

Sentry-GenPro Installation Instructions

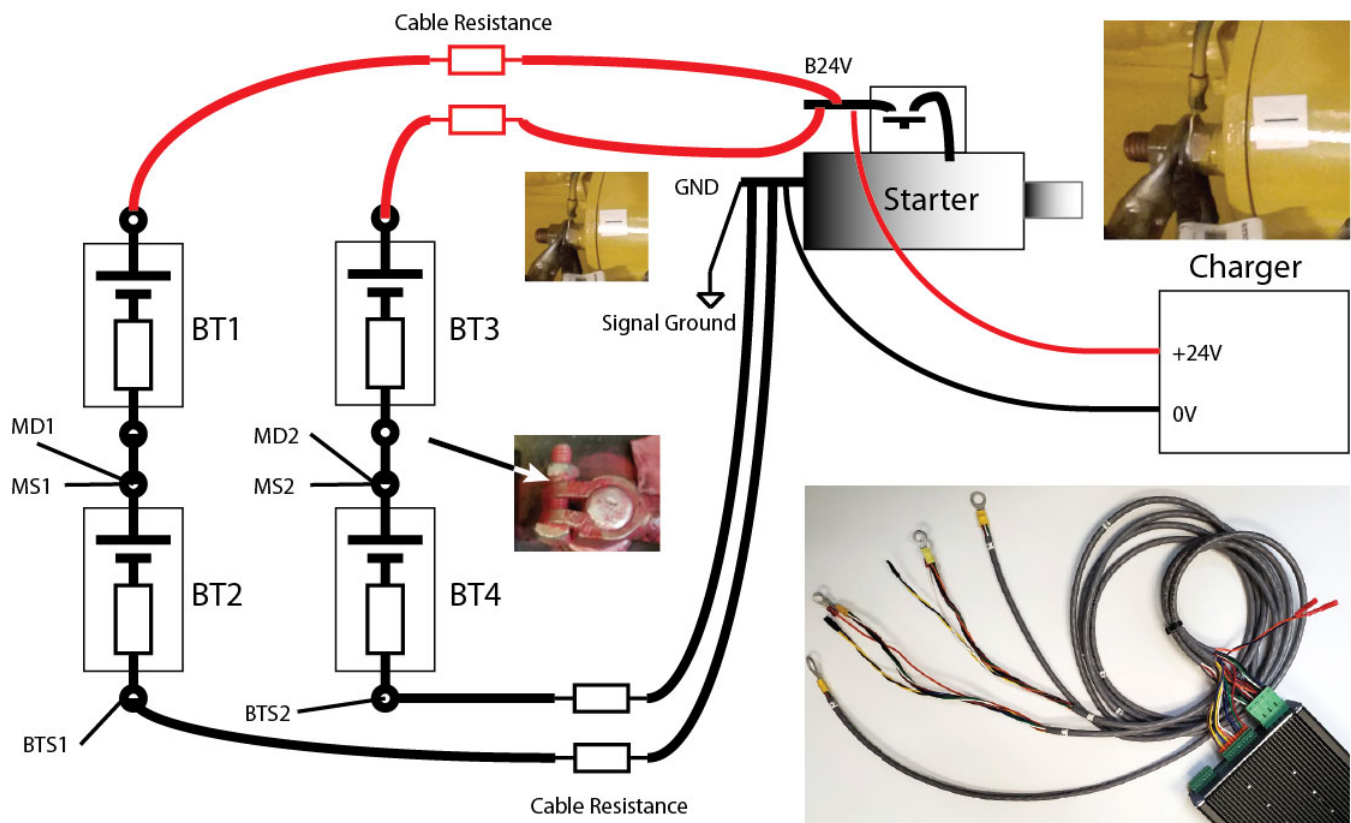
Sentry-GenPro will be set for 12V or 24V in factory:

Model	Sentry-GenPro-12	Sentry-GenPro-24 (Default)
Starter Battery	12V (2x6V), 1 or 2 strings	24V (2x12V), 1 or 2 string

[For single 12V bank, please replace the battery with 2x6V batteries. Sentry-GenPro cannot work with single 12V battery because the charger in parallel will interfere the internal resistance measurement.]

Monitor is supplied with pre-made cables connected to 2 plugs. Plug-A is for high IR current, Plug-B is for detection.

Cable	Name	Connection to Sentry	Connection to Starter
#1	+24V	Plug-A B24V (Pin#1) Plug-B B24V (Pin#1)	Starter B24V, or switch B24V. Default 12mm O-ring.
#2	M1	Plug-A MD1 (Pin#2) Plug-B MS1 (Pin#2), BTS1(Pin#5), TS1	Battery string-1 middle point. Default 6mm O-ring. T probe on battery #1 or #2
#3	M2	Plug-A MD2 (Pin#3) Plug-B MS2 (Pin#3), BTS2(Pin#6), TS2	Battery string-2 middle point. Default 6mm O-ring. T probe on battery #3 or #4
#4	GND	Plug-A GND (Pin#4) Plug-B GND (Pin#4, signal ground)	Starter GND. Default 10mm O-ring. Cable resistance between BTS1/2 and GND is utilized for current sensing as a shunt.



Modification for Different Battery Layout

Layout	Connection
Default, 2 strings on one side	Default, 5ft for 4 cables
2 strings, one on each side	Order extended length for M2 cable.
One string only	Take off connection wires from M2, MS2, BTS2 and TS2+/- . Set battery number to 2 with HMI.

If the charge is connected direct to one string, the “0V” output (BLACK) wire shall be disconnected from battery and be connected to GND at starter.



Current Gain Calibration

For different battery cable gauge and length, the “shunt” value needs to be calibrated for each installation.

Turn off charger for gain calibration.

HMI → **DAQ** → **System Setting** → Page down to **CT1 gain**, set gain to 0 → page to **CT2 gain**, set gain to 0;

Wait for new value to show up. → Page to **CT2 gain**, wait for new value to show up → Continue to “**Save Change**”, “**Yes**” to save it. (For 2 strings, make sure CT2 Gain is calibrated.)

On **CT1 Gain** page, there is **Cal Constant**, please leave it as default which is **3200** unless you have a standard precision current source to calibrate it, which is not necessary for this application. (For 12FT cable, it is set to **3500**.)

When replace batteries, do a manual IR after connecting all harness back. HMI → **DAQ** → **Data** → **Start IR**

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