



Outpost™ X-90V5

MilSpec Power & Charging Manager

Portable, Rugged High-efficiency Smart Charging and Power

Power and Charge Radios, Sensors, End-user Devices, and Batteries



- **Efficient** 94 - 98% Solar charging and auxiliary power efficiency
- **Effective** High-speed maximum power point tracking delivers maximum solar charging power; Advanced charge controller minimizes charge time by charging two battery strings simultaneously
- **Compact and Lightweight** 4.7" x 2.7" x 1.4" | 0.75 lbs.
- **Durable** MIL-STD-810H compliant for use in harsh conditions and use cases
- **Simple** No buttons - just connect and charge!
New! LCD indicates Output voltage selection, Battery State of Charge (SOC) & State of Health (SOH), Input Power (W), Time Until Charged, Faults, & more
- **Robust** Reverse Polarity, Over Temperature, Active Current Limiting
Accepts up to 50V of DC power input; Wake-up mode revives depleted batteries enables charging if battery SMBus communication is lost
Smartly balances imbalanced BB-2590 cells
- **Flexible** Pushbutton-selectable output voltage (11-17V or 22-34V) **New!**
USB C with Power Delivery 3.0 (100W IN / 60W OUT) **New!**
Parallel inputs and/or outputs for 1kW+ of output power
Polarized SAE 2-pin input accepts power from DC sources
Use with or without the battery attached
Add X-90 Smart Adapters to charge many other battery types
- **Weatherproof** Dustproof and waterproof (up to 1 m immersion)



Nishati Outpost™ X-90V5

| Nishati Outpost™ X-90V5 Specifications | | | | |
|---|---|-------|------|--|
| General Description | | | | |
| Part Number | 92015 | | | |
| Power Input Connection | (1) SAE 2-pin 4" pigtail | | | |
| Power Output Connection | (1) SAE 2-pin 4" pigtail | | | |
| Limited Warranty | 2 years | | | |
| Power Characteristics | Min. | Typ. | Max. | Conditions |
| DC Input Voltage (V_{in}) | 10V | - | 50V | SAE IN connection |
| DC Input Voltage (USB_{in}) | 5V | - | 20V | USB-C connection to USB PD 3.0 device |
| USB IN Current | 0A | - | 5A | |
| Input Power (P_i) | 0 | - | 150W | |
| 30V Auxiliary Power Voltage (V_{aux}) | 22V | - | 34V | |
| | | 28.8V | | Without battery |
| 15V Auxiliary Power Voltage (V_{aux}) | 11V | - | 17V | |
| | | 14.4V | | Without battery |
| Total Batt. Charging Current (I_{batt}) | 0A | - | 8A | |
| Battery Charging Power (P_{batt}) | 0 | - | 135W | |
| Auxiliary 30V Current (I_{HI}) | 0A | - | 6A | Continuous; Li-ion only |
| | | - | 9A | Peak w/battery only |
| Auxiliary 15V Current (I_{LO}) | 0A | - | 3A | Continuous; Li-ion only |
| | | - | 4A | Peak w/battery only |
| Auxiliary Power (P_{aux}) | - | - | 150W | Continuous, $V_{aux} = 30V$; Li-ion only |
| | | - | 240W | Peak w/battery only, $V_{aux} = 30V$ |
| USB Power (USB_{out}) | 0 | - | 100W | USB-C connection to USB PD 3.0 source |
| Efficiency: DC IN to Battery | - | 97.5 | - | $V_{in}=20V, V_{batt}=15V, I_o=4A$ |
| | - | 96.2 | - | $V_{in}=40V, V_{batt}=15V, I_o=4A$ |
| | - | 96.0 | - | $V_{in}=40V, V_{batt}=15V, I_o=8A^1$ |
| Efficiency: Battery to Aux Power Out | - | 94.75 | - | $V_{batt}=16V, V_{aux}=15.5V, I_{aux}=4A$ |
| | - | 93.6 | - | $V_{batt}=15V, V_{aux}=14.1V, I_{aux}=8A$ |
| Ambient Operating Temp. (T_A) | -30°C | - | 60°C | |
| Storage Temp. (T_{STG}) | -30°C | - | 70°C | |
| Internal Temp. Limiting (T_{LIM}) | - | 110°C | - | Auxiliary port turns off and battery charge power reduces to maintain temperature limit ² |
| Charger Dimensions & Weight | | | | |
| L x W x D | 4.687" x 2.737" x 1.38" | | | |
| Weight | 0.70 lbs. | | | |
| Environmental | IP67 (Dust proof; waterproof to 1m immersion) | | | |

1) Charging a BB-2590/U Li-Ion battery with the rated maximum charging current

2) External case temperature can become very hot in certain high load conditions, use caution when handling

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