



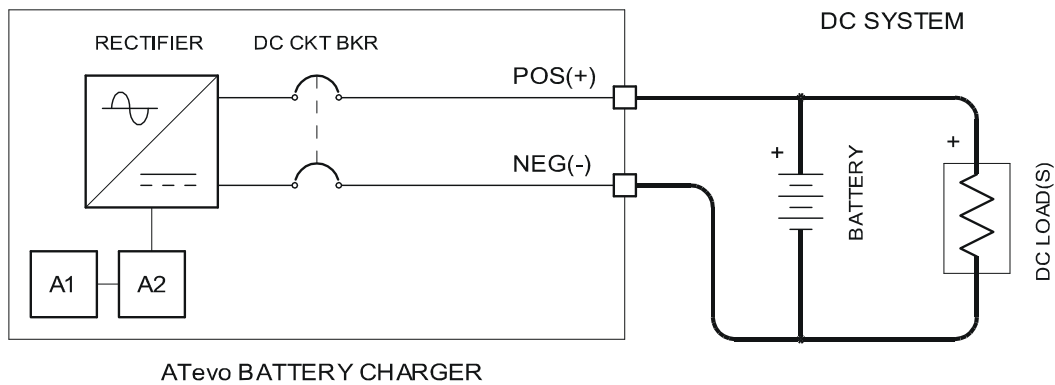
ATevo Series Battery Charger BATTERY SHUNT (p/n EJ5307-##)

NOTICE The ATevo battery shunt (p/n EJ307-##) is an evolution of similar options offered in legacy AT10.1, AT30 & SCR/SCRF Series battery chargers. A new, and *superior*, external 'smart shunt' is available for ATevo battery chargers... **HindleHealth+**. This product replaces the need for *both* the ATevo battery shunt, *and* the optional EJ5304-## TempCo probe. For more information, access user instruction ([JA5136-00](#)).

BACKGROUND

Standard ATevo Series battery chargers feature two (2) dc output terminals for positive (+) and negative (-) connections to the external dc bus. A dc system normally consists of an industrial battery, resistive dc load(s), and a charger (rectifier). It may also feature a distribution panel to dc loads, and/or a battery disconnect.

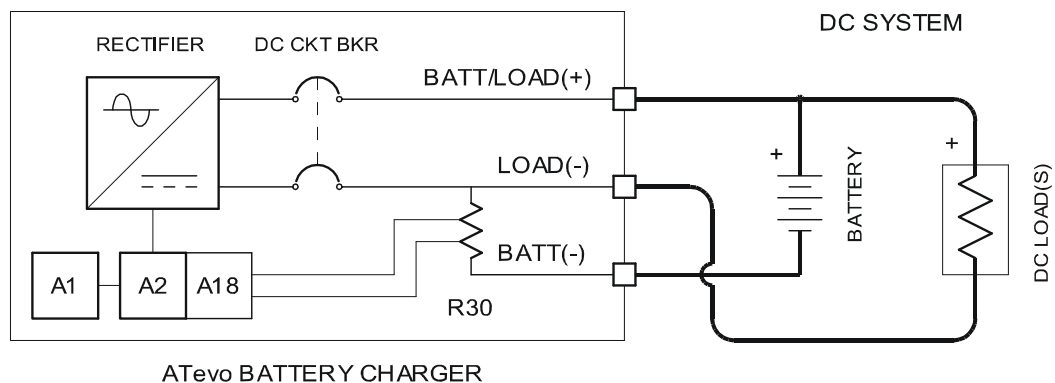
SCHEMATIC (standard w/o EJ5307-##)



BATTERY SHUNT

This instruction covers the optional ATevo *Battery Shunt*, (p/n EJ5307-##). The shunt (R30) lies *electrically* along the negative(-) bus, between the battery and dc loads. It detects current (I_{dc}) flow *to* the battery, and *from* the battery to the load(s). Under normal operation, the ATevo is providing dc load current, while also charging the battery at its recharge (or *float*) current. If ac power fails, the ATevo shuts down, and current would begin to *DISCHARGE*, and flow *from* the battery to the dc load(s).

SCHEMATIC (with EJ5307-## battery shunt)



NOTICE Battery charge/discharge options are specifically designed for a one battery, one load, and one charger installation. See *Application Note* ([JD0052-00](#)) for utilizing shunt in a *dual* charger system.



HARDWARE

Battery current sensing is performed by printed circuit board (A18), which is connected to (and mounted on) the ATevo Power Board (A2). The A18 board monitors current flow via twisted pair signal wiring to the battery shunt (R30). This signal is ultimately sent to the Main Control Board (A1), and utilized by the ATevo firmware.

Different option variants (p/n EJ530-00 through EJ5307-11) feature increasingly larger 50mV battery shunts (R30), sized for the site "dc load profile". Refer to the tables below for offerings.

NOTICE For option sizing and proper functionality, the *maximum* discharge current (Adc) expected to flow from the battery to the dc loads is *required* to be submitted with orders.

- A) If shunt is sized too *small*, discharge current may be too *high* for the alarm/meter to perform properly.
- B) If shunt is sized too *large*, properly-sized battery cabling may be too *large* for I/O connections.

max batt discharge	option p/n	R30 50mV shunt size
12 Adc	EJ5307-00	50A
20 Adc	EJ5307-01	50A
30 Adc	EJ5307-02	50A
40 Adc	EJ5307-03	50A

max batt discharge	option p/n	R30 50mV shunt size
50 Adc	EJ5307-04	75A
75 Adc	EJ5307-05	100A
100 Adc	EJ5307-06	150A
150 Adc	EJ5307-07	200A

max batt discharge	option p/n	R30 50mV shunt size
250 Adc	EJ5307-08	300A
400 Adc	EJ5307-09	500A
600 Adc	EJ5307-10	750A
800 Adc	EJ5307-11	1000A

With the battery (charge/discharge) shunt option, the ATevo will also feature three (3) dc terminals, instead of the normal two (2). User lugs will be properly-sized for the maximum discharge current (Adc), and specially marked:

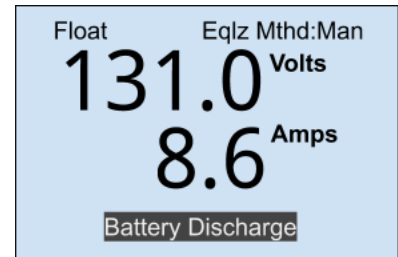
- (1) BATT/LOAD(+), (2) BATT(-), and (3) LOAD(-)

ALARM

When current through battery shunt (R30) changes from positive(+) to negative(-) for more than six (6) seconds, an alarm is activated within the ATevo firmware. Local (visual) monitoring of the alarm is provided via the ATevo front panel display, with text **Battery Discharge** shown along the *bottom* status row.

The alarm is not latched (by default), and no discrete indicator lamp is provided. A battery discharge alarm event will trigger the standard ATevo *common* alarm. Also, battery discharge alarm events are accessible via SCADA remote communications (if option supplied).

If one (1) or more form-C alarm relay contacts are required for remote "battery discharge" monitoring, the Aux I/O PC Board (A4) must be specially configured. See Section 12.4 of the ATevo O&SI manual for alarm relay configuration.



METER

In addition to the battery discharge alarm described above, the ATevo also features a zero-center battery charge/discharge dc *ammeter*. The battery shunt (R30) provides measurement of dc current in *both* directions. Digital metering is accurate to **1%**, calculated by the Main Control PC Board (A1) firmware.

Visual monitoring of battery current is accessed via the ATevo front panel display. Press the **DISPLAY** button on the LCD to scroll through screens, until the **Battery Current Meter** is reached. This will numerically display charging, or negative(-) discharging current (in Adc). The Battery Current Meter also provides a visual horizontal bar measurement, mimicking an *analog* device, which indicates dc current direction (charge-right / discharge-left).

Additionally, battery charge/discharge metering is accessible via SCADA remote communications (if option supplied in ATevo).

