

Vehicle Installation Example Notes

1. The negative wire from the solar panel(s) **must not** be connected to the chassis, as this will bypass the regulator and overcharge the batteries.
2. Solar charge current is measured internally by the PL regulator as it goes between the Sol- and Bat- terminals, and can be seen in the CHRГ -> CINT screen.
3. Do not use the load terminal (L-) for switching loads directly since you can't guarantee that the load terminal will be able to switch off the connected loads, because any of the loads could be touching the chassis and still create a circuit to 'ground' eg. a fridge's chassis is connected to the -ve power lead and can easily touch the vehicle chassis (the L- terminal switches in the -ve lead).

If you need low battery disconnect or switching due to a particular programmed event, drive a relay from the load terminal, and use the contacts to switch the positive line to the load(s).

If the load terminal is not used, the protection 'catch' diode can be omitted.

4. The sum of internal and external charge currents will show up in the CHRГ screen.
5. The shunt/PLS2 can be placed in either the negative or positive bus line. The negative bus is preferred as this will not cause a hazard should the shunt be accidentally shorted to the chassis.
6. Current through chassis return loads (L2 in diagram) can be measured as long as the negative bus is tied to the chassis (T1 in diagram). Typical chassis return loads could be panel mounted stereos, radio communication equipment, chassis connected lights, etc.
7. If only one PLS2 is used, and there are both external load sources and external charge sources, the current shown will be the balance of current from/into the house battery ie. some of the charge current will go directly to supplying the load and therefore not go through the shunt. CHRГ and LOAD screens will show the total load and charge currents as 'seen' by the house battery (net load/charge, not gross load/charge). This setup will still give accurate amp-hour monitoring for correct State of Charge (SOC) display as the amp-hours IN and amp-hours OUT are still correct from the house batteries perspective.
8. If real-time absolute (gross) external load and charge current monitoring is required then a 2nd shunt/PLS2 will be required, and the shunts will need to be placed inline with the positive bus (since many charge sources are chassis returned). One Shunt/PLS2 should be used for external loads, the other should be used for external charge sources. An additional WZ cable and RJ11 double adapter will be required to connect the 2nd PLS2 into the system. This setup will also give accurate amp-hour monitoring for correct State of Charge (SOC) display, and will show real-time gross (absolute) charge / load currents (as opposed to just the balance of charge/load currents).
NOTE: When using 2 x PLS2 units, one must be set to **Master** and the other must be set to **Slave**.
9. Connection from the negative bus to the chassis (T1 in diagram) is only required if:
 - (i) Chassis return loads are to be connected, and or
 - (ii) Charging from the cranking battery is required.
10. Alternator/House battery charging can be achieved by switching the cranking battery positive to the house battery positive terminal with a high current switch or contactor. The negative bus must be tied to the chassis (T1 in diagram). Automatic operation can be achieved by using a high current contactor connected to energise when the vehicle is running.