



# LUFTM Single Phase Series

Uninterruptible emergency lighting,  
1PH, inverter system 1000VA – 2800VA



## FEATURES:

- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard output circuit breaker
- Micro-processor controlled
- Floor or wall mountable
- 30 min. standard run time
- 2ms transfer time
- Compatible with all lighting loads LED and HID
- Automatic event, test and alarm log
- Small footprint (stackable cabinets)
- Maintenance-free standard batteries
- Forced air cooling during emergency mode only
- CSA C22.2 No. 141-15. Meets NFPA101

## LUFTM SERIES 30 MINUTE RUN TIME

Partial model number	Power rating (kW) 30 min.	Voltage in-out VAC	Cabinet dimensions (cm)				Batteries		Total system weight (kg)	Total no. of cabinets
			W (cm)	H (cm)	D (cm)	Weight (kg)	No. of batteries	Weight (kg)		
1	1.00	120 or 277	62	70	27	55	4	42	97	1
		347		110		90		132	1	
2	1.60	120 or 277	62	110	27	75	6	63	138	1
		347		140		108		171	1	
3	2.20	120 or 277	62	110	27	78	8	84	162	1
		347		140		108		192	1	
4	2.80	120 or 277	62	140	27	92	10	105	197	1
		347		180		127		233	1	

## LUFTM SERIES 60, 90 AND 120 MINUTE RUN TIME

Partial model number	Power rating (kW)			Voltage in-out VAC	Cabinet dimensions (cm) <sup>1</sup>				Batteries		Total system weight (kg)	Total no. of cabinets
	60 min.	90 min.	120 min.		W (cm)	H (cm)	D (cm)	Weight (kg)	No. of batteries	Weight (kg)		
1	1.00	0.90	0.80	120 or 277	62	70	26.67	55	4	66	121	1
				347		110		90			156	1
2	1.60	1.44	1.28	120 or 277	62	110	26.67	75	6	99	174	1
				347		140		108			207	1
3	2.20	1.98	1.76	120 or 277	62	110	26.67	78	8	132	210	1
				347		140		108			240	1
4	2.80	2.52	2.24	120 or 277	62	140	26.67	92	10	165	257	1
				347		180		127			293	1

<sup>1</sup>The cabinet dimensions above include the side cabinet

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### System specifications



## SYSTEM SPECIFICATIONS

### General

<b>DESIGN</b>	Stand-by no break. PWM inverter type utilizing IGBT technology with 2ms transfer time
<b>CONTROL</b>	Microprocessor controlled, 4 x 20-character display with touch pad controls & functions. Continuous scrolling display of system status and faults, with alarm feature
<b>METERING</b>	Input and output voltage, battery voltage, battery and output current, output VA, temperature, inverter wattage
<b>COMMUNICATIONS</b>	Optional RS-232 port (DB9)

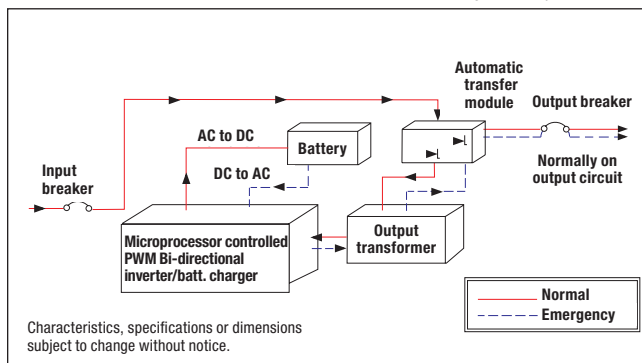
### Environmental conditions

<b>STORAGE/TRANSPORT</b>	<ul style="list-style-type: none"> <li>-4°F to 158°F (-20°C to 70°C) without batteries</li> <li>-0°F to 104°F (-18°C to 40°C) with batteries max. 3 months at 104° F (40° C)</li> </ul>
<b>OPERATING TEMPERATURE</b>	System operates safely from 32°F to 104°F (0°C to 40°C) UL924 listed to provide 30, 60, 90 and 120 mins of battery back up between 68° F and 86°F (20°C to 30°C). Battery performance can be affected by temperature
<b>ALTITUDE</b>	<10,000 feet (above sea level) without de-rating
<b>RELATIVE HUMIDITY</b>	0 to 95% non-condensing
<b>AUDIBLE NOISE</b>	50 dBA at 1m from surface in emergency mode

### Electrical input

<b>VOLTAGE</b>	120, 277 or 347VAC, 1-phase 2-wire, +10%/ -10%. Contact factory for all other voltages
<b>INPUT POWER WALK-IN</b>	Limiting inrush current to less than 125%, 10 time for 1 line cycle for incandescent loads
<b>INPUT FREQUENCY</b>	60Hz, +/-3Hz
<b>PROTECTION</b>	Standard input circuit breaker
<b>HARMONIC DISTORTION</b>	<10%
<b>POWER FACTOR</b>	0.5 lag/lead

### SINGLE LINE DIAGRAM — Normally on output circuit



### Electrical output

<b>VOLTAGE</b>	120, 277 or 347VAC, 1-phase 2-wire Contact factory for all other voltages
<b>STATIC VOLTAGE</b>	Load current change +/-2%, battery discharge +/-12.5%
<b>DYNAMIC VOLTAGE</b>	+/-3% @ 25% load step change and +/-6% @50% load step change +/-3% for a 50% load step change, recovery within 3 cycles
<b>HARMONIC DISTORTION</b>	<3% THD for linear load
<b>OUTPUT FREQUENCY</b>	60Hz +/- 0.05Hz during emergency mode
<b>LOAD POWER FACTOR</b>	0.5 lag to 0.5 lead
<b>OVERLOAD CAPABILITY</b>	115% for 10 minutes, 150% for 16 cycles
<b>PROTECTION</b>	Optional distribution circuit breaker
<b>CREST FACTOR</b>	2.8



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## System specifications and ordering information



### Cabinets

Single freestanding or wall mount NEMA Type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design. Top and left side conduit entry with knockouts.

### Inverter

Using IGBT/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 16 line cycles.

### Charger

Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

### Battery

System is provided with 10 year, maintenance free, sealed valve regulated lead calcium batteries. 30 min. standard discharge time at full load under normal operating temperature. Low voltage disconnect protection included. No special ventilation required.

### Self-diagnostic

Automatic self-test consists of a 5-minute monthly and full run time annual function. The front-mounted control panel includes a 4-line 20-character display, a keypad to control and monitor the internal the system. operation of the system. This allows the operator to easily "watch" system functions as they occur and check on virtually any aspect of the system's operation. Self-diagnostic function monitors, controls, generates alarms and memorizes events.

### Alarms

High/low battery charger voltage, high/low AC input voltage, near low battery, low battery, load reduction fault, output overload, high ambient temperature, inverter fault, output fault, optional output circuit breaker trip, charger fault, output overload shutdown.

### Optional features

Normally off output, output circuit breakers, output trip alarm, RS232 communication port, remote meter panel, remote summary alarm panel, summary alarm dry form C contact, inverter on dry contacts, variable time delay, bypass relays, wall mount bracket, circuit breaker lock, drip top (NEMA 2), internal/external maintenance bypass switch, output transfer delay, serial to ethernet adapter, battery strapping, zone monitoring, floor mount bracket, BACnet MSTP, Modbus RTU.

### Factory start-up

Includes one additional year of warranty. See warranty conditions.

### Warranty

(Full limited warranty conditions available upon request)  
Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 180 days from ship date in order to validate warranty.

## ORDERING INFORMATION

Input/output voltage	Series	Nominal capacity	Battery type	Emergency run time	Output breaker config.	Output breaker voltage	Output breaker amperage	Output breaker qty.
1= 120-120 2= 120-120/277 <sup>1</sup> 3= 208-120 <sup>1</sup> 4= 240-120/240 <sup>1</sup> 5= 277-120 <sup>1</sup> 6= 277-277 7= 277-277/120 <sup>1</sup> 8= 208-120/240 <sup>1</sup> 9= 208-120/208 <sup>1</sup> 10= 347-347 <sup>1</sup>	LUFTM	1= 1000VA 2 = 1600VA 3= 2200VA 4= 2800VA	S= Standard	R30= 30 minutes R60= 60 minutes R90= 90 minutes R120= 120 minutes	B= Normally-on N= Normally-off <sup>2</sup>	A= 120 B= 208 C= 240 D= 277 Z= Other	10= 10 A 16= 16 A 20= 20 A 25= 25 A 32= 32 A	01-10= Choose the number of output breakers between 01 and 10 <sup>3</sup>
<sup>1</sup> Enclosure height will increase. Contact factory.					<sup>2</sup> Normally off loads cannot exceed 20% of total KVA rating with any combination of HID loads			
Options			Monitoring		Mounting	Warranty (1 yr. std.)		Accessories
A= Remote summary alarm panel BL= Circuit breaker lock(s) C= Status monitoring dry form C contacts alarm panel D= Drip top (NEMA 2) I= Inverter on dry form C contact L= Load control relay (contact factory for load control applications) M= Maintenance bypass (IMBB) M(BBM)= Internal maintenance bypass O= Output transfer delay (factory set at 3 seconds adjustable 0 to 7.5 seconds) P= Remote status panel (requires "C" option – status monitoring dry form C contacts alarm panel) S= Summary fault form C contacts SEA= Serial to ethernet adapter T= Output trip (supervised) alarm <sup>2</sup> V= Time delay 15 minutes (15 minute retransfer time delay of normally off circuit after return of utility) Y= Battery strapping ZM= Zone monitoring (quantity must be specified)			BAC= Bacnet communication (MSTP) MOD= Modbus RTU		Blank= Standard wall F= Floor mount bracket (adds 4" to total system height) W= Wall mount brackets Z= Seismic/raised floor (adds 4" to total system height)	2YW= Startup and same day training 5YP= 5 year preventative maintenance plan (startup included) 5YW= 5 year extended electronics warranty SMP= Service monitoring plan		Blank= No accessories EMBP= External maintenance bypass switch <sup>4</sup> SPARES= Spare fuses and circuit boards SPAREF= Spare fuse kit

EXAMPLE: 1LUFTM1SR30BA1602BLBAC

<sup>3</sup>Unless output circuit breakers are specified, a single output breaker will be supplied with each unit and the current rating will vary based on the output power and voltage rating of the unit. Maximum specified output breakers available: 10 unsupervised (1-pole), 6 supervised (1-pole). A 2-pole breaker occupies 2 positions.