VE.Direct TX digital output cable

The VE.Direct TX digital output cable ASS030550500 can be used together with BlueSolar and SmartSolar MPPT chargers[1].

The MPPT solar charge controller must have software version V1.15 or higher. An MPPT with an older version can be upgraded with VictronConnect.
VictronConnect can both be used to upgrade the firmware and to configure the MPPT controller. Download it from our website:
https://www.victronenergy.com/support-and-downloads/software#victronconnect-app

The latest MPPT charger firmware is contained within VictronConnect, it will update your product to latest firmware automatically. Alternatively the latest MPPT firmware can be retrieved via the portal https://professional.victronenergy.com/ (e.g. when using VE Power Setup to update a remote installation connected to a Color Control).

The VE.Direct TX digital output cable supports two applications:

1. Solar lighting applications

Energy consumption can be substantially reduced by light-dimming when appropriate.
Lower energy consumption will reduce overall system cost, and increase light availability even when the battery has only been partly charged due to bad weather.

The TX cable connects the TX pin on the VE.Direct connector of a MPPT charger to the PWM light dimming input of a LED driver.

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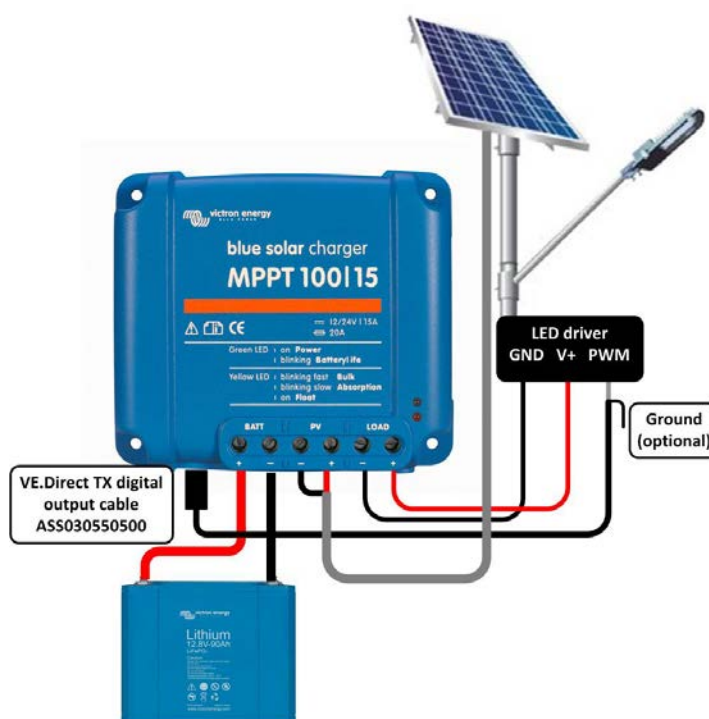
[1] The cable cannot be used with the following versions, as these units power-down completely at night:
- SCC010030200 - BlueSolar MPPT 100/30. Use its successor, SCC020030200 instead.
- SCC010050000 - BlueSolar MPPT 75/50. Use the successor of the 100/50, SCC020050200 instead.
- SCC010050200 - BlueSolar MPPT 100/50. Use its successor, SCC020050200 instead.
- SCC010035000 - BlueSolar MPPT 150/35. Use its successor, SCC020035000 instead.

The PWM dimming function has been tested to work with the following LED drivers:
- RECOM RBD-12
- Glacial Power GP-LD7048-0B
- Glacial Power GP-LD3548-0B
- MEAN WELL LDH-45

Relevant configuration items in VictronConnect:

- Settings -> Tx port function -> Tx port function = "Light dimming (normal)" or "Light dimming (inverted)".
- Settings -> Load -> Load operation mode = "BatteryLife algorithm" or any mode you prefer.
- Settings -> Streetlight -> Streetlight function = "ON", setup the timer program as desired for your application.

2. Virtual load output

The second application for which this cable can be used is to add load output functionality to the larger Solar Chargers, MPPT 100/30 and up. Which do not have load output terminals such as the smaller Solar Chargers do.
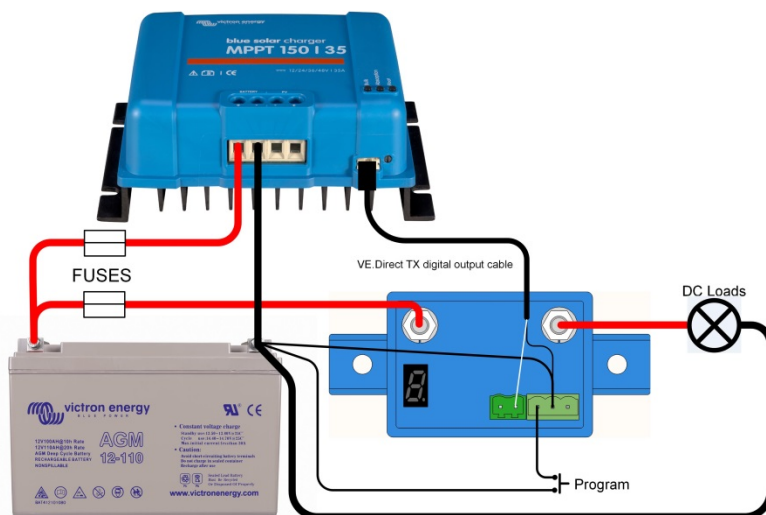
The cable connects the TX output of the VE.Direct connector of the Solar Charger to a Battery Protect or a solid state relay. Which will then switch a load off when the battery is low.

There are multiple programs available for switching the load. See chapter 4.2 in the VictronConnect MPPT Solar Charger manual for details.

- Battery Protect (connect to left pin of the remote input, see https://www.victronenergy.com/battery_protect/battery-protect)
- Solid State Relay (any SSR that can handle DC is ok, most switch on @5V control voltage, e.g. Omron G3NA-D210B-UTU DC5-24)

Relevant configuration items in VictronConnect:
- Settings -> Tx port function -> Tx port function = "Virtual load output".
- Settings -> Load -> Load operation mode = "BatteryLife algorithm" or any mode you prefer.
- Settings -> Streetlight -> Streetlight function = "OFF"