Installation manual

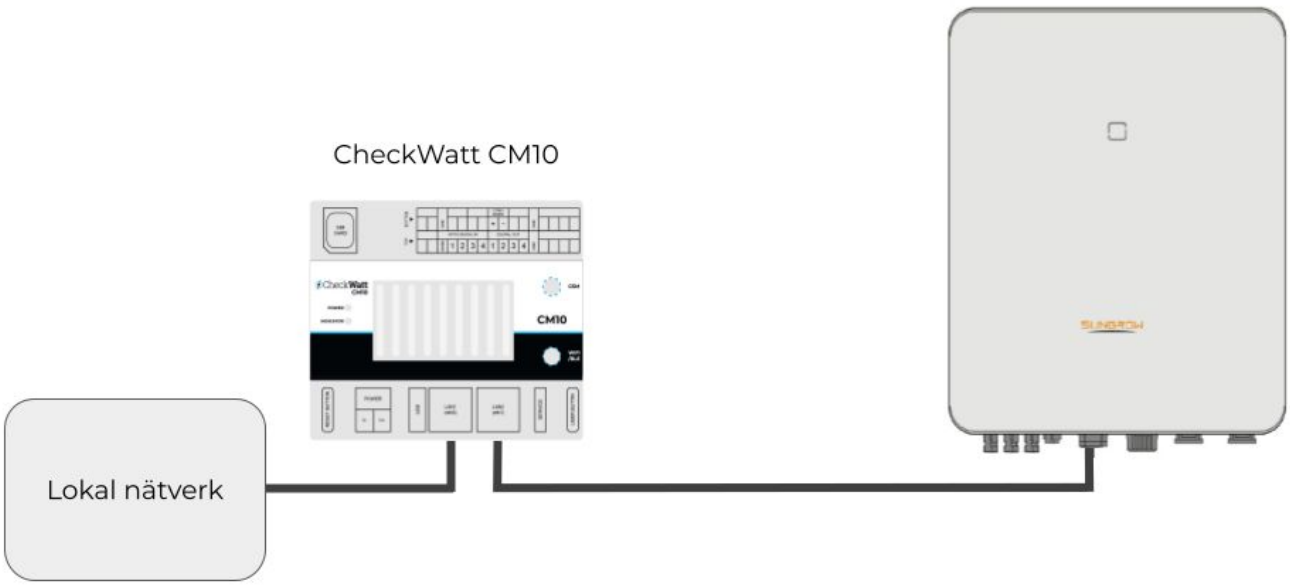
CheckWatt CM10 and Sungrow Hybrid inverter SH5.0RT/SH6.0RT/SH8.0RT/SH10RT

Updated 2024-10-29

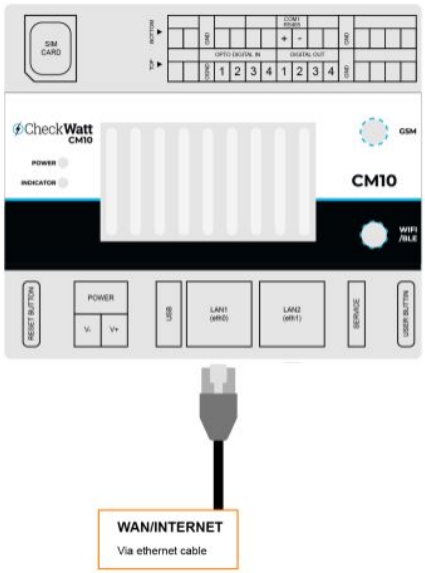
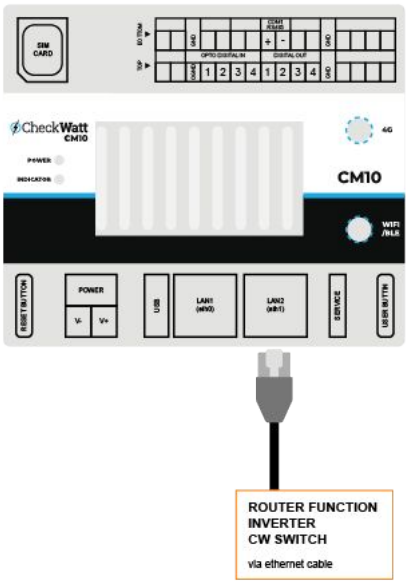
Installation of CheckWatt CM10 and the Sungrow inverter is performed according to their manuals. This manual describes how communication between the CheckWatt CM10 and Sungrow inverter is established.

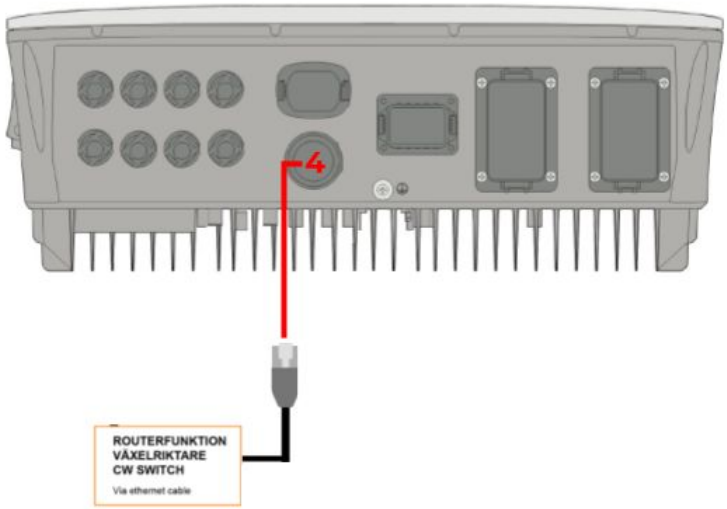
Communication between CM10 and inverter is carried over modbus TCP/IP via ethernet cable CAT6 FTP.

Max inverters per CM10:
SH5/6/8/10RT 2 inverters



NOTE:
This only applies to communication in the form of reading values and controlling the inverter. Internet to iSolarCloud goes as usual via port 3 and can be set up in the usual way via Sungrow's own instruction manuals.

Connect the WAN (Ethernet cable) between the property's router* and **LAN 1 (eth0)** on the CM10 for internet connection to the CM10. ** or other network equipment such as PLC-modem, wifi-repeater or network switch.* *NOTE! LAN 1 and LAN 2 must not be mixed up as they have different functions.*	
Connect the LAN (Ethernet cable) to **LAN 2 (eth1)** on the CheckWatt CM10. *NOTE! LAN 1 and LAN 2 must not be mixed up as they have different functions.*	

Connect LAN (ethernet cable) to **port 4** on the inverter. *Port 4 is for communication and control, not for internet connection.*	

Settings

The CM10 is providing a subnet via LAN 2 to the hybrid inverter for communication and internet connection, it is recommended that the hybrid inverter is set to DHCP.

If static IP, the following applies:
Static IP: 192.168.5.2-192.168.5.99
Gateway: 192.168.5.1
Subnet mask 255.255.255.0

Verification

1. Check that the Sungrow Hybrid Inverter is set to dynamic IP (DHCP).
2. Check that the Sungrow Hybrid Inverter is set to "Self consumption" in iSolarCloud.
3. Perform a check of the CheckWatt CM10 according to the CheckWatt CM10 Installation Manual.

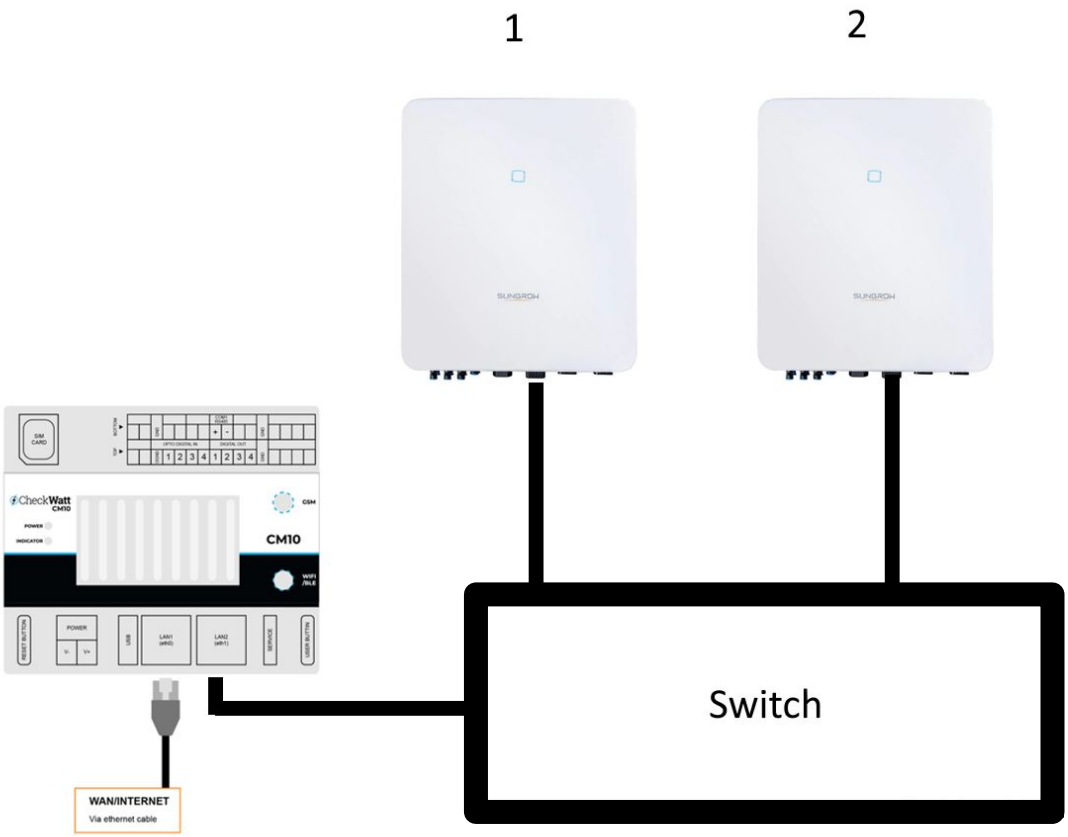
Vid frågor kontakta CheckWatt support på 010-188 65 65 eller Support@checkwatt.se

Multiple inverters on one CheckWatt CM10

Börja med att uppdatera växelriktare och batterier till senaste mjukvara. Koppla sedan in en **switch** emellan CM10 **LAN2 port** och växelriktarens **port 4** så att anslutning kan göras till samtliga växelriktare i gruppen.

Start by updating the inverters and batteries to the latest firmware. Then connect a **network switch** between the CM10 **LAN2 port** and the inverter's **port 4** to ensure connection to all inverters in the group.

Please note that the smallest inverter/battery will limit the power output for all inverters. Therefore, it is **recommended that all inverters/batteries be of the same size.** If inverters/batteries of different sizes are installed, the larger combination will be limited to the maximum output of the smaller combination. For example, an SH10RT with a 10kW battery and an SH6RT with a 6kW battery will provide a maximum output of 2x6kW=12kW.



Settings for Master inverter *The Master should be connected to the smart meter.*

Select the inverter that will act as the Master.
Navigate to **Advanced settings > Power Control.**

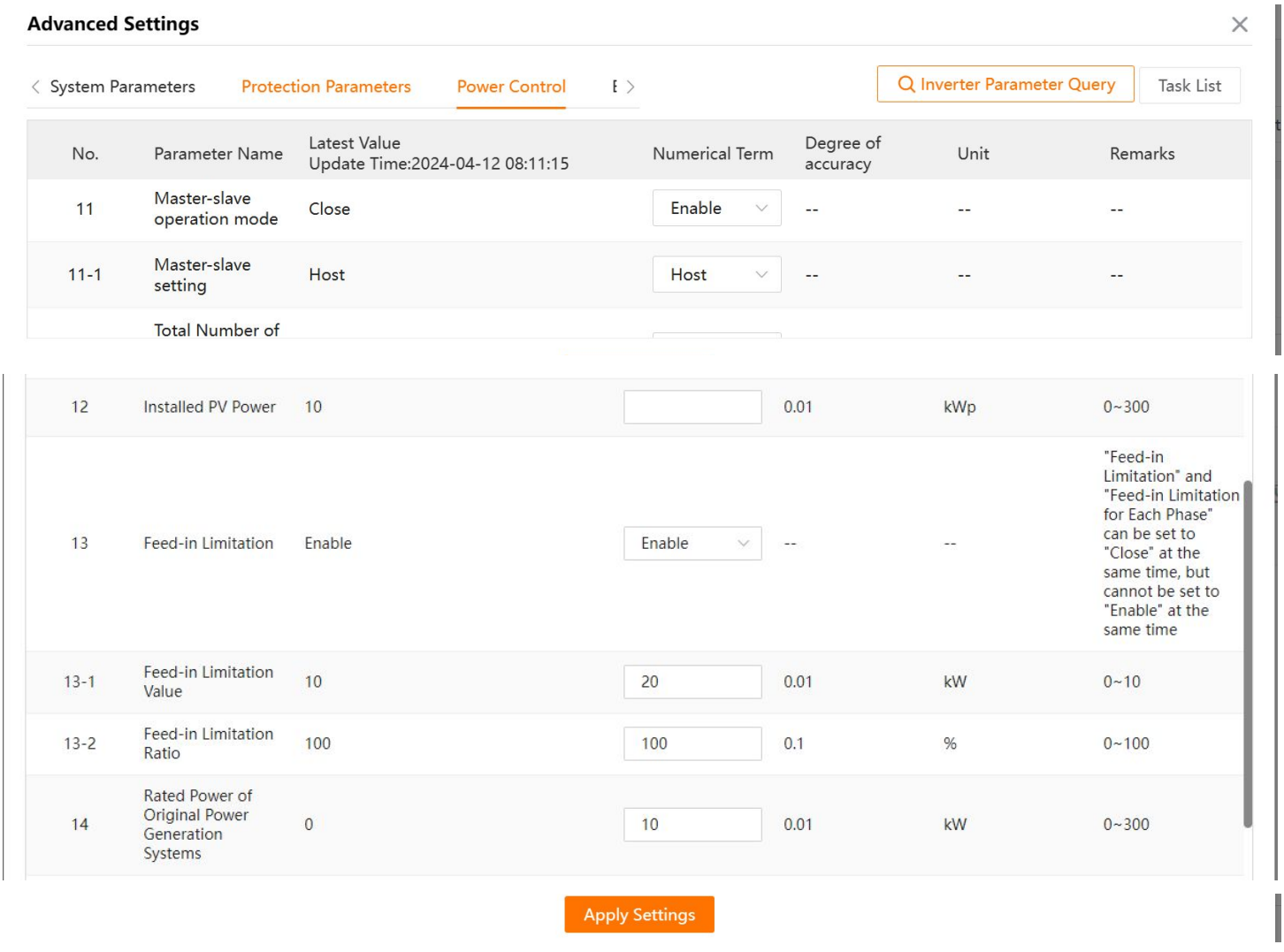
No. 11 **Master-slave operation mode** set to **Enable**
No. 11-1 Select Host
No. 11-1-1 Enter number of inverters

No. 12 **Installed PV Power** Enter installed module power

No. 13 **Feed-in Limitation** set to Enable
No. 13-1 **Feed-in Limitation Value** for the Master should be the total power from all inverters.
Example: For two SH10RT inverters, 2x10kW=20kW.
No. 13-2 **Feed-in Limitation Ratio** set to 100

No.14 **Rated Power of Original Power Generation Systems** set to 10.

Click **Apply settings**



Settings for Master inverter *The Master should be connected to the smart meter.*

Again select the Master inverter
Go to **Advanced settings > Power Control**

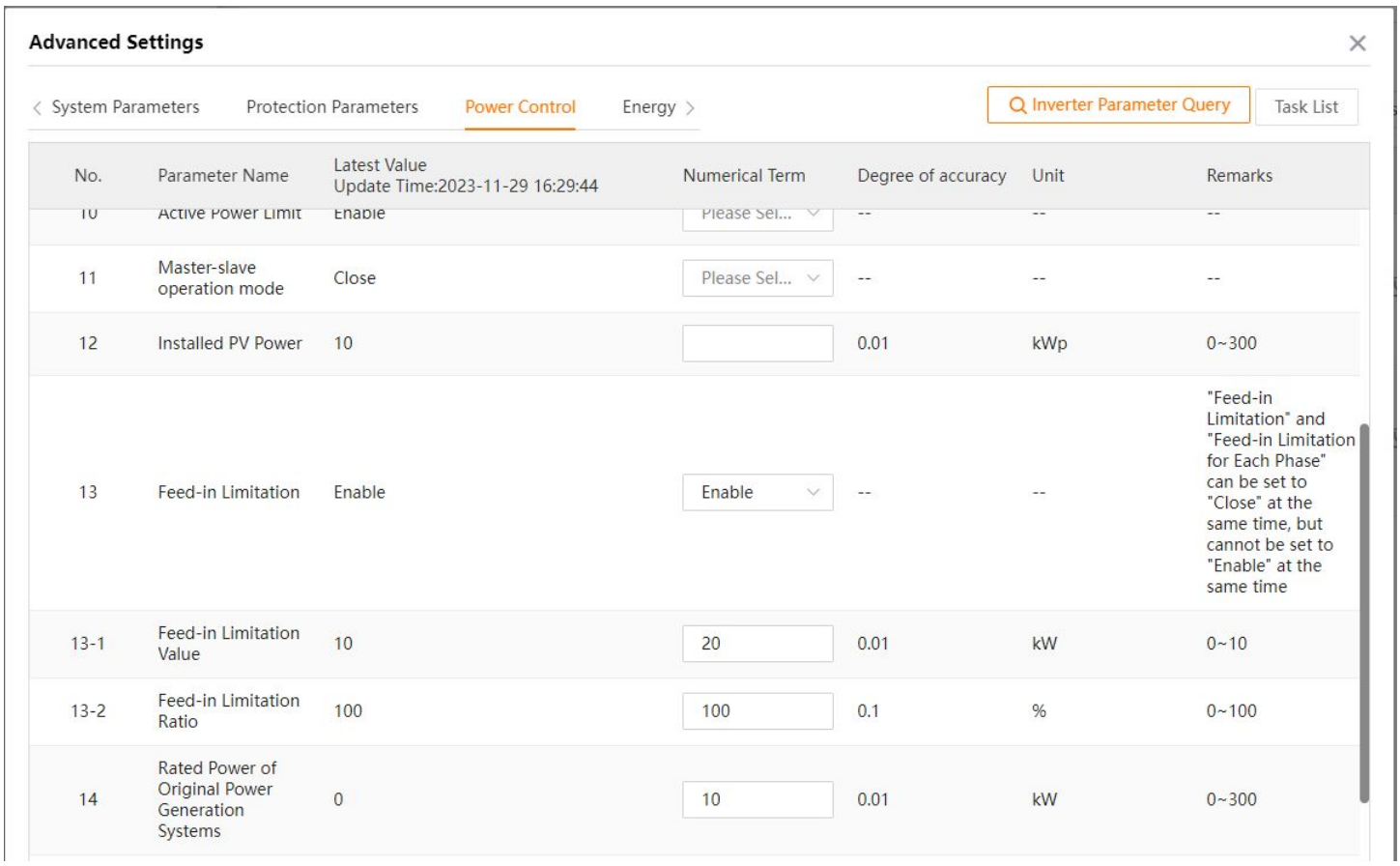
No. 11 **Master-slave operation mode** set to Closed

Click **Apply settings**

Once again select the Master inverter
Go to **Advanced settings > Power Control**

Go to **Energy Management Parameters**
No. 3 **Energy management Mode** set to VPP

Click **Apply settings**



Settings for slave

Välj växelriktaren som är Slave
Go to **Advanced settings > Power Control**

No. 11 **Master-slave operation mode** set Enable.
No. 11-1 Select Host
No. 11-1-1 Enter 2

No. 12 **Installed PV Power** Enter installed module power

No. 13 **Feed-in Limitation** set to Enable
No. 13-1 **Feed-in Limitation Value** set to inverter size (ex. 10 for SH10RT)
No. 13-2 **Feed-in Limitation Ratio** set to 100

No.14 **Rated Power of Original Power Generation Systems** set to 0

No.24 **Meter Communication Detection** set to Closed

Click **Apply settings**

Again select the slave inveter
Go to **Advanced settings > Power Control**

No. 11 **Master-slave operation mode** set to Closed

Click **Apply settings**

Once again, select slave inverter
Go to **Advanced settings > Power Control**

Navigate to **Energy Management Parameters**
No. 3 **Energy management Mode** set tol VPP
Click **Apply settings**

Verify system performance

To ensure that the parameters are correctly set, follow these steps:

1. Charge and discharge at maximum power for about 5-10 minutes in each direction. Verify that the systems can deliver the maximum "Charging/Discharging Power."
2. Stop the charging/discharging process and revert the settings back to VPP mode.
3. Connect the CM10 to the system.