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*We quality our work for customer satisfaction. Provide the best E.V.Products*

## Tharman Corporation

We form a creative team to add a touch of art to your efforts. So that your customers will be interested in the products you offer

## About Company

At Tharman Corporation Pvt Ltd, we believe in pushing the boundaries of technology and design to create electric vehicles that meet the needs of today's discerning consumer

Whether you're looking for an electric Auto or Scooter that offers impressive range, advanced technology, or sleek aesthetics, we are here to make the transition to electric driving seamless and exciting

# Power That Drives You.

Built To Last. Designed to Per form Tharman – powering every journey with unmatched reliability.



## Contact Us

info@tharman.co.in  
+91 9873166530

Tharman Corporation Pvt. Ltd

Office No. 1048, Galaxy Diamond Plaza, Greater Noida West U.P 201306

www.tharman.co.in





## EV Scooty – Double Headlight Model

### Technical Specifications

Parameter	Specification
<b>Scooter Type</b>	Electric Two-Wheeler (Double Headlight Variant)
<b>Body Type</b>	High Strength ABS & Steel Body
<b>Motor Type</b>	BLDC Hub Motor (Waterproof)
<b>Motor Power</b>	1000W / 1200W / 1500W
<b>Top Speed</b>	45–55 km/h (depends on motor + battery)
<b>Battery Type</b>	Lithium-ion (NMC / LiFePO4) or Lead-Acid (optional)
<b>Battery Voltage</b>	48V / 60V / 72V
<b>Battery Capacity</b>	26Ah – 72Ah
<b>Range per Charge</b>	60 – 120 km
<b>Charging Time</b>	3–6 hrs (Lithium) / 7–10 hrs (Lead-acid)
<b>Charger Output</b>	54.6V / 67.2V / 84V (Smart Charger with Auto Cut-off)
<b>Braking System</b>	Front: Disc Brake / Rear: Drum Brake
<b>Suspension (Front/Rear)</b>	Telescopic Fork / Dual Coil Spring
<b>Tyre Size</b>	90/90-12 Tubeless
<b>Wheel Type</b>	Alloy Wheels
<b>Climbing Ability</b>	15–18 degrees
<b>Controller</b>	12 Tube or 18 Tube Controller (MOSFET/FOC)
<b>Display Meter</b>	Digital Display with SOC, Speed, Odometer
<b>Reverse Mode</b>	Yes
<b>Key Features</b>	Anti-theft Alarm, Remote Start, Keyless Go
<b>Loading Capacity</b>	150–180 kg
<b>Seating Capacity</b>	2 Persons (Comfortable Seat with Grab Rail)
<b>Lighting System</b>	LED Headlights (Double), LED Tail + DRLs
<b>Indicators</b>	LED with buzzer
<b>Battery Swap Option</b>	Optional (on selected variants)
<b>IP Rating</b>	IP65 or IP67 (motor + controller + battery enclosure)
<b>Colors Available</b>	Red, Blue, Black, White, Grey, Custom

### ★ Key Features Summary

- 🔋 High-Performance Lithium Battery
- ⚡ Quick Acceleration with High Torque BLDC Motor
- 🛑 Disc Brake for Strong Braking
- 📊 Smart Digital Meter with Battery SOC
- 🔒 Remote Lock & Anti-theft Alarm
- 🌧️ Weatherproof Controller + IP Rated Components
- 🚶 Reverse Gear & Parking Assist
- 💡 LED Double Headlamp for Stylish Look & Visibility
- ⚡ Fast Charging Support

### 📦 Optional Add-ons

Add-on	Availability
GPS Tracker	Optional
Mobile Charging USB Port	Yes
Bluetooth App Connectivity	Optional
Removable Battery Design	Optional
Side Stand Sensor	Optional
Regenerative Braking System	Optional

### 📊 Performance Comparison

Battery Type	Range (km)	Charging Time
48V 26Ah	60–70 km	3–4 hrs
60V 32Ah	75–85 km	4–5 hrs
72V 40Ah	100–120 km	5–6 hrs



## EV Scooty – Single Headlight Model

### Technical Specifications

Parameter	Specification
<b>Scooter Type</b>	Electric Two-Wheeler (Single Headlight Model)
<b>Body Structure</b>	ABS Plastic Body with Steel Chassis
<b>Motor Type</b>	BLDC Hub Motor
<b>Motor Power Options</b>	250W / 500W / 1000W
<b>Top Speed</b>	25–45 km/h (varies by motor)
<b>Battery Type</b>	Lithium-ion (NMC / LiFePO4) or Lead-Acid (optional)
<b>Battery Voltage</b>	48V / 60V
<b>Battery Capacity</b>	26Ah – 45Ah
<b>Range per Charge</b>	50 – 85 km
<b>Charging Time</b>	3–6 hrs (Lithium) / 8–10 hrs (Lead-acid)
<b>Charger Output</b>	54.6V / 67.2V Smart Charger with Auto Cut-off
<b>Braking System</b>	Front: Drum / Rear: Drum
<b>Suspension (Front/Rear)</b>	Telescopic Fork / Hydraulic Dual Coil Spring
<b>Tyre Type</b>	Tubeless
<b>Wheel Size</b>	10 inch Alloy Wheel
<b>Climbing Ability</b>	10–15 degrees
<b>Controller</b>	12 MOSFET or 15A–30A Controller
<b>Digital Display</b>	LED or LCD Digital Display
<b>Reverse Mode</b>	Yes
<b>Key Features</b>	Anti-theft Alarm, Keyless Entry, Remote Start
<b>Loading Capacity</b>	140–160 kg
<b>Seating Capacity</b>	2 Persons
<b>Lighting System</b>	LED Headlight (Single), LED Tail + Indicators
<b>IP Rating</b>	IP54 or IP65 (battery, motor optional)
<b>Available Colors</b>	Black, Red, Blue, White, Grey

### Key Features Overview

- ✓ Low-Speed Model (no license required for <250W)
- ⚡ Power-Saving BLDC Motor
- 🔋 Lithium Battery for Long Life & Low Maintenance
- 📊 Digital Speedometer with Battery Indicator
- 🛑 Drum Brake – Low Maintenance & Budget-Friendly
- 🔑 Keyless Start + Remote Lock System
- 💡 Bright LED Single Headlamp (Stylish & Efficient)
- ♻️ Environment-Friendly, Silent Operation

### Optional Features (On Request)

Feature	Availability
USB Mobile Charging	Yes
GPS Tracker	Optional
Smart BMS with App	Optional
Battery Swappable Design	Optional
Side Stand Sensor	Optional



## Lithium Scooty Battery – Technical Specifications

Parameter	Description / Range
Application	Electric Scooters / Two-Wheelers
Nominal Voltage	48V / 60V / 72V
Rated Capacity	26Ah / 32Ah / 40Ah / 52Ah / 60Ah / 72Ah
Battery Energy (Wh)	1248Wh to 5184Wh (depends on Ah × Voltage)
Battery Chemistry	Lithium NMC or LiFePO4 (LFP)
Cell Configuration	13S (48V) / 16S (60V) / 20S (72V)
BMS Rated Current	30A to 80A (depending on Ah rating)
Peak Discharge Current	60A to 120A (2C–3C max)
Charging Voltage	54.6V (48V) / 67.2V (60V) / 84V (72V)
Charging Current	Standard: 5A–10A
Charging Time	3–8 hours depending on Ah and charger
Cycle Life	1000–2500 cycles (NMC), 2000–3500 (LFP)
Operating Temp	Charge: 0°C to 45°C
Storage Temp	-20°C to 45°C
Enclosure Material	ABS / MS / Aluminum with Powder Coating
Waterproof Rating	IP54 / IP65 / IP67 (customizable)
Connector Options	XT60, XT90, Anderson, Copper Lug
Display (Optional)	LED State of Charge (SOC), Smart App via Bluetooth
Communication (Optional)	RS485 / CAN Bus
Mounting	Under-seat or footboard metal bracket (custom design possible)
Safety Protections	Over-voltage, Over-discharge, Over-current, Short-circuit, Temp cutoff
Warranty	1 – 3 Years

### Why Lithium for Scooty?

- Fast Charging:** 3x faster than lead-acid
- Smart BMS:** Ensures safety and balanced charging
- Lightweight:** 60–70% lighter than lead-acid
- Long Life:** 4–6 years (with 1200–3000 cycles)
- Maintenance-Free:** No water top-up or acid leaks
- Eco-Friendly:** RoHS and recyclable options



## Scooty Lithium Battery Specification

S. No.	Voltage (V)	Capacity (Ah)	Total Energy (Wh)	Cell Type	BMS Rating (A)	Cycle Life	Charging Time	Approx. Weight
1	48V	26Ah	1248 Wh	NMC / LFP	30A	1000-2000	3-4 hrs (fast)	8-9 kg
2	48V	32Ah	1536 Wh	NMC / LFP	30A-40A	1200-2000	3-5 hrs	10-11 kg
3	48V	40Ah	1920 Wh	NMC / LFP	40A-45A	1200-2000	4-6 hrs	11-12 kg
4	48V	52Ah	2496 Wh	NMC / LFP	45A-60A	1500-2500	5-7 hrs	13-14 kg
5	48V	60Ah	2880 Wh	NMC / LFP	60A-80A	1500-2500	6-8 hrs	15-16 kg
6	48V	72Ah	3456 Wh	NMC / LFP	80A	2000+	6-9 hrs	17-18 kg
7	60V	26Ah	1560 Wh	NMC / LFP	30A	1000-2000	3-4 hrs	10 kg
8	60V	32Ah	1920 Wh	NMC / LFP	30A-40A	1200-2000	3-5 hrs	11-12 kg
9	60V	40Ah	2400 Wh	NMC / LFP	40A-50A	1500-2000	4-6 hrs	13-14 kg
10	60V	52Ah	3120 Wh	NMC / LFP	50A-70A	2000	5-7 hrs	15-16 kg
11	60V	60Ah	3600 Wh	NMC / LFP	70A-80A	2000-2500	6-8 hrs	17 kg
12	60V	72Ah	4320 Wh	NMC / LFP	80A	2500	7-9 hrs	18-20 kg
13	72V	26Ah	1872 Wh	NMC / LFP	30A	1200-2000	3-4 hrs	11-12 kg
14	72V	32Ah	2304 Wh	NMC / LFP	40A	1500-2000	4-5 hrs	13-14 kg
15	72V	40Ah	2880 Wh	NMC / LFP	45A-60A	2000	4-6 hrs	15-16 kg
16	72V	52Ah	3744 Wh	NMC / LFP	60A-70A	2000-2500	6-7 hrs	17-18 kg
17	72V	60Ah	4320 Wh	NMC / LFP	70A-80A	2000-2500	7-8 hrs	18-20 kg
18	72V	72Ah	5184 Wh	NMC / LFP	80A+	2500-3000	8-9 hrs	20-22 kg

### ✓ Features

**BMS:** Over-voltage, under-voltage, short-circuit, temperature protection

**Connector Type:** Anderson, XT90, customized options

**Warranty:** 1-3 years depending on brand

**IP Rating:** IP65/IP67 water resistant (optional)

**Charge Cycles:** 1000-3000 depending on chemistry



## E-Rikshaw & Auto Lithium Battery Technical Details

Parameter	Details
Battery Chemistry	LFP (LiFePO4) preferred for E-Rickshaw due to high thermal stability
Nominal Voltage	48V (actual ~51.2V for LiFePO4)
Cut-off Voltage	42V (Discharge), 58.4V (Charge)
Charging Current	20A to 60A (Standard), 100A+ (Fast charging models)
Discharge Current	Rated: 80A – 150A, Peak: 180A – 250A (for acceleration/overload protection)
Standard Charging Temp	0°C to 45°C
Standard Discharge Temp	-10°C to 60°C
Storage Temp	-20°C to 45°C
Self-discharge Rate	<3% per month
Enclosure Material	MS / Aluminum / ABS / Metal Sheet with Powder Coating

### Compatibility with E-Rickshaw

Vehicle Type	Recommended Battery
Passenger E-Rickshaw	48V/51.2V - 120Ah to 150Ah
Cargo E-Rickshaw	48V/51.2V - 150Ah to 200Ah
Heavy Load Use	LFP Chemistry with ≥150A BMS
Slope/Gradient Terrain	High Discharge Current Model (≥150A peak)

### BMS Features (Battery Management System)

<input checked="" type="checkbox"/> Overcharge/Overdischarge Protection
<input checked="" type="checkbox"/> Short Circuit Protection
<input checked="" type="checkbox"/> Over Temperature & Low Temp Charging Cut-off
<input checked="" type="checkbox"/> Cell Balancing for Longer Battery Life
<input checked="" type="checkbox"/> CAN/RS485 Communication (optional in smart BMS)
<input checked="" type="checkbox"/> SOC (State of Charge) Display Supported (optional)

### Available Customizations

Option	Details
Display Unit	SOC, Voltage, Current, Temp – External/Panel
Connector Types	Anderson, Aviation, Copper Lug
Smart BMS with Bluetooth	Mobile App for monitoring
Heater Option (Cold Weather)	Automatic Heating during low temp charging
Solar Charging Compatible	Yes, with MPPT charger (Optional)



### E-Rickshaw & Auto Lithium Battery Specification

S. No.	Voltage	Capacity (Ah)	Energy (Wh)	Cell Type	BMS Rating (A)	Cycle Life	Charging Time	Approx. Weight
1	48V	105Ah	5040 Wh	LFP / NMC	60A – 80A	2000 – 3000	6–8 hrs	42–45 kg
2	48V	120Ah	5760 Wh	LFP / NMC	80A – 100A	2000 – 3500	7–8 hrs	45–50 kg
3	48V	135Ah	6480 Wh	LFP / NMC	100A	2500 – 3500	7–9 hrs	50–55 kg
4	48V	150Ah	7200 Wh	LFP / NMC	100A – 120A	3000+	8–9 hrs	55–60 kg
5	48V	165Ah	7920 Wh	LFP	120A – 150A	3000+	8–10 hrs	60–65 kg
6	48V	180Ah	8640 Wh	LFP	150A	3000 – 4000	9–10 hrs	65–70 kg
7	48V	200Ah	9600 Wh	LFP	150A – 180A	3000 – 4000	10–12 hrs	75–80 kg
8	51.2V	105Ah	5376 Wh	LFP	80A – 100A	2500 – 4000	6–8 hrs	42–46 kg
9	51.2V	120Ah	6144 Wh	LFP	100A – 120A	2500 – 4000	7–8 hrs	48–52 kg
10	51.2V	135Ah	6912 Wh	LFP	120A – 150A	3000 – 4000	8–9 hrs	53–58 kg
11	51.2V	150Ah	7680 Wh	LFP	150A	3000 – 4500	9–10 hrs	58–63 kg
12	51.2V	165Ah	8448 Wh	LFP	150A – 180A	3000 – 5000	9–10 hrs	65–68 kg
13	51.2V	180Ah	9216 Wh	LFP	180A	3500 – 5000	10–11 hrs	70–75 kg
14	51.2V	200Ah	10240 Wh	LFP	180A – 200A	3500 – 5000	10–12 hrs	78–82 kg

#### ✓ Features

- Chemistry:** LFP (LiFePO4) preferred for high safety and long life
- BMS Protection:** Over-voltage, over-current, short circuit, temp protection
- Cycle Life:** 2500–5000 cycles (LFP)
- Connector:** Anderson / Copper Lugs
- Waterproofing:** IP65–IP67 options
- Warranty:** 2–5 Years

#### 📄 Why LFP Battery is Preferred Over Lead Acid

Parameter	Lithium (LFP)	Lead Acid
Weight	60–70% lighter	Very heavy
Life Cycles	2500–5000+	300–500
Maintenance	Zero	Requires water top-up
Charging Time	4–6 hrs	10–12 hrs
Fast Charging	Supported	Not supported
Environmental	Eco-friendly, Non-toxic	Toxic Lead content

# The Best Team Work

**M.D Razique**

Business Development Manager  
+91 9005542202

**Meraj Hasan**

Director  
+91 9873166530

