

# AT10.1 SERIES

## FLOAT BATTERY CHARGERS



CSA-NRTL/C



CSA-C22.2



Seismic Zone 4  
Qualification



**Advanced  
technology  
microprocessor  
control**

**Constant potential  
DC power supplies  
for:**

- Floating & charging stationary batteries
- Power for utility, UPS and communications or industrial type loads

# HINDLEPOWER

**A combination of advanced technology microprocessor control and performance-engineered modular construction make AT10.1 Series chargers and rectifiers easy to set up, easy to operate, and easy to maintain.**



## APPLICATIONS

### Utility & Communications

- Power Generation
- Substations
- Microwave Relay Sites
- Switchgear

### Manufacturing

- Emergency dc Power
- DC Operated Breakers
- Alarm Systems

### Commercial

- Alarm Systems
- Uninterruptible Power Systems
- DC Control Systems

### Transportation

- Signal Systems
- Switchgear
- Alarm Systems

## DESIGN FEATURES

### Modular Construction

- Rectifier, microprocessor control, input/output, power transformer, filter and alarm assemblies are all modular and easily replaceable.

### Thirty-Year Life

- All units are engineered for a greater than 30-year life with an MTBF of 100,000 hours.

### Field Service

#### Less than 60 Minutes

- For fast service, enclosure and instrument panel are easily removable without disturbing chassis or installed conduit. Schematic and diagnostic information plates are mounted on enclosure. Modular construction and self-diagnostics result in an MTTR of less than 60 minutes.

### Install on Wall, Stand or Rack

- Units are easily wall mounted, with the exception of larger units which are floor mounted. Floor stands or rack-mounting provisions are optional.

### Fast, Online Adjustment

- Control, alarm and operating level set points are adjusted digitally from the front panel while online, without the need to vary loads or external conditions.

### Engineered for Safety and Acceptance

The AT10.1 battery charger is designed and tested for worldwide applications

- Meets NEMA PE 5-1996 specification
- CSAC22.2 / CSA-NRTL/C listed product (meets UL 1012 and UL 1564 specifications)
- CE/IEC Compliant (*special order*)
- Meets FCC requirements for part 15 subpart J class A
- Seismic Zone 4 qualified enclosures

Microprocessor circuits control virtually all functions and settings through front panel switches.

Press to choose digital display of Volts/Amps/Equalize hours remaining.

Press to select float or equalize mode.

Choose from three equalize methods: continuous, timed, or automatically timed after AC interrupt.

Press to adjust voltage settings or timer hours when in EDIT mode. Press to test LED lamps when in normal mode.



1% digital meter shows voltage, amperage and hours. Also displays self-diagnostics error codes.

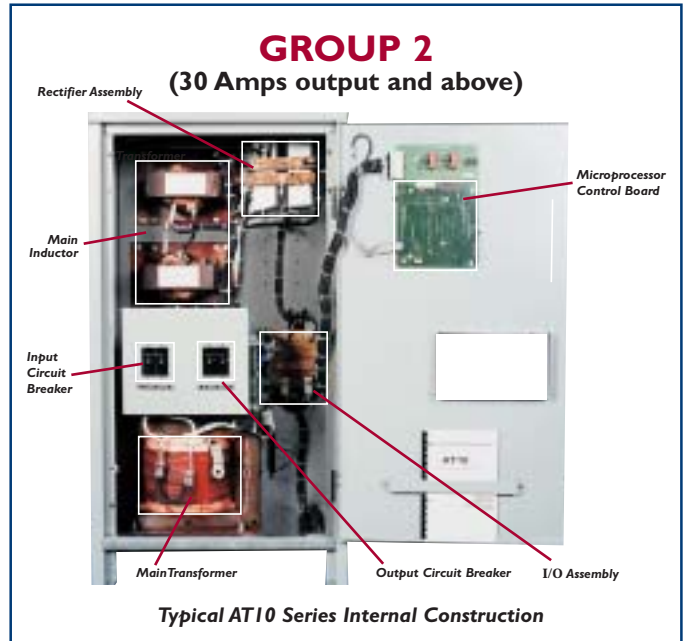
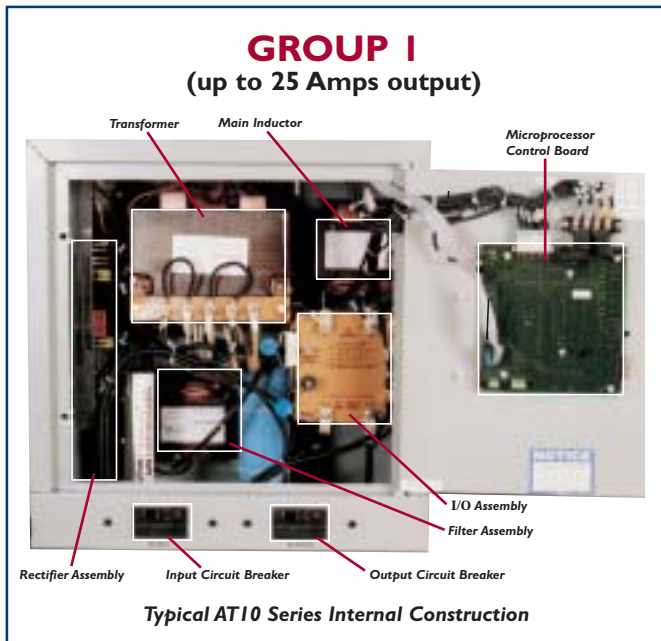
LED lamps indicate abnormal conditions. A summary relay contact or optional individual relay contacts provide remote indication.

Press to switch to EDIT mode and to ENTER voltage settings and timer hours.

All controls can be disabled for tamper-free operation. Operational conditions remain displayed.

For more information, call: 610-330-9000 • fax 610-330-8510 • [www.hindlepowerinc.com](http://www.hindlepowerinc.com)

# HINDLEPOWER



## SPECIFICATIONS

### AC Input

- **Voltage Group 1:** 120/208/240 Volts 60Hz 480Vac 60Hz 220Vac 50/60Hz (special order) 380/416 Vac 50/60Hz (special order)
- **Voltage Group 2:** Must specify
- **Input Voltage Tolerance:** +10%, -12%
- **Input Frequency Tolerance:**  $\pm 5\%$
- **Efficiency:** 85-90% (typical at 130Vdc) at 50-100% load

### DC Output

- **Voltage Ratings:** 12, 24, 48, or 130Vdc nominal
- **Current Ratings:** 6, 12, 16, 20, 25, 30, 40, 50, 75, 100Adc
- **Continuous Rating:** 110% rated current at maximum equalize voltage at 50°C
- **Voltage Regulation:**  $\pm 0.25\%$  for line, load and temperature variations
- **Electrical Noise:** 30mVrms/32dBnC weighted maximum on filtered units
- **Surge Withstand Capability:** Meets IEEE-472/ANSI C37.90a

## STANDARD FEATURES

- 1% Digital LED meter for Vdc, Adc, timer hours and alarm settings
- AC On indicating light
- AC input and dc output circuit breakers
- Float/equalize selector switch with indicating lights
- Manual equalize timer (0-255 hr.) with indicating lights
- AC line failure automatic equalize timer (0-255 hr.) with indicating light
- Self-diagnostics
- Local or remote voltage sense with redundancy to protect against remote sense failure
- High dc voltage shutdown
- Reverse polarity protection
- Front panel controls can be disabled for security
- MOV surge suppressors, input and output
- I/O compression lugs
- Switchboard wire, UL VW-1
- Membrane front panel
- ANSI 61 gray finish, baked epoxy powder
- Alarm assembly with local LEDs and summary relay contact for ac failure, dc failure, high Vdc, low Vdc, positive and negative ground fault

- Redundant control loops for higher reliability
- A redundant analog circuit for LVDC alarm, totally independent of the microprocessor

## OPTIONS/ACCESSORIES

- Output filter for 30mVrms ripple with battery
- Battery eliminator filter
- Individual alarm contacts for each of the alarms
- Input lightning arrestor
- Medium or high AIC circuit breakers
- Temperature compensation via remote probe
- Ground pad with #4 AWG lug
- Fungus proofing (tropicalization)
- Floor stand
- Relay rack mounting
- Drip shield
- Cabinet heater
- NEMA 4 or NEMA 12 enclosures
- Provision for locking front panel

**The classic model — with output ratings to 25 Amperes — now with more features!**



**Cabinet Style 586**

(Shown with Optional Penthouse and Drip Shield.)



**Cabinet Style 594**

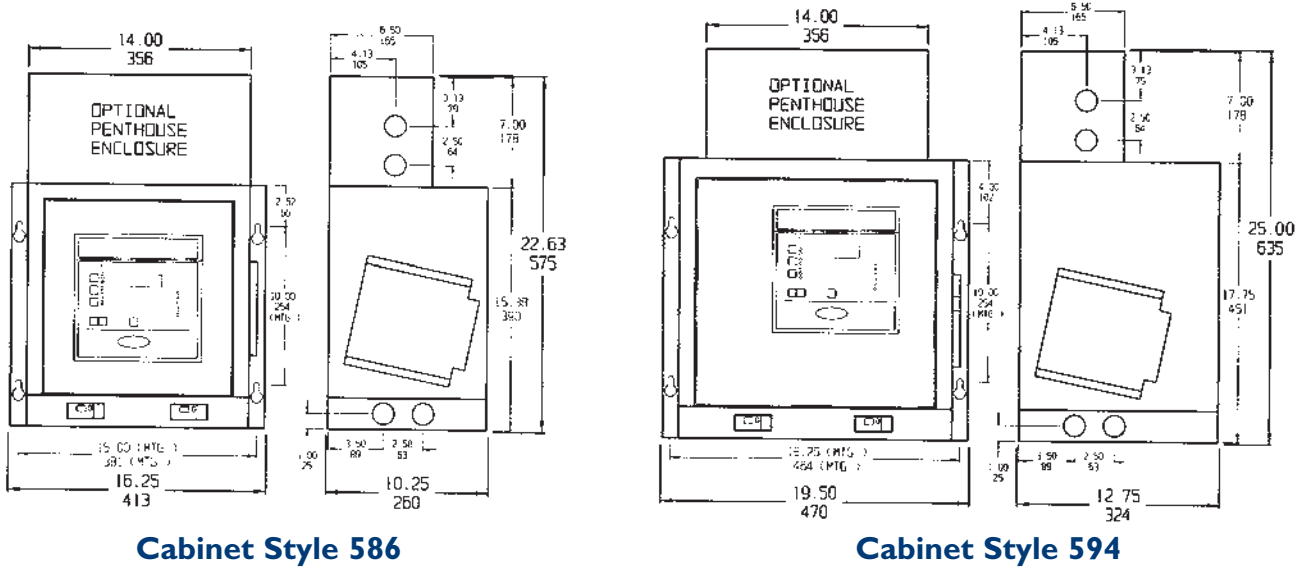
**AT10.1 Group I: Input, Output, Heat Loss, Cabinet Style & Shipping Weight**

<b>Ampere Rating</b>	<b>6A</b>		<b>12A</b>		<b>16A</b>		<b>20A</b>		<b>25A</b>			
AC Input Voltage	120	208	240	480	120	208	240	480	120	208	240	480
<b>Output Voltage: 12Vdc</b>	Float Adjust: 11.5-14.5Vdc						Equalize Adjust: 12-15.5Vdc					
AC Input Amperes (Nominal)	1.4-0.9-0.8-0.4		2.6-1.5-1.4-0.7		3.6-2.1-1.8-0.9		4.2-2.4-2.1-1.1		5.3-3.1-2.7-1.4			
AC Input Circuit Breaker (120V)	10A		10A		10A		10A		10A			
DC Output Circuit Breaker	15A		20A		25A		30A		40A			
Heat Loss - Watts (BTU/hr.)	43 (146)		77 (264)		100 (341)		123 (420)		151 (517)			
Cabinet Style	586		586		586		586		586			
Shipping Weight, lb. (kg)	44 (20)		44 (20)		67 (30)		67 (30)		67 (30)			
<b>Output Voltage: 24Vdc</b>	Float Adjust: 23-29.5Vdc						Equalize Adjust: 24-31Vdc					
AC Input Amperes (Nominal)	3.2-1.8-1.6-0.8		6.0-3.5-3.0-1.5		7.8-4.5-3.9-2.0		9.6-5.5-4.8-2.4		12-6.9-6.0-3.0			
AC Input Circuit Breaker (120V)	10A		10A		15A		15A		15A			
DC Output Circuit Breaker	15A		20A		25A		30A		40A			
Heat Loss - Watts (BTU/hr.)	56 (190)		94 (321)		120 (409)		146 (497)		178 (609)			
Cabinet Style	586		586		586		586		586			
Shipping Weight, lb. (kg)	44 (20)		58 (26.3)		75 (34)		75 (34)		75 (34)			
<b>Output Voltage: 48Vdc</b>	Float Adjust: 46-57Vdc						Equalize Adjust: 48-61Vdc					
AC Input Amperes (Nominal)	6.5-3.8-3.3-1.7		12-6.9-6.0-3.0		16-9.2-8.0-4.0		20-12-10-5.0		25-14-13-6.3			
AC Input Circuit Breaker (120V)	10A		20A		20A		25A		30A			
DC Output Circuit Breaker	15A		20A		25A		30A		40A			
Heat Loss - Watts (BTU/hr.)	80 (274)		127 (433)		158 (538)		188 (643)		229 (781)			
Cabinet Style	586		586		594		594		594			
Shipping Weight, lb. (kg)	58 (26)		75 (34)		110 (50)		110 (50)		110(50)			
<b>Output Voltage: 130Vdc</b>	Float Adjust: 115-140Vdc						Equalize Adjust: 123-145Vdc					
AC Input Amperes (Nominal)	12-6.9-6.0-3.0		26-15-13-6.5		28-16-14-7.0		34-20-17-8.5		43-25-22-11			
AC Input Circuit Breaker (120V)	20A		35A		50A		60A		60A			
DC Output Circuit Breaker	15A		20A		25A		30A		40A			
Heat Loss - Watts (BTU/hr.)	145 (494)		210 (716)		255 (871)		300 (1023)		351 (1199)			
Cabinet Style	586		594		594		594		594			
Shipping Weight, lb. (kg)	80 (36)		147 (67)		193 (88)		193 (88)		193 (88)			

Models with higher ratings: AT10.1 Group 2 models with single-phase ac input ratings, and dc output ratings to 100Adc, described in this brochure; also SCR/SCRf Series models with dc output ratings to 800Adc at 12 through 260Vdc.

# GROUP I

(Cabinet dimensions shown are in inches/millimeters.)



**Cabinet Style 586**

**Cabinet Style 594**

Sample	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
	<b>AT10</b>	0 1 2	0 0 6	U	2 4 0	S	A U X	G	L	X	X	C
	<b>AT10</b>											

	Description	Code	Feature		Description	Code	Feature
<b>A</b>		<b>AT10</b>	<b>AT10 series</b>			<b>AT10</b>	<b>AT10 series</b>
<b>B</b>	Nominal DC Output Voltage	012	12Vdc	<b>F</b>	Circuit Breaker Rating	S	Standard (see table)
		024	24Vdc			M	Medium (see table)
		048	48Vdc			H	High (see table)
		130	130Vdc				
<b>C</b>	Nominal DC Output Current	006	6Adc	<b>G</b>	Aux Relay Board	AUX	Installed
		012	12Adc			XXX	Not Supplied
		016	16Adc				
		020	20Adc				
		025	25Adc				
<b>D</b>	Filtering	U	Unfiltered	<b>H</b>	Ground Pad	G	Installed
		F	Filtered			X	Not Supplied
		E	Eliminator				
<b>E</b>	AC Input Voltage (Standard)	240	120/208/240V 60Hz <small>Wired for 240Vac unless otherwise specified, re-tappable in field.</small>	<b>J</b>	Lightning Arrestor	L	Installed
		480	480V 60Hz			X	Not Supplied
		220	220V 50/60Hz				
<b>E</b>	AC Input Voltage (Custom)	416	380/416V 50/60Hz <small>Wired for 416Vac unless otherwise specified, re-tappable in field.</small>	<b>K</b>	Fungus Proofing	F	Installed
						X	Not Supplied
				<b>L</b>	Static Proofing	S	Installed
						X	Not Supplied
				<b>M</b>	Bilingual Labeling for Canada	C	Installed
						Blank	Not Supplied

50Hz models are available on special order.

This ordering code is unique for AT10.1chargers rated 6-25A output.

**Circuit Breaker AC & DC AIC Ratings:**

- S-10KAIC/240Vac; 10KAIC/125Vdc\* (Not for 480Vac)
- M-25KAIC/240Vac; 18KAIC/480Vac; 10KAIC/250Vdc
- H-65KAIC/240Vac; 25KAIC/480Vac; 25KAIC/250Vdc

\*For chargers 16Adc and larger; consult factory for other ratings.





**Cabinet Style 5017**



**Cabinet Style 5018**

**Expanded  
output ratings —  
now to  
100 Amperes.  
Same great  
features as  
Group I!**

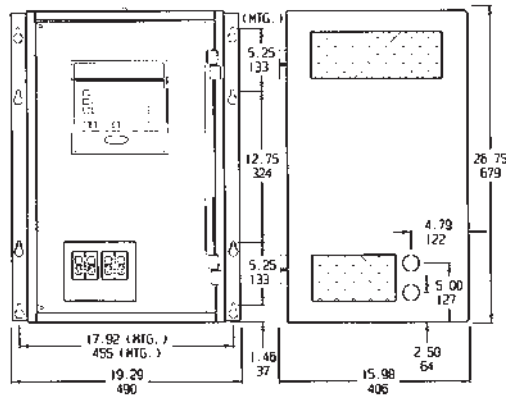
**AT10.1 Group 2: Input, Output, Heat Loss, Cabinet Style & Shipping Weight**

<b>Ampere Rating</b>	<b>30A</b>		<b>40A</b>		<b>50A</b>		<b>75A</b>		<b>100A</b>											
AC Input Voltage	120	208	240	480	120	208	240	480	120	208	240	480	120	208	240	480	120	208	240	480
<b>Output Voltage: 12Vdc</b>	Float Adjust: 11.5-14.5Vdc				Equalize Adjust: 12-15.5Vdc															
AC Input Amperes (Nominal)	7.2-4.1-3.6-1.8		9.6-5.5-4.8-2.4		12-6.9-6.0-3.0		18-10-8.9-4.5		24-14-12-6.0											
AC Input Circuit Breaker (120V)	10A		15		15		25		35											
DC Output Circuit Breaker	50		60		80		100		150											
Heat Loss - Watts (BTU/hr.)	131 (448)		173 (589)		213 (728)		316 (1078)		418 (1428)											
Cabinet Style	5017		5017		5017		5018		5018											
Shipping Weight, lb. (kg) (Note 2)	140 (63)		155 (70)		170 (77)		220 (100)		280 (127)											
<b>Output Voltage: 24Vdc</b>	Float Adjust: 23-29.5Vdc				Equalize Adjust: 24-31Vdc															
AC Input Amperes (Nominal)	13-7.3-6.3-3.2		17-9.7-8.4-4.2		21-12-10.5-5.3		32-18-16-7.9		42-24-21-10.5											
AC Input Circuit Breaker (120V)	20		25		35		40		70											
DC Output Circuit Breaker	50		60		80		100		150											
Heat Loss - Watts (BTU/hr.)	162 (554)		209 (714)		259 (885)		379 (1293)		501 (1709)											
Cabinet Style	5017		5017		5017		5018		5018											
Shipping Weight, lb. (kg) (Note 2)	150 (68)		180 (82)		190 (86)		250 (113)		320 (145)											
<b>Output Voltage: 48Vdc</b>	Float Adjust: 46-57Vdc				Equalize Adjust: 48-61Vdc															
AC Input Amperes (Nominal)	23-13-11-5.6		30-17-15-7.5		38-22-19-9.4		56-33-28-14.1		75-43-38-19											
AC Input Circuit Breaker (120V)	35		40		50		70		100											
DC Output Circuit Breaker	50		60		80		100		150											
Heat Loss - Watts (BTU/hr.)	219 (747)		282 (962)		344 (1174)		498 (1699)		656 (2238)											
Cabinet Style	5017		5017		5017		5018		5018											
Shipping Weight, lb. (kg) (Note 2)	170 (77)		220 (100)		240 (109)		340 (154)		440 (200)											
<b>Output Voltage: 130Vdc</b>	Float Adjust: 115-140Vdc				Equalize Adjust: 123-145Vdc															
AC Input Amperes (Nominal)	53-31-26.5-13.3		71-41-35-18		89-51-44-22		133-77-66-33													
AC Input Circuit Breaker (120V)	70		100		Note 1		Note 1													
DC Output Circuit Breaker	50		60		80		100													
Heat Loss - Watts (BTU/hr.)	366 (1250)		459 (1567)		556 (1897)		793 (2708)													
Cabinet Style	5017		5018		5018		5018													
Shipping Weight, lb. (kg) (Note 2)	220 (100)		300 (136)		300 (136)		440 (200)													

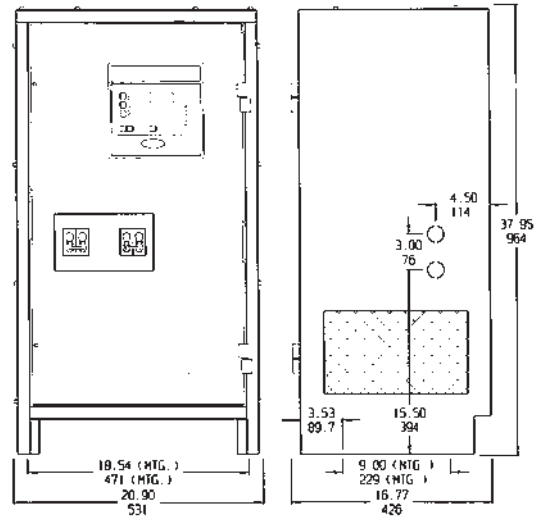
Models with higher ratings: SCR/SCRF Series models are available with dc output ratings to 800Adc at 12 through 260Vdc.  
 NOTES: 1. 120Vac input not available. 2. Shipping weights are approximate.

# GROUP 2

(Cabinet dimensions shown are in inches/millimeters.)



**Cabinet Style 5017**



**Cabinet Style 5018**

Sample	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>						
	<b>AT10</b>	I	3	0	0	5	0	F	4	8	0	S	F	S	X	A	X	X	X	X
	<b>AT10</b>																			

	Description	Code	Feature		Description	Code	Feature		
<b>A</b>		<b>AT10</b>	<b>AT10 series</b>			<b>AT10</b>	<b>AT10 series</b>		
<b>B</b>	Nominal DC Output Voltage	012	12Vdc	<b>G</b>	AC Input Fuses	F	Installed		
		024	24Vdc			X	Not Supplied		
		048	48Vdc						
		130	130Vdc						
<b>C</b>	Nominal DC Output Current	030	30Adc	<b>H</b>	DC ckt Breaker	S	Standard AIC		
		040	40Adc			M	Medium AIC		
		050	50Adc			H	High AIC		
		075	75Adc			0	No Breaker		
		100	100Adc						
<b>D</b>	Filtering	U	Unfiltered	<b>J</b>	DC Fuses	F	Installed		
		F	Filtered			X	Not Supplied		
		E	Eliminator						
<b>E</b>	AC Input Voltage*	120	120V 60Hz	<b>K</b>	Aux Relay Board	A	Installed		
		208	208V 60Hz			X	Not Supplied		
		240	240V 60Hz						
		480	480V 60Hz						
		220	220V 50/60Hz			<b>L</b>	Ground Pad	G	Installed
		380	380V 50/60Hz					X	Not Supplied
416	416V 50/60Hz								
<b>F</b>	AC ckt Breaker	S	Standard AIC	<b>M</b>	Lightning Arrestor	L	Installed		
		M	Medium AIC			X	Not Supplied		
		H	High AIC						
		0	No Breaker			<b>N</b>	Fungus Proofing	F	Installed
								X	Not Supplied
				<b>P</b>	Static Proofing	S	Installed		
						X	Not Supplied		

This ordering code is unique for AT10.I chargers rated 30-100A output.

**Circuit Breaker AC & DC Ratings:**  
 S-5KAIC 120/240/480Vac; 5KAIC 125Vdc  
 M-25KAIC 120/240/480Vac; 10KAIC 250Vdc  
 H-65KAIC 120/240/480Vac; 25KAIC 250Vdc



## History of HindlePower

**HindlePower** enjoys a long and outstanding reputation as the premier manufacturer of stationary and utility battery chargers in the Western Hemisphere. **HindlePower** began as The Power Systems Division of HITRAN Corporation, in the mid-1970s. **HindlePower** renamed itself in the year 2000, in an effort to establish its own unique identity while reinforcing a firm connection with its earliest history as part of the original Hindle Transformer Company (HITRAN).

Today, **HindlePower** is located in scenic Easton, Pennsylvania and continues to thrive and grow both in terms of sales and reputation. Most major battery manufacturers offering utility and stationary products have selected **HindlePower** as the charger companion for their batteries. Some battery manufacturers have chosen to *private label* while others have chosen to *distribute* our excellent line of charger products bearing the prestigious **HindlePower** name. Either way, private-labeled or **HindlePower**-branded, you can be assured that when you select and use a **HindlePower** battery charging product, you are following in a long tradition of quality, service and reliability that began as HITRAN Corporation in the late 1940s and continues today!

The future of the **HindlePower** line of battery charger products will be further enhanced and improved to include many of the latest advancements and achievements in technology. Our team is committed to the highest-possible quality, resulting in zero failures and world-class products and service. As we continue to forge ahead, we the people of **HindlePower**, will never forget our roots, or the commitment to customer satisfaction that our name brings to both our customers and the industry.

### Standard Product Literature Available from HindlePower:

Product	Brochure	Product	Brochure
AT10.I Series Options & Accessories	JF5020	Railroad Maintenance Charger	JF5015
AT30 Battery Charger	JF5018	SCR/SCRF Battery Chargers	JF5010
AT-OG Battery Chargers	JF5019	Single-Cell Battery Chargers	JF5007
AT Series Communications	JF5014	Transit Battery Charging System	JF5023
Custom Design & Engineering Services	JF5011	Universal Maintenance Charger	JF5008



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