Type: _____

Project/Location: _____

Contractor: _____

Prepared By: _____

Date: _____

Model No.: _____

DC Central System

DC Central Emergency Lighting System

Fully automatic charger, battery and specified transfer and distribution features

Lumacell®'s **DC Systems** are utilized where a large number of remote heads or standard 120V 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 operatingfunctions.

Contact your **Lumacell®** representative for information.

FEATURES

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

BATTERY

Sealed Maintenance-Free Lead Calcium Gas Recombination (SL 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.

CHARGER FEATURES

Lumacell® 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.

Made in Canada

CHARGING OPERATION

The charger will fully recharge the battery within a 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.

STANDARD CONTROLS

- The front panel includes the following controls:
- 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
- A.C input breaker

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
- High ambient temperature

DISTRIBUTION OPTIONS

A separate distribution panel is available for all systems. A choice of fuses or circuit breakers is available. Fuse Distribution Panel Select -DPF ( ) for separate distribution fuse panel. Select -DPFF ( ) 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 -DPCB ( ) for separate circuit breaker panel. Specify -DPCAB ( ) for separate circuit breaker panel with visual and audible alarm on main console for tripping or opening of any breaker.

DC Central System

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TRANSFER OPTIONS

- System may be selected to either turn on a normally "off" load or alternatively on 120VDC systems, maintain a normally"on" load
- Normally "off" (DC load): (TPD)

  If the lamp load is going to be turned on in the event of power failure add suffix –TPD to the model number
- Normally "on" (AC/DC load): (TPA) 120 V DC systems only

  The 120 V incandescent load shall have 120 VAC power normally supplied to it and the load shall be transferred to 120 VDC upon failure. Add suffix –TPA to the model number. For other AC input voltages please contact factory
- Both Normally "on" & "off" loads: (TPA/TPD)

  Both of the above apply

OTHER OPTIONS

• 15 minutes time delay	TD
• 3 phase sensing	3PH
• Input battery circuit breaker	BCB
• Battery exerciser	CYC
• Common Zone Sensing	ZSC( )*
• Individual zone sensing, specify number of zones (external panel)	ZSI( )*

***Zone explanation: each specified zone relay monitors an individual lighting circuit in a building. Should 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.

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.

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.

TYPICAL 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
- AC Failure
- High Battery Voltage
- Charger Failure
- Battery Ground Leakage
- High ambient temperature

OPTIONAL ALARMS

- Fuse/Circuit Breaker Open/Trip

SELECT SL BATTERY

Select battery bank voltage, capacity and duration of required backup time. Select AC input voltage. Select system transfer option from TPAC( ), TPD( ), or TPAC( )/TPD( ) 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 – **Lumacell® System LM** (select model number from ordering information chart). Select remote fixture from fixture section of Catalogue.

Type: _____

Project/Location: _____

Contractor: _____

Prepared By: _____

Date: _____

Model No.: _____

DC Central System

DC Central Emergency Lighting System

SL SERIES:

Battery Capacity Chart

MODEL		NOMINAL STANDARD BACKUP CAPACITY			
		30 MIN	60 MIN	90 MIN	120 MIN
A	LM24SL35	820 W	490 W	355 W	285 W
B	LM24SL65	1130 W	800 W	585 W	470 W
C	LM24SL90	1875 W	1115 W	815 W	655 W
D	LM24SL100	2250 W	1340 W	975 W	785 W
E	LM24SL120	2625 W	1560 W	1140 W	920 W
F	LM24SL180	3755 W	2235 W	1630 W	1315 W
G	LM36SL35	1230 W	730 W	537 W	432 W
H	LM36SL65	1695 W	1205 W	880 W	705 W
I	LM36SL90	2815 W	1675 W	1220 W	985 W
J	LM36SL100	3375 W	2010 W	1465 W	1180 W
K	LM36SL120	3940 W	2345 W	1710 W	1380 W
L	LM120SL35	4120 W	2450 W	1790 W	1440 W
M	LM120SL60	5660 W	4015 W	2935 W	2355 W
N	LM120SL90	9390 W	5590 W	4080 W	3290 W
O	LM120SL100	11260 W	6700 W	4890 W	3940 W
P	LM120SL120	13140 W	7820 W	5710 W	4600 W
Q	LM120SL180	18780 W	11180 W	8160 W	6580 W
R	LM120SL200	22520 W	13400 W	9780 W	7880 W

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

FEATURES

- One set of dry contacts for remote fault sensing
- Remote alarm panel
- Drip shield (2.5" overhang on console)
- Brownout
- Remote alarm panel

CABINET DIMENSIONS

SERIES	DIMENSIONS H X W X D
LM24SL 35-180	25" X 29" X 14"
LM36SL 35-100	
LM36SL 110-120	38" X 38" X 18"
LM36SL 160-180	
LM120SL 35	
LM120SL 60-100	38" X 38" X 28"
LM120SL 120-200	56" X 38" X 28"

Electronics and batteries are in the same cabinet.

ORDERING INFORMATION

SYSTEM DESIGNATION	D.C. OUTPUT VOLTAGE	BATTERY TYPE	CAPACITY IN WATTS	OPERATING TIME	A.C.INPUT VOLTAGE (1PH)	TRANSFER OPTIONS	DISTRIBUTION OPTIONS	OPTIONS
LM= Series	**24**= 24VDC **36**= 36VDC **120**= 120VDC	**SL**= sealed Lead-Calcium	_____* * Select from "Battery Capacity Chart"	**30**= 30 mins **60**= 60 mins **90**= 90 mins **120**= 120 mins	**120**= 120VAC **208**= 208VAC **240**= 240VAC **277**= 277VAC **347**= 347VAC **600**= 600VAC	**TPD** = Normally off load **TPA** = Normally on load **TPA(__)/TPD(__)** = Normally on and normally off load* * Specify wattage for each load type	**DPF(__)**= Fuse panel* **DPFF(__)**= Fuse panel with alarm* **DPCB(__)**= Circuit breaker panel* **DPCAB(__)** = Circuit breaker panel with alarm * Specify number of circuits	**TD**= Time delay (15 minutes) **3PH**= 3 phase sensing **CYC**= Battery exerciser **BCB**= Battery circuit breaker **ZSC**= Common zone sensing* **ZSI** = Individual zone sensing* * Specify number of zones

EXAMPLE: LM36SL6530120TPDDPCB4