

**EXIDE**

# SOLA-TUBULAR

**LMXT Range Low Maintenance  
Tubular Batteries For Solar Application**



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**INDUSTRIAL**

## EXIDE LMXT SERIES TUBULAR LEAD ACID BATTERIES FOR SOLAR PHOTOVOLTAIC APPLICATION

Exide Industries Ltd, the leader of Lead Acid battery manufacturers in India for more than 65 years is proud to present the new LMXT range of Tubular low maintenance lead acid batteries specially designed for SPV and other renewable energy based applications.

focus on renewable energy usage to meet the growing power demand of the country has increased manifold. It is considered to be the efficient solution to vast stretches of remote areas where mains power is yet to reach in an economic manner.

The success of SPV system largely depends on the efficiency of its storage. Storage of solar power is a challenge as the electricity produced from solar panels are intermittent and specially designed battery is required to effectively store this electricity and provide power optimally whenever required. The battery thus used is to be suitable to withstand daily charge-discharge cycle to work optimally in partial State of Charge (PSOC) situation with rapid recharging compatibility.

Exide's latest addition in Tubular series is the LMXT range of batteries specially designed and manufactured to suit the rigors of SPV application having the following unique features:

- Legendary Törr Tubular Positive Plates with specially selected alloys made in high pressure HADI casting machine which imparts longer life, ultra low topping up and high reliability
- Excellent Cycle life - 1500 Cycles at 80% DOD & 7500 Cycles at 20% DOD Special type non woven gauntlet for positive plates results extra life of battery Batteries upto 800AH are fitted with MS modules (8/6/4V) so that the compact modules can be installed straightway on arrival at site (stands not required)
- Batteries are supplied in factory charged condition (unless otherwise specified by customer) and thus ready to install and use
- Easy to Handle & Transport
- Conforms to IS 1651 specification with latest amendments



### EXIDE LMXT SERIES: THE BEST VALUE FOR MONEY IN SPV APPLICATION.

Table:1

### TECHNICAL CHARACTERISTICS

Model	Nominal Voltage	Dimensions in mm					Weight (kg)		Re-charging Current (amps)
		C10	C20	Length	Width	Height	Dry	Filled	
		1.85 V/C	1.85 V/C	± 5	± 5	± 5	± 5%	± 5%	
LMXT 300	2V	300	360	125	158	543	14	21	36
LMXT 400	2V	400	480	125	158	699	17	27	48
LMXT 500	2V	500	600	173	158	699	23	38	60
LMXT 600	2V	600	720	173	158	699	28	41	72
LMXT 700	2V	700	840	205	158	753	31	51	84
LMXT 800	2V	800	960	205	158	753	35	53	96
LMXT 900	2V	900	1080	416	171	535	44	70	108
LMXT 1000	2V	1000	1200	416	171	535	48	72	120

Table:2

Model	Nominal Voltage	Initial Charging Parameters*				Electrolyte Specific Gravity
		Acid Qty (Ltrs)	Starting	Finishing	Minimum Ah Input during Initial Charging	
LMXT 300	2V	6	36	18	1650	Initial filling gravity-1.220 ±0.005
LMXT 400	2V	8	48	24	2200	
LMXT 500	2V	12	60	30	2750	
LMXT 600	2V	11	72	36	3300	Fully Charged Gravity-1.245 ±0.005
LMXT 700	2V	16	84	42	3850	
LMXT 800	2V	15	96	48	4400	
LMXT 900	2V	21	108	54	4950	
LMXT 1000	2V	20	120	60	5500	

\* Normally LMXT series batteries are supplied in Factory charged condition. In case of supply of batteries in Dry and Uncharged condition, the initial filling and charging at site is to be done as per the parameters given.

### COMMISSIONING CHARGE OF BATTERY:

Before commissioning a new battery, follow procedure either procedure (a) or (b). However, procedure (a) is recommended.

#### a) I U method (bulk charge) :

Bulk charging is performed at a raised voltage of 2.40 to 2.45 volts per cell. The charging time will be 12 to 24 hours depending on the state of charge condition during installations. The current is required to be limited to 20% of the battery Ah capacity (0.2 C10). The specific gravity of each cells rise to the maximum level (1.240 to 1.245) and remains constant till four consecutive hourly readings.

Bulk charging must be switched off or switched over to float charging as soon as the fully charged state is reached.

#### b) Float Charge :

With a voltage of 2.30 volt per cell.

Full capacity will however be obtained after a long period of 4 to 6 weeks (depending on state of charge) till three consecutively hourly readings of specific gravity are observed to constant.

After the above operation, re-check specific gravity of all cells and adjust to final specific gravity at  $1.240 \pm 0.005$  by taking out electrolyte and adding DM water.

### RECHARGING CHARACTERISTICS DURING OPERATIONS:

	Recommended Parameters for ambient temperature of 25-30°C
Charging Current	Maximum - 20% of the battery Ah capacity Minimum - 10% of the battery Ah capacity
Bulk Voltage	2.60 ± 0.02 V/cell
Float Voltage	2.30 ± 0.02 V/cell
Equalizing voltage	2.45 ± 0.02 V/cell
Load Reconnect voltage	2.16 ± 0.02 V/cell
Low Voltage disconnect	1.90 ± 0.02 V/cell
Recharge factor	110% of discharge Ah
Temperature Correction Factor (reference 25°C)	Float : - 3mV/°C/2V unit Cyclic : - 5mV/°C/2V unit

Table:3

### STANDARD LAYOUT OF BATTERY BANK IN SINGLE TIER ARRANGEMENT

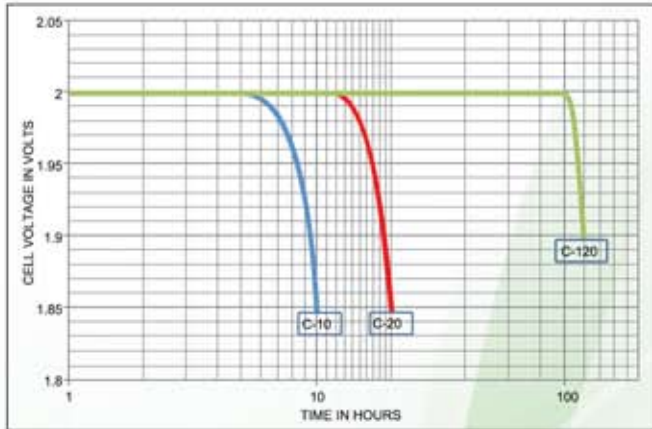
Battery Type	Module Voltage & Module Dimensions	System Voltage	No. of Modules	No. of Rows	Dimensions (mm)		
					Length (±5)	Width (±5)	Height (±5)
LMXT300	8V 700(L) x 157(W) x 336(H)	48V	6	2	3150	2064	554
		96V	12	4	3150	3328	554
		120V	15	4	3900	3328	554
		240V	30	6	4650	4592	554
		360V	45	8	5400	5856	554
LMXT400	6V 552(L) x 157(W) x 448(H)	48V	8	2	3308	2064	705
		96V	16	4	3308	3328	705
		120V	20	4	3910	3328	705
		240V	40	6	6920	3328	705
		360V	60	6	6920	4592	705
LMXT500 & LMXT600	6V 552(L) x 205(W) x 445(H)	48V	8	2	3308	2160	705
		96V	16	4	3308	3520	705
		120V	20	4	3910	3520	705
		240V	40	6	5114	4880	705
		360V	60	6	6920	4880	705
LMXT700 & LMXT800	4V 387(L) x 237(W) x 495(H)	48V	12	2	3522	2224	755
		96V	24	4	3522	3648	755
		120V	30	4	4396	3648	755
		240V	60	6	5270	5072	755
		360V	90	6	7455	5072	755

### STANDARD LAYOUT OF BATTERY BANK WITH MS STILLAGES

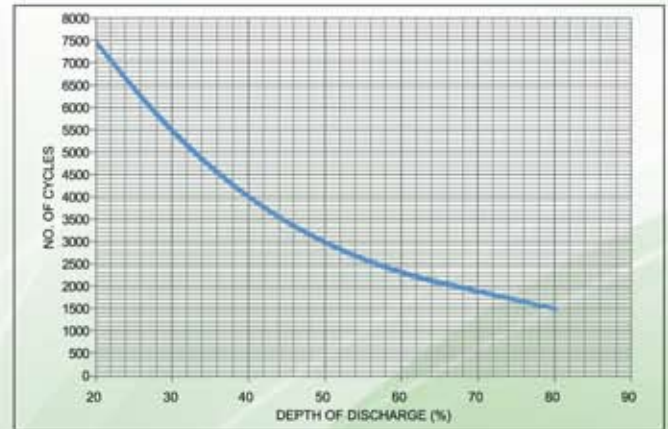
Battery Type	Cell Voltage	System Voltage	No. of Stillages	No. of Rows	Dimensions (mm)		
					Length (±5)	Width (±5)	Height (±5)
LMXT900 & LMXT1000	2V	48V	4	2	3164	2750	597
		96V	8	4	3164	4050	597
		120V	8	4	3707	4050	597
		240V	16	8	3707	7950	597
		360V	24	12	3707	11850	597

\* These are our standard layouts. Other options can be offered against specific requirement.

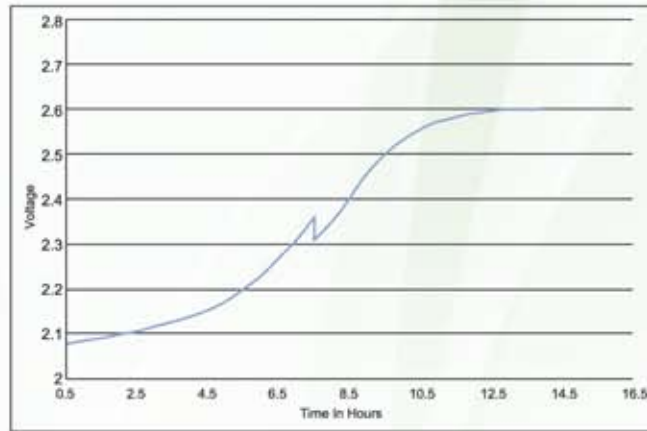
## DISCHARGE CURVES



## DOD Vs CYCLE LIFE



## RE-CHARGING PROFILE



Sales and Service of Exide batteries are supported PAN INDIA through its 30 branches, 30 Exide Power Centers, 3500 dealers.



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