



Durst



HYPASTART

DATASHEET & OPERATING INSTRUCTIONS

MODELS: X2500, X2500MS, X4500MS, X6500




**SYDNEY AUSTRALIA
DESIGNED & MADE**

Durst

Durst Industries (Aust.) Pty Ltd.
1/11 Packard Ave. Castle Hill NSW
2154 Australia

 **DURST.COM.AU**
 **SALES@DURST.COM.AU**
 **INTL +61 2 9660 1755**

Congratulations on your purchase of HYPASTART, the world's safest and most advanced portable jump starter.

Proudly manufactured in Australia by Durst Industries, HYPASTART is engineered for demanding fleet, transport, mining, and service environments where safety, reliability, and performance are critical.

This manual provides operational guidance, safety instructions, technical specifications, and troubleshooting support.

All HYPASTART models share the same operational controls and procedures.

WHAT MAKES HYPASTART DIFFERENT

Traditional jump starters use lithium or lead-acid batteries, which can lose charge over time, vent gas, overheat, or catch fire. They also require ongoing maintenance and replacement.

HYPASTART eliminates these issues by using supercapacitor technology.

Key Advantages:

- No batteries → No explosion, gassing, or thermal runaway risk
- Instant readiness → Energizes in seconds from any available source
- Durability → Over 1,000,000 charge/discharge cycles
- Safe storage → No chemical degradation
- Environmentally friendly → No toxic disposal

SYSTEM OVERVIEW

Control Module Functions:

- Manages super capacitor charging
- Releases energy to starter circuit
- User interface (switches, lights, LCDs, and Analogue Voltmeter)
- Built-in safety protections

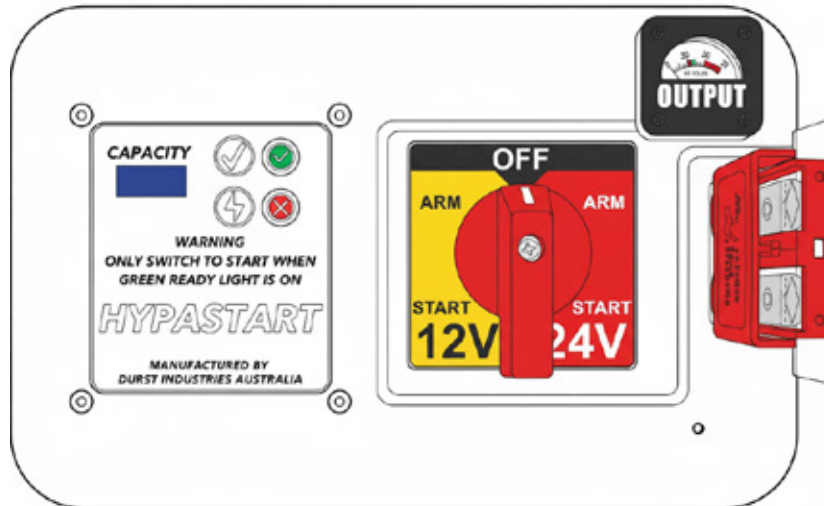
Indicators & Displays:

- READY (Green): Fully charged
- ARM/ENERGIZE (Red): Charging in progress
- Supercapacitor Status (LCD): Voltage & capacity %
- Charger Status (LCD): Input voltage/current
- Analogue Voltmeter indicates output Voltage and Battery Voltage

OPERATING INSTRUCTIONS

Pre-Operation Checklist:

- Inspect clamps/cables
- Switch OFF before connecting
- Confirm polarity/grounding



CONNECTING TO VEHICLE:

- Connect Hypastart cables to slave receptacle
- Battery Clamps: Black (–) to chassis/engine ground; Red (+) to battery terminal or Use Anderson or CAT Connection as supplied.

**⚠ If alarm sounds,
disconnect immediately.
Do Not Continue to start
position.**

**Please ensure correct
Voltage and Correct
Polarity before switching
to Start!**

Energizing:

- Switch to ARM/ENERGIZE
- Red light = charging
- Monitor voltage display
- Green Light READY = charged

Start Procedure:

- In OFF mode, analogue voltmeter shows vehicle battery voltage
- Turn switch to ARM/ENERGIZE: RED LIGHT → Charging GREEN LIGHT → Fully Charged
- Set switch to 12V or 24V START to activate jump starter. Monitor performance using onboard voltmeter.
- Run engine ~30 seconds (auto recharge)

After Start:

- Switch OFF
- Disconnect leads
- (Optional) Recharge before storage

CHARGING OPTIONS

AC Wall Charger

- Connect charger to AC, switch ON
- With HYPASTART OFF, connect to 3-pin socket
- Charging begins automatically

Vehicle Standby Charging

- Connect to vehicle's 12V system
- Charges when engine runs, auto stops when off

Charge Times:

- AC charger: 2–5 min
- Vehicle alternator: ~30 sec

TECHNICAL INFORMATION

Charge Requirements:

- 12V system $\geq 10V$
- 24V system $\geq 20V$
- Otherwise, use external charger

TECHNICAL SPECIFICATIONS

MODEL	VARIANTS	PEAK OUTPUT CURRENT*	Charge Time (vehicle)	Dimensions (approx.)	Weight* (approx.)
X-2500	12/24 Volt	~2000–2500A	2-3 Mins	270 x 310 x 160	14-16 kg
X-4500	12/24 Volt	~4000–4500A	2-4 Mins	320 x 360 x 180	22-25 kg
X-6500	24 Volt Only	~6000–6500A	3-5 Mins	360 x 400 x 200	28-30 kg

Models & Electrical Specs:

- Operating Limits:
- Operating: -40°C to $+65^{\circ}\text{C}$
- Storage: -20°C to $+50^{\circ}\text{C}$
- Cycle Life: >1,000,000

Applications:

- X2500: Service trucks, buses, vans
- X4500: Heavy trucks, construction
- X6500: Mining, industrial machinery

Capacitor Technology:

- Lifespan: >1,000,000 cycles
- Range: -40°C to $+65^{\circ}\text{C}$
- No memory effect/degradation

MODEL	CAPACITORS	STORAGE
X-2500	12 x 3000 Farad Capacitors	36.5 Watt Hours
X-4500	24 x 3000 Farad Capacitors	73 Watt Hours
X-6500	36 x 3000 Farad Capacitors	109 Watt Hours

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Alarm sounds on connection	Incorrect Polarity	Disconnect and check correct polarity
Ready light off	Not Charged	Leave on Energize position till charged or use AC Charger
No Charge	Low Vehicle Voltage, AC Charger not connected	Check AC Charger connected or if using the energize position, check that battery voltage exceeds 10 - 20 V (10 volts for 12 volt system and 20 Volts for 24 volt system)
Failed Start	Low Stored energy in Capacitors	Charge Capacitors and retry
Blank Display on LED read Out	No Input Power	Check Charger
0 Volts Display on Anlg. Voltmeter	No Output Voltage from Capacitors	Contact Durst Industries for Service

SAFETY PRECAUTIONS

- Use only with negatively grounded vehicles
- Keep away from flames, immersion, extreme heat
- Stay clear of rotating engine parts
- Not for aircraft or medical use unless approved
- Emits EM fields → keep away from pacemakers

MAINTENANCE & STORAGE

- Maintenance-free
- Clean with soft damp cloth (no solvents/abrasives)
- Store –20°C to +50°C, dry environment
- Inspect clamps/leads regularly