

AEG INVERTER TROUBLESHOOTING INFORMATION

Product series: AEG grid-tied single-phase AS-IR01 and AS-IR01-2
and three-phase solar inverters AS-IC01 and AS-IC01-2

Thank you for choosing the reliability of AEG solar inverters!

This Troubleshooting Manual is meant to provide immediate support when you are dealing with issues that might arise during the standard operation of your solar inverter and a guidance on which information you should have at hand for ensuring that our Service can support you in the quickest and most efficient way.

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1. Supported Products

This guide applies to the following products supported at the time of writing:

Single-Phase grid-tied solar inverters of the series AS-IR01 and AS-IR01-2

Three-Phase grid-tied solar inverters of the series AS-IC01 and AS-IC01-2

2. Which information will you need to provide to the Service?

You will need to provide Your supplier / Solar Solutions Service relevant information concerning your inverter (such as the model, serial number, system version) and the fault occurring (fault code and description). Such information is detailed in section 3.1 “What to do in case of inverter malfunction”. Further, you will be required personal information and contact data (name, surname, phone, mail) so that our Service can better reach you when processing your request.

3.1 What to do in case of inverter malfunction

Please contact your installer / distributor and provide the following information:

No.	Item	Instruction
1	Inverter model	(example: AS-IC01-10000-2)
2	Inverter serial number	(example: T140900045)
3	Inverter system version	Version 1 (example.: V1.10.12)
		Version 2 (example.: V1.10.12)
		MCU version (example.: V1.08.09)
4	Fault code	(example: A004 / Grid OV; see section 3.1 and 3.2 below)
5	Simple fault description	The relevant information can be checked in the system menu of the inverter from the LCD display and/or from other components. See section 3.1 and 3.2 below.

Your installer / distributor will be in touch with Solar Solutions concerning the smoothest way to solve your problem. Should Solar Solutions suggest that the inverter should be replaced, you will be required provide the following information:

No.	Item
1	Inverter serial number / Software version / Customer information
2	Fault code / Simple description of the fault
3	PV panel Vmp ,Imp ,Ocv ,Isc, °C etc
4	Pv panel connection mode (string type and parallel type)
5	Inverter on-site picture / Fault information showing on the LCD display / Monitoring parameter pictures / V-pv1, V-pv2, I-pv1, I-pv2

3. Fault Code and Analysis

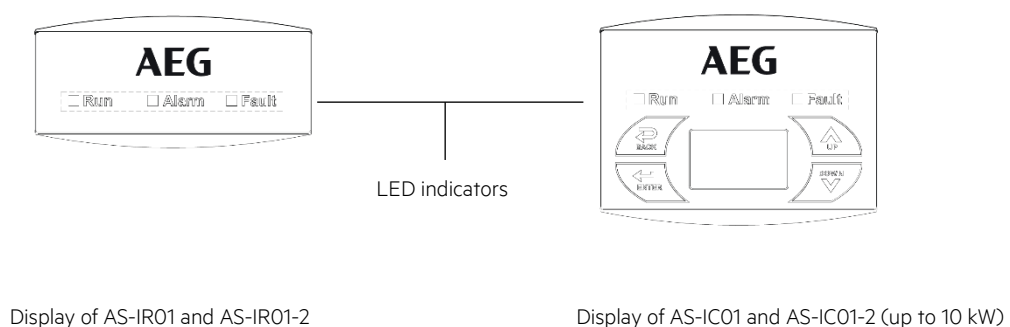
3.1 Where to find the fault codes

If faults are occurring at inverter level, you will be able to track the related fault code from:








1. The LED indicator sequence on the inverter display
2. The LCD display
3. The AEG InverterControl app (connected to the WiFi Stick AEG WiFi200)
4. The External Display.

3.1.1 The LED indicator sequence on the inverter display

Single-phase inverters AS-IR01 and AS-IR01-2, as well as three-phase inverters AS-IC01 and AS-IC01-2 (up to 10 kW, that is model AS-IC01-10000-2 included) feature LEDs on the display as shown in the figure below.



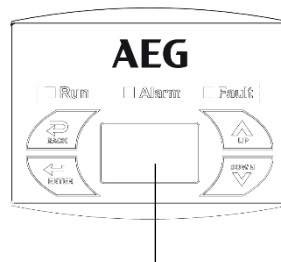
The LED indicators have the following possible status:

-  No light (off)
-  Green light (on)
-  Blinking green light
-  Yellow light (on)
-  Blinking yellow light
-  Red light (on)
-  Blinking red light

In paragraph “2.2. Interpreting the fault codes” the *LED indicator color sequence* for each specific error is provided along with the error explanation.

3.1.2 The LCD display

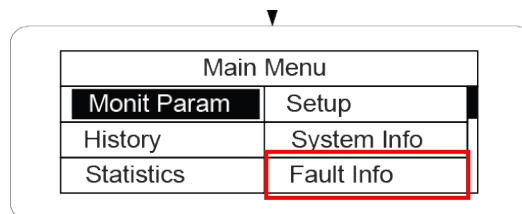
Three-phase inverters AS-IC01 and AS-IC01-2 feature by default an LCD display, whereas it is an optional feature for single-phase inverters AS-IR01 and AS-IR01-2.



LCD display

LCD display mode for AS-IC01 and AS-IC01-2 up to 10 kWp

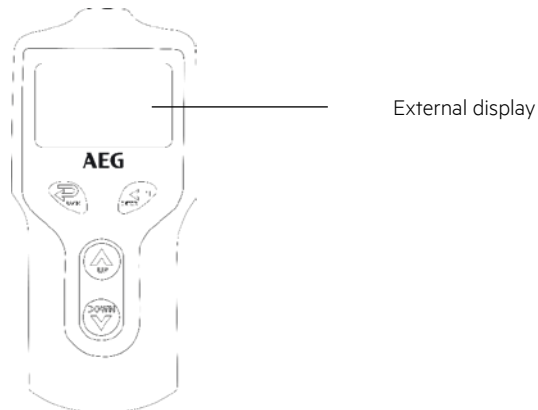
To find the Error codes select on the LCD display: *Main Menu → Fault Info → Fault*



2.2.3 The External Display

Preliminary requirement: the External Display is an optional component and needs to be connected to the Inverter.

In the external display, select: *Main Menu* → *Fault Info* → *Fault*



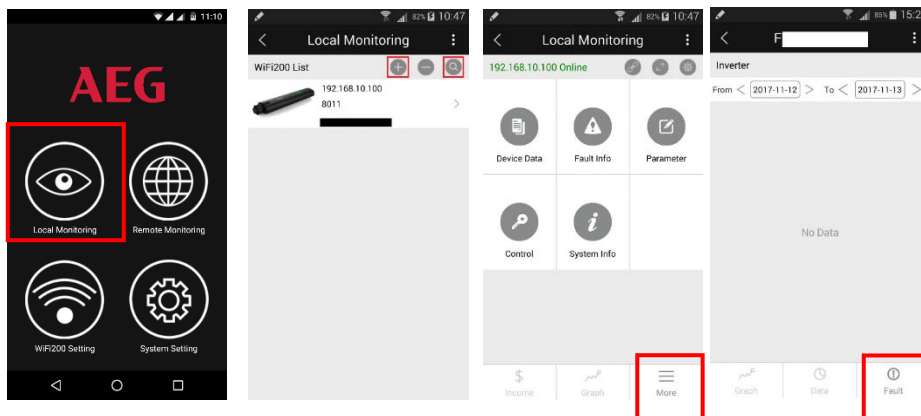
3.1.3 The AEG InverterControl app



Preliminary requirement: the WiFi Stick (AEG WiFi 200) should be connected to the inverter and matched with the monitoring app AEG InverterControl for iOS and Android, available respectively on the Mac App Store and Google Play (Please refer to the AEG WiFi200 installation guide).

Within the AEG InverterControl app, select “**Local Monitoring**”:

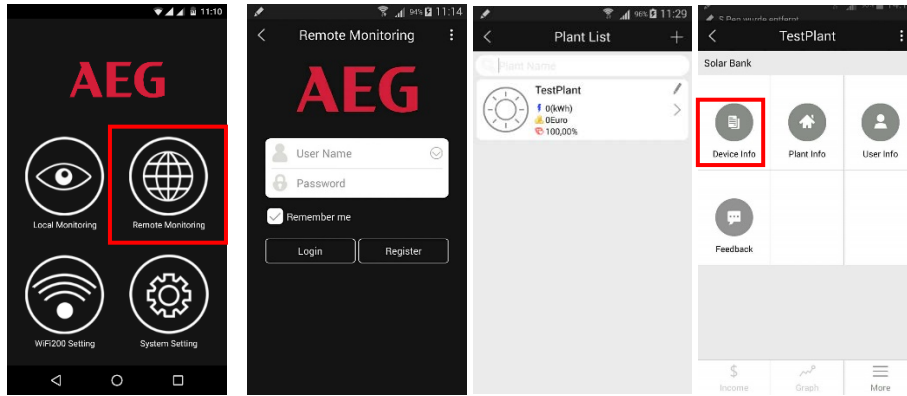
→ WiFi200 List → Select from the list clicking on either the lens or the + icon → Select the WiFi stick from the list → Click on More → Click on → Fault



OR:

Within the AEG InverterControl app, select “Remote Monitoring”.

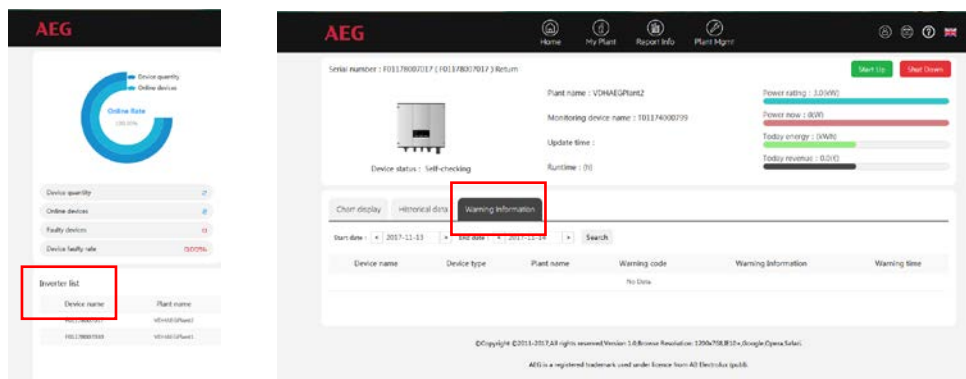
Log in → Select your plant → click on Device Info → Select the WiFi stick from the list → Here you will find the Inverter with the related serial number. → Click on Fault



3.1.4 The AEG InverterControl Monitoring WebPortal

Preliminary requirement: monitoring with AEG InverterControl Monitoring WebPortal is accessible when the installation was configured for remote monitoring and the customer has registered his profile and plant.

Open your web browser and digit: www.invertercontrol.com → Log in with your credentials → From the section *Inverter list* please select your inverter from the list by clicking on the serial number of the inverter → Select the tab *Warning Information*



3.2 Interpreting the fault codes

Here below is a scheme listing the fault codes that might be displayed by the inverter, together with the related error message and instructions, and the fault analysis.

Fault code	Message / Instruction / LED indicator	Fault Analysis / Short explanation
A001	Input UV Input undervoltage <input type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault <input checked="" type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault	DC input PV1 undervoltage DC input PV2 undervoltage
A002	Bus UV Bus undervoltage <input type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault	DC input
A003	Grid UV AC undervoltage <input type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault	Low public grid voltage
A004	Grid OV AC overvoltage <input type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault	High public grid voltage
A005	Grid UF AC under-frequency <input type="radio"/> Run <input checked="" type="radio"/> Warn <input type="radio"/> Fault	Low public grid frequency

<p>A006</p>	<p>Grid OF AC over-frequency</p> <p>○ Run ● Warn ○ Fault</p>	<p>High public grid frequency</p>
<p>A007</p>	<p>Clock Fail Clock alarm</p> <p>● Run ● Warn ○ Fault</p>	<p>Clock setting error. Wrong setting</p>
<p>A009</p>	<p>Cmd Shut Manual shutdown</p> <p>● Run ● Warn ● Fault</p>	<p>Operation stopped via LCD display / external display / AEG InverterControl app</p>
<p>A011</p>	<p>Grid Loss The public grid disconnects</p> <p>○ Run ● Warn ○ Fault</p>	<p>Check if the inverter AC connection works</p>
<p>E001</p>	<p>Input OV Input overvoltage</p> <p>● Run ● Warn ○ Fault</p> <p>○ Run ● Warn ○ Fault</p>	<p>DC input overvoltage</p>
<p>E003</p>	<p>Bus OV Bus overvoltage</p> <p>○ Run ○ Warn ● Fault</p>	<p>Internal bus voltage (inverter bus overvoltage)</p>
<p>E004</p>	<p>Boost Fail Voltage-boost fault</p> <p>○ Run ○ Warn ● Fault</p>	<p>Voltage-boost fault of the inverter (inverter boost circuit fail)</p>

<p>E005</p>	<p>Grid OC AC overcurrent</p> <p>○ Run ○ Warn ● Fault</p>	<p>Internal AC overcurrent; inverter hardware and software overcurrent</p>
<p>E006</p>	<p>OTP Overtemperature</p> <p>● Run ● Warn ○ Fault</p> <p>○ Run ● Warn ○ Fault</p>	<p>Inverter internal overtemperature</p>
<p>E007</p>	<p>Riso Low Low isolation impedance</p> <p>○ Run ○ Warn ● Fault</p>	<p>Low insulation impedance of the external port system (low outer interface insulation resistance of the inverter)</p>
<p>E008</p>	<p>IGBT drv IGBT drive protection</p> <p>○ Run ○ Warn ● Fault</p>	<p>Inverter IGBT drive protection</p>
<p>E009</p>	<p>Int Comm Internal communication fault</p> <p>○ Run ○ Warn ● Fault</p>	<p>Master-slave DSP communication disabled. Error of master-slave DSP check bit and data checkout fails.</p>
<p>E010</p>	<p>ILeak Fail Huge current leakage</p> <p>○ Run ○ Warn ● Fault</p>	<p>Huge current leakage from the PV plant or from the inverter</p>
<p>E011</p>	<p>Relay Fault Relay fault</p> <p>○ Run ○ Warn ● Fault</p>	<p>Internal relay fault</p>

E012	Fan Fail Fan fault <input checked="" type="radio"/> Run <input type="radio"/> Warn <input type="radio"/> Fault	Internal fan fault
E013	Eeprom Memory error <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	Internal memory error
E014	Dc inject High DC injection <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	High DC injection during AC output
E015	Output Short Output short-circuit <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	AC output short-circuit
E018	Input OC Input overcurrent <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	DC input overcurrent
E019	Incnst Data consistency fault <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	Inconsistent grid voltage, frequency, leakage current or AC/DC injection
E020	PowerReversed DC power reversed <input type="radio"/> Run <input type="radio"/> Warn <input checked="" type="radio"/> Fault	DC power reversed

4. Contacts

Should you need assistance with the operation of your AEG inverter, please contact our AEG Inverter Support Team:

Solar Solutions GmbH
Schneckenhofstrasse 19
60596 Frankfurt am Main
Germany
www.aeg-industrialsolar.de

Technical Support:

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