Navigation in the Menu Level

Activating display illumination

1 Press any key

The display illumination is activated.

If no key is pressed for 30 seconds, the display backlight goes out (provided that the display illumination is set to automatic in the Setup menu).

The Setup menu also offers a choice between a permanently lit or permanently dark display.

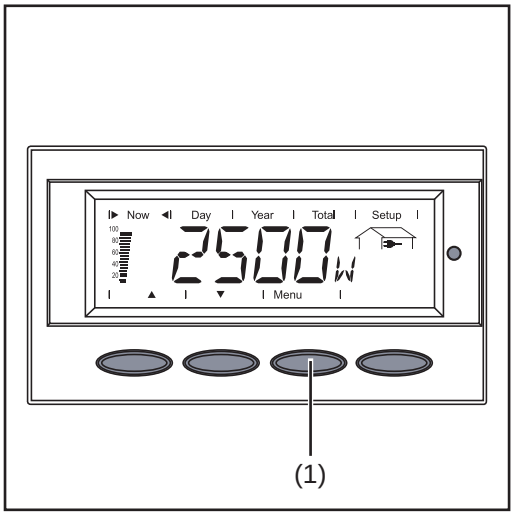
Automatic switch to the "Now" display mode or the startup phase

If no key is pressed for 2 minutes:

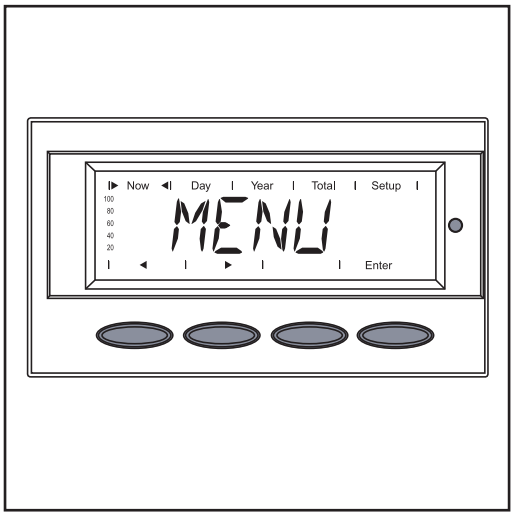
- While power is being fed into the grid, the inverter automatically switches to the "Now" display mode and the present output power is displayed.
- If the inverter is not feeding power into the grid, the inverter automatically switches to the startup phase for synchronization with the grid.

The inverter switches to the "Now" display mode or startup phase from anywhere within the display modes or the Setup menu.

Accessing the Menu Level



1 Press the "Menu" key (1)



"Menu" will appear on the display

The inverter is now in the menu level.

From the menu level you can

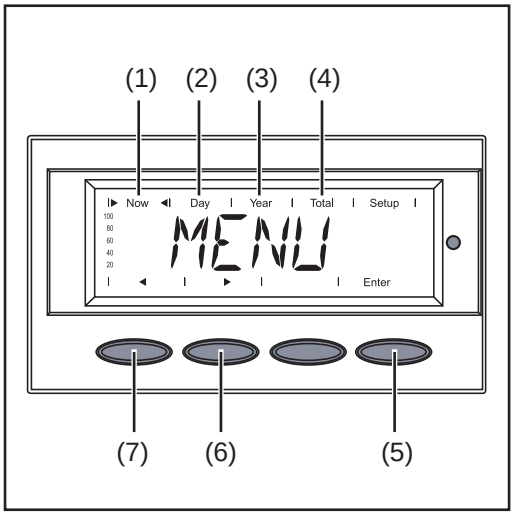
- set the desired display mode
- access the Setup menu

The Display Modes

The Display Modes

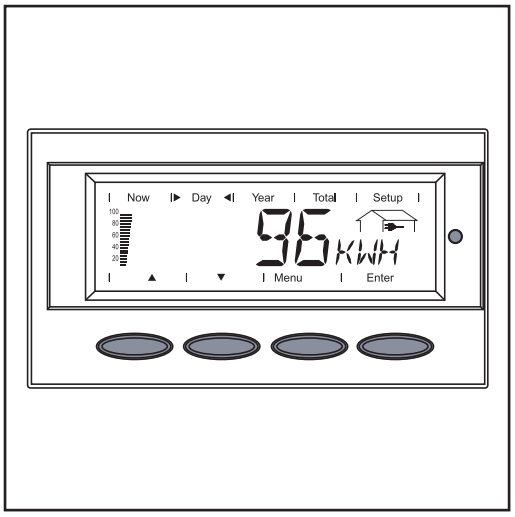
"Now" display mode	.....	Displays real-time values
"Day" display mode	.....	Displays values for power fed into the grid during that day
"Year" display mode	.....	Displays values for the present calendar year - only available in combination with optional Fronius Datalogger
"Total" display mode	.....	Displays values for power fed into the grid since the inverter was started for the first time

Selecting a Display Mode



1. Accessing the menu level
2. Use the "left" (7) or "right" (6) keys to select your preferred display mode (1) - (4)

   ◀ ▶
3. Press "Enter" (5)



The selected display mode is shown, e.g., "Day" display mode.

IMPORTANT! The "Year" menu option is supported only when the optional Fronius Datalogger is connected. This system upgrade includes a real-time clock.

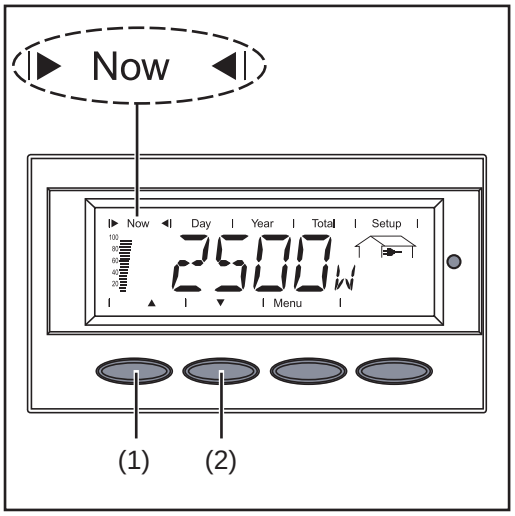
Overview of Display Values

Display mode	Symbol	Unit	Optional	Display value
"Now"		W	-	Output power
		V	-	Grid voltage
		A	-	Output current
		Hz	-	Grid frequency
		V	-	Solar module voltage
		A	-	Solar module current
		Mohm	-	Insulation resistance
		HH:MM	x	Time
"Day"		kWh / MWh	-	Energy fed into the grid
"Year"		Currency	-	Return
"Total"		kg / T	-	CO_2 reduction
		W	-	Max. output power
		V	-	Maximum grid voltage
		V	-	Minimum grid voltage
		V	-	Maximum array voltage
		HH:MM	-	Service hours completed by the inverter

x Optional
If the DatCom component for the required options is not available, the message "N.A." (not available) is shown.

Display Values in "Now" Display Mode

Selecting the "Now" Display Mode



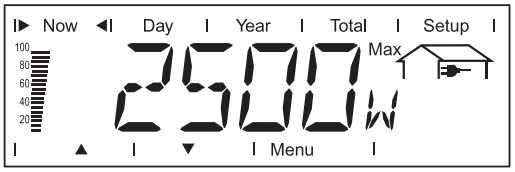
1 Select the "Now" display mode

The first display value in the "Now" display mode appears

2 Use the "Down" (2) key to scroll to the next display value

Scroll back using the "Up" key (1)

Display values in the "Now" display mode



Output power
Power (in watts) currently being fed into the grid

The "Enter" key is active for the output power display if at least one of the following functions is available on the inverter:
- Reactive power mode
- Remote-controlled effective power reduction
- GVPR (**G**rid **V**oltage-dependent **P**ower **R**eduction)

The availability of a function depends on the country setup, device-specific settings and the software version of electronic assemblies.

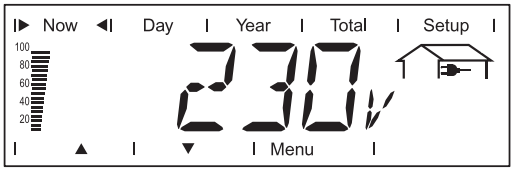
Reactive power mode:
- The current apparent power for the device is displayed in VA by pressing the "Enter" key.
- The current operating mode can be displayed by pressing the "Up" and "Down" keys.

Remote-controlled effective power reduction (if there is a Fronius Power Control Box/ Card in the Solar Net and a power reduction has been triggered by the utility company):
- Pressing the "Enter" key will display the power reduction as a percentage.
- You can display how long the power reduction has been in effect by pressing the "Up" and "Down" keys.

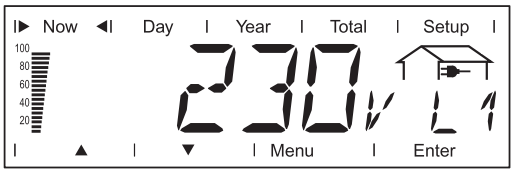
GVPR:
- Pressing the "Enter" key will display the activation time in SEC/GVPR (alternating).

You can use the "Up" and "Down" keys after pressing the "Enter" key to scroll through the existing parameters.

- You can return to the menu level by pressing the "Menu" key.

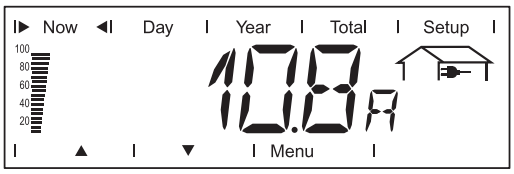


For example, phase voltage for phase L1:

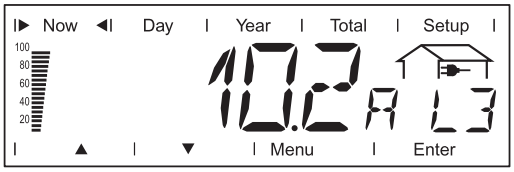


Grid voltage
External conductor voltage (volts)

The "Enter" key is active for multi-phase inverters.
- The phase voltage can be displayed by pressing the "Enter" key.
- The phase voltage of the other phases can be displayed by pressing the "Up" and "Down" keys.
- You can return to the menu level by pressing the "Menu" key.

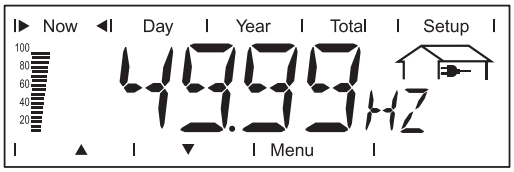


For example, phase current for phase L3:

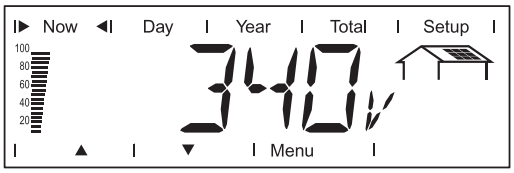


Output current
Current (in amperes) supplied to the grid at any particular moment

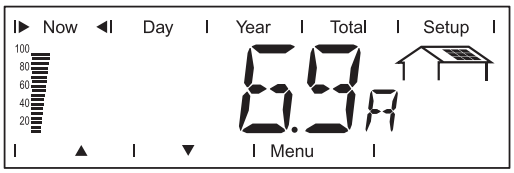
The "Enter" key is active for multi-phase inverters.
- The phase current can be displayed by pressing the "Enter" key.
- The phase current of the other phases can be displayed by pressing the "Up" and "Down" keys.
- You can return to the menu level by pressing the "Menu" key.



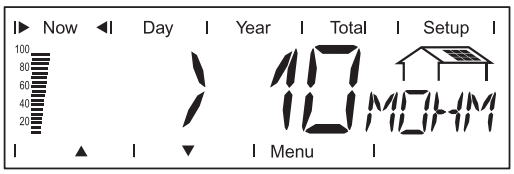
Grid frequency
(hertz)



Solar module voltage
Voltage of the solar modules at the moment of data display (volts)



Solar module current
Current supplied by solar modules at the moment of data display (amperes)



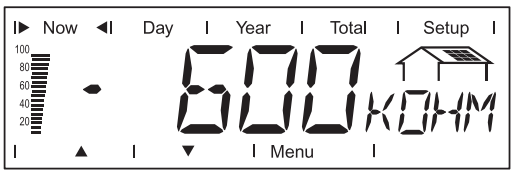
Insulation resistance of photovoltaic system
(MOhm)
For ungrounded solar modules

WARNING! An electric shock can be fatal. The positive and negative poles of the photovoltaic system should never be touched if the insulation resistance is less than 600 kOhm. An insulation resistance of < 600 kOhm may be due to an inadequately insulated DC lead or defective solar modules. In the event that the insulation resistance is too low, you must contact your Fronius service partner.

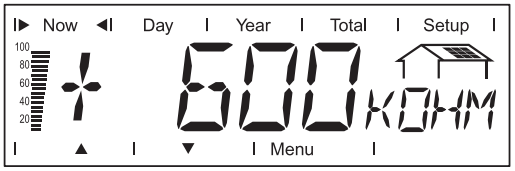
The insulation resistance is the resistance between the positive or negative pole of the photovoltaic system and the earth potential. If an insulation resistance of > 600 kOhm is shown, this means that the photovoltaic system is adequately insulated.

An insulation resistance of less than 600 kOhm indicates an error.

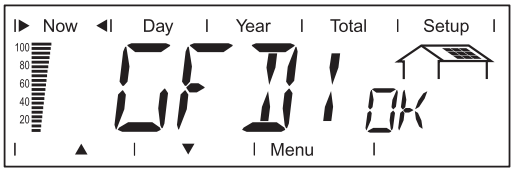
When the insulation resistance is less than 10 MOhm, the display differentiates between:
- negative potential of the ground (polarity sign '-')
- positive potential of the ground (polarity sign '+')



Display example of a negative potential (polarity sign '-')
Short circuit between DC- lead and ground

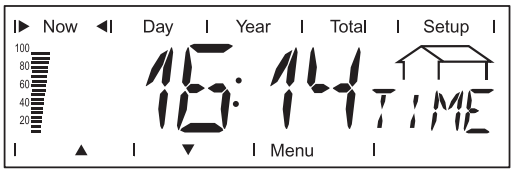


Display example of a positive potential (polarity sign '+')
Short circuit between DC+ lead and ground



GFDI status
for grounded solar modules
'GFDI OK' is displayed if there is no ground fault in the system

GFDI = Ground Fault Detector Interruptor



Time (datalogger option)
When the time on the inverter or a system add-on is changed, this changes the time on all devices connected via Solar Net.

Options

If the DatCom component for the required options is not available, the message "N.A." (not available) is shown.

Display Values in "Day / Year / Total" Display Modes

General

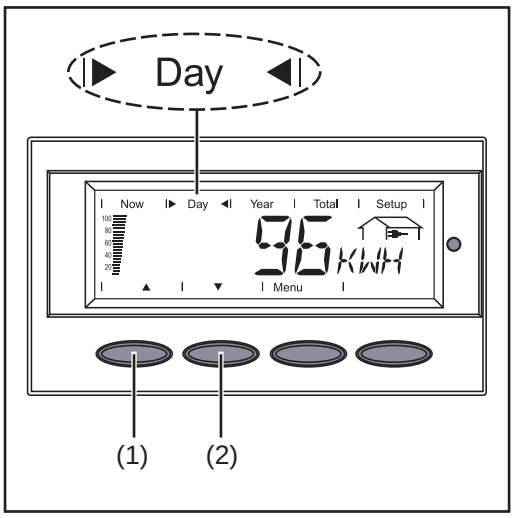
For the inverter, the day begins when it switches on. If the DC supply line is disconnected, the following parameters within the "Day" display mode will be reset after repeating the startup:

- Return (currency can be selected)
- CO_2 reduction (kg)
- Maximum output power (watts)
- Maximum grid voltage (volts)
- Minimum grid voltage (volts)
- Service hours completed by the inverter

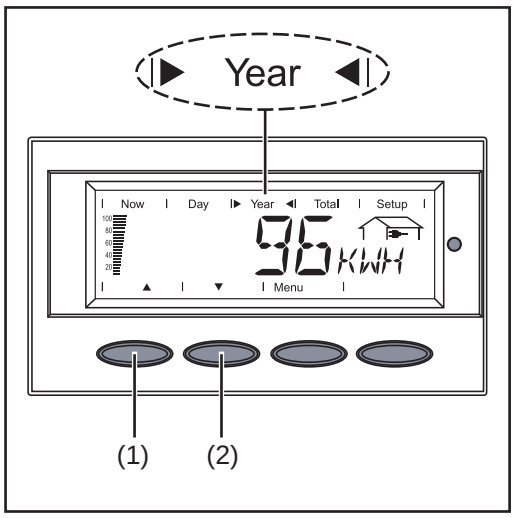
If an optional Fronius Datalogger is available, the display values listed always apply to the whole day.

Selecting "Day / Year / Total" Display Mode

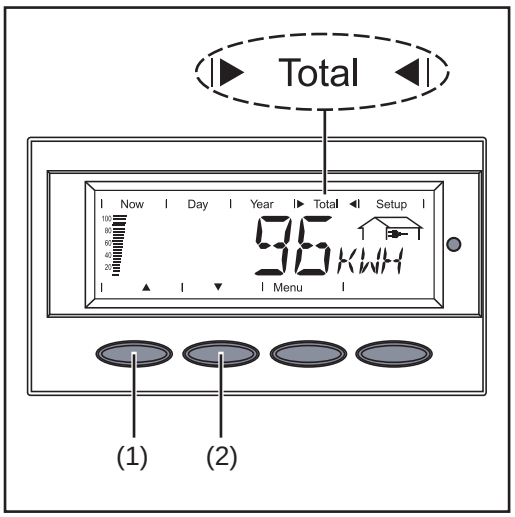
First Display Value in the "Day" Display Mode:



First Display Value in the "Year" Display Mode:



First Display Value in the "Total" Display Mode:



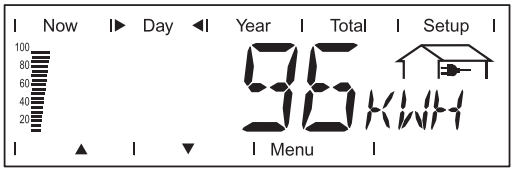
1 Select the "Day" or "Year" or "Total" display mode

The first display value in the selected display mode appears.

2 Use the "Down" (2) key to scroll to the next display value

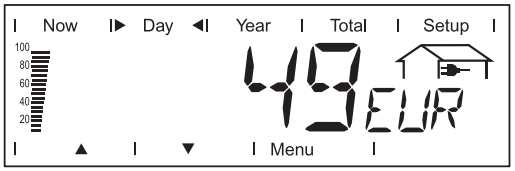
Scroll back using the "Up" key (1)

Display values in the 'Day / Year / Total' display modes



Output energy
Energy fed into the grid over the period of time in question (kWh / MWh)

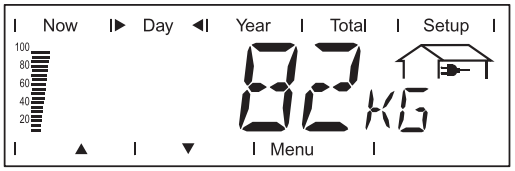
Due to the variety of different monitoring systems, there can be deviations between the readings of other metering instruments and the readings from the inverter. For determining the energy supplied to the grid, only the readings of the calibrated meter supplied by the electric utility company are relevant.

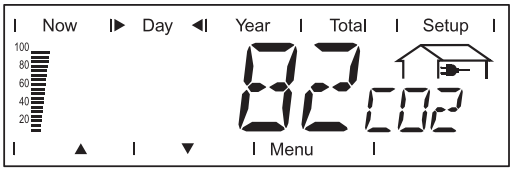


Yield
Amount of money earned during the period of time in question (currency can be selected in the Setup menu)

As was the case for the output energy, readings may differ from those of other instruments.

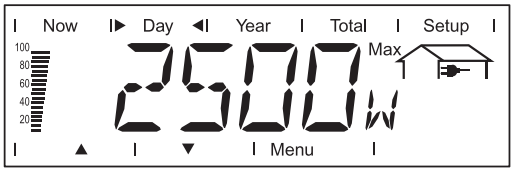
'The Setup menu' section describes how to set the currency and rate for the output energy. The factory setting depends on the respective country-specific setting.



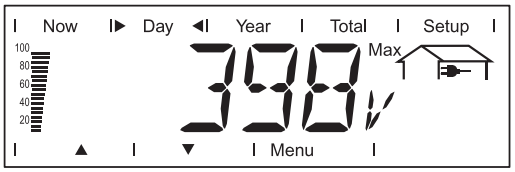


CO2 reduction
CO2 emissions saved during the monitored period
(kg / T; T = tons)
The area for unit display switches between ‘kg’ or ‘T’ and ‘CO2.’

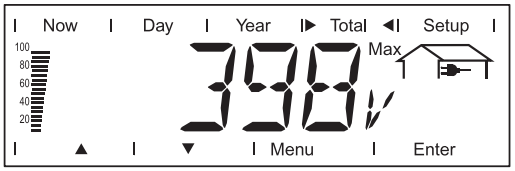
The CO2 meter gives an indication of CO2 emissions that would be released during the generation of the same amount of electricity in a combustion power plant.
The factory setting is 0.59 kg / kWh (source: DGS - the German Society for Solar Energy).



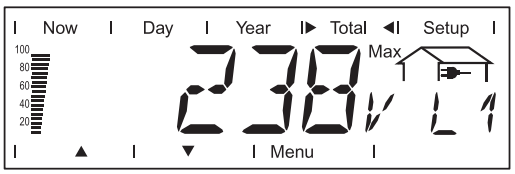
Maximum output power
Highest output power of the inverter during observation period (watts)



Maximum grid voltage
Highest reading of grid voltage (V) during observation period

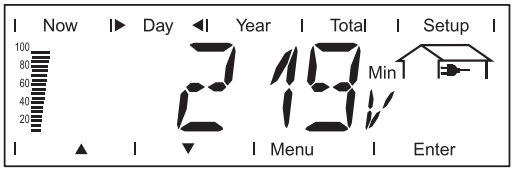


For example, maximum phase voltage for phase L1:

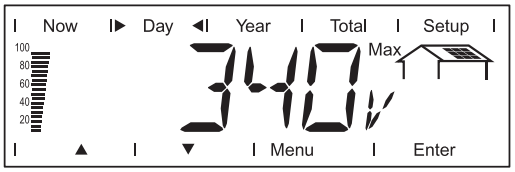


The 'Enter' key is active in the 'Total' display mode depending on the country set-up or the device-specific settings.

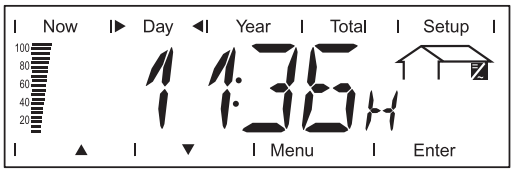
- The maximum phase voltage measured during the time in question can be displayed by pressing the 'Enter' key.
- The maximum phase voltage of the other phases measured during the time in question can be displayed by pressing the 'Up' and 'Down' keys.
- You can return to the menu level by pressing the 'Menu' key.



Minimum grid voltage
Lowest reading of grid voltage (V) during observation period



Maximum solar module voltage
Highest reading of solar module voltage (V) during observation period



Operating hours
Indicates how long the inverter has been operating
(HH:MM)

Duration of operation is shown in hours and minutes up to 999 h and 59 min (display: ‘999:59’). After that only full hours are displayed.

Although the inverter does not operate during the night, all sensor data are recorded around the clock.

Options

If the DatCom component for the required options is not available, the message "N.A." (not available) is shown.