

STANDARD FEATURES



- 5 Year Product Warranty
- Universal main control board operates in any AT Series charger
- Alarm assembly with local LEDs and summary relay contact for AC Failure, DC Failure, High Vdc, Low dc, Positive(+) and Negative(-) ground
- High DC voltage shutdown
- Forced load share during parallel operation
- 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
- AC On indicating light
- 1% Digital LED meter for Vdc, Adc, timer hours and alarm settings
- 6 pulse rectification
- AC input and DC output circuit breakers
- Membrane front panel
- Front panel controls can be disabled for security
- A redundant analog circuit for LDCV alarm, independent of the microprocessor
- Redundant control loops for higher reliability
- Local or remote voltage sense with redundancy to protect against remote sense failure
- Self-diagnostics
- Input & output MOV surge suppressors
- Reverse polarity protection via free wheeling diodes
- CU-AL I/O compression lugs
- Switchboard wire, UL VW-1
- Enclosure pre-treated using a 5-stage iron phosphate process with baked epoxy powder coating in ANSI 61 gray

Safety and Acceptance

- Meets NEMA PE 5-1996, PE 5-1997 (R2003) specification
- NEMA-1/IP20 type standard enclosure
- Third party agency approvals:



CSA C22.2 - NRTL/C · UL 1012/UL 1564 compliant
Seismic qualified
ABS · CE certification available upon request

- Made in USA

Environmental

- Operating Ambient Temperature 0°F to 122°F (-18°C to 50°C) w/o derating
- Operating Altitude 10,000 feet (3,000 meters) above sea level w/o derating
- Relative Humidity 0% to 95% (without condensation)
- Audible Noise Less than 65 dBA at any point 5ft (1.5m) from any vertical surface of enclosure

SPECIFICATIONS

AC Input

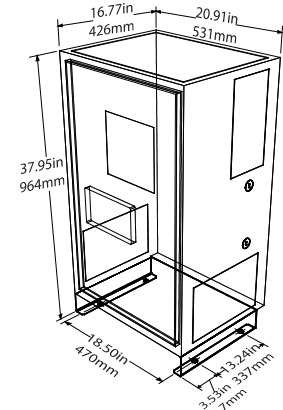
- **Voltage:**
 - 208 Vac 60Hz
 - 240 Vac 60Hz
 - 480 Vac 60Hz
 - 550-600 Vac 60Hz
 - 220 Vac 50/60Hz
 - 380 Vac 50/60Hz
 - 416 Vac 50/60Hz
- **Input Voltage Tolerance:**
+10%, -12%
- **Input Frequency Tolerance:**
±5%
- **Efficiency:**
85-90% typical for 130Vdc at 50-100% load

DC Output

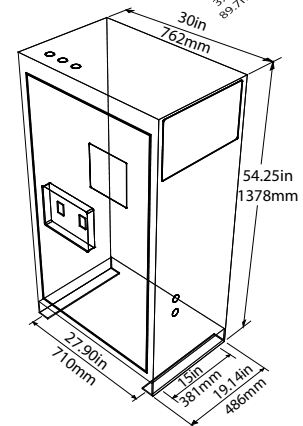
- **Voltage Ratings:**
12, 24, 48, or 130Vdc nominal
- **Current Ratings (A dc):**
25, 30, 40, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 800, 1000
- **Continuous Rating:**
110% rated current at maximum equalize voltage at 50°C
- **Current Limit Adjustment Range:**
50% to 110% rated output
- **Voltage Regulation:**
±0.25% for line, load and temp. variations
*Regulation at max. equalize voltages may not meet ±0.25%
- **Electrical Noise:**
32dBrc
- **Ripple:**
12/24/48Vdc
 - Unfiltered on battery 1% Vrms
 - Filtered on battery 30mVrms
 - Filtered off battery 1% Vrms
 - Battery Eliminator 30mVrms
- 130Vdc
 - Unfiltered on battery 2% Vrms
 - Filtered on battery 100mVrms
 - Filtered off battery 2% Vrms
 - Battery Eliminator 100mVrms
- **Surge Withstand Capability:**
Meets IEEE-472, ANSI C37.90a



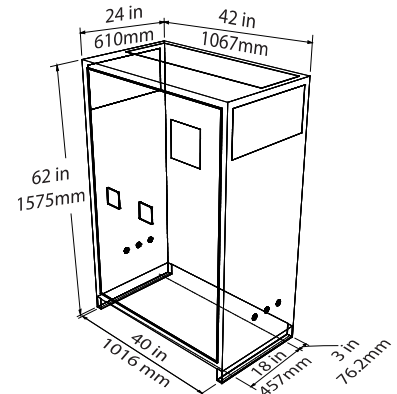
Cabinet Style 5018



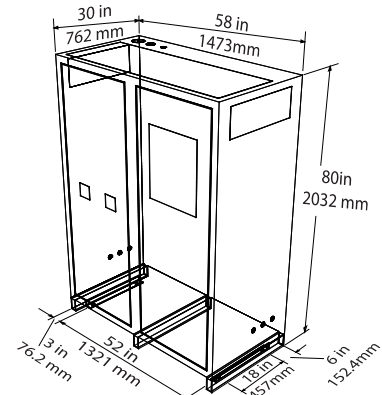
Cabinet Style 5030



Cabinet Style 163



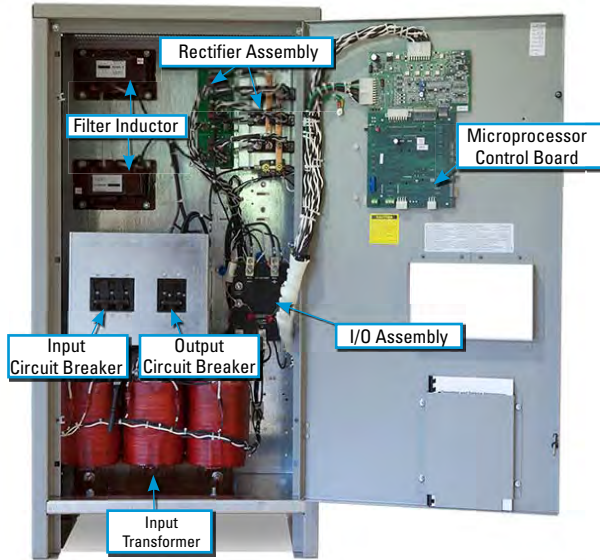
Cabinet Style 198



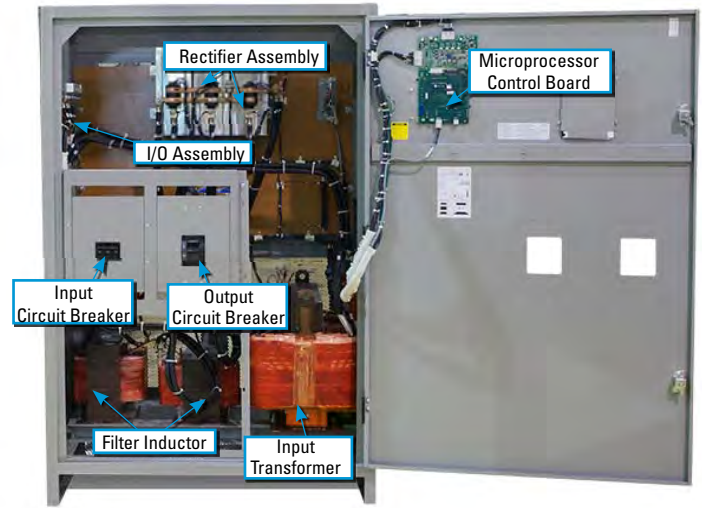
SPECIFICATION CHART

	DC Output Rating		AC Input Ampere Rating <small>Based on maximum rms value of the input current delivered to the charger under all operating conditions within manufacturer's specifications</small>								Battery Charger AC Circuit Breaker Ampere Rating (standard AIC breakers)								DC Circuit Breaker Rating	Cabinet Style	Approx. Shipping Weights lb.(kg)	Heat Loss Watts (BTU/hr)
	Volts	Amps	208 VAC	220 VAC	240 VAC	380 VAC	416 VAC	440 VAC	480 VAC	600 VAC	208 VAC	220 VAC	240 VAC	380 VAC	416 VAC	440 VAC	480 VAC	600 VAC				
(12Vdc) Float Adjust 11.0-14.5Vdc	12Vdc	50	5	5	4	3	3	2	2	2	10	10	10	5	5	5	5	15	80	5018	260 (118)	229 (783)
		75	7	6	6	4	3	3	3	3	10	10	10	5	5	5	5	15	100	5018	330 (150)	340 (1160)
		100	9	8	8	5	5	4	4	4	15	10	15	10	10	5	5	15	150	5018	380 (173)	448 (1529)
		125	12	11	10	6	6	5	5	5	15	15	15	10	10	10	10	15	175	5030	450 (205)	560 (1911)
		150	13	13	12	9	7	6	6	6	20	20	20	15	15	10	10	15	200	5030	550 (250)	668 (2279)
		200	16	16	14	9	9	8	7	6	20	20	20	15	15	10	15	15	250	5030	590 (268)	890 (3039)
(12Vdc) Equalize Adjust 11.7-15.5Vdc	12Vdc	250	22	20	19	12	11	10	9	8	30	25	30	15	15	15	15	350	5030	610 (277)	1113 (3799)	
		300	28	24	24	14	13	12	12	11	35	30	35	20	20	15	15	400	5030	650 (295)	1327 (4531)	
		50	9	9	8	5	5	6	4	4	15	15	15	10	10	10	10	15	80	5018	280 (127)	289 (987)
		75	12	11	10	7	6	5	5	5	15	15	15	10	10	10	10	15	100	5018	340 (154)	427 (1457)
		100	16	15	14	9	8	7	7	6	20	20	20	15	15	10	10	15	150	5018	390 (177)	560 (1911)
		125	21	20	18	11	10	9	9	8	30	25	30	15	15	15	15	15	175	5030	540 (245)	700 (2309)
(24Vdc) Float Adjust 22.0-29.5Vdc	24Vdc	150	23	24	21	12	12	11	11	10	35	30	35	20	20	15	15	200	5030	580 (263)	833 (2843)	
		200	27	28	25	16	14	13	13	11	40	35	40	25	25	20	20	250	5030	610 (277)	1101 (3759)	
		250	39	37	34	22	20	19	17	15	50	50	50	30	30	25	25	350	5030	650 (295)	1376 (4699)	
		300	51	44	44	25	23	22	22	19	70	60	70	35	35	30	30	400	5030	690 (313)	1652 (5638)	
		400	59	59	51	34	32	30	27	24	80	80	80	50	50	40	40	500	5030	690 (313)	1652 (5638)	
		500	72	72	63	42	38	36	32	29	90	90	90	60	60	50	40	40	700	163	1150 (522)	2202 (7518)
(24Vdc) Equalize Adjust 23.4-31.0Vdc	24Vdc	600	88	87	76	51	46	44	40	35	125	125	125	70	70	60	50	800	163	1300 (590)	2730 (9319)	
		800	122	119	107	67	62	57	55	48	175	175	175	90	90	80	70	1200	198	2020 (916)	4367 (14910)	
		1000	152	148	133	84	77	72	68	60	200	200	200	125	125	100	90	80	1200	198	2440 (1107)	5459 (18638)
		50	15	13	13	8	8	7	7	6	20	20	20	15	15	10	10	15	80	5018	310 (141)	398 (1358)
		75	20	19	16	11	10	10	9	8	25	25	25	15	15	15	15	15	100	5018	390 (177)	584 (1994)
		100	26	25	24	13	13	12	12	10	35	35	35	20	20	15	15	15	150	5018	500 (227)	762 (2602)
(48Vdc) Float Adjust 44.0-58.0Vdc	48Vdc	125	35	33	29	19	18	17	15	13	50	50	50	25	25	25	20	20	175	5030	550 (250)	953 (3253)
		150	37	35	32	20	19	18	16	14	50	50	50	25	25	25	20	20	200	5030	600 (272)	1131 (3860)
		200	53	50	46	29	27	25	23	20	70	70	70	40	40	35	30	25	250	5030	660 (299)	1491 (5091)
		250	69	66	58	38	35	33	30	26	100	100	100	50	50	50	40	40	350	5030	720 (327)	1864 (6363)
		300	78	74	68	43	39	37	34	30	100	100	100	60	60	50	50	40	400	5030	760 (345)	2237 (7636)
		400	100	96	88	56	51	48	44	39	125	125	125	70	70	60	60	50	600	163	1100 (499)	2949 (10068)
(48Vdc) Equalize Adjust 46.8-59.0Vdc	48Vdc	500	128	120	110	70	64	60	55	48	175	175	175	90	90	80	70	700	163	1350 (612)	3686 (12585)	
		600	157	149	135	85	79	75	69	60	200	200	200	125	125	100	90	800	198	1600 (726)	4424 (15102)	
		800	209	198	181	113	106	99	91	79	300	300	300	150	150	125	125	100	1200	198	2020 (916)	5898 (20137)
		1000	261	248	225	143	132	125	113	99	350	350	350	200	200	175	150	125	1200	198	2400 (1089)	7373 (25171)
		25	17	16	14	10	9	9	8	7	25	20	25	15	15	15	10	15	40	5018	370 (168)	361 (1232)
		30	20	20	18	12	11	10	9	8	25	25	25	15	15	15	15	15	50	5018	380 (172)	416 (1421)
(130Vdc) Float Adjust 110.0-141.0Vdc	130Vdc	40	26	23	22	14	13	12	12	10	35	30	35	20	20	15	15	15	60	5018	390 (177)	532 (1817)
		50	33	30	28	18	16	15	15	12	50	40	50	25	25	20	20	15	80	5018	400 (182)	647 (2208)
		75	48	44	43	26	25	24	22	18	70	60	70	35	35	30	30	25	100	5018	490 (222)	928 (3169)
		100	64	60	57	35	32	30	29	24	100	80	100	50	50	40	40	35	150	5030	650 (295)	1201 (4099)
		125	80	75	69	44	40	42	38	33	125	100	125	60	60	60	50	50	175	5030	740 (336)	1478 (5045)
		150	93	87	80	52	46	46	42	37	125	125	125	70	70	60	60	50	200	5030	750 (340)	1773 (6054)
		200	125	120	110	70	62	60	55	48	175	150	175	100	100	80	70	60	250	5030	820 (372)	2327 (7946)
		250	158	150	137	79	72	68	68	59	200	200	200	125	125	100	100	80	350	163	1130 (513)	2909 (9932)
		300	180	170	160	93	85	80	80	72	250	225	250	125	125	100	100	100	400	163	1330 (603)	3436 (11731)
		400	255	235	220	127	116	110	110	96	300	300	300	175	175	150	150	125	600	163	1580 (717)	4582 (15641)
(130Vdc) Equalize Adjust 117.0-143.0Vdc	130Vdc	500	320	300	280	160	148	140	140	120	400	400	400	200	200	200	200	150	700	198	2150 (975)	5727 (16552)
		600	378	354	331	200	180	177	169	145	500	500	500	250	250	250	250	200	800	198	2650 (1202)	6872 (23462)
		800	503	473	439	266	241	233	224	194	N/A	N/A	N/A	350	350	300	300	250	1200	198	3250 (1474)	9163 (31283)
		1000	628	590	547	330	300	291	279	240	N/A	N/A	N/A	450	450	400	350	300	1200	198	4200 (1905)	11271 (38479)

CONFIGURATION



STYLE 5018 CABINET



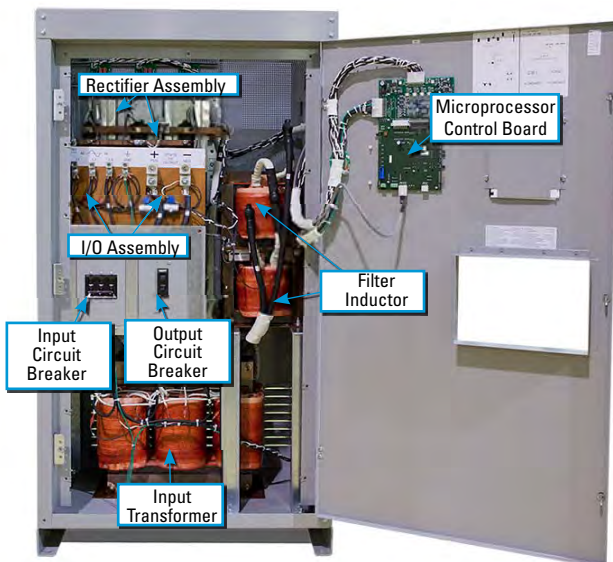
STYLE 163 CABINET

AT30 - SPECIFICATION TABLE

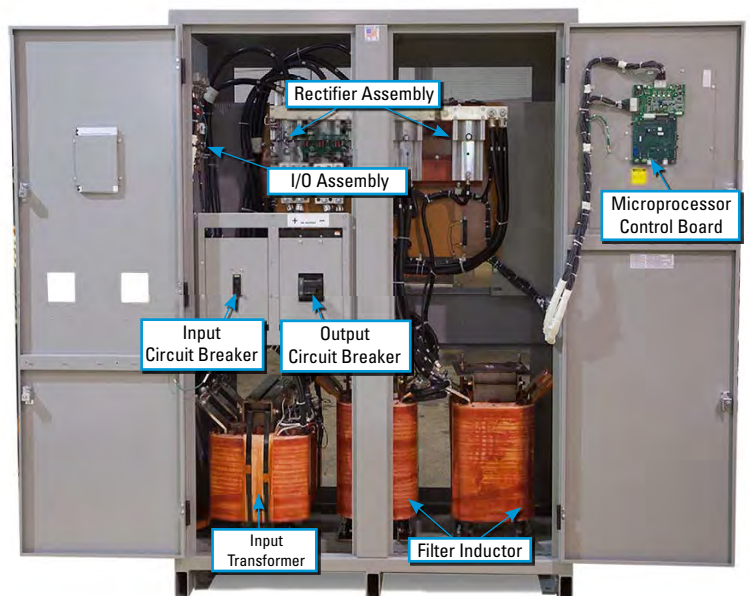
MODEL#	Output voltage	Output current	Fltr	Input Voltage	Factory configurations & options
AT30					Contact us for configuration

CIRCUIT BREAKER AC & DC RATINGS

Standard	Medium	High
Input: 5kAIC - 120/208/240/480Vac 14kAIC - 600Vac Output: 5kAIC - 125Vdc	Input: 25kAIC - 120/208/240/480Vac 18kAIC - 600Vac Output: 10kAIC - 250Vdc	Input: 65kAIC - 120/208/240/480Vac N/A - 600Vac Output: 20kAIC - 250Vdc



STYLE 5030 CABINET



STYLE 198 CABINET

CUSTOMIZE YOUR AT30

Summary of options

- DC output filtering: per NEMA PE5 1996, standard and battery eliminator
- Medium & High AIC Breakers
- Auxiliary alarm relay board
- Copper ground bus
- AC lightning arrestor
- Fungus proofing (tropicalization)
- Static proofing
- Forced load share cable
- Communications module: DNP3Level 2 or MODBUS protocols
- Battery temp. compensation
- Custom Paint
- NEMA 4 (12) type enclosure w/fan
- NEMA Type 2 Drip Shield
- Barrier type alarm terminal block
- End of discharge alarm
- Battery discharge alarm
- Zero-center grounddetection meter
- Analog AC voltmeter
- Analog AC ammeter
- Cabinet heater assembly
- CE marking upon request
- ABS certification upon request
- Fan control contactor
- Custom drawing package
- Mechanical lock for front door

Filtering - Standard



Output filtering is essential whenever there is need for low ac ripple and low noise on the dc bus for critical loads. The standard dc output filtering limits ripple to no more than 30mV RMS on 12, 24 & 48Vdc units, and 100mV RMS on 130Vdc units, measured at the battery terminals. This feature meets the specifications of NEMA standard PE5-1996, and is recommended for installations using VRLA or gelled electrolyte batteries.

Filtering - Battery Eliminator

An additional "battery eliminator" feature is also available, meeting the specifications of NEMA standard PE5-1996 with no battery connected, measured at the dc output terminals. This feature is recommended for sites where the battery may occasionally be disconnected from the dc bus for maintenance. Additional filtering is essential to limit ac ripple and noise for critical dc loads.

Medium & High AIC Breaker



This feature provides thermal-magnetic circuit breakers with higher Ampere Interrupting Capacity ratings than the standard. See the tables on Page 11 for medium and high AIC breaker ratings.



Copper Ground Bus

This option provides a convenient means to tie the AT30 to the site building ground. A copper ground bus bar is provided with an extra CU-AL compression box lug.

Auxiliary Alarm Relay Board



The AT30 features several industry-standard alarms, with individual LED indicators on the front instrument panel, and are accessible to the user via one (1) Summary Alarm contact on the Main Control PC Board. This feature provides a separate user-accessed pc board, featuring discreet two (2) form-C relay contacts for all six (6) alarms.



Communications

This option allows full remote monitoring of the AT30 and control of the front panel features, using MODBUS or DNP3 Level 2 protocols. Standard serial connections are provided for use with local SCADA systems.

Ethernet or Fiber Optic Modem interfaces are also available for use with the AT Communications option. Contact factory for part number.

CUSTOMIZE YOUR AT30 - PAGE 2

AC Lightning Arrestor



This options features an industrial-grade surge arrester in polycarbonate housing, rated for 20,000 Amperes. It is recommended for installations with risk of frequent ac surges, such as high elevations or severe weather.

Temperature Compensation



Supplied in a kit, this option adjusts the AT30 dc output voltage up or down, in response to battery temperature fluctuations. Temperature is measured by an epoxy-enclosed thermistor. This probe is mounted on or near the battery, and connected by a cable to the Main Control PC Board. It is compatible with both lead-acid and nickel-cadmium batteries, and recommended for VRLA batteries. Cable lengths of 25, 50, 100, and 200 ft are available.

NEMA Type 4 Cabinet



With this accessory, a fully assembled standard AT30 NEMA-1 vented enclosure is installed within another gasketed, sealed cabinet. The combined assembly meets the NEMA Type 4 (and therefore Type 12 and 13) enclosure specification. All ratings feature forced cooling, with user-supplied 120Vac for the fan.

NEMA Type 2 Drip Shield



Standard AT30 battery chargers are supplied in NEMA Type 1 vented enclosures. The optional drip shield prevents overhead water and small falling particles from entering the top vented panels, protecting internal equipment from damage. The combined standard enclosure and drip shield meets the NEMA Type 2 specification.

AT-DC Distribution Panel



This product augments AT30 with a customized dc distribution panel for user-specified loads. The AT-DC is configurable to various combinations of main and branch breakers. The AT-DC panel is optimally supplied from the factory, mounted to the AT30 and pre-wired to the charger's dc output terminals. For further details, refer to the AT-DC product literature (JF5032-00).

Fan Control Contactor



Lead-acid batteries produce hydrogen gas. This small wall-mounted external accessory provides a relay contactor to activate a battery installation vent or exhaust fan. Available in 10A or 20A models, the accessory is factory-set to provide relay closure when the AT30 enters into Equalize mode.