DURST
ENGINEERED TECHNOLOGIES

HYPASTART

Portable Jump Starter

USER OPERATIONS MANUAL

MODELS: X2500, X2500MS, X4500MS, X6500

DURST Since 1918

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

AVAILABLE MODELS

MODEL	VOLTAGE VARIANTS	TYPICAL USE	NOTES
X-2500	12 / 24 Volt	Light trucks, buses, service vehicles	Compact, entry-level
X-4500	12 / 24 Volt	Heavy transport, construction, diesel	Mid-power universal
X-6500	24 Volt Only	Mining haul trucks, industrial plant	Maximum output

SYSTEM OVERVIEW

Control Module Functions:

- ➜ Manages supercapacitor 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

Switch Positions:

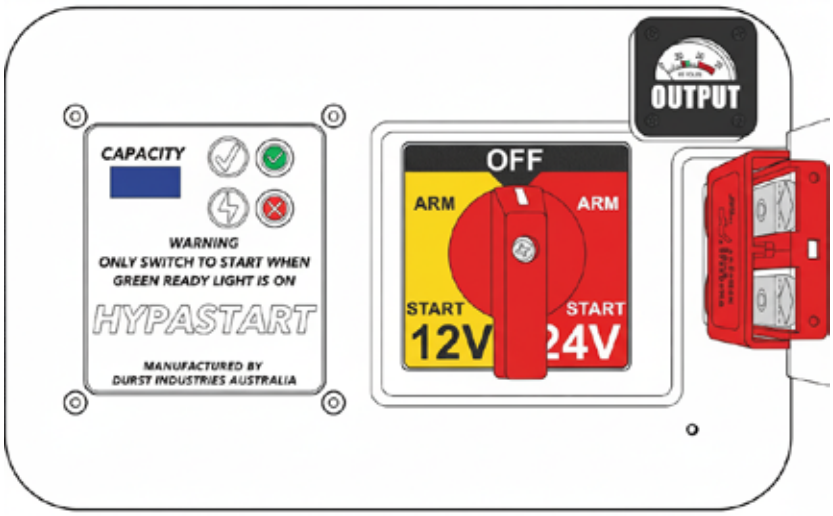
- ➜ OFF → Storage/standby
- ➜ ARM/ENERGIZE → Charges capacitors
- ➜ 12V START → For 12V negatively grounded vehicles
- ➜ 24V START → For 24V negatively grounded vehicles

⚠ Do not switch to START unless READY light is ON.

OPERATING INSTRUCTIONS

Pre-Operation Checklist:

1. Inspect clamps/cables
2. Switch OFF before connecting
3. 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.

Energizing:

1. Switch to ARM/ENERGIZE
2. Red light = charging
3. Monitor voltage display
4. Green Light READY = charged

Start Procedure:

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

After Start:

1. Switch OFF
2. Disconnect leads
3. (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

⚠ HYPASTART must be in the OFF Position when charging!

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

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

TECHNICAL INFORMATION

Charge Requirements:

- ➜ 12V system ≥ 8V
- ➜ 24V system ≥ 16V
- ➜ Otherwise, use external charger

Charge Times:

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

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	12-14 kg
X-4500	12/24 Volt	~4000–4500A	2-4 Mins	320 x 360 x 180	18-20 kg
X-6500	24 Volt Only	~6000–6500A	3-5 Mins	360 x 400 x 200	25-28 kg

*Weight (pending any optional extras added to unit).

Models & Electrical Specs:

Operating Limits:

- ➜ Operating: -40°C to +65°C
- ➜ Storage: -20°C to +50°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°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 Energise position till charged or use AC Charger
No Charge	Low Vehicle Voltage, AC Charger not connected	Check AC Charger connected or if using the energise position, check that battery volatge exceeds 8 – 16 Volts (8 volts for 12 volt system and 16 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 Analogue 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

SERVICE & SUPPORT

For manuals, updates, and technical support:

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

To get the latest copy of the Hypastart User Manual,
scan the QR code above or visit;

durst.com.au/hypastart