



Solar Analytics Smart Monitor Complete Installation Guide

PREPARED BY: Yew Eng Ng, Senior Operations Engineer
DATE: 23 March 2017

Solar Analytics Pty Ltd
ABN: 92 165 351 511

Suite 9 / 245 Chalmers Street, Redfern NSW 2016
Ph. 1300 651 137
www.solaranalytics.com

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1 Document Information

1.1 Validity

This document is valid for the both the 3CT and 6CT version of the Solar Smart Monitor supplied by Solar Analytics. These device types are denoted with product codes SC-23 and KR-63 respectively and all the following variations listed below:

- RSC-23-A60-T
- RSC-23-A60-V
- RSC-23-A60-F
- RKR-63-A60-T
- RKR-63-A60-V
- RKR-63-A60-F

Most, but not all parts of this document are applicable for the following variation of the KR-63:

- RKR-63-M24-U.

Please refer to separate documentation for installation instructions for these variations of the Solar Analytics Smart Monitor.

1.2 Scope

This document outlines the information and steps required to correctly install a Solar Analytics Smart Monitor to monitor the solar production and energy consumption of a system. The tasks described here must only be performed by qualified persons. Qualified persons must have all the following skills:

- Trained and qualified in installing electrical devices and installations (behind the meter board)
- Knowledge of how a solar PV system functions and operates
- Training on dangers associated with electrical installation with risk mitigation measures
- Knowledge of applicable local and federal standards and regulations with regards to electrical installations

1.3 Definition and Abbreviations

Phrase/Abbreviation	Description
PV	Photovoltaics
CT	Current Transformer
SC-23	Product code for 3CT Solar Analytics Smart Monitor
KR-63	Product code for 6CT Solar Analytics Smart Monitor
CB	Circuit Breaker
DB	Distribution Board

2 Safety

2.1 Recommended and Intended Use

The Solar Analytics Smart Monitor is 3G smart monitoring device that measures the solar production and whole-site consumption of any system. The Solar Analytics Smart Monitor is a revenue grade energy monitor that is compatible with all solar PV systems and inverters.

The SC-23 is the 3-current transformer (CT) variant of the Solar Analytics Smart Monitor. With these 3 CTs available to measure loads, the SC-23 is typically used for single phase systems.

The KR-63 is the 6-current transformer (CT) variant of the Solar Analytics Smart Monitor. With these 6 CTs available to measure loads, the KR-63 is typically used for three phase systems.

Both the SC-23 and KR-63 have the exact same form factor and footprint. They are designed to be installed inside a DIN enclosure in proximity to the point of common connection of a home or business. This is typically the main distribution board where both the Main Supply Switch and Solar Main Supply Switch is located.

Additional information and specifications of the Solar Analytics Smart Monitors can be found in the Appendix.

2.2 Safety Information

All electrical installations must adhere to all local requirements and standards. The following are some standards that must be conformed to when installing the Solar Analytics Smart Monitor (not limited to):

- AS/NZS5033:2012
- AS/NZS4777
- AS/NZS3000

To prevent personal injury or property damage and to ensure the long-term operation of the product, please exercise all safety precautions and measures.

2.3 Support and Contact Information

All contents of this document are made available online at

<https://www.solaranalytics.com/au/support/>

If you have any technical questions or feedback regarding this or anything related to Solar Analytics, please get in touch.

Our support phone line is open from Monday to Friday, 9:00AM to 5:00PM AEST (excluding public holidays)

To help with the support request, the following information is necessary to provide you with the necessary assistance:

- Smart Monitor Serial Number e.g. D7042 0600 1234
- Product Type e.g. 3CT or 6CT
- Installation Address (if available)

Solar Analytics Support	1300 651 137	support@solaranalytics.com.au
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3 The Solar Analytics Smart Monitor

The Solar Analytics Smart monitor is a 3G enabled smart monitoring device that measures up to 3 or 6 different loads. The Solar Analytics Smart Monitor measures multiple electrical characteristics using a voltage reference frame and current measurements from the split-core current transformers. The device automatically connects to a cloud interface via 3G communications. This measured information is paired with patented smart algorithms to provide the solar PV system owner a world class monitoring and diagnostics platform.

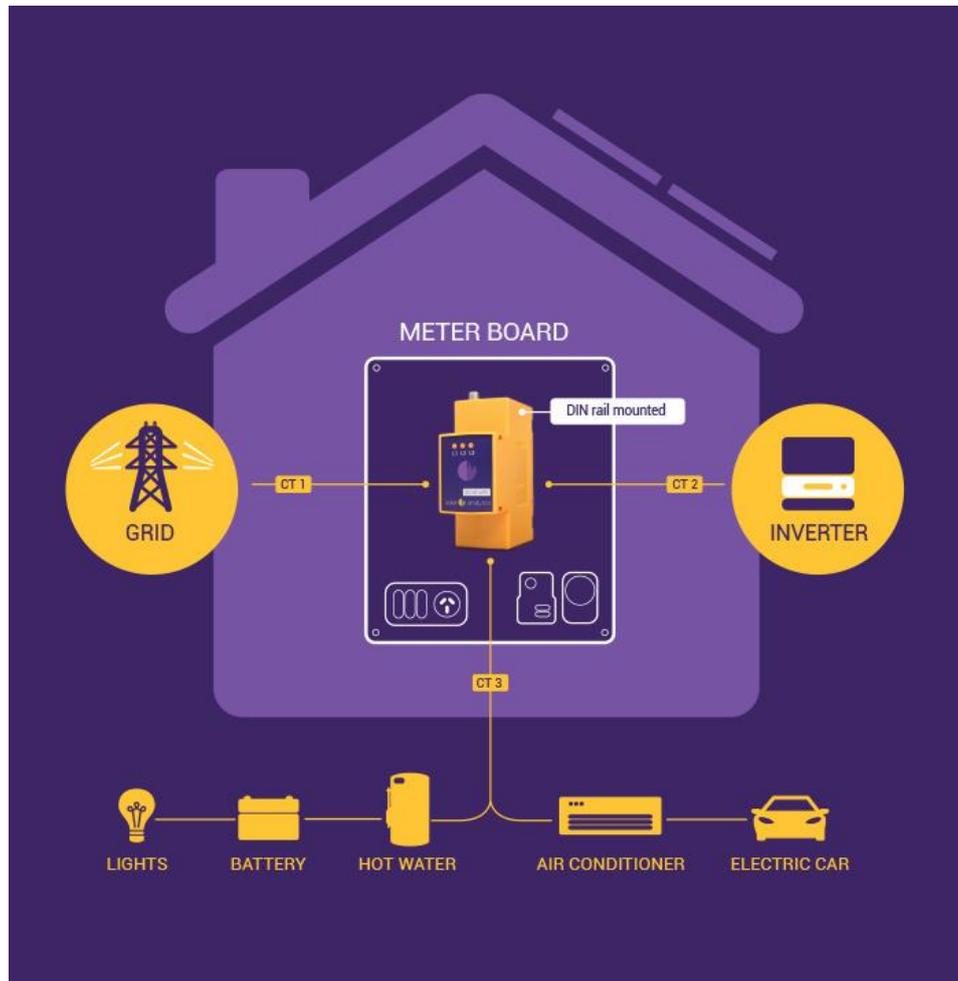


Figure 1 Solar Analytics Smart Monitor

As a standard offering, the SC-23 comes with a 1-phase tail prewired for convenience of installation. However, a 3-phase conversion kit can be purchased from Solar Analytics if the SC-23 is required to monitor three phase loads.

As a standard offering, the KR-63 comes with a 3-phase tail prewired for convenience of installation. However, this can easily be re-wired to work for a single/dual phase application.

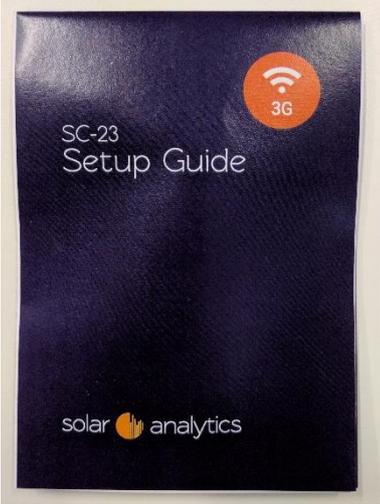
Additional information and specifications of the SC-23 and KR-63 can be found in the Appendix.

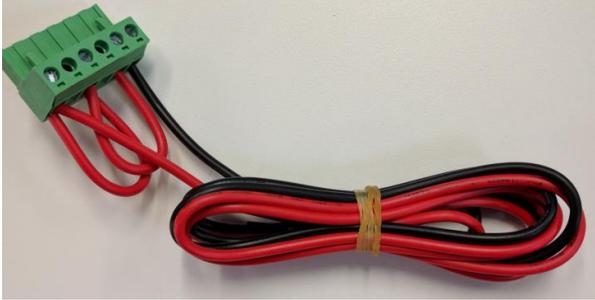
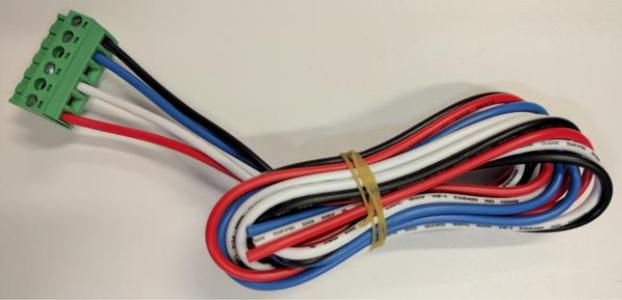
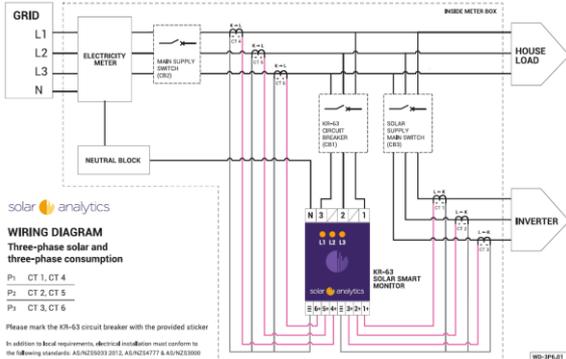
4 Pre-Installation Checks

Please review the following pre-installation checks before you install the Solar Analytics Smart Monitor

4.1 Box Contents

Check the contents of the Solar Smart Monitor box for completeness and any externally visible damage. Contact Solar Analytics if any product received is incomplete or damaged.

Picture	Quantity	Item
 A yellow rectangular smart monitor with a blue display panel. The display shows three orange indicator lights labeled L1, L2, and L3, a purple waveform, and the text 'SC-23 3G' and 'solar analytics'.	1	KR63 or SC-23 Solar Analytics Smart Monitor
 A dark blue setup guide booklet with a white border. It features a 3G signal icon in an orange circle, the text 'SC-23 Setup Guide', and the 'solar analytics' logo at the bottom.	1	Set Up Guide
 A black SMA Plug Elbow Connector Antenna with a gold-colored SMA connector at the bottom.	1	SMA Plug Elbow Connector Antenna

	<p>3 or 6</p>	<p>Current Transformers (only 2 pictured)</p>
	<p>1</p>	<p>1-Phase Tail (SC-23 only)</p>
	<p>1</p>	<p>3-Phase Tail (KR-63 only)</p>
	<p>1</p>	<p>CT phoenix plug</p>
	<p>1</p>	<p>Serial Number Stickers</p>
 <p>WIRING DIAGRAM Three-phase solar and three-phase consumption</p> <p>PH: CT 1, CT 4 P2: CT 2, CT 5 P3: CT 3, CT 6</p> <p>Please mark the X9-63 circuit breaker with the provided sticker In addition to local requirements, electrical installation must conform to the following standards: AS/NZS3000:2018, AS/NZS3477 & AS/NZS3000</p>	<p>1</p>	<p>Wiring Diagram</p>

4.2 Current Transformer Considerations

The Solar Analytics Smart Monitor uses current transformers to report measurement data of PV energy production and energy consumption of the home or business. When CTs are clipped around a live wire, the current going through the live wire induces a current in the CTs primary windings – which in turn induces a current in the CTs secondary windings. The current in the secondary winding is directly proportional to the current in the original live circuit and this is used for making the accurate measurements.

- CTs intended to measure solar PV production can do so through a connection at the solar main supply switch
- CTs intended to measure the energy consumption of the home/business can do so through a connection at the AC main supply switch.
- Any spare CTs on the Solar Smart Monitor can be used to measure sub-circuit information through a connection at the respecting load circuit breaker. Typical choices for other sub-circuits are pool, heating, air-conditioner, battery etc.

PRO-TIP: If you are installing a multiphase application, the CTs measuring the multiphase loads need to correspond to the voltage reference frames powering the device.

The standard Solar Analytics Smart Monitor come with 60A current transformers with 10mm internal diameter clearance. Additional sizes are available as well. Below is a list of the CT sizes available. For additional information on the current transformer sizes, refer to the Current Transformer (CT) Selection Guide.

Product Code	CT Rating (A)	Internal Diameter (mm)
SC-23-A60 KR-63-A60	60	10
SC-23-A120 KR-63-A120	120	16
SC-23-B400 KR-63-B400	400	25
SC-23-B600 KR-63-B600	600	35

5 Product Description

5.1 LED Light Indicators

The LED lights on the Solar Analytics Smart Monitor indicate the communications operating state of the KR-63. While labelled L1, L2 and L3, these do not correspond to the phases of the system.

The Solar Analytics Smart Monitor can take up to 60 seconds to fully power on and communicating. Once all three LED light indicators are solid, the device is operating and communicating as per normal.

L1	L2	L3	Explanation
Off	Off	Off	Device powered off
Blinking	Off	Off	Device powering on
Solid	Off	Off	Device powered on -Initiating communications
Solid	Blinking	Off	Searching for SIM
Solid	Solid	Off	SIM Card Recognized
Solid	Solid	Blinking	Waiting for 3G Network Response
Solid	Solid	Solid	3G network found. Operation normal

5.2 Certification

The Solar Analytics Smart Monitor is certified to the following standards:

Description	Standard
Safety	AS/NZ60950.1:2011
Conducted Emissions	AS/NZS CISPR 22:2009 Class B
Radiated Spurious Emissions	AS/NZS 4268:2008 +A1:2010 C 8.2 & 9.1
Electrostatic discharge	Level III (IEC 61000-4-2)
Immunity to radiated fields	Level III (IEC 61000-4-3)
Immunity to fast transients	Level IV (IEC 61000-4-4)
Immunity to impulse waves	Level IV (IEC 61000-4-5)
Active energy	Class 1 as defined by IEC 62053-21

The Solar Analytics Smart Monitor has not been NMI pattern approved as this is **ONLY** required for non-exempt energy retailers when providing the sole energy billing functions.

Billing and LGCs

The Australian Energy Regulator (AER) has confirmed in writing that Solar Power Purchase Agreement (SPPA) exempt sellers are not required to use an NMI approved meter (refer to Appendix 11.5) to bill customers.

Furthermore, the Clean Energy Regulator (CER) has confirmed in writing that (refer to Appendix 11.5):

- a. The Solar Analytics Smart Monitor can be used for the purpose of creating LGCs, and
- b. Since the Solar Analytics Smart Monitor is rated as Class 1 (see above), the LGCs can be claimed at the full rate determined by the Solar Analytics Smart Monitor.

5.3 Antenna

The Solar Analytics Smart Monitor comes with a standard SMA connection elbow antenna. This antenna must be fitted to ensure adequate signal strength for 3G communications. For installations in area with poor 3G signal, it is recommended that an external antenna be provided to increase the signal strength of the 3G signal received by the monitoring. .

External Antenna

Solar Analytics offers an external antenna option to be purchased in addition to the Solar Analytics Smart Monitor. This external antenna is suitable for metropolitan areas. For rural installations, Solar Analytics can provide recommendations for adequate high gain external antennas.

6 Mounting

6.1 Requirements for Mounting

- The mounting location must be suitable for the Solar Analytics Smart Monitor
- The Solar Analytics Smart Monitor is IP50 rated (front display) and must be installed inside a closed enclosure within the main sub board (with a lid for outdoor) or IP-65 rated external enclosure.
- The Solar Analytics Smart Monitor is typically installed at the point of common coupling for a house or business.
- The Solar Analytics Smart Monitor must be mounted on a DIN Rail
- The Solar Analytics Smart Monitor requires only 2 pole spaces on a DIN rail
- Additional space may be required for any additional equipment

For 3 phase installations, it is recommended to install an additional 3 phase circuit breaker (CB) to power the KR-63.

ATTENTION: This circuit breaker should be of a suitable rating for the cable. It is recommended that the circuit breaker rating be no higher than 15A.

- All operating environmental conditions must be met (See Appendix)
- The mounting location should not be exposed to direct solar irradiation.
- The mounting location must be inaccessible by children.

6.2 Recommendations for Mounting

- Vertical orientation is recommended for the mounting of the Solar Analytics Smart Monitor.

6.3 Mounting the Solar Analytics Smart Monitor

The Solar Analytics Smart Monitor is typically installed at the point of common coupling for a home or business. This is because the CTs will have proximal access to the required circuits for measurement.

Here are some examples of the Solar Analytics Smart Monitor installed in various configurations.



Figure 2 Solar Smart Monitor in separate DIN Enclosure



Figure 3 Solar Smart Monitor in Main Load Centre on DB

The only way to mount a Solar Analytics Smart Monitor is via DIN rail. Taking into consideration the space requirements mentioned above, an additional enclosure may be required to house the monitor. The black clips on the back may need to be pulled open slightly before clipping the Solar Analytics Smart Monitor onto the DIN rail.

If there is not enough space in the existing load centre of the distribution board, an additional enclosure may be required to be installed.

Recommended additional equipment

- DIN enclosure to fit at least 5 poles (2 poles for the SC-23/KR-63 and 3 poles for 3 phase CB where required).
- It is recommended to have a few of these extra in the truck when performing multiple Solar Analytics installs as each installation can be different.

6.4 Demounting the KR-63

Once mounted you will require a flat-head screwdriver (or similar flat rigid tool) to unhook one of the two back clips to demount the Solar Analytics Smart Monitor.

CAUTION: When doing this – fast and rough movement may cause the clips to break.

7 Connection

There are some subtle differences between the connection areas for the SC-23 and KR-63. The voltage supply connection area is the same across both variations of the Solar Analytics Smart Monitor, however, the CT connection area is a different.

CAUTION: Risk of electrical shock. Always de-energise circuits before starting any wiring and connections.

7.1 Connection Area – Voltage Supply

The voltage supply connection area for the SC-23 and KR-63 are identical. There are 3 positive connections labelled P1, P2 and P3 respectively and a neutral connection labelled N (Figure 4 below). These can be configured to monitor single or three phase loads with the corresponding voltage phoenix plugs and [pre-wired tails](#).



Figure 4 Voltage Supply Connection Area

Terminal	Explanation	Location
P1	P1 input that corresponds to CT1 and CT4. When using the provided pre-wired 3-phase tail, P1 will be connected to the Red (A) Phase	Top face
P2	P2 input that corresponds to CT2 and CT5. When using the provided pre-wired 3-phase tail, P2 will be connected to the White (B) Phase	Top face
P3	P3 input that corresponds to CT3 and CT6. When using the provided pre-wired 3-phase tail, P3 will be connected to the Blue (C) Phase	Top face

7.2 Connecting to a Voltage Supply

The Solar Analytics Smart Monitor needs to be supplied by a voltage supply from the existing system. The device uses this as a voltage reference frame for the CTs.

SC-23

To monitor 1-phase systems, the supply to the SC-23 will need to be 1-phase. The pre-wired 1-phase tail provided should be used to connect the SC-23 to the voltage supply.



Figure 5 SC-23 with 1-phase tail in DIN rail

Lethal voltages are present at the connection point of the utility grid. Disconnect the any connection points from all voltage sources and ensure the connection point is voltage-free.

Where possible, you should be able to use an existing 1-phase lighting circuit breaker in the distribution board; failing which, you will need to install a separate circuit breaker with suitable rating to supply voltage to the SC-23.

PRO-TIP: In most regular households, the lighting circuit breaker will be of adequate rating for this purpose. This lighting circuit can also be easily turned on/off easily without disrupting power supply to any major appliances in the house.

For 3-phase installations using the SC-23, the 3-phase pre-wired tail can be purchased from Solar Analytics. Alternatively, you can easily re-wire the phoenix plug by removing the 2 loops (P1-P2 and P2-P3) and attaching a white and blue wire for the B and C phases respectively.

KR-63

To monitor 3-phase systems, the supply to the KR-63 will need to be 3-phase. The pre-wired 3-phase tail provided should be used to connect the KR-63 to the voltage supply.



Figure 6 SC-23 with 3 phase tail on DIN Rail

Lethal voltages are present at the connection point of the utility grid. Disconnect the any connection points from all voltage sources and ensure the connection point is voltage-free.

Where possible, you should be able to use an existing 3 phase CB in the distribution board; failing which, you will need to install a separate CB to supply voltage to the KR-63.

Required (recommended) additional equipment

- Up to 15A – 3-phase circuit breaker

7.3 Connection Area – Current Transformers

This is where the SC-23 and KR-63 are different. See the differences illustrated here.

SC-23

The SC-23 has provisions to connect to three current transformers. These correspond to the P1, P2 and P3 inputs in the voltage supply connection respectively. Figure 7 below is an example of the SC-23 current transformer connection area.



Figure 7 CT Connection Area for SC-23

Terminal	Explanation	Corresponding Voltage Reference Frame
1+	Positive connection for CT1 (pink)	P1
1-	Negative connection for CT1 (white)	
2+	Positive connection for CT2 (pink)	P2
2-	Negative connection for CT2 (white)	
3+	Positive connection for CT3 (pink)	P3
3-	Negative connection for CT3 (white)	

KR-63

The KR-63 has provisions to connected to 6 different current transformers. These CTs are paired and correspond to the voltage reference frames as described in the table below.



Terminal	Explanation	Corresponding Voltage Reference Frame
1+	Positive connection for CT1 (pink)	P1
2+	Positive connection for CT2 (pink)	P2
3+	Positive connection for CT3 (pink)	P3
4+	Positive connection for CT4 (pink)	P1
5+	Positive connection for CT5 (pink)	P2
6+	Positive connection for CT6 (pink)	P3
---	Neutral connection for CT 1-3 and CT 4-6 respectively (white)	N/A

7.4 Connecting the CTs

1. **PRO-TIP:** Before running the CT wire through the mounting board, use a permanent marker OR marker labels to mark both ends of the white CT cables to denote CT numbers 1-6 (where appropriate). This will come in handy later when feeding the cables through the backboard and into the enclosure.
2. When installing CTs, it is important to match CT and voltage reference frames. Be sure to consistently identify all the phases as you wire in and clip on the CTs. Existing wire colours may not always be consistent in identifying the A, B and C phase. If in doubt, use a multi-meter to check.
3. Feed all the CT tails through to the KR-63 mounting point. Wire in the CT tails to the phoenix plug provided as per the Wiring Diagram. See Figure 8 below for an example of a completed CTs phoenix plug for the SC-23 and KR-63 respectively.

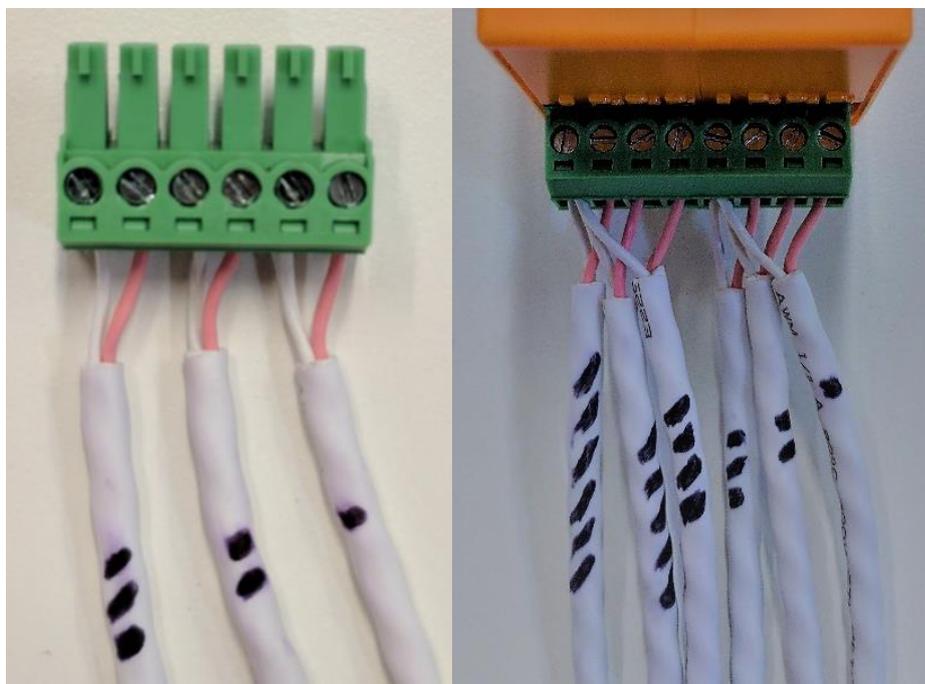


Figure 8 CT Wiring and Labelling for SC-23 and KR-63

4. Clip the CTs around the cables intended for measurement. Take extra care to ensure you have a clear order in which you clip the CTs. For single phase solar on 3 phase consumption using the KR-63, the typical CT allocation is as follows:

P1 - Phase A	CT1	A Phase - Mains Consumption
	CT4	A Phase - Solar*
P2 - Phase B	CT2	B Phase - Mains Consumption
	CT5	B Phase - Sub-circuit
P3 - Phase C	CT3	C Phase - Mains Consumption
	CT6	C Phase - Sub-circuit

**This CT needs to match the phase that the Solar PV system is installed on. In the set up above, the Solar PV system is installed on the Phase A.*

5. Please ensure the CTs are closed tight and the K → L is facing the right way. Please refer to the Wiring Diagram or the correct CT orientation.

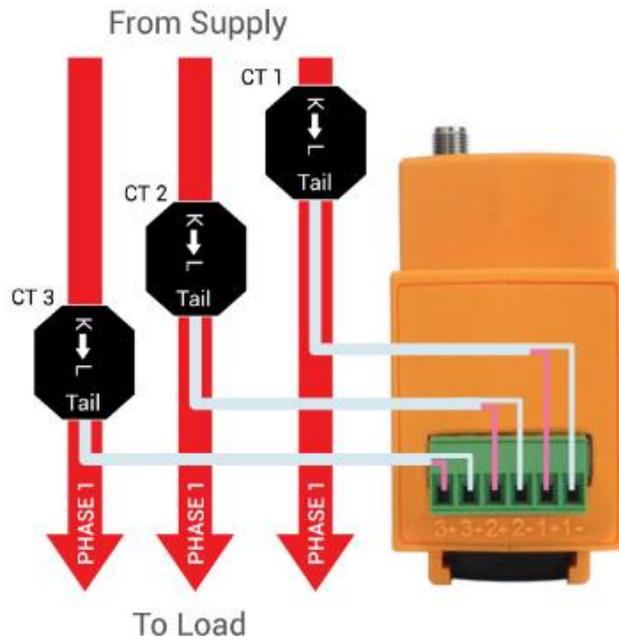


Figure 9 Example of CT orientation for SC-23

6. Making note of the CT allocation is crucial for the registration and commissioning process.

Tips for Installing CTs Safely and Successfully

Here are some tips and things to look out for when installing CTs on the Solar Analytic Smart Monitor

Tip	Explanation
Mark each end of the CT	Label 1-6 or colour code each end of the CT wiring so you can quickly identify the correct CT terminal on the phoenix plug. This can be especially helpful for multiphase installations. Figure 8 is a good example of this
Terminate the CT wiring before closing the CT	CAUTION: CTs can produce a dangerous voltage and current if left unterminated while closed around an active conductor.
CT Noise	If the CT is making a buzzing noise, it has not been terminated properly the phoenix plug of the Solar Analytics Smart Monitor. There may also be a break in the wiring somewhere else. Open the CT and check the wiring again.
Close the CT	If a CT is not fully closed, measurements will not be accurate. Always ensure the CT is fully closed and clipped on.
CT Polarity	<p>The CTs used with the Solar Analytics Smart Monitor are bi-directional. This means that they can measure current flow in both directions.</p> <p>The polarity of the CTs are denoted with K → L on the CT head. The arrow denotes the typical direction of energy flow.</p> <p>Solar Analytics can correct polarity remotely after the installation has been complete, however installers should follow all wiring diagrams and instructions to install the CTs correct polarity</p> <p>An AC Clamp Meter can be used to confirm the direction current flow.</p>

7.5 Installation Check

When the installation is complete, close the board and power on the device. The lights on the device should all illuminate – the light indicator patterns are described 5.1 LED Light Indicators. Once all 3 lights are solid, the KR-63 is successfully communicating with Solar Analytics. To check the feed of each of the channels, you can proceed to the [Solar Analytics Interactive Set-Up](https://my.solaranalytics.com.au/3gsetup) at my.solaranalytics.com.au/3gsetup

Here you will be able to access some additional wiring diagrams for your reference. More importantly, you will be able to view a live feed of (updated every 30s) of the CT measurements to ensure you have the right information captured.

8 Registration

Solar Analytics provides a web-based dashboard that is accessible to both the system owner and solar reseller. Once the physical installation of the Solar Analytics monitoring hardware is complete, the hardware will need to be registered and commissioned to activate the full set of features of the Solar Analytics monitoring.

This section will outline the steps and information required to complete the registration process of the Solar Analytics monitoring hardware.

You will need a Solar Analytics login to access the Fleet Dashboard. On the Fleet Dashboard you will have access to multiple features that will help you manage and navigate all of your Solar Analytics customers. For this section, the following features will be discussed:

- Add New Site
- Pending Sites

PRO TIP: If you are contracting for a Solar Retailer/Reseller, this registration process should be completed by the Solar Retailer/Reseller. Unless you have been provided specific instructions to complete the registration of the Solar Analytics Monitoring, you can disregard this section.

Solar Analytics Demo

FLEET STATUS 4 sites are working well

My Sites List

ACTIVE SITES (4)

Search active sites

SITE NAME	ADDRESS	STATE	SIZE	SUBSCRIPTION	HARDWARE	STATUS
Single Phase Demo	42 Wallaby Way Sydney	NSW	2.1kW	Automatic	SC-23	good
Battery Demo Site	42 Wallaby Way Sydney	NSW	5.2kW	Automatic	SC-23	good
Three Phase Demo	42 Wallaby Way Sydney	NSW	44.4kW	Automatic	KR-63, SC-23	good
Consumption Only Demo	42 Wallaby Way Sydney	NSW	0.2kW	Automatic	SC-22, SC-23	good

good under investigation inactive fault detected

PENDING SITES (0)

Search pending sites

Figure 10 Fleet Dashboard Preview

8.1 Add New Site

Once you have logged into your Solar Analytics portal, go to My Sites List. Here you will see a view like the Figure 11 below.

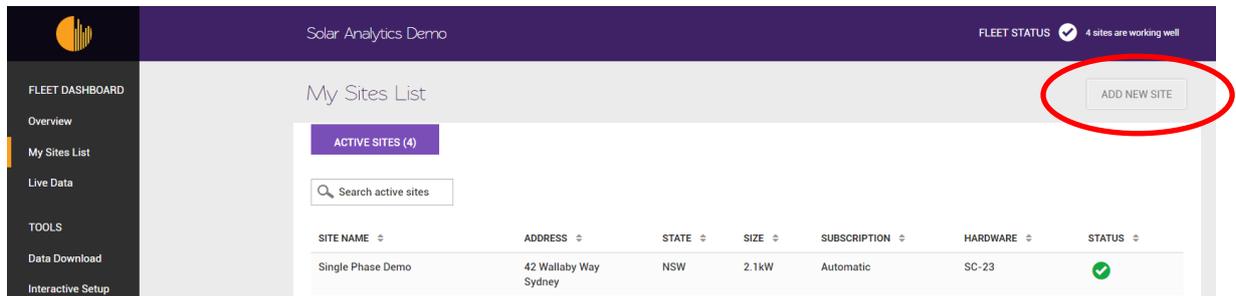


Figure 11 Add New Site Button

To begin the Site Registration process, click on "Add New Site" (circled red above). This will take you to the start of the Site Registration process where you can begin to enter the customer's information.

8.1.1 Customers Details

This is the first page where you will have to key in some customer specific information. The Figure 12 below is what you should expect.

The image shows a registration form titled 'Customer Details'. At the top right, there is a progress bar with four steps: 1 (active), 2, 3, and 4. Below the progress bar are five input fields: 'First Name *', 'Surname *', 'Client Email', 'Contact Number', and 'Organisation'. Each field has a corresponding input box. At the bottom right, there is a grey arrow button labeled 'Next'.

Figure 12 Customer Details page in Registration

This table outlines the various fields and a brief description.

Field	Description
First Name	Customer's first name
Surname	Customer's surname
Client Email	Customer's email address - This email address will be the main login username for the customer. It is imperative that this email address is valid for fault notifications and customer communications

Contact Number	Best contact number for customer
Organisation	Customer's organisation name

8.1.2 Site Details

Site Details



SUBSCRIPTION CONFIGURATION —

Subscription Length *

Account Number

PPA/Cash *

Cancel Subscription

GENERAL DETAILS —

Site Name *

Solar System Installation Date *

Figure 13 Site Details page in Registration

Field	Description	Options
Subscription Length	This should be reflective of the subscription model purchased through Solar Analytics.	Monthly 1 year 2 years 5 years
Account Number	To be used for your own internal customer reference numbers	
PPA/Cash	Selection between Cash sites or PPA sites. Most sites will be Cash unless otherwise specified	
Site Name	Site name for the site being created. This name will appear on the Fleet Dashboard and the Consumer Dashboard. It is recommended that a naming convention e.g. "12123 – Jones"	
Solar System Installation Date	Date at which the solar system was installed. For retrofit installs, closest to the nearest month will suffice	

LOCATION DETAILS

Country *	<input type="text" value="Australia"/>	
State *	<input type="text" value="New South Wales"/>	
Street Address *	<input type="text" value="245 Chalmers Street"/>	
Suburb/City *	<input type="text" value="Redfern"/>	
Postcode/Zipcode *	<input type="text" value="2016"/>	
Latitude	<input type="text" value="-33.893299"/>	
Longitude	<input type="text" value="151.2050785"/>	

Figure 14 Location Details

Field	Description	Options
Country	Select country of installation	Australia Hong Kong New Zealand United States
State	Select state of installation	Dependant on country selection
Street Address	Street address of installation	
Suburb/City	Suburb/city of installation	
Postcode/Zipcode	Postcode of installation	
Latitude	Once you complete all the above details, click "Get GPS Coordinates" on the right and the portal will autocomplete these values. <i>PRO-TIP:</i> Drag the pin on the map next to it for a greater GPS accuracy.	
Longitude		

INSTALLER INFORMATION (OPTIONAL) ⓘ

This section for "Installer Information" is entire optional and is pretty self-explanatory.

8.1.3 Solar System Details

This section collects details of the specific solar PV system installed. This information is crucial for Solar Analytics to accurately calculate the expected system production. We use the information here in algorithms to correctly determine the expected system production at any given time.

Solar System

INVERTER 1

Manufacturer * SMA

AC Rating (kW) 0kW - 5kW

Model * Sunny Boy SB 5000

Is your inverter missing from the list? No

(Admin) Description of Inverter

Save Inverter Next

Figure 15 Inverter Details

Field	Description
Manufacturer	Selection from dropdown menu
AC Rating (kW)	Selection of AC rating range
Model	Selection of specific model number
(Admin) Description of Inverter	Not needed

Is your inverter missing from the list?

If the inverter installed is missing from the list provided, select "YES" and enter in the inverter details as instructed. This will flag a support request with Solar Analytics support to enter the manufacturer's details and data sheet information into the Solar Analytics database.

Is your inverter missing from the list? Yes

Please enter the details of your inverter

Manufacturer *

AC Rating (kW) *

Model *

(Admin) Description of Inverter

Figure 16 Missing Inverter

INVERTER 1

Manufacturer: SMA
Model: PV-WR 1800
AC Rating: 1.80kW

SUBARRAY 1

Panel Manufacturer *

DC Rating (kW)

Model *

Is your solar panel missing from the list? No

Number of Strings *

Number of Modules/String *

Orientation of subarray *

Tilt of subarray *

Is the system mounted flush to the roof? Yes

Figure 17 Subarray Details

Is your solar panel missing from the list?

Like the inverter input, if the solar panel manufacturer and model is missing from the list, key in the details manually and Solar Analytics support will have it added to the database.

PRO-TIP: Click the gear wheel on any inverter/subarray to edit/duplicate/delete the inverters.



Figure 18 Edit/Duplicate/Delete Inverters

Subarray details are to be added per inverter. A Subarray is a group of modules which have identical tilt and orientation and are connected to a single MPPT input. A Subarray may consist of one or more identical Strings connected in parallel.

Field	Description
Manufacturer	Selection from dropdown menu
DC Rating (kW)	Selection of DC rating range
Model	Selection of specific model number
Number of Strings	A String is a group of modules connected in series with identical tilt and orientation. All Strings within a Subarray must have identical tilt, orientation and number of modules
Number of Modules	Number of modules connected in series per string.
Orientation	<p>Orientation refers to the direction of the subarray (ideally within 5°)</p> <p>● So, for example NW = -45°</p>
Tilt	<p>Tilt refers to the angle of the PV modules (ideally within 5°)</p> <p>Most Australian roof pitches have a tilt of 20-30°</p>

8.1.4 Confirmation Warnings

When Step 3 is completed, the user will likely be prompted with a few confirmation warnings to ensure that the details are input correctly. These are merely fail safe checks to ensure the PV system information included is correct. Click through Yes for all these warnings to proceed.

8.2 Pending Sites

Pending Sites is a feature available on My Sites List on the Fleet Dashboard. Whenever a new site registration is started, you can access the saved registration profile from this list.

The Pending Sites list will contain all the pre-registered sites waiting to be commissioned.

PRO TIP: Site registration can begin at any time during the install process. You can pre-register a site before the installer goes on site to install the system. You can revisit and complete the installation details at any point by accessing the Pending Sites list.

Solar Analytics Demo

FLEET STATUS 4 sites are working well

My Sites List

ACTIVE SITES (4)

Search active sites

SITE NAME	ADDRESS	STATE	SIZE	SUBSCRIPTION	HARDWARE	STATUS
Single Phase Demo	42 Wallaby Way Sydney	NSW	2.1kW	Automatic	SC-23	
Battery Demo Site	42 Wallaby Way Sydney	NSW	5.2kW	Automatic	SC-23	
Three Phase Demo	42 Wallaby Way Sydney	NSW	44.4kW	Automatic	KR-63, SC-23	
Consumption Only Demo	42 Wallaby Way Sydney	NSW	0.2kW	Automatic	SC-22, SC-23	

good under investigation inactive fault detected

PENDING SITES (0)

Search pending sites

Figure 19 Pending Sites list on Fleet Dashboard

8.3 Bulk Site Registration – Uploading CSV

BETA: For bulk site registration (more than 10 at a time), Solar Analytics are currently working on a feature to bulk upload these site details. To access this feature, please contact Solar Analytics Support at support@solaranalyitcs.com.au

9 Commissioning

This is the final stage of the registration process where the Solar Monitoring hardware can be attached to the site registered.

PRO-TIP: This step should only be started once the device has been installed and is communicating with Solar Analytics.

Monitoring Hardware



PLEASE SELECT YOUR DEVICE



SC-23 OR KR-63



OTHER OPTIONS

To connect to your SC-23 or KR-63, we need the serial number for your device.

The serial number can be found on the side of the SC-23 or KR-63 and starts with a 'D'

Please ensure the device has been installed, turned on and is communicating before completing this step.

Device ID

Connect



Add new device

Finish

Figure 20 Hardware Selection in Registration Page

9.1 Device Serial Number

Once hardware type is selected, type in the serial number for the Solar Analytics device. All serial numbers are 14 digits long and start with D7042 XXXX XXXX. Examples below:



Figure 21 Barcode and Serial Number of Device



Figure 22 Barcode and Serial Number of Device on Packaging Box

Once the serial number is keyed in correctly, press connect. If the device is online, the portal will automatically detect it as 3CT or 6CT monitoring device. When the device is successfully detected by the portal, a prompt like this should appear.

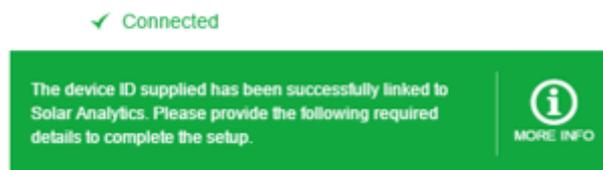


Figure 23 Device Connected Successfully

9.2 Assigning Circuits to Current Transformers

From here, the user will be presented with options to select and assigning monitoring circuits to each channel.

- ***PRO-TIP:*** This is where the taking note of the CT assignment during the installation stage is important. This is crucial for the Solar Analytics Dashboard to display the correct solar and consumption values

SOLAR CONNECT-23 | D704206005613

Please assign your channel circuits to the available monitoring types.

The screenshot displays a configuration interface for a device. It is divided into two sections, CHANNEL 1 and CHANNEL 2, each with a blue header bar. Under CHANNEL 1, there is a 'Channel Name' field containing 'D704206005613_1' and a 'Monitors' dropdown menu currently showing 'Not Connected'. Under CHANNEL 2, there is a 'Channel Name' field containing 'D704206005613_2'.

Figure 24 Assigning Channels to Monitoring Device

These are the types of inputs the available from a drop down menu:

1. Not monitoring (Default)
2. PV Site
3. PV Site Net
4. AC Load
5. AC Load Net
6. Other Subcircuit

If Other Subcircuit is selected, the user should be prompted to select the type of subcircuit from the following options:

1. Battery Storage
2. Electric Hot Water
3. Solar Hot Water
4. Pool
5. Stove
6. Lighting
7. Air Conditioner
8. Other

Once all circuits are appropriately assigned, click "Save Device Settings".

Save device settings

9.3 Additional Devices

If there are multiple devices installed at site, there is an option to "Add New Device".

A green rectangular button with the text "Add new device" in white, centered within the button.

9.4 Final Step

Once all the devices have been added, the site registration is complete. Click the "Finish" button to commission the site.

This step will trigger a welcome email to be sent to the customer email input in 8.1.1 Customers Details. This email will prompt the user to access the Solar Analytics Dashboard to set up their account.

10 Fleet Dashboard

Figure 25 is an overview of the Fleet Dashboard. As a Fleet user, you will have access to this and all the features included in this. For more detail and walkthroughs on the Fleet Dashboard, refer to the Solar Analytics Support Page.

The screenshot displays the 'Solar Analytics Demo' Fleet Dashboard. The top navigation bar includes the logo, 'Solar Analytics Demo', and 'FLEET STATUS' with a checkmark and '4 sites are working well'. A left sidebar lists navigation options: FLEET DASHBOARD, Overview, My Sites List (highlighted), Live Data, TOOLS (Data Download, Interactive Setup, Support), and SETTINGS (Consumer Dashboard, My Profile, Logout). The main content area is titled 'My Sites List' and is divided into two sections: 'ACTIVE SITES (4)' and 'PENDING SITES (0)'. The 'ACTIVE SITES' section features a search bar and a table with columns: SITE NAME, ADDRESS, STATE, SIZE, SUBSCRIPTION, HARDWARE, and STATUS. Below the table is a legend for status icons: green checkmark for 'good', orange circle with minus for 'under investigation', grey circle with minus for 'inactive', and red triangle for 'fault detected'.

SITE NAME	ADDRESS	STATE	SIZE	SUBSCRIPTION	HARDWARE	STATUS
Single Phase Demo	42 Wallaby Way Sydney	NSW	2.1kW	Automatic	SC-23	good
Battery Demo Site	42 Wallaby Way Sydney	NSW	5.2kW	Automatic	SC-23	good
Three Phase Demo	42 Wallaby Way Sydney	NSW	44.4kW	Automatic	KR-63, SC-23	good
Consumption Only Demo	42 Wallaby Way Sydney	NSW	0.2kW	Automatic	SC-22, SC-23	good

Figure 25 Fleet Dashboard

11 Appendix

11.1 Current Transformer (CT) Selection Guide

The Solar Analytics Solar Connect 22, 23 and 22W currently supports 4 different CTs. These are listed in the table below. If you require custom CT sizing please contact Solar Analytics directly.

To make your CT selection, please have the following information handy, the maximum current flowing through the cable you want to measure and the diameter of the cable, including the insulation. For additional technical information, please see Appendix attached.

CT Type	Rated Current	CT Internal Diameter
	60 A	10 mm
	120 A	16 mm
	400 A	25 mm
	600 A	35 mm

60A Current Transformer

Electrical Specifications	
Rated Primary Current(Amp.) 50/60Hz	60nom(1~75A max)
Turn Ratio	Np:Ns=1:750
Current Ratio	60A/80mA
Accuracy @RL≤1Ω	1%
Phase error at rated current range	≤2°
Operating Temperature Range	-40~65°C
Storage Temperature Range	-45~85°C
Dielectric Withstanding Voltage(Hi-pot)	2.5KV/1mA/1min
Insulation Resistance	DC500V/100MΩ min
Mechanical Specifications	
CUP	PBT
Opening Dimensions	>10mm
Output Type	UL2464 24AWG white jacket PVC wire
Approx. Weight	60g

120A Current Transformer

Electrical Specifications	
Rated Primary Current(Amp.) 50/60Hz	120A
Turn Ratio	Np:Ns=1:1200
Current Ratio	120A/100mA
Accuracy @RL≤1Ω	0.5%
Phase error at rated current range	≤1°
Protection Level	6.8V (peak)
Operating Temperature Range	-40~70°C
Storage Temperature Range	-45~85°C
Dielectric Withstanding Voltage(Hi-pot)	2.5KV/1mA/1min 5kVp
Insulation Resistance	DC500V/100MΩ min
Mechanical Specifications	
CUP	PA66 (UL94-V0)
Opening Dimensions	>16mm
Output Type	UL2464 24AWG white jacket PVC wire
Approx. Weight	100g

400A Current Transformer

Electrical Specifications	
Rated Primary Current(Amp.) 50/60Hz	400A (1-480A)
Turn Ratio	Np:Ns=1:4000
Current Ratio	400A/100mA
Accuracy @RL≤1Ω	0.5%
Phase error at rated current range	≤1°
Protection Level	6.8V (peak)
Operating Temperature Range	-40~70°C
Storage Temperature Range	-45~85°C
Dielectric Withstanding Voltage(Hi-pot)	4KV/1mA/1min, 5kVp
Insulation Resistance	DC500V/100MΩ min
Mechanical Specifications	
CUP	PC/ABS (UL94-V0)
Opening Dimensions	>25mm
Output Type	UL2464 24AWG white jacket PVC wire
Approx. Weight	185g

600A Current Transformer

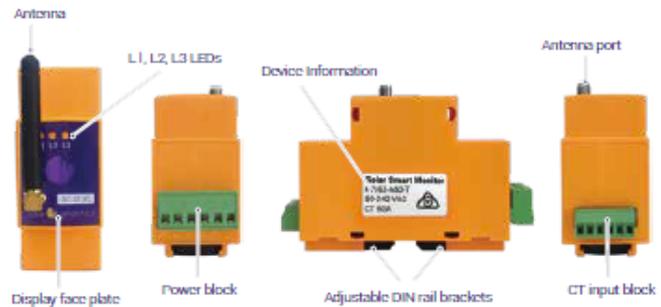
Electrical Specifications	
Rated Primary Current(Amp.) 50/60Hz	600A (1-720A)
Turn Ratio	Np:Ns=1:6000
Current Ratio	600A/100mA
Accuracy @RL≤1Ω	0.5%
Phase error at rated current range	≤1°
Operating Temperature Range	-40~70°C
Storage Temperature Range	-45~85°C
Dielectric Withstanding Voltage(Hi-pot)	2.5KV/1mA/1min, 5kVp
Insulation Resistance	DC500V/100MΩ min
Mechanical Specifications	
CUP	PA66
Opening Dimensions	>36mm
Output Type	UL2464 24AWG white jacket PVC wire
Approx. Weight	300g

11.2 Data Sheets

Solar Smart Monitor SC-23



solar analytics



Features

- ✓ Complete installation in less than 15 min
- ✓ 5 second to 5 minute measurement and reporting on each of three circuits
- ✓ 1% Revenue Grade Accuracy
- ✓ 5 year warranty
- ✓ Small 28mm wide (2 pole) DIN rail mount
- ✓ Suitable for three phase or single phase
- ✓ Compatible with all solar PV systems and inverters
- ✓ Solar PV and/or AC load consumption data
- ✓ Uses Current Transformers (CTs) with a voltage reference
- ✓ Contains no components that require replacement (such as batteries)

Typical Configuration

Single Phase Configuration:



For a typical single phase application the SC-23 will monitor the solar PV plus two household circuits, e.g. hot water and total demand.

Three Phase Configuration:



For a typical three phase application one SC-23 will monitor all three incoming phases of the solar PV system. Additional SC-23 devices can be installed to monitor additional 3 phase load circuits.

Installation

- Plug and play installation
- Install in less than 15 minutes
- Comes with a pre-wired easy fit power block terminal (for 1 or 3 phase)
- Easy line wiring diagrams provided with each kit
- Online Interactive Set-Up guide available for each unique installation
- Business hours live support available from Solar Analytics

Hardware Specifications

Electrical Characteristics		
Measurement configuration	Voltage Current Mode	1, 2 or 3 phase (Neutral required) CT Fundamental only/all harmonics
Measurement accuracy	Current and voltage Power Frequency Power factor Active energy Reactive energy	0.5% of reading Real power: 1% of reading from pf 0.8 leading to 0.5 lagging; Reactive power: 2% below 0.5 lagging 200ppm 2% from 0.8 leading to 0.5 lagging Class 1 as defined by IEC 62063 2.1 Class 2 as defined by IEC 62063 2.3
Input voltage characteristics	Measured voltage Permissible overload	50 to 280 V AC 1.15Un
Input current characteristics	Standard CT ratings Internal burden Turns ratio Permissible overload	60A(10mm) 20A(16mm) 400A(25mm) 600A(35mm) 2.7 ohm Adjusted to suit CT; field updateable 300 mA continuous
Internal power	CT Connections	0.6 W Single Phase (P1) Not isolated (neutral referenced)

Mechanical Characteristics		
Weight		0.3 kg
IP degree of protection		IP50 (front display) (higher in cabinet)
Dimensions		35 x 90 x 66 (mm) (2 pole)
Connection	Voltage Current: 3 meter version	G positions / 4 connections: 5.08 mm pitch FCI part 20020007 D06 D0 LUF G way: 3.81 mm pitch FCI part 20020004 D06 D0 LUF

Environmental Conditions		
Operating temperature		5 °C to +55 °C
Installation / pollution category		III / 2
Electromagnetic immunity	Electrostatic discharge Immunity to radiated fields Immunity to fast transients Immunity to impulse waves	Level III (IEC 61000 4 2) Level III (IEC 61000 4 3) Level IV (IEC 61000 4 4) Level IV (IEC 61000 4 5)

Communication		
3G		Periaband
Antenna		External SMA
SIM		Internal (accredited partners)
All data and communications provided by Solar Analytics		

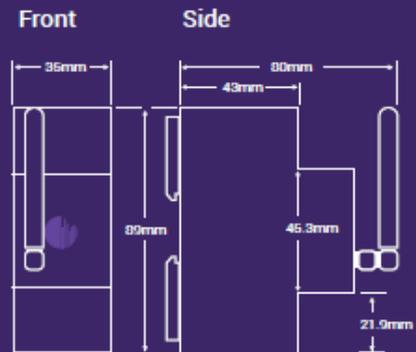
Servers		
Hosting		2 hosting services
Management		dns: 195.10027.com
Data volume (5 sec reports)		64MB/month(all data)
Data volume (30 sec reports)		20/MB/month(all data)

Power Quality		
Frequency measurement		45 to 65 Hz, 0.01 Hz
Voltage		50, 300V, 0.1V

Compliance Certificates		
A TICK		E5258
Safety		AS/NZS 60950.1:2011
Conducted Emissions		AS/NZS CISPR 22:2009 Class B
Radiated Spurious Emissions		AS/NZS 4268:2008 +A1:2010 C.8.2 & 9.1

NOTE: All specifications are preliminary only and may be subject to change.

Dimensions



Current Transformers

Must use provided current transformers (CTs).
Interchanging CTs requires Solar Analytics support.

SC-23 60A
Standard device.
Comes with 3 CT's, each 60A, 10mm diameter.



SC-23 120A
Standard device.
Comes with 3 CT's, each 120A, 16mm diameter.



SC-23 400A
For larger systems.
Comes with 3 CTs, each 400A, 25mm diameter.



SC-23 600A
For larger systems.
Comes with 3 CTs, each 600A, 35mm diameter.



Installed Unit



solar analytics

1300 651 137

www.solaranalytics.com.au

sales@solaranalytics.com.au

Solar Smart Monitor KR-63

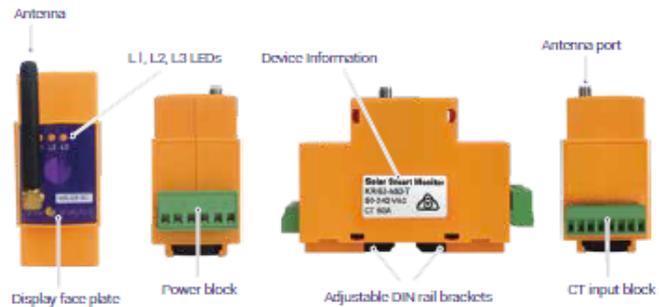


solar analytics



Features

- ✓ Complete installation in less than 15 min
- ✓ 5 second to 5 minute measurement and reporting on each of six circuits
- ✓ 1% Revenue Grade Accuracy
- ✓ 5 year warranty
- ✓ Small 28mm wide (2 pole) DIN rail mount
- ✓ Suitable for three phase or single phase
- ✓ Compatible with all solar PV systems and inverters
- ✓ Solar PV and/or AC load consumption data
- ✓ Uses Current Transformers (CTs) with a voltage reference
- ✓ Contains no components that require replacement (such as batteries)



Typical Configuration

Single Phase Configuration:



For a typical single phase application the KR-63 will monitor the solar PV plus five other circuits, e.g. whole site mains and four other household load circuits.

Three Phase Configuration:



For a typical three phase application one KR-63 will monitor all three incoming phases of the solar PV system along with three remaining household load circuits.

Installation

- Plug and play installation
- Install in less than 15 minutes
- Comes with a pre-wired easy fit power block terminal (for 1 or 3 phase)
- Easy line wiring diagrams provided with each kit
- Online Interactive Set-Up guide available for each unique installation
- Business hours live support available from Solar Analytics

Hardware Specifications

Electrical Characteristics		
Measurement configuration	Voltage Current Mode	1, 2 or 3 phase (Neutral required) CT Fundamental only/all harmonics
Measurement accuracy	Current and voltage Power Frequency Power factor Active energy Reactive energy	0.5% of reading Real power: 1% of reading from pf 0.8 leading to 0.5 lagging; Reactive power: 2% below 0.5 lagging 200ppm 2% from 0.8 leading to 0.5 lagging Class 1 as defined by IEC 62063 2.1 Class 2 as defined by IEC 62063 2.3
Input voltage characteristics	Measured voltage Permissible overload	50 to 280 V AC 1.15Un
Input current characteristics	Standard CT ratings Internal burden Turns ratio Permissible overload	60A(10mm) 20A(16mm) 400A(25mm) 600A(35mm) 2.7 ohm Adjusted to suit CT; field updateable 300 mA continuous
Internal power	CT Connections	0.6 W Single Phase (P1) Not isolated (neutral referenced)

Mechanical Characteristics		
Weight		0.3 kg
IP degree of protection		IP50 (front display) (higher in cabinet)
Dimensions		35 x 90 x 66 (mm) (2 pole)
Connection	Voltage Current: 3 meter version	6 positions / 4 connections 5.08 mm pitch PCI part 20020007 IDG100 ILL 6 way 3.81mm pitch PCI part 20020004 D06100 ILL

Environmental Conditions		
Operating temperature		5 °C to +55 °C
Installation / pollution category		III / 2
Electromagnetic immunity	Electrostatic discharge Immunity to radiated fields Immunity to fast transients Immunity to impulse waves	Level III (IEC 61000 4 2) Level III (IEC 61000 4 3) Level IV (IEC 61000 4 4) Level IV (IEC 61000 4 5)

Communication		
3G		Pentaband
Antenna		External SMA
SIM		Internal (accredited partners)
All data and communications provided by Solar Analytics		

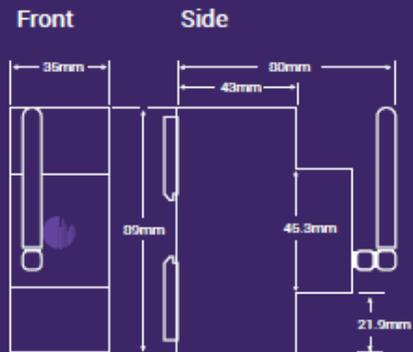
Servers		
Hosting		2 hosting services
Management		dms.19510027.com
Data volume (5 sec reports)		64MB/month(all data)
Data volume (30 sec reports)		20/MB/month(all data)

Power Quality		
Frequency measurement		45 to 65 Hz, 0.01 Hz
Voltage		50, 300V, 0.1V

Compliance Certificates		
A TICK		E5258
Safety		AS/NZS 60950.1:2011
Conducted Emissions		AS/NZS CISPR 22:2009 Class B
Radiated Spurious Emissions		AS/NZS 4268:2008 +A1:2010 C.8.2 & 9.1

NOTE: All specifications are preliminary only and may be subject to change.

Dimensions



Current Transformers

Must use provided current transformers (CTs).
Interchanging CTs requires Solar Analytics support.

KR-63 60A
Standard device.
Comes with 6 CT's, each 60A, 10mm diameter.



KR-63 120A
Standard device.
Comes with 6 CT's, each 120A, 16mm diameter.



KR-63 400A
For larger systems.
Comes with 6 CTs, each 400A, 25mm diameter.



KR-63 600A
For larger systems.
Comes with 6 CTs, each 600A, 35mm diameter.



Installed Unit



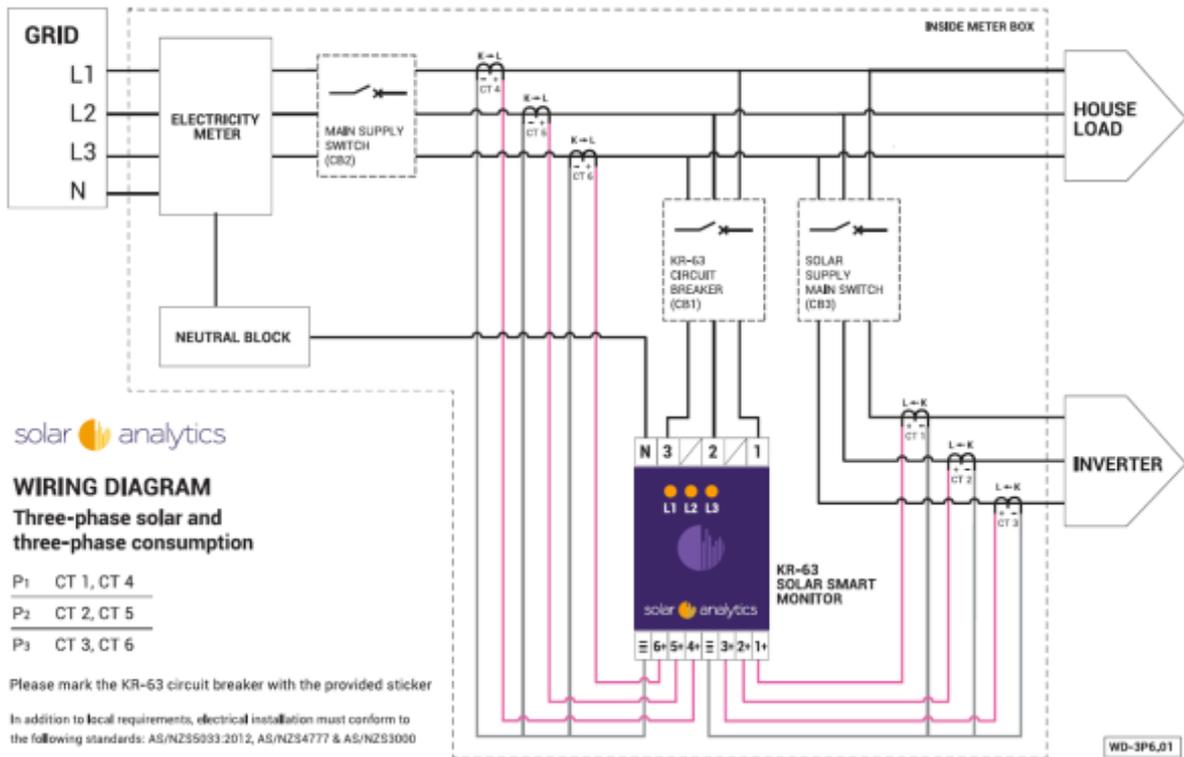
solar analytics

1300 651 137

www.solaranalytics.com.au

sales@solaranalytics.com.au

11.3 Wiring Diagram



11.4 Set Up Guide




Having Issues?
Our support line is available at:
1300 651 137

If you have any problems please do not hesitate to call.



Congratulations!

Once you have completed these 4 steps your site is being monitored!
Don't forget to let the site owner know that they can log into their dashboard at:

my.solaranalytics.com.au

Login details will be automatically sent to the email address supplied in Step **1**

FAQs

I can't tell if the serial number is has a zero or an "O" in it. Which is it?
The serial number will only ever contain numbers 0 to 9 and letters A to F. So that means the serial number will never contain "O" or "S".

I don't have my log in details to access the my.solaranalytics.com.au portal to complete the site pre-registration, what do I do?
You need to contact your administrator as they might have pre-registered the site for you prior to the installation.

I just opened up the circuit box and noticed that the PV system is three phase when I was expecting single phase, what do I do?
The KR-63 Smart Monitor has the ability to monitor both single-phase and three-phase loads. The power block tails that come with the device are pre-wired for single phase. You should have received a Multi-Phase Conversion Kit which you can use to easily convert the KR-63 to monitor three-phase or even dual-phase loads.

If you do not have your Multi-Phase Conversion Kit with you then please visit:

my.solaranalytics.com.au/multiphase

for detailed instructions on how to re-wire you KR-63 on site.

How do I order a Multi-Phase Conversion Kit for future use?

Contact Solar Analytics to order your spare Multi-Phase Conversion Kit for next time.

For more information, please refer to our Troubleshooting Guide at www.solaranalytics.com.au/support

There are 4 easy steps to complete to start monitoring on your site...

- 1** Site Pre-Registration
- 2** KR-63 Installation
- 3** KR-63 Check Install
- 4** Site Commissioning

Installation by a qualified electrician is required. Otherwise no special training is required.

The Auditor is a 2U DIN rail device, to be installed in a DIN rail enclosure.

Maximum ambient operating temperature is 60C.

FC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

You will need:

- Solar Analytics login
- KR-63 Serial Number



You will find the serial number on the side of the KR-63 unit or on the side of the box it came in.

Please don't leave site without completing Step 4 (otherwise you may have to come back)

1 Site Pre-Registration

Log on to:
my.solaranalytics.com.au

Click on:

You'll find this button at the top of the 'My Sites' page.

Fill in steps 1, 2 and 3 of the registration process:

1
2
3
4

*Once Step 1 has been created your site will appear in the Pending Sites list on the 'My Sites' page.

2 KR-63 Installation

For instructions on how to properly install the KR-63 you will need to go through our Interactive Setup at:
my.solaranalytics.com.au/3Gsetup

From here you can select your phase:

Single Phase

Dual Phase

Three Phase

...and you will be shown step-by-step instructions complete with diagrams and helpful videos.

Its important that you follow the Interactive Setup in order to ensure you get the phases and polarity correct!

3 KR-63 Check Install

Once you have completed the Interactive Setup from Step **2**, you will automatically be taken to the Check Install page.

To complete this step you will need:

KR-63 Serial Number

Click on:

You will be taken to a results page which shows you if the KR-63 has been installed correctly.

4 Site Commissioning

Once you have completed the Configuration from Step **3**, you will need to log back on to:
my.solaranalytics.com.au

You can now select your site from the Pending Sites list on the 'My Sites' page.

Fill in step 4 to commission the site

✓
✓
✓
4

You will also need to assign your channel circuits to the monitoring types so take note during installation

solar analytics Our support line is available at: 1300 651 137 if you have any problems with the installation or visit our support page at www.solaranalytics.com.au/support

11.5 AER Communication re NMI

Sent: Thursday, 18 February 2016 7:05 PM
To: AER Inquiry
Subject: Solar metering

Dear Sir/madam,

We have a number of customers who are solar system installers. These customers have all applied for, and been granted, a retail electricity exemption for the sale of electricity through Solar PPAs.

Most have indicated that they will use a variety of methods to measure the quantum of electricity generated. Some of these are NMI M6 pattern approved meters, some are revenue grade accuracy non NMI approved, and some base it simply on the inverter readout.

Can you please confirm that an exempt solar PPA energy retailer does NOT have to use a NMI M6 pattern approved meter to bill a customer for the solar PPA.

AER Inquiry <aer inquiry@aer.gov.au>
To: Stefan Jarnason <stefan@solaranalytics.com.au>
Cc: AER Inquiry <aer inquiry@aer.gov.au>

Fri, Feb 19, 2016 at 2:06 PM

Dear Mr Jarnason,

Thank you for your email of 18 February.

SPPA exempt sellers are not subject to any conditions under the retail exemption framework that require them to use a particular type of meter in order to bill a customer.

Regards,

Fiona

AER Inquiry

11.6 CER Communications re LGC

Stefan Jarnason <stefan@solaranalytics.com.au>

Thu, Jul 23, 2015 at 12:23 PM

To: CER - RET - Powerstations <CER-RET-Powerstations@cleanenergyregulator.gov.au>

Bcc: FollowUpThen <wednesday@followupthen.com>

Hi Phoebe,

Thank you for the response. It has not quite answered my question though. My question is:

"Can you please clarify the metering requirements for creating Large Generation Certificates (LGCs)? Specifically, if a meter is used to measure the electricity that is Class 1, ie the same level of accuracy as required under the AER NMI M6 requirements, but the meter is not certified as NMI M6 due to it having a non standard form factor, is this meter sufficient to register the LGCs? Are there any other requirements the meter must satisfy?"

If you are able to send me the relevant section of the applicable regulations that would also be greatly appreciated.

Stefan Jarnason
Co-Founder & Managing Director

CER - RET - Powerstations <CER-RET-Powerstations@cleanenergyregulator.gov.au>

Thu, Jul 23, 2015 at 12:05

PM

To: "stefan@solaranalytics.com.au" <stefan@solaranalytics.com.au>

Hi Stefan,

Apologies for the delay in responding to your enquiry. I thought my colleague had responded to the original request from Jacqui (see email below).

As discussed in our telephone conversation, a meter that is accepted by a electricity retailer for the sale of electricity will also be accepted by the Clean Energy Regulator for the purpose of creating LGCs. In addition, lower accuracy meter or inverter data may also be used, with a deduction of 1-3% depending on the accuracy of the system.

Please let me know if you have any further questions.

Regards

Phoebe



Phoebe Chadwick-Masters
Regulatory Officer

Stefan Jarnason <stefan@solaranalytics.com.au>

Tue, Nov 3, 2015 at 7:42 AM

To: CER - RET - Powerstations <CER-RET-Powerstations@cleanenergyregulator.gov.au>

Dear Phoebe or John,

Are you able to clarify the below question, namely:

You stated in a previous email that we can use a non NMI M6 meter for the purpose of LGC creation, and that we need to reduce the measurement based on the accuracy of the energy meter.

For the purpose of LGC creation, if we use a non NMI M6 pattern approved energy meter that meets the same Class 1 accuracy required by an NMI M6 meter, is the measurement reduction therefore 0%? If not what is the appropriate value?

Regards

Stefan Jarnason
CEO and Founder

CER - RET - Powerstations <CER-RET-Powerstations@cleanenergyregulator.gov.au>
To: Stefan Jarnason <stefan@solaranalytics.com.au>

Tue, Nov 3, 2015 at 11:35 AM

Hi Stefan,

If the meter meets the class accuracy of the National Electricity Rules there will be no deduction applied.

Regards,

Phoebe



Phoebe Chadwick-Masters
Regulatory Officer

Renewables and Waste
Technical Assessment and Support, Scheme Entry and Entitlement

(02) 6159 3254 | phoebe.chadwick-masters@cleanenergyregulator.gov.au
www.cleanenergyregulator.gov.au