



ADVANCED POWER  
TECHNOLOGIES

# Intelligent Battery Charger



## iBC Kits & Accessories Solutions Brochure

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**SAFE SMART SERVICEABLE SWITCHGEAR &  
ENGINEERED POWER SYSTEM SOLUTIONS**



ALN: 507 Rev. 02

# Switchgear Battery Charger



Figure 1: Wall Mounted NEMA 1 Enclosure

## 24VDC Switchgear Battery Charger

- ⊙ Charges 24VDC Control Power Batteries for all Switchgear System Ratings:
  - Low Voltage: 208V-690V (3Ø)
  - Medium Voltage: 2.4kV-38kV (3Ø)
- ⊙ LCD display with analog meters
- ⊙ Automatic three stage charging
- ⊙ Adjustable current limit
- ⊙ Dual purpose battery charger and power supply can be used simultaneously
- ⊙ Automatic or Manual boost and storage charge functions help maintain battery condition
- ⊙ Digital Microprocessor Technology
- ⊙ Temperature compensation for battery charging
- ⊙ Low Output Ripple and superb line regulation
- ⊙ AC input Under/Over voltage Protection
- ⊙ Battery charger output over voltage/ current protection
- ⊙ Output short circuit and Inversion polarity with auto recovery
- ⊙ Automatic power de-rating at high ambient Temperatures
- ⊙ Battery charger failure indication
- ⊙ Optional Features:
  - MODBUS RTU Communications using RS-485
  - Additional sizes: 20A, 30A, 40A, and 50A are available upon request
  - Enclosure:
    - Wall mount NEMA 1 for switchgear applications
    - Side Entry/Exit

# Schematic & Specification

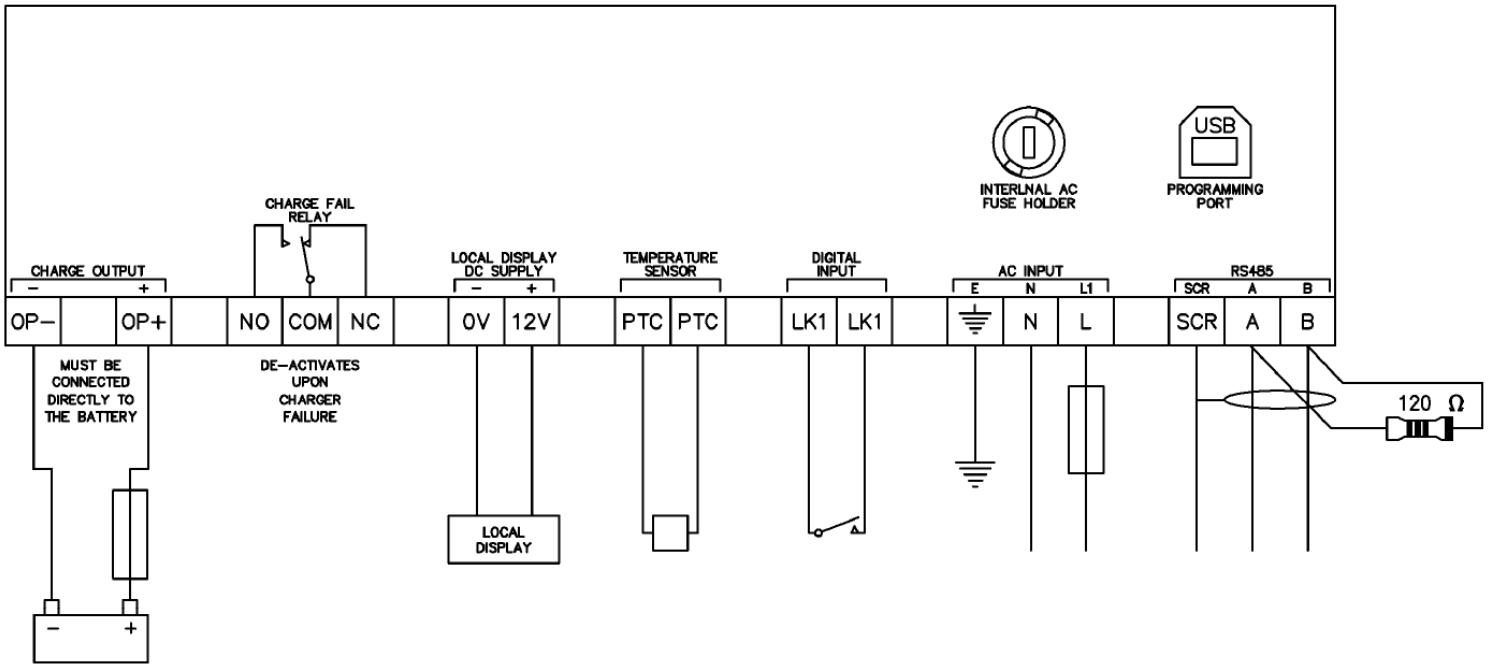


Figure 2: 24VDC Battery System Schematic

## Specification Table

AC Supply Voltage:	90 V to 305 V (L-N)
Frequency:	48 Hz to 64Hz
DC Output:	10 A DC at 27 V DC
Dimensions:	Standard Wall Mount Size – 6 1/2"W x 12"H x 4.3 "D
Ripple & Noise:	<1%
Efficiency:	>86%
Regulation:	Line <0.5%, Load 2%
Protection:	Short Circuit Reverse Polarity AC Input Under Voltage AC Input Over Voltage DC Over Voltage DC Over Current Battery Charger Failure
Storage Temperature Range:	-30 °C to +85 °C
Communication:	SCADA-ready Modbus RTU Communication

# About Advanced Power Technologies



Advanced Power Technologies (APT) is on the cutting edge of the latest engineered power system smart technologies, as it relates to microgrid & storage management, renewable & conventional energy source deployment, demand peak shaving, and facility back-up and co-generation power systems. Located in the central United States and headquartered in Lafayette, Indiana with solutions development engineers around the country, APT provides domestic and international products and services to industry leading companies from around the world. APT engineers have decades of power system experience from working with some of the largest companies in industry. Over the last two decades, we have produced successful solutions for hundreds of large-scale electric power projects involving utility/generator paralleling, transfer, peak shaving, and distribution. We pride ourselves in providing electrical power systems that are engineered and custom built, utilizing state-of-the-art technologies to fit our customer's exact needs. The core of our business is low & medium voltage engineered power systems for a wide range of indoor & outdoor applications, such as:

- ⦿ Utility(ies) and Generator(s) Paralleling/Transfer/Peak Shaving/Distribution Switchgear
- ⦿ Microgrids, Microgrid Master Control Panels, SCADA systems
- ⦿ Containerized Battery Energy Storage Systems (BESS)
- ⦿ Photovoltaic (PV) Solar Power Collection/Distribution & Renewable Energy Storage Systems
- ⦿ Low & High Resistance Grounding Systems, Grounding Systems for Photovoltaic Effective Grounding
- ⦿ High Efficiency Combined Heat and Power Switchgear & Control Systems (CHP, Co-generation)
- ⦿ Outdoor Walk-In Electrical Houses (E-Houses) & Skid-Mounted Switchgear
- ⦿ Motor Control Centers & Motor Control Switchgear
- ⦿ Automatic & Manual Load Transfer Switchgear
- ⦿ Bypass/Isolation & Power Distribution Circuit Breaker Switchboards
- ⦿ Generator/Loadbank Quick Connection Switchgear, Switchboards, & Tap Boxes
- ⦿ Industrial Control Panels

Please see our product webpages on [www.appt-power.com](http://www.appt-power.com) for product brochures and relevant information. Actual products may look different from images shown on the website and in brochures, based on actual specifications.

APT cares and understands that each power system is different. We will evaluate various solutions in order to develop the best solution for a site. APT focuses on our ability to a combine several traditional pieces of equipment/functionality into as little of a footprint possible. This saves on space, the cost of equipment, cost of installation, and accomplishes the most optimal/state-of-the-art design your facilities. APT's desires to foster and grow a culture of continued open communication with each customer. Let APT be your source to provide fully engineered power system equipment solutions for the full customer facility on time, on or under budget, and in the smallest footprint possible. We are always available to assist customers and engineers representing customers in the development of complex power solutions for all facility types.