

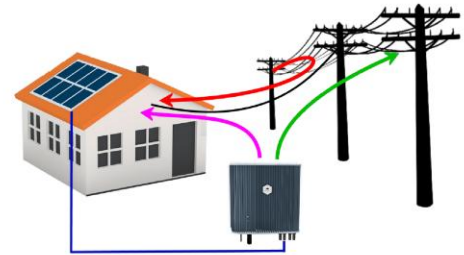


<b>Topic</b>	Export Limited Operation Power Meter connection information				
<b>Products</b>	Eclipse Inverter Models: 5000 kW Export Limited				
<b>Bulletin No.</b>	150719	<b>Version</b>	R2_1	<b>Date</b>	31/3/16

## Background

Some models of the MIL-Solar series of Eclipse Inverters are provided with an optional feature that enables the Inverter to monitor the power usage of the installation and manage the nett power exported to the grid.

For this operation, a special Power Meter must be installed in the site supply that communicates directly with the Inverter.



This Installer Guide details how to install and connect the Power Meter to the Eclipse inverter.

Access to this feature in the Eclipse Inverter is limited to registered Installers only.

## Network Company requirement

In some instances, it is a condition of the installation approval given by the Network Distribution Company, that the Inverter is capable of limiting power exported to the Grid to a defined maximum.

The Export Limit commonly set by some jurisdictions is ZERO. That is the Inverter can only supply power to 'local' loads on the installed site but must not provide any Feed-in power to the Grid.

## Before getting started

Plan and review:

- Possible locations for the Power Meter in the site switchboard
- Access to the incoming main supply for diversion through the Power Meter
- Route for data cabling from the Power Meter to the Eclipse Inverter

Ensure that you have the mating connector supplied for the data cable connection to the Eclipse Inverter and sufficient length of suitable data cable.

## Installing the Power Meter



### WARNING

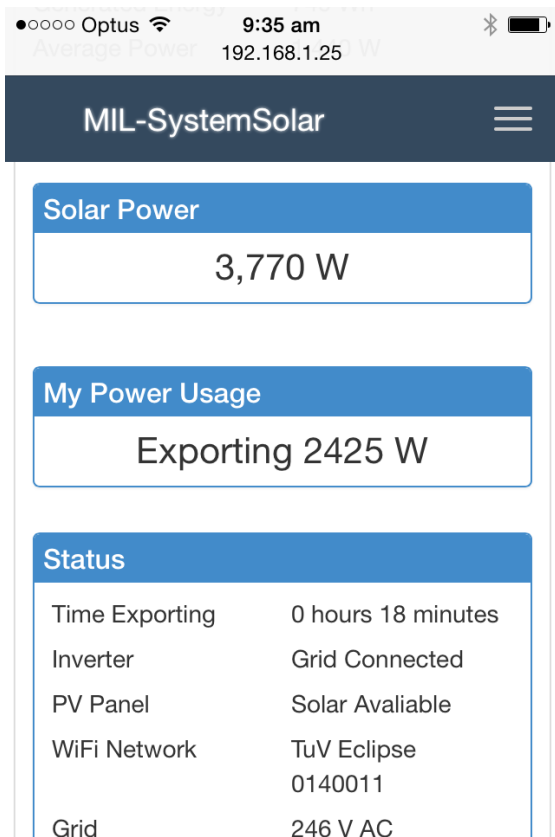
Installation and wiring of the Power Meter in the switchboard **MUST ONLY** be carried out by a suitably qualified and licensed electrician. Failure to install the power meter correctly could result in an electrical shock hazard leading to death or serious injury or potential fire risk.



## My Power Usage display

Eclipse Inverters with the MyPower and Export limit feature include an additional area on the normal Status display page that shows the net power in/out of the grid for the installation.

**Example Display 1**

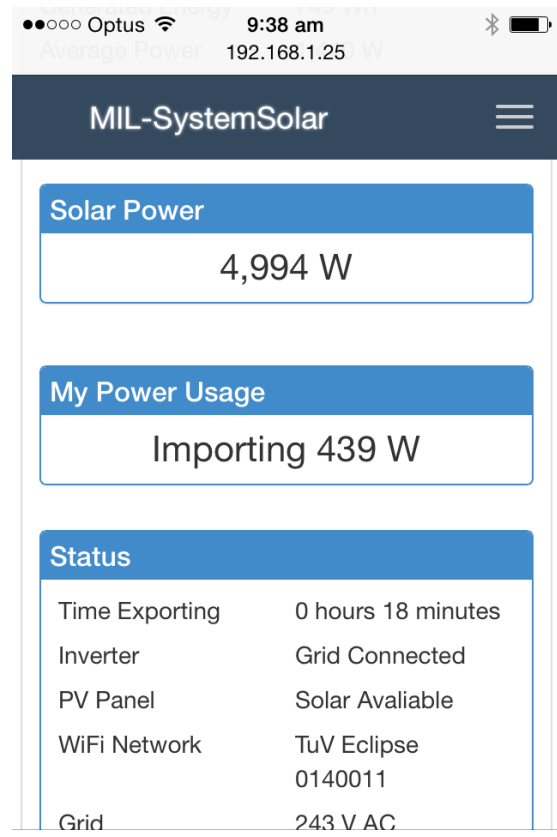


The Inverter is generating more power than is currently being consumed by the house.

Feed INTO Grid: 2,425 W

House Load:  $3,770 - 2,425 = 1,345$  W

**Example Display 2**



The total House load is greater than the power being generated by the Inverter.

Usage FROM Grid: 439 W

House Load:  $439 + 4,994 = 5,433$  W

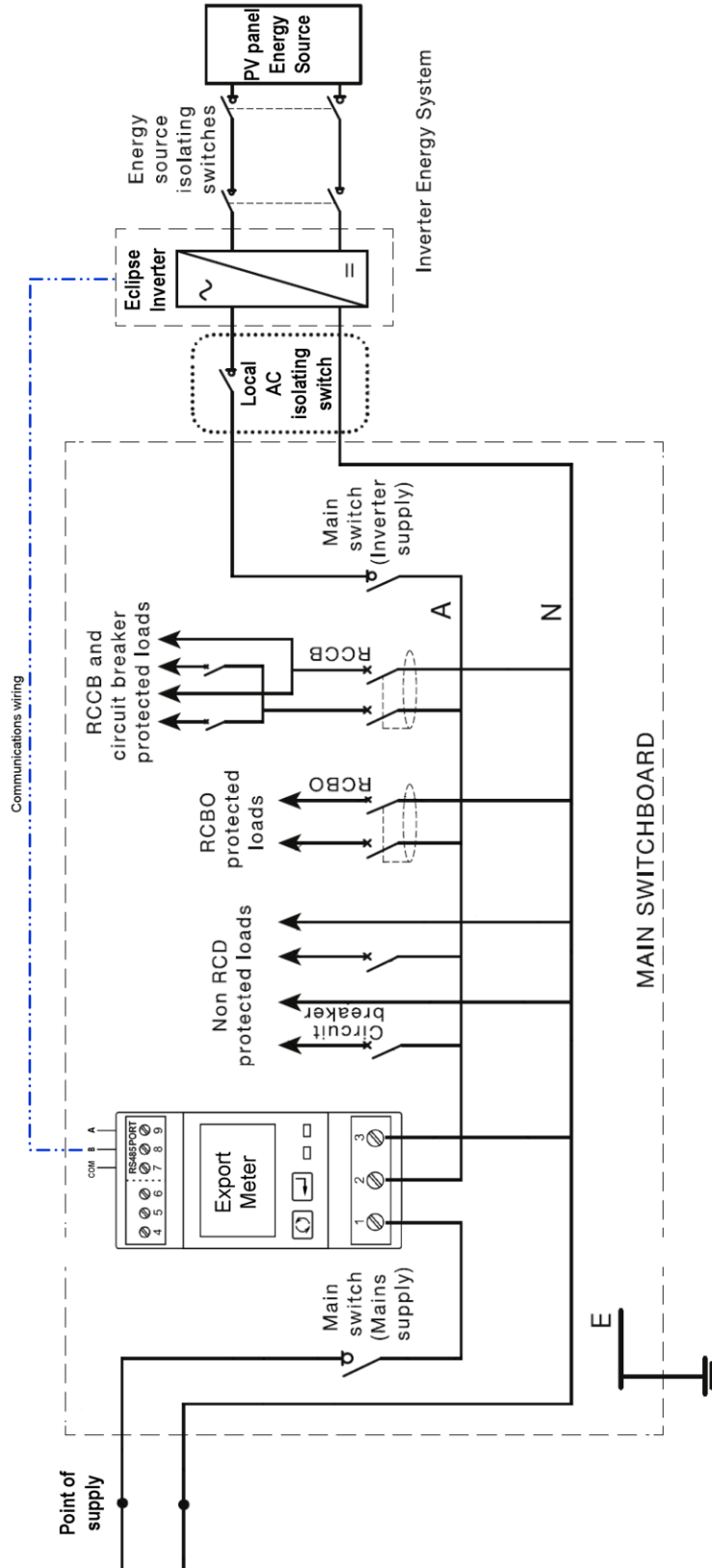


### My Power Usage

My Power Usage shows the instantaneous nett power being drawn from (Importing), or supplied (Exporting) to the Grid.

## Overall System Wiring

The Export Limit and “MyPower” features of the Eclipse Inverter require the installation of a special Export Meter in the overall supply to the installation. As shown below, this sensor must be installed such that it measures the total site power at the point of connection to the Grid supply.





## Power Meter Wiring

### 1. Inverter Connection

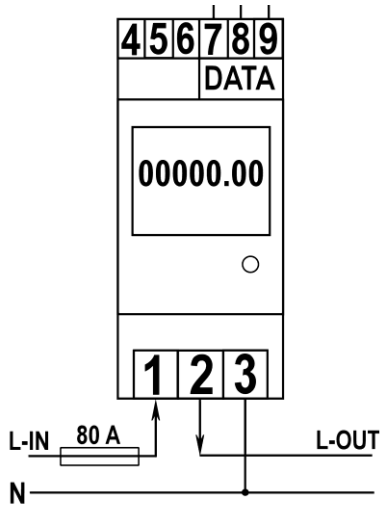
The Export Limit models of the Eclipse Inverter are supplied with a screw terminal connector for terminating the meter data cable at the Inverter. It comprises of two parts – terminal insert and outer housing.



MS Part No. 5883 - CON Eclipse Inverter Power Meter

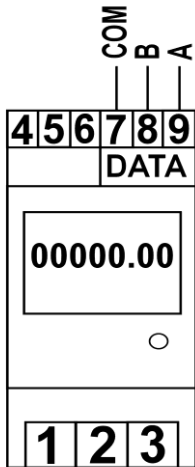
### 2. Power Meter – Connection Point Supply current – Maximum 80 A

The Power Meter must be wired into the supply connection side of the main switchboard feed.



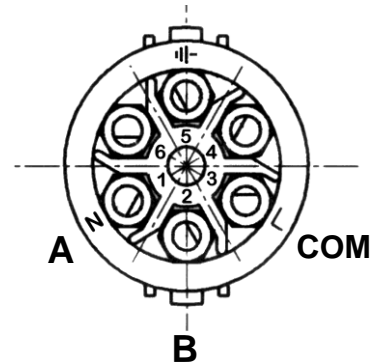
Term	
1	Incoming supply - ACTIVE
2	ACTIVE feed to installation switchboard
3	Neutral

### 3. Data connection – Power Meter to Inverter



Power Meter		Cable Connector
9	Data A	1
8	Data B	2
7	Com	3
	Screen If provided in cable	4

Cable connector.  
Inverter end.





### CAUTION

The Data connection to the Inverter is classed as SELV.  
Suitable insulated cable and/or protection must be provided where the cable is routed through the switchboard for connection to the Power Meter.

### Data Cable Specification

Four core, dual twisted pair. AWG 22 – 26

The Data 'A' and Data 'B' connections must use one twisted pair.

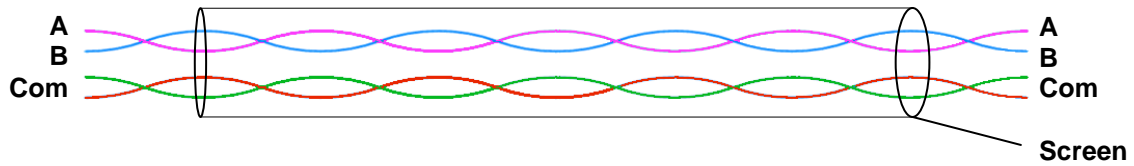
One, or both, of the second twisted pair conductors is used for 'COM'.

#### Overall screen

If the cable sourced includes an overall screen, then it should be terminated at the Inverter cable connector end only.

#### Power Meter

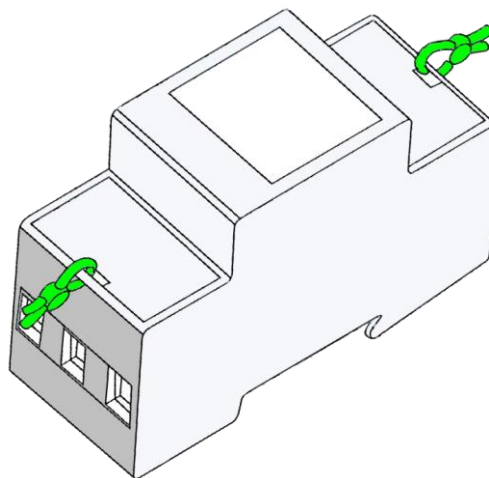
#### Inverter Cable connector



### 4. Anti Tamper sealing

Once the Power Meter and wiring has been installed and commissioned, the power meter terminals **must** be sealed.

Seal both terminal covers





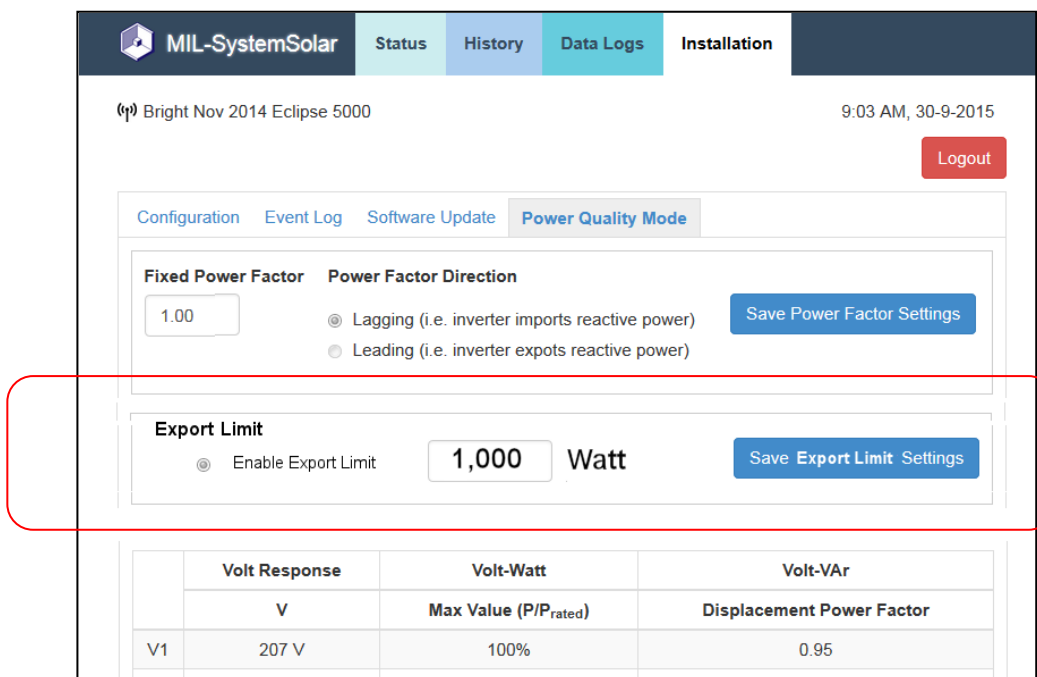
## Configuring the Eclipse Inverter for Export Limit

### 5. Connect to the Inverter and navigate to Software Update

Connect your browser device to the Inverter WiFi network.  
Access the **Installation** page using your Installer Name & Password  
Select the [ **Power Quality Mode** ] tab.

### 6. Configure the Export Limit parameters

1. Enable EXPORT LIMIT – radio button.
2. Enter the Export Power Limit required for the Installation Approval.



### 7. Save the Settings

Make sure that you save the new data limits and settings entered.



Note: The pop up keypad on devices like iPhones may need to be minimised/closed to view and gain access to this button.



### Inverter restart

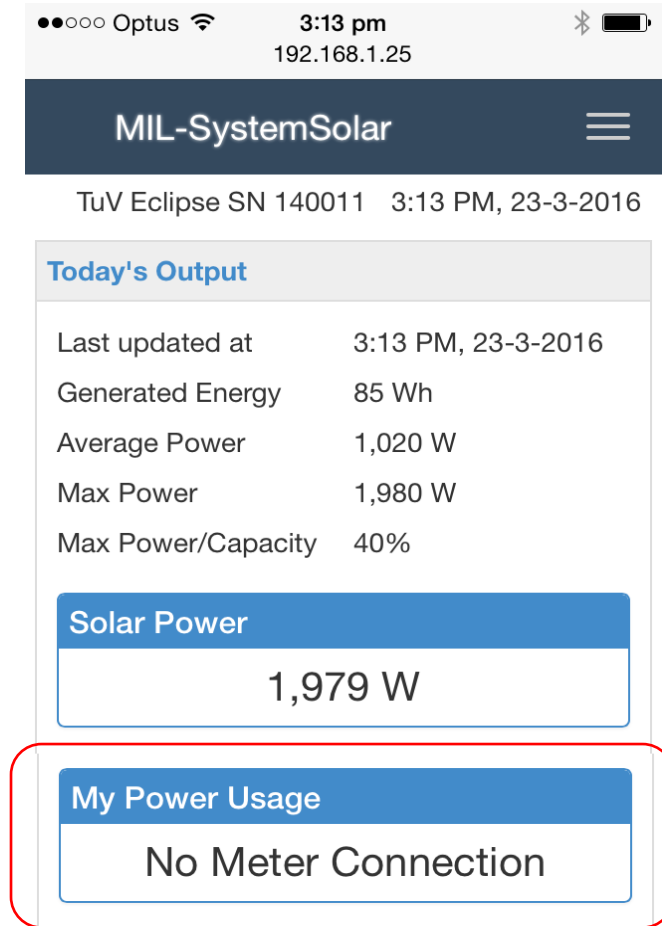
The Inverter will automatically restart for the new Export Limit settings to take effect.

### 8. Update Completed

Having successfully restarted, the Inverter will go through the normal brief power On initialisation routine.

## Installation problems – No Meter Connection

The Eclipse Inverter continually monitors the communications to the power meter. If it is unable to establish proper communications with the unit then it will display an error message as below.



### Possible causes.

- Ensure communications wiring to the meter is properly connected to terminals 7, 8 & 9
- Ensure communications wiring is properly connected to terminals 1,2 & 3 on the circular Inverter mating connector.
- Ensure that the wiring connector is properly engaged with the Inverter connector. This may involve slipping the outer screw sleeve back to ensure that the two mating halves are properly seated.
- Ensure that the wiring connections follow the overall correct pin – pin assignment.

Reset the Inverter by powering it Off & On after taking corrective actions.



### Inverter power limited

When the Inverter is operating and displaying this error message, the maximum power generated by the Inverter is capped at the Export Limit value set. For some installations, this may be configured as zero.



## Export Power Meter -General Specifications

Voltage AC (Un)	240V
Voltage Range	176-276VAC
Base Current (Ib)	10A
Max. Current (Imax)	80A
Min. Current (Imin)	0.5A
Starting current	0.4% of Ib
Power consumption	<2W/10VA
Frequency	50/60Hz (±10%)
AC voltage withstand	4KV for 1 minute
Impulse voltage withstand	6KV-1,2uS waveform
Over current withstand	30Imax for 0.01s
Pulse output rate	1000imp/kWh (default)
Display	LCD with blue backlight
Max. Reading	999999.9kWh

## Export Power Meter - Dimensions

