12V/24V SMART SOLAR CHARGER INSTALLATION MANUAL



Centurion Systems (Pty) Ltd
www.centsys.com

Company Profile



1986 1990 1995 1999 Today

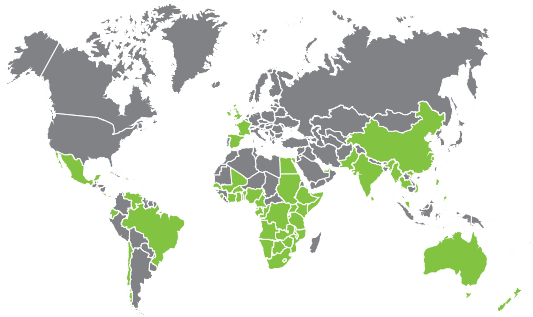
In-house R&D development team

Manufactures to international quality standard ISO 9001:2015



After-sales multi-language Technical Support

100% testing of products



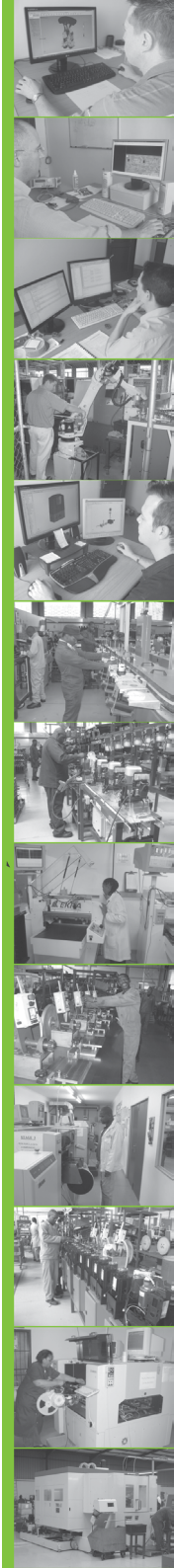
Sales and technical support to Africa, Europe, Asia, the Americas, Australia and the Pacific

Technical Support Operating Times

Monday to Friday
08h00 to 16h30 GMT+2,

Saturdays
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Icons used in this manual

This icon denotes variations and other aspects that should be considered during installation.

This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.

This icon indicates a clickable hyperlink.

1. Introduction

The **SMART Solar Charger** compliments SMART/SMART+ Gate Operators to be powered by Solar Panels.

Output Voltage Selection

The Output Voltage of the **SMART Solar Charger** is automatically selected.
It monitors the voltage of the batteries that are connected and then determines whether the system is 12V or 24V.

The **SMART Solar Charger** will not operate if no batteries are connected.
This implies that the Control Card will not power up unless batteries are connected to the **SMART Solar Charger**.

Temperature Monitoring

The **SMART Solar Charger** has built-in temperature monitoring.
If the internal temperature rises too high, the charging current is reduced to bring down the temperature.

Sleep Mode

When the panel voltage is too low, for example very cloudy days or night time, the **SMART Solar Charger** will go into Sleep Mode to conserve power.
It wakes up approximately every 30 seconds to check the panel voltage then goes back to sleep.



On initial power up, Sleep Mode behaviour is not active for the first 5 minutes.

1.1. Important Safety Information



ATTENTION!

To ensure the safety of people and possessions, it is important that you read all of the following instructions.

Incorrect installation or incorrect use of the product could cause serious harm to people.

The installer is the last person on the site who can ensure that the SMART Solar Charger is safely installed and that the whole system can be operated safely.

Warnings for the Installer

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS before installing the product.

- All installation, repair, service work, and battery replacement for this product must be carried out by a suitably qualified person
- Do not in any way modify the components of the system
- Do not install the equipment in an explosive atmosphere: the presence of flammable gases or fumes is a serious danger to safety
- Before attempting any work on the system, turn off electrical power to the operator and disconnect the batteries

- Never short-circuit the Battery and do not attempt to recharge the batteries with power supply units other than that supplied with the product, or manufactured by Centurion Systems (Pty) Ltd
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
- Neither Centurion Systems (Pty) Ltd, nor its subsidiaries, accepts any liability caused by improper use of the product, or for use other than that for which the automated system was intended
- This product was designed and built strictly for the use indicated in this documentation; any other use, not expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger
- Everything not expressly specified in these instructions is not permitted

2. Product Identification

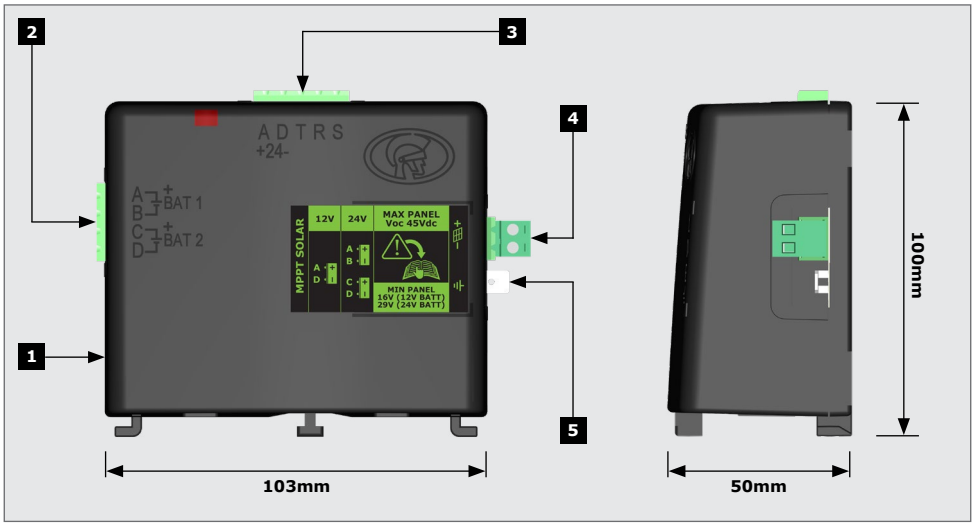


FIGURE 1. PRODUCT IDENTIFICATION AND DIMENTIONS

1. **SMART Solar Charger**
2. Output to Battery(ies)
3. Output to SMART Controller (12V or 24V)
4. Input Terminals (from Solar Panel)
5. Earth Tab

3. Technical Specifications

	12V D-Series SMART/SMART+ Operators	24V D-Series SMART/SMART+ Operators	V-Series SMART/SMART+ Operators
Maximum Panel Open Circuit Voltage	45 VDC (Voc)		
Panel Input Voltage Range	18V-43V DC	30V-43V DC	18V-43V DC
Minimum Panel Power	20 Watt	40 Watt	20 Watt
Charger Output voltage	13.7V DC	27.4 VDC	13.7V DC
Charger Output Current	Configurable via MyCentsys Pro App; • Battery >/= 7Ah = 2A Charge[1] (Default if no comms present) • Battery >/= 12Ah = 3.5A Charge • Battery >/= 17Ah = 5A Charge		

1. D3 SMART/SMART+ and D4 SMART+ are not configurable

TABLE 1

4. SMART Solar Charger Installation and Wiring

4.1. Disconnecting the existing Charger

4.1.1. 24V D-Series SMART/SMART+ Operators

1. Switch off the incoming 220V Mains Supply to the Operator's existing Charger.
2. Unplug the 220V Mains Supply from the existing Charger and isolate / insulate it.
3. Unplug the 4 Way Battery plug with the Battery Leads from the existing Charger.
4. Unplug the 5 Way plug from the existing Charger.
5. Remove the existing Charger.

4.1.2. 12V D-Series SMART/SMART+ and V-Series SMART/SMART+ Operators

1. Switch off the incoming 220V Mains Supply to the Operator's existing Charger.
2. Unplug the 220V Mains Supply from the existing Charger and isolate / insulate it.
3. Unplug the small white 2-Way plug from the Controller.
4. Remove the existing Charger.
5. For V-Series SMART/SMART+ Operators, unscrew and remove the exisiting Charger's Bracket.

4.2. Connecting the SMART Solar Charger

Fit the **SMART Solar Charger** to the SMART/SMART+ Operator and wire it into the SMART/SMART+ Controller as per wiring diagrams below.

Note the Polarity of the Battery Leads, the SMART Solar Charger Harness and the Solar Panel to the SMART Solar Charger Input Terminals. Ensure that they are correctly wired!

4.2.1. 12V SMART/SMART+ Operators

The supplied harness is intended for use with 12V SMART/SMART+ Operators only. For 24V SMART/SMART+ Operators, use the existing Operator Charger harness.

4.2.1.1. D3 SMART/SMART+ and D4 SMART+ Controllers

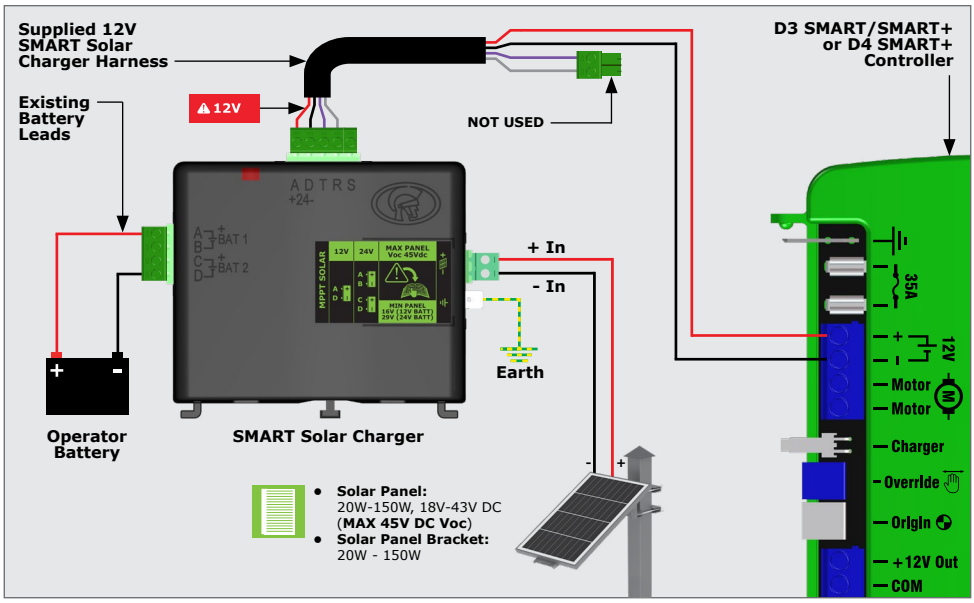


FIGURE 2. SMART SOLAR CHARGER TO D3 SMART/SMART+ AND D4 SMART+

4.2.1.2. D5-Evo SMART/SMART+ Controller

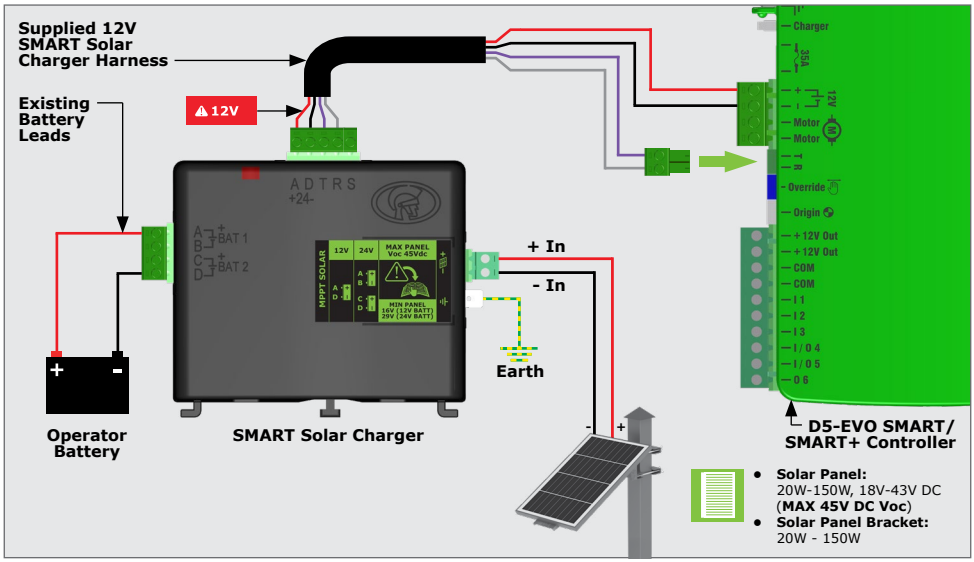


FIGURE 3. SMART SOLAR CHARGER TO D5-EVO SMART/SMART+

4.2.1.3. V-Series SMART/SMART+ Controller

Screw in the **SMART Solar Charger** Bracket onto the back cover of the Wall Box.

Fit the **SMART Solar Charger** to the Charger's Bracket, securing it into position by slotting the **SMART Solar Charger's** Feet into the Brackets slots.

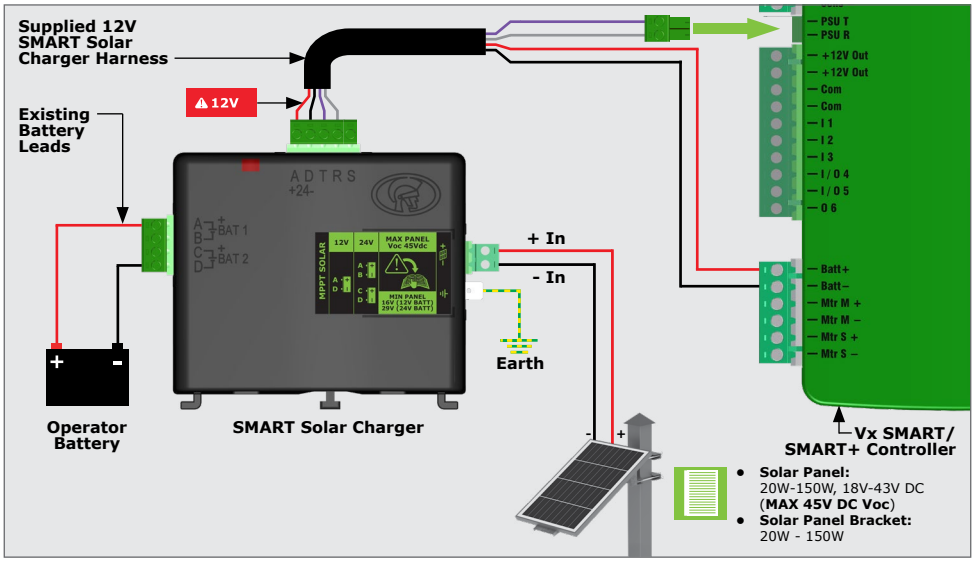


FIGURE 4. SMART SOLAR CHARGER TO VX SMART/SMART+

4.2.2. 24V SMART/SMART+ Operators

The supplied harness is intended for use with 12V SMART/SMART+ Operators only. For 24V SMART/SMART+ Operators, use the existing Operator Charger harness.

4.2.2.1. Dx SMART/SMART+ Controller - Single Solar Panel

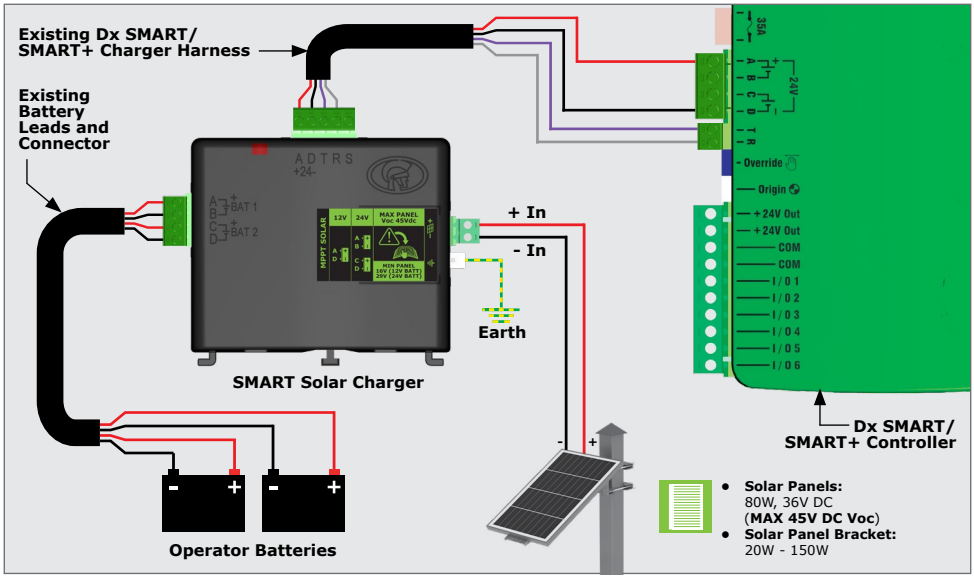


FIGURE 5. SMART SOLAR CHARGER TO DX SMART/SMART+ SINGLE SOLAR PANEL

4.2.2.2. Dx SMART/SMART+ Controller - Double Solar Panels

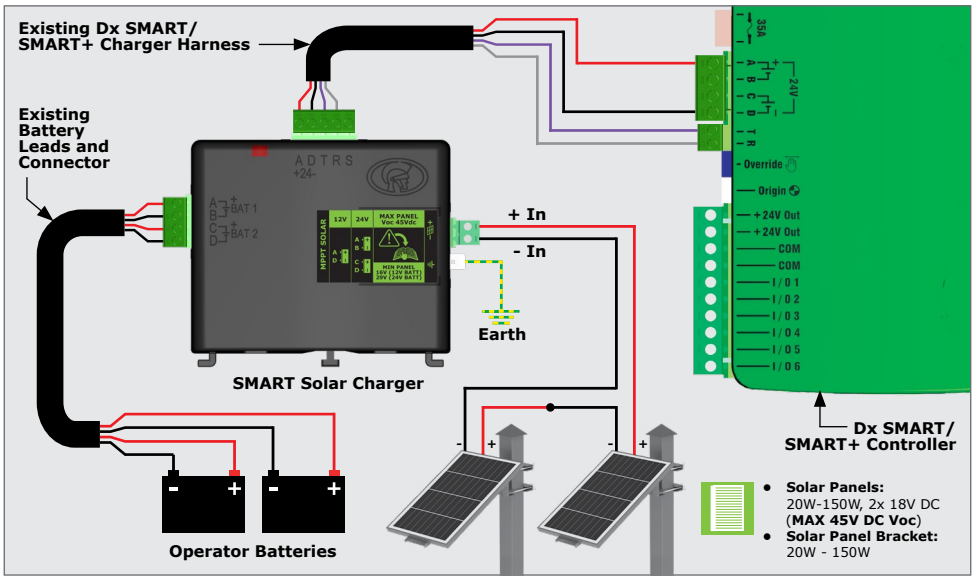


FIGURE 6. SMART SOLAR CHARGER TO DX SMART/SMART+ DOUBLE SOLAR PANELS

5. Commissioning the System

1. Tap or scan the hyperlinked QR Code or applicable App Store Icon in Figure 7.
2. Select the App Store applicable to the operating system being used, either Apple App Store, Android Google Play Store or the Huawei App Gallery.
3. Download and install the application(s).

Alternatively, go directly to the app store of the operating system being used, and search for the apps. "**MyCentsys Pro**", "**MyCentsys**" and/or "**MyCentsys Remote**".

Download and install the application onto the smartphone.



FIGURE 7

5.1. MyCentsys Pro Application

1. Once **MyCentsys Pro** has been installed, open the application.
2. From the list of operators, select the operator that applies to this installation.
3. Connect to the relevant operator.
4. Use the **MyCentsys Pro** App by following the prompts to configure the SMART Solar Charger.

Notes

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