

INDUSTRIAL BATTERY CHARGERS/RECTIFIERS



Applications

**Oil & Gas - Onshore and Offshore Facilities | Refineries | Petrochemicals
Power Generation | Transmission & Distribution | Manufacturing | Telecommunication**

LINEGATE - LM Series

24, 48, 110, 125 & 220 VDC

20 - 900 Amps

ERAM Power Electronics Company(EPEC) offers LINEGATE - LM Series Modular Industrial Battery Chargers/Rectifiers designed to provide highly reliable and secures DC power to critical loads. These chargers are designed to charge all types batteries like Ni-Cd, Vented Lead Acid, Valve Regulated Lead Acid(VRLA), Lithium Ion etc. LINEGATE - LM Series chargers are constant voltage devices with built-in current limiting feature and accurate voltage regulation for optimized performance.

KEY DESIGN FEATURES

High Reliability – Redundant Hot Swappable Modules

LINEGATE - LM Series chargers are designed with hot swappable modules to provide redundancy as well as capacity enhancement.

Fan Free Modules (FFM)

LINEGATE - LM series modules are with unique natural cooled design to ensure higher reliability for industrial applications. Fan free systems provide higher reliability as fan's life is limited and highly depend upon ambient temperature and air quality. Fan free systems saves the periodical replacement/maintenance and power consumption of fans.

Being the systems are natural air cooled, dust intake to the cabinets are negligible compare to the force cooled designs.

Ease of Maintenance & Lower Footprint

All components are front accessible; no side or back access is required. Hot swappable power modules are sub-assemblies on chassis with easy plug and play industrial socket connections. It helps to reduce the spare parts inventory as well as low MTTR.

Ultra-Thermal Management (UTM)

UTM design helps to manage, separate heat exchange for power components and electronic components. The unique guided airflow path helps, the zonal temperature management. Modules are installed vertically to reduce heat absorption. UTM design extend the life of electronic components and enhance overall reliability.

Digital Firmware Platform

LINEGATE - LM Series chargers are designed on advanced digital firmware platform (Electric Power Supervisory System - EPSS) and completely potentiometer free. Parameters and alarms can be configured easily from the front LCD display. Multi-level password protection is provided for security.

Battery Monitoring and Management

LM series chargers are with advanced battery management features like temperature compensated charging, discharge and charge current monitoring etc. Historical data of battery parameters can be recorded. Individual cell monitoring capability provided as optionally.

Individual distribution branch monitoring

The superior firmware platform of LINEGATE have the feature of insulation monitoring. This feature is available optionally.



Natural Cooled Rectifier Modules



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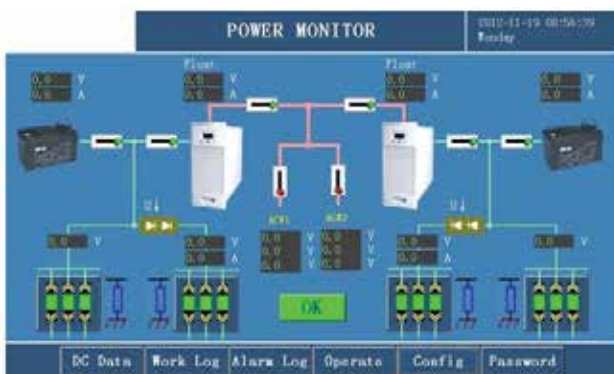
20 - 900 Amps

STANDARD FEATURES

- AC Input Circuit Breaker (14 kAIC)
- DC Output Circuit Breaker (10 kAIC)
- DC Voltage/Current Display
- Current Limit Adjustment
- Float and Equalize Adjustment
- AC and DC Surge Suppressors
- Latching Alarm with Reset
- Event Log
- Lifting Eye Bolts
- USB Communication Port
- Battery Management System
- Potential free alarm

OPTIONAL FEATURES

- AC Input Circuit Breaker (65 kAIC)
- Input Transformer
- Battery Output Circuit Breaker (20 kAIC)
- Reverse Polarity Protection
- Ground Fault Monitoring
- Temperature Compensated Charger
- Equalize Inhibit through Remote Signal
- DC-DC Converter/Diode Dropper
- Space Heater with Thermostat
- SNMP Compatible
- Remote Web Monitoring
- RS232/RS485/MODBUS
- Forced Cooled Cabinets
- Individual Cell Monitoring
- Branch Insulation Monitoring



PRODUCT SPECIFICATIONS

AC Input

Voltage	Single Phase: 120, 220, 230, 240, 277 VAC Three Phase: 208, 380, 400, 415 or 480 VAC*
Input Voltage Tolerance	±10%, (up to ±20% on request)
Frequency	50 or 60 Hz
Input Frequency Tolerance	±5%
Efficiency	90-93%, type dependent

DC Output

Voltage Ratings	24, 48, 110, 125, or 220 VDC*
Current Ratings	25-150 ADC (For Single Phase Input) 25-800 ADC (For Three Phase Input)
Voltage Regulation	Float ±0.5% (within input variation) Float ±1% (combined variation of input, load and temperature) Equalize ±1% (within input variation)
Output Current Limit	100% of rated capacity (adjustable from 50 to 100%)
DC Ripple	2% rms of nominal output voltage - with battery (Ah=5 times rated current) conneted

Mechanical

Cabinet Protection	IP 20/NEMA 1, (Optional up to IP65)
Cable Entry	Bottom, (Top entry on request)
Mounting	Floor mounting (wall mouted for 1 Phase Input Models)
Coating	RAL 7032, powder texture coated (other colors on request)
Access	Front Access
Cable Marking	Printed Labels

Environmental

Operating Ambient Temperature	0°C to 45°C (50°C optional)
Storage Temperature	-40°C to 65°C
Operating Altitude	Up to 1000 meter without de-rating
Relative Humidity	0-95% non-condensing
Audible Noise	<60 dBA at 1 meter
Ventilation	Natural Air Cooled Modules

Indications and Alarms

Standard Potential Free Contact	AC Input Failure Charger Failure Ground Fault Low Output Voltage High Output Voltage Battery End of Discharge Battery Breaker Open Common Alarm
Standard Indication	AC Input ON Common Alarm
Optional Indication	Float Mode Equalize Mode

Display Indications

Metering on display	AC Input Voltage Load Voltage Load Current Battery Voltage Battery Current
Alarms on display	Input Breaker Open Output Breaker Open Battery Breaker Open AC Input Failure Low Output Voltage High Output Voltage Charger Failure
Optional alarms on display	Positive Ground Fault Negative Ground Fault

* For Other Voltage Ratings, Consult Factory

MODEL SPECIFICATIONS

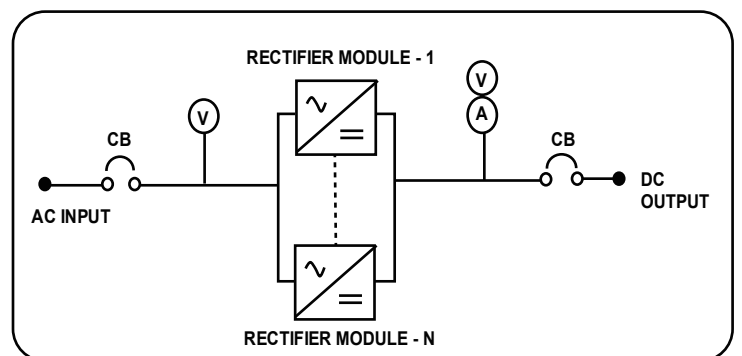
Model Number	Current Rating (A)	24VDC Output			48VDC Output			110/125VDC Output		
		Cabinet Style	Weight (Kg)	Heat Loss (Watts)	Cabinet Style	Weight (Kg)	Heat Loss (Watts)	Cabinet Style	Weight (Kg)	Heat Loss (Watts)
LM1-YY-020	20	-	-	-	-	-	-	H1	207	315
LM1-YY-030	30	-	-	-	H1	207	223	-	-	-
LM1-YY-040	40	-	-	-	-	-	-	H1	216	605
LM1-YY-050	50	H1	207	169	-	-	-	-	-	-
LM1-YY-060	60	-	-	-	H1	216	421	J1	238	895
LM1-YY-080	80	-	-	-	J1	238	619	K1	279	1185
LM1-YY-100	100	H1	216	313	-	-	-	K1	288	1475
LM1-YY-120	120	-	-	-	K1	279	817	K1	297	1765
LM1-YY-150	150	J1	238	457	K1	288	1015	-	-	-

Three Phase Input Models

Model Number	Current Rating	24/48VDC Output			110/125VDC Output			220VDC Output		
		Cabinet Style	Weight (Kg)	Heat Loss (Watts)	Cabinet Style	Weight (Kg)	Heat Loss (Watts)	Cabinet Style	Weight (Kg)	Heat Loss (Watts)
LM3-YY-020	20	-	-	-	H1	207	315	H1	207	625
LM3-YY-040	40	-	-	-	H1	216	605	H1	216	1225
LM3-YY-050	50	H1	207	169	J1	238	895	J1	238	1825
LM3-YY-080	80	-	-	-	K1	279	1185	K1	279	2425
LM3-YY-100	100	H1	216	313	K1	288	1475	K1	288	3025
LM3-YY-120	120	-	-	-	K1	297	1765	K1	297	3625
LM3-YY-140	140	-	-	-	L1	324	2055	L1	324	4225
LM3-YY-150	150	J1	238	457	L1	333	2345	L1	333	4825
LM3-YY-180	180	-	-	-	L1	342	2635	L1	342	5425
LM3-YY-200	200	K1	279	601	L1	351	2925	L1	351	6025
LM3-YY-220	220	-	-	-	L1	360	3215	L1	360	6625
LM3-YY-240	240	-	-	-	L1	369	3505	L1	369	7225
LM3-YY-250	250	K1	288	745	K2	537	3795	K2	537	7825
LM3-YY-280	280	-	-	-	K2	546	4085	K2	546	8425
LM3-YY-300	300	K1	297	889	K2	555	4375	K2	555	9025
LM3-YY-350	350	L1	324	1033	L2	618	5245	L2	618	10825
LM3-YY-400	400	L1	333	1177	L2	636	5825	L2	636	12025
LM3-YY-500	500	K2	510	1465	L3	876	7275	L3	876	15025
LM3-YY-600	600	K2	528	1753	L3	921	8725	L3	921	18025
LM3-YY-700	700	L2	582	2041	L3	966	10175	L3	966	21025
LM3-YY-800	800	L2	600	2329	L3	1011	11625	L3	1011	24025
LM3-YY-900	900	L2	618	2617	L3	1056	13075	L3	1056	27025

Cabinet Style	Cabinet size (HxWxD) mm
H1	1400x 600 x700
J1	1400x 700 x700
K1	1800x 700 x700
K2	1800x1400x700
L1	2000x 700 x700
L2	2000x1400x700
L3	2000x2100x700

Battery Charger Single Line Diagram



Note: * Specifications in this catalog are subject to change without prior notice
 * Other Ratings on request

MODEL SELECTION (LM-X-YY-ZZZ)

- > LM - LINEGATE - LM Series
- > X - Input Phase (1=1 Phase, 3=3 Phase)
- > YY - Output Voltage (02=24 VDC, 04=48 VDC, 11=110 VDC, 12=125 VDC, 22=220 VDC)
- > ZZZ - Output Current