



Cell Modem Recommendation and Data Plan

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Gender-specific wording refers equally to the female and male form.

1. Recommended cell modem

Often, installers are piecing together various solutions and get mixed results. Therefore, Fronius USA has explored cellular solutions to reduce these pain points. After assessing various solutions, Fronius USA is recommending the following cellular modem for the use with our inverters.

This cell modem solution is available in two options:

- Indoor use: just purchase the modem with the Digi power supply and two antennas.
- Outdoor use: please follow the manufacturer's recommendations on keeping the unit cool and out of the weather. Source Inc. has a solution for an outdoor enclosure that can use the AC terminals on the inverter as a power source.

2. Modem

INDOOR	
ITEM	PART NUMBER
Cell Modem	IX10-00G4 (\$250)
+ Power Supply	76002117 (\$20)
+ Antennas	2 - 76002103 (\$20)

OUTDOOR	
ITEM	PART NUMBER
Cell Modem Outdoor Kit	GP_Fronius_IX10 (\$674)

Note: The Outdoor kit comes with the device mounted in a NEMA3x enclosure, and a way to power the device via the inverter.



Indoor Kit pictured above Cell Modem IX10-00G4, Power Supply 76002117, Antenna 76002103 (2 needed).

Remote Access: Digi Remote is a cloud-based system that allows remote updates of the firmware on the Digi device, as well as monitoring, configuration, notification of error conditions, and fleet management functions. The licenses are in 1-year increments to 5 years and include additional warranty benefits. Please contact Source Inc. to answer any questions about remote access and pricing information.

Service Providers: The modem uses SIM cards in two available slots from the major service providers. Both SIM card slots can be used and configured for fail-over. See the following page and contact Source Inc. for data plan pricing, which is available when the Digi cell modem is purchased from Source Inc.

Cell Network Coverage: If the cell signal is very weak, a directional antenna may help in acquiring an acceptable signal level. There is a separate Fronius whitepaper on overcoming weak cell signals. The data plan available from Source Inc. uses the Verizon network, which has the best coverage in the USA. Fronius USA and suppliers for these devices are not responsible or liable for the cellular signal on site.

3. Data plan introduction

After deciding which hardware is needed, there is one basic decision to make when purchasing a cell modem data plan for a solar installation. Do I need archive data only, or do I want full functionality like a broadband internet connection? After the decision is made, the information below will help you pick a plan that is based on the number of inverters attached to the cell modem.

When purchasing the hardware through Source Inc. special data plan pricing is available. They will install the SIM card and activate the service, so it is ready to install when it arrives. The cell modem must be purchased from Source Inc. to be eligible for the data plan pricing below. No calling to activate a plan on site is required! When purchasing the data, it is required to buy 5 years' worth of data upfront.

4. Archive-only data

The Datamanager 2.0 card available on the Fronius Symo and Fronius Primo inverters can be set to a minimum of collecting one data point every 15 minutes and to sending the data once a day to Fronius Solar.web. Status code information will also be sent to Solar.web with minimal data usage, so notifications of a potential issue is a bonus, even with a minimal data plan. Typically, the Datamanager can be configured to collect data points every 5 minutes, giving better accuracy and sending that data 1 to 4 times a day (along with status codes). As the name implies, it is archive (historical) data only, which means NO live data and NO firmware updates.

The archive-only pricing structure available through Source Inc. is below and is dependent upon the number of inverters. The data limits were calculated for collecting data points every 5 minutes and sending the data 4 times a day. The Fronius Datamanager connects one cell modem and is limited to 100 inverters. If you have a site with more than 100 inverters, 2 cell modems will be needed.

ARCHIVE-ONLY DATA (4X PER DAY) *				
Number of inverters	Tier	Data allowance/month	Price/month	Price for 5 years
1-4	1	10MB	\$3.00	\$180.00
5-19	1	25MB	\$6.00	\$360.00
20-52	1	50MB	\$8.00	\$480.00
53-100	1	100MB	\$12.00	\$720.00

5. NORMAL OPERATION DATA

The Digi cell modem can provide enough data through-put for live data and normal Solar.web use, provided the cell signal is strong enough. However, more data is required for the data plan. The data limits are also dependent on the number of inverters in the system. Below is the pricing structure available through Source Inc.

NORMAL OPERATION DATA *				
Number of inverters	Tier	Data allowance/month	Price/month	Price for 5 years
1-2	1	50MB	\$8.00	\$480.00
3-15	1	100MB	\$12.00	\$720.00
16-52	2	250MB	\$20.00	\$1,200.00
53-100	2	500MB	\$25.00	\$1,500.00

*The above data plans were calculated using a single Datamanager for every 52 inverters.

6. Details on the cellular data plan

The tiers for the data plan are such that all the data plans purchased in the same tier are pooled together. For example, if you purchase 5 of the 10MB plan and 2 of the 50MB plan (all in tier 1) then you have a total of 150MB (5 x 10 plus 2 x 50) of data for the 7 modems. So, if one goes over, it can use data from one that has data left. All the tier 1 data plans (100MB or less) that are purchased will be in the same pool of data. All the tier 2 data plans (250MB or more) that are purchased will be in the same pool of data. Extra data at the end of the cycle does not roll over to the next data cycle.

Data will be capped at the limit. Once the plan's data limit or the pool's data limit is reached, no more data will be uploaded to Solar.web. The Datamanager card will store the site's archive data until the first day of the new data cycle and then transmit all the stored data at once on its first connection. Please refer to the document on settings for minimal data on the Fronius website.

7. Example pricing

Inverter Qty.	Hardware Part Number	Price	Data	Price Per Month	Total
1 to 4	IX10-00G4 (Indoor bundle)	\$250	10 MB	\$3 (5 Year Plan)	\$ 470.00
	76002117 (Power supply) and 2 - 76002103 (Antennas)	\$40			
1 to 4	Outdoor Kit	\$674	10 MB	\$3 (5 Year Plan)	\$ 854.00
	ATS-181610P-S-L-4T-2CG-BBP-GRND-ANT-KIT				

8. Purchasing and technical support

For purchasing of the cellular device & data plan, please contact Damon Zimmer of Source Inc. at dzimmer@sourceinc.com or 877-747-5252 from 8am to 6pm Central time.

Find information on how to reduce the data of the inverters [here](#) - or contact technical support at 219-734-5500 and ask them to send you the guide title "settings for minimal data".

Technical support for the Digi modem should not be necessary as it comes pre-activated, however if it is deemed necessary, please contact **Digi** at (952) 912-3456.

Technical support for the data plan provider, **CyberReef** is John Langman at john.langman@cyberreef.com or 630-930-8704.

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