RL Series

Project/Location:

Contractor:

Date:

Prepared by:

Fully automatic charger, battery and specified transfer and distribution features

Central DC Systems are utilized where a large number of remote heads or standard incandescent fixtures may be supplied from a single source. The systems offer the advantage of a central location for maintenance with full supervision of all operating functions. Contact your Ready-lite representative for information.

Charging Operations

The charger will fully recharge the battery within twenty four hour period from a full discharge. The charger maintains regulation of ± 0.5% of voltage for a ± 10% input voltage variation. The charger provides automatic equalize cycle whenever the charge current is more than a preset value. The charger operates in an equalize mode after each utility power return. This ensures maximum battery capacity at all times, with maintained life expectancy.

Features

- 24, 36 and 120 Vdc systems
- Control and supervision functions on single modular board
- Complete package of full supervisory functions and alarms included in standard system
- Battery selection of totally sealed maintenance free lead acid batteries
- All systems are designed and manufactured in Canada
- CSA certified
- BMEC (Building Materials Evaluation Commission) approved for compliance to the Ontario Building Code

Charger Features

Ready-Lite has developed a unique modular charger design in which all electronic control functions and pilot lights are mounted on a single control board. This is connected to the operating power components using screw type connectors–making the circuit board easily removable by means of only four screws. Any required field service, consequently, is faster and significantly simpler than with older style multiple board designs.

All chargers include a contactor which automatically disconnects the batteries from the load when battery bank voltage falls below 91% of nominal, in order to prevent over-discharge of batteries. The operating temperature for the system is from 0ºC to 40ºC. The control board is temperature compensated in order to meet the battery required float voltage at temperatures below and above 25°C, as recommended by battery manufacturers. Internal control allows for spark free battery bank connection during installation and scheduled maintenance procedures.

Standard Controls

The front panel includes the following controls:

- AC Input Circuit Breaker
- DC Battery Voltmeter (2% Accuracy)
- DC Charge Rate Ammeter (2% Accuracy)
- Green “ac on” LED (on at all times except during power failure)
- Green “float” LED (indicates that the battery is receiving float charge to maintain the battery at full charge at all times)
- Amber “equalize” LED (indicates that the charger is in the high charge equalize mode, balancing the charge level in the individual battery cells)
- Brown-out protection
- Test switch

Standard Alarms

- AC Failure LED and Alarm
- High Battery Voltage LED and Alarm
- Charger Failure LED and Alarm
- Ground Leakage Alarm
- An audible alarm and a common LED shall indicate “Ground Leakage” and/or Fuse/Circuit Breaker open/trip alarm.

Optional Alarms

- Fuse/Circuit Breaker Open/Trip Alarm

Batteries

Sealed Maintenance-Free Lead Acid Gas Recombination (SG Series)

Uses gas recombination to eliminate the escape of hydrogen. Thick plates are constructed of high strength material which resists shedding, flaking, or mechanical failure. Design Life; 10 years under normal operating conditions.

Transfer Options

System may be selected to either turn on a normally “off” load or alternatively on 120 Volt DC systems, maintain a normally“on” load.

Normally “off” (DC load): (CP)
If the lamp load is going to be turned on in the event of power failure add suffix –CP to the model number.

Normally “on” (AC/DC load): (TS)
120 V DC systems only:

The 120V incandescent load shall have 120 Vac power normally supplied to it and the load shall be transferred to 120 Vdc upon failure. Add suffix –TS to the model number. For other AC input voltages please contact factory.

Both Normally “on” & “off” loads: (CP/TS) Both of the above apply.

Distribution Options

A separate distribution panel is available for all systems.

A choice of fuses or circuit breakers is available.

Fuse Distribution Panel
Select -OPF ( ) for separate distribution fuse panel.

Select -OFA ( ) for separate distribution fuse panel with visual and audible alarm on main console for failure of any fuse.

Note: “( )” indicates the number of circuits required.

Circuit Breaker Distribution Panel
Specify - CBO ( ) for separate circuit breaker panel.

Specify - OCA ( ) for separate circuit breaker panel with visual and audible alarm on main console for tripping or opening of any breaker.

Note: “( )” indicates the number of circuits required.

Other Options

Code	Description
-TD( )	Time delay, specify time, 1–10 minutes
-RRAP	Recessed remote alarm panel
-3PH	3 phase sensing
-ZSC( )*	Common Zone Sensing
-ZSI( )*	Individual zone sensing, specify number of zones (external panel)
-CYC	Battery exerciser
-BCB	Input battery circuit breaker

*Zone explanation; each specified zone relay monitors an individual lighting circuit in a building. Should any or all of the monitored circuits lose AC power, the connected lighting load will automatically illuminate:

a - all zones if ZSC is specified

b - that zone only if ZSI is specified

Warranty

The complete system is guaranteed for a period of one (1) year against defects in workmanship and materials. The battery portion of the equipment carries a ten (10) year pro-rata warranty during its useful service life against defects in workmanship and materials. The battery warranty is subject to the provision of normal testing and inspection as specified in the Canadian Electrical Code, Section 46-102, and National Fire Code of Canada. Limit room ambient temperature between 0°C to 35°C (32°F to 95°F). Optimum system performance occurs at 25°C (77°F). A battery service life is defined as the period which the battery could still provide at least 80% of its rated capacity.

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Sample Specification

Provide and install a complete emergency lighting system as described herein and shown on the drawings.

The system shall consist of a charger, battery and specified transfer and distribution features.

The charger shall be fully automatic solid state type using integrated circuit control. The output voltage variation shall be ± 0.5% for input variation of ± 10%. The charger shall recharge the battery within 24 hours after a power failure. The charger shall include a contactor to automatically disconnect the battery from the load when the battery voltage falls below 91% of nominal.

The charger shall be of a modular design with all pilot lights and electronic control functions on a single board mounted behind the front panel. The single control board shall have LED pilot lights for the following functions (which shall show through the front panel):

- Green "ac on" LED
- Green "float" Charge LED
- Amber "equalize" LED

The single control board shall also include LED and an audible alarm with call-back function for the following alarms:

- AC Failure
- High Battery Voltage
- Charger Failure
- Battery Ground Leakage

Optional Alarms

- Fuse/Circuit Breaker Open/Trip

Select SG battery.

Select battery bank voltage, capacity and duration of required backup time.

Select AC input voltage.

Select system transfer option from CP( ), TS( ), or CP( )/TS( ) where the load watts are shown in brackets.

Select options.

The equipment shall be provided with a separate distribution panel with _____ fuses or circuit breakers (select one) rated at _____ Amps.

Optional: All distribution fuse or circuit breaker panels shall be alarmed so that if a fuse or circuit breaker has failed during operation, a visual and audible alarm is activated.

The system shall be –Ready-lite System RL (Select Model Number from chart below). Select Remote Fixture from fixture section of Catalogue.

Cabinets

Systems are available in a free standing floor mount cabinet. The cabinet shall be constructed of not less than 14 gauge steel with corrosion resistant undercoating. Standard finish is ASA61 grey baked enamel.

SL Series: Sealed Maintenance Free Lead Acid Battery Capacity Chart 25°C

Model		Nominal Backup Capacity			
		30 min.	60 min.	90 min.	20 min.
A	CH24SG820	820W	490W	355W	285W
B	CH24SG1280	1280W	820W	615W	490W
C	CH24SG1875	1875W	1115W	815W	655W
D	CH24SG2250	2250W	1340W	975W	785W
E	CH24SG2625	2625W	1560W	1140W	920W
F	CH24SG3755	3755W	2235W	1630W	1315W
G	CH36SG1230	1230W	730W	537W	432W
H	CH36SG1920	1920W	1230W	927W	741W
I	CH36SG2815	2815W	1675W	1220W	985W
J	CH36SG3375	3375W	2010W	1465W	1180W
K	CH36SG3940	3940W	2345W	1710W	1380W
L	CH120SG4120	4120W	2450W	1790W	1440W
N	CH120SG9390	9390W	5590W	4080W	3290W
O	CH120SG11260	11260W	6700W	4890W	3940W
P	CH120SG13140	13140W	7820W	5710W	4600W
Q	CH120SG18780	18780W	11180W	8160W	6580W
R	CH120SG22520	22520W	13400W	9780W	7880W

All capacities are in watts to 91% of nominal voltage.
Note: For other voltages and capacities contact your sales representative.

Standard Features

CODE	Description
GL	Ground leakage.
FC	One set of dry contacts for remote fault sensing.
RAP	Remote alarm panel.
SPF	Drip shield (2.5" over hang on console).
BRO	Brownout.
BMEC	Ontario Building Materials Evaluation Commission approved.

Cabinet dimensions

System Series	Cabinet Type	Console		
		H	W	D
RL24SG820-3755 / RL36SG1230-3375	5C	25"	29"	14"
RL26SG3940 / RL120SG4120	CH15	38" (96.5 cm)	38" (96.5 cm)	18" (45.7 cm)
RL120SG6400-11260	CH18	38" (96.5 cm)	38" (96.5 cm)	28" (71.1 cm)
RL120SG13140-22520	CH28	56" (142.2 cm)	38" (96.5 cm)	28" (71.1 cm

Electronics and batteries are in the same cabinet.

Ordering Information

Series	DC Voltage	Battery Type	Capacity	Operating Time	AC Voltage	Transfer Options*	Distribution Options*	Other Options
RL	A 24 B 36 C 120	**Blank** = SL	Select from Battery Capacity chart in folder	30 60 90 120 180 240 minutes	A 120 B 208 C 240 D 277 E 347 F 480 G 600 Vac	TPD( ) TPA( ) TPA( )/TPD( ) *Specify Watts for each type of load.	DPF( ) DPFF( ) DPCB( ) DPCAB( ) * Specify number of circuits.	*ZSC( ) *ZSI( ) **TD( ) BCB 3PH CYC 30 CYC 90 * Specify No of zones. ** Specify time.