is generated at the connectors. If the battery is disconnected while it's being charged, arcing is possible, so it's necessary to turn off the charger before to disconnect the battery. <b>WITH AUXILIARY WIRES (RECOMMENDED):</b> Full Anti-arcing protection in case of battery disconnection, even while the charge is in progress.
POWER-ON SELF-TEST	Every time the unit 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 safe stand-by mode and gives fault messages.
BLACK-OUT OF THE AC INPUT	The charger features an intelligent management of the AC input black-outs. When a black-out of the AC input occurs, all the data related to the charge cycle that was in progress are saved in the internal memory. When the AC input is restored, the charger restarts from the exact point of interruption, and it completes the charge cycle normally.
AUTOMATIC SHUTDOWN ON BATTERY DISCONNECTION	If the battery is disconnected while the charge is in progress, the charger turns-off automatically within 3 seconds.
SAFETY TIMER	An independent safety timer turns the charger off in case of malfunction of the main control unit.
MECHANICAL AND ENVIRONMENTAL	
DIMENSIONS (W x H x D mm)	CABINET A: 500 x 900 x 360(mm) CABINET B: 500 x 900 x 440 (mm) CABINET M: 620x 1050 x 550 (mm)
ENCLOSURE TYPE	Steel enclosure, painted in yellow (RAL1007)



# RLD Series Motive Battery Chargers

COOLING	Natural ventilation
AUDIBLE NOISE	<65 dBA at 1 meter
ENVIRONMENTAL PROTECTION	IP21 (Standard) IP54 (Optional)
AMBIENT TEMPERATURE	OPERATION: -10 / +50 °C STORAGE: -20 / +70 °C
ALTITUDE	<2000m Derating according to EN62040-3

## USER INTERFACE AND CONNECTIVITY

USER INTERFACE	Alphanumeric LED Display (RED)
CONNECTIVITY PACKAGES	<ul style="list-style-type: none"><li>• Dual RS-485 port for daisy chain interconnection, compatible with WEB based Fleet Management System (DoctorFleet.com)</li><li>• Interface to Bassi wireless Battery Identification Modules (BMOD)</li><li>• Integrated Data-logger (200 cycles)</li><li>• Extended Data-logger (600 cycles) with USB port (Optional)</li><li>• Wireless card (Optional)</li></ul>

## STANDARDS

QUALITY	ISO 9001:2008
MARKING	CE
EMC	IEC EN 61000-6-2, IEC EN 61000-6-4
SAFETY	IEC EN 50178, IEC EN 62040-1
TEST AND PERFORMANCE	IEC EN 62040-3
NORTH AMERICAN STANDARDS	UL 1564 "Industrial Battery Chargers" CSA 22.2 107.2-01 "Battery Chargers" cCSAus Listed

## Standard Models

VOLTAGE (Volt)	CURRENT (Ampere)	CAPACITY (Ah) Curve Wa Charge in 14 h	CAPACITY (Ah) Curve Wa Charge in 10 h	CAPACITY (Ah) Curve WoWa Charge in 8 h	WEIGHT (Kg)	INPUT POWER (KVA)	BOX TYPE
24	60	390-480	300-380	240-290	57	2,1	A
24	80	480-650	360-500	320-380	62	2,8	A
24	100	650-780	500-600	400-480	66	3,5	A
24	120	780-910	600-720	480-580	68	4,2	A
24	140	900-1100	700-840	560-680	76	4,9	A
24	160	960-1300	800-1000	640-760	77	5,6	B
24	200	1300-1560	1000-1200	800-960	84	7,0	B
36	60	390-480	300-380	240-290	59	3,1	A
36	80	480-650	360-500	320-380	64	4,2	A
36	100	650-780	500-600	400-480	73	5,2	A
36	120	780-910	600-720	480-580	81	6,2	A
36	140	900-1100	700-840	560-680	86	7,3	B
36	160	960-1300	800-1000	640-760	95	8,4	B
40	50	325-390	250-300	200-240	45	4,4	A
40	60	390-480	300-380	240-290	49	5,3	A
40	80	480-650	360-500	320-380	57	7,0	A
48	50	325-390	250-300	200-240	60	2,8	A
48	60	390-480	300-380	240-290	66	4,2	A
48	80	480-650	360-500	320-380	75	5,6	A
48	100	650-780	500-600	400-480	82	7,0	A
48	120	780-910	600-720	480-580	89	8,4	A
48	140	900-1100	700-840	560-680	99	9,8	B
48	160	960-1300	800-1000	640-760	113	11,2	B
48	200	1300-1560	1000-1200	800-960	132	14,0	B
72	60	390-480	300-380	240-290	80	6,3	A
72	80	480-650	360-500	320-380	88	8,3	A
72	100	650-780	500-600	400-480	94	10,5	B
72	120	780-910	600-720	480-580	113	12,5	B
72	140	900-1100	700-840	560-680	122	14,6	B
80	60	390-480	300-380	240-290	81	6,9	A
80	80	480-650	360-500	320-380	93	9,2	A
80	100	650-780	500-600	400-480	105	11,5	B
80	120	780-910	600-720	480-580	117	13,8	B
80	140	900-1100	700-840	560-680	124	16,1	B
80	160	960-1300	800-1000	640-760	129	18,4	B
80	200	1300-1560	1000-1200	800-960	150	23,0	B
96	100	650-780	500-600	400-480	118	14,0	B
96	120	780-910	600-720	480-580	123	16,8	B
96	140	900-1100	700-840	560-680	140	19,6	B
96	160	960-1300	800-1000	640-760	148	22,4	B
96	240	1550-1880	1200-1440	960-1160	198	33,6	M
96	320	1920-2600	1440-2000	1280-1520	252	44,8	M

The information contained in this publication is subject to variations without notice.

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