## Datasheet

### Data Interfaces

<table>
<thead>
<tr>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inverter daisy chain</td>
<td>Isolated RS485, Max. 32 devices</td>
</tr>
<tr>
<td>Third-party data logger</td>
<td>AUX port, Isolated 3 Pin RS485</td>
</tr>
<tr>
<td>CPS cloud service</td>
<td>Internet, Primary MQTT</td>
</tr>
<tr>
<td>Third-party server</td>
<td>Internet, HTTPS or Secondary MQTT</td>
</tr>
<tr>
<td>SCADA client</td>
<td>Ethernet port, Modbus/TCP</td>
</tr>
</tbody>
</table>

### Connections

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS485 port A</td>
<td>Internal installation, RS485+DC Input, 6 Pin</td>
</tr>
<tr>
<td>RS485 port B</td>
<td>External installation, RS485+DC Input, 5 Pole 3.5 mm pitch EDG</td>
</tr>
<tr>
<td>AUX port</td>
<td>RS485, 3 Pole, A+ / B- / G</td>
</tr>
<tr>
<td>Ethernet port</td>
<td>RJ45, 10Base-T / 100Base-T</td>
</tr>
<tr>
<td>FOMlink port</td>
<td>4Pin connector</td>
</tr>
<tr>
<td>4G Cellular module</td>
<td>LTE-FDD/TDD, DC-HSPA+, WCDMA, GPRS</td>
</tr>
<tr>
<td>WiFi module</td>
<td>Option, 802.11 b/g/n</td>
</tr>
</tbody>
</table>

### Voltage supply

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>9 ~ 24 Vdc</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt; 1 W, Max. 5 W</td>
</tr>
</tbody>
</table>

### Ambient conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>Installed in inverter wire-box or NEMA4 enclosure</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-40 ºC to +85 ºC, Natural convection</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>&lt; 85%, Non-condensing</td>
</tr>
</tbody>
</table>

### General data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions ( W/H/D)</td>
<td>140 mm / 70 mm / 15 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>50 g</td>
</tr>
<tr>
<td>Status display</td>
<td>LEDs for Activity, Cloud, RS485 and Power</td>
</tr>
</tbody>
</table>
Interface

ENC Main Board

External installation option
RS485 Port B

Caution:
If the length of the cable connecting to RS485 port or AUX port of the gateway is over 1000 meters, the Switch button must be set to ON.

Default
ON
OFF

Internal installation option
RS485 Port A

Terminating Resistance Switch

Terminating Resistance Switch

Power Switch

POWER ON

Before configuring the gateway, pay attention to set the power switch to ON.

Vin  GND  A+  B-  G

A

External installation option
RS485 Port A

External installation option
RS485 Port B

A

Terminating Resistance Switch

Terminating Resistance Switch

A+  B-  G

B

Module Socket

Ethernet Port

FOMlink Port

AUX Port

Caution:
If the length of the cable connecting to RS485 port or AUX port of the gateway is over 1000 meters, the Switch button must be set to ON.
Replaceable Module

Optional 4G Module

- **Link**
  - Fast Blink: Booting
  - Blink: Communicate with server

- **Status**
  - Fast Blink: Cellular Activity
  - Blink: Cellular Idle

- **4G**
  - ON: LTE Network
  - OFF: 3G/2G Network

Optional WiFi Module

- **Link**
  - Fast Blink: Booting
  - Blink: Communicate with server

- **Power**
  - ON
Installation Option

A. Internal in Wire-Box of the Inverter

When the inverters are monitored via the gateway, a unique RS-485 address for each inverter can be set up through the LCD interface.

Up to 32 inverters can be connected together in the communication network.
If the purchased gateway does not include a data plan. Before installing, insert the sim card into the gateway.

Supported Carrier:

United States
AT&T, T-Mobile, US Cellular 4G/3G/2G

Canada
Rogers, Telus 4G/3G/2G

Mexico
Nextel, Telcel, Movistar, Iusacell 4G/3G

Colombia
Movistar, Tigo 4G/3G/2G

Brazil
Vivo 4G/3G/2G

Chile
Entel, Movistar 4G/3G/2G

In case the gateway already contains a data plan, you can inquire the YASKAWA service through the gateway’s SN number.
Remove the (3) screws that attach the inverter communication board in the Wire-Box using a #2 Phillips bit.

Replace the screws with the (3) standoffs included in the gateway kit.

Install the gateway by carefully aligning the 6-PIN connector in the upper left-hand corner of the communication board.

Install the (3) screws into the standoffs to secure the gateway in place. Install the 3 screws and torque to 7 in-lbs using a #2 Phillips bit.
Connect the 3rd party Datalogger to the AUX port in the bottom left-hand corner of the gateway using the 3-Pin Connector provided in the gateway kit.

Connect the RS485 inverter daisy chain to the inverter communication board using the 5-Pin Connector provided in the gateway kit.

NOTE: The 5-Pin Connector is installed on the port on the bottom of the inverter communication board (behind the gateway).

The RJ45 LAN cable is inserted into the Ethernet port of the gateway. The LAN cable must be able to access the Internet without port filtering behind the firewall.
Before closing the cover of inverter wire-box, check again that the gateway’s power switch is set to on.

Screw one end of the antenna cable into the cable connector of the gateway.

Pass the cable through the disassembled cable gland parts in sequence, then tighten the cable glands again.

Screw the other end of the antenna cable into the antenna.
Installation Option

**B  External in a NEMA4 enclosure**

The gateway may be installed in an enclosure as shown. The gateway enclosure includes a DIN rail mounting clip for installation in a NEMA4 communication box (FlexOM Suite).

Open the gateway enclosure and Install the (4) screws into the standoffs to secure the gateway in place.
Gateway can connect up to 32 devices through RS485 interface. Don’t use the Modbus ID 165 (A5H/0XA5). It is reserved for broadcast commands of inverters.
Optional FlexOM Suite
A NEMA4 Enclosure

Mount the gateway to the DIN rail with clip. Then fix the antenna in a suitable position outside the chassis.
FlexOM suite pole mounting

Front U-rail
Chassis hook
Long rod bolt M8
Nut M8
Rear U-rail
Chassis hanging hole
FlexOM suite wall mounting

Use a wrench to adjust the hook screw to fasten the chassis to the bracket.
If a firewall is used to protect the network, the following ports must be opened both ways (incoming and outgoing communications):

TCP 1884 with destination IP 47.254.52.209

TCP 443 with destination IP 209.160.64.80

solrenview.com

Download and install the “YASKAWA Connect Pro” app from the Apple Store and Google Play.
Setup the gateway

When the APP starts, make sure the phone can access the Internet. APP will automatically enter the main panel after data synchronization.

Click “ENC Gateway” under the “Installation” tab.
Ensure the D2XH cable and FOMlink are connected to the gateway.

Select WiFi settings and connect to the network name beginning with “CPLK-“.

The password is “Password”. The ‘P’ is capital and it is case sensitive.
Click “Show Status” to display the current configuration parameters of the gateway.

The gateway connects to the Internet through Ethernet by default.

In this case, it is assumed that the SIM card is inserted into the gateway.
Click "4G Cellular" to enable this connection method.

When returning to the previous screen, click "OK" to save the settings.

Click "Show Status" to check the connection status.

Before the status becomes "Online", click "Next" will only display "Gateway unable to access Internet".

When the gateway status becomes "Online", the gateway will automatically create related objects on the portal, and the administrator can remotely set the required parameters.

You can also click "Next" to modify the site and gateway name on site.
Enter the site name and gateway name, and then select the country and time zone of site.

Click “Next” to change the settings on the portal.
If any errors occur on site, click “Send Log” to request remote assistance.

Confirm your phone is set to access the Internet.

Click “Upload” to send the process of installation.

Call YASKAWA service to troubleshoot the issues.
Click “More” to check all settings of gateway.

Inverter Baud Rate: Modify the baud rate of data transmitted between the daisy chain device and the gateway.

Modbus ID Range: Modify the scope of the gateway to scan daisy chain devices.

Internet Settings: Change how the gateway connects to the Internet.

MQTT Server: Enable the secondary MQTT server’s parameters.

HTTPS Server: Enable the HTTPS POST to a 3rd party’s server.

Upgrade Firmware: To upgrade the gateway to the latest.

Reboot: Only restart the gateway, it will not erase any settings.

Reset: This will restore the gateway to factory settings. All previous data on portal will be permanently deleted.
Monitoring Support
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Hours: 8:30 AM to 5:30 PM (EST) Mon-Fri
Email: monitoring@solectria.com