

## EARTH FAULT ALARM COMPLIANCE STATEMENT (AS/NZS 5033:2021 – Photovoltaic Arrays)

Applicable Product Series: IS-HYB-1PH, IS-HYB-3PH, IS-INV-3PH Grid-Connected Inverters

This statement confirms that the above inverter series' incorporates earth fault detection and alarm functionality in accordance with the requirements of AS/NZS 5033:2021 for PV systems.

The iStore inverter series incorporates:

- Integrated insulation resistance monitoring for continuous detection of DC earth faults
- Automated detection of abnormal insulation conditions between PV string conductors and earth fault detection in accordance with inverter safety standards (IEC 62109)

Local Indication:

- Visual alarm via inverter LED indicators
- Fault code in HiSolar App identifying low insulation resistance

Remote Monitoring Notification (where applicable):

- Alarm notification via Univers monitoring platform (app + web portal)
- Alarm communication via iStore WLAN Smart Dongle (if installed)

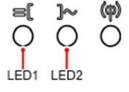
If an Earth Fault Alarm occurs, LED 1 and LED 2 will go red and fault code will occur in both HiSolar (local app) and Univers (remote app). After the **Low insulation resistance** alarm is reported by the inverter, insulation resistance fault location is automatically triggered. If the fault location is successful, the location information is displayed on the **Alarm details** screen of the **Low insulation resistance** alarm on the HiSolar app. Log in to the HiSolar app, choose **Alarm > Active alarm**, select **Low insulation resistance** to enter the **Alarm details** screen.

Further information is in the installation manual under section: **Locating Insulation Resistance Faults**

The fault and alarm ID is depicted in the following table:

Alarm ID	Alarm Name	Alarm Severity	Possible Causes	Troubleshooting
2062	Low Insulation Resistance	Major	Cause ID = 1 <ul style="list-style-type: none"> <li>• A short circuit occurs between the PV array and the ground.</li> <li>• The ambient air of the PV array is damp and the insulation between the PV array and the ground is poor.</li> </ul>	<ol style="list-style-type: none"> <li>1. Set <b>Insulation resistance protection</b> to the minimum value and restart the inverter.</li> <li>2. Check that the PE cable of the device is correctly connected.</li> <li>3. Check the output impedance of the PV array to ground. If there is a short circuit or lack of insulation, rectify it.            Current insulation resistance: x MΩ, possible short circuit position: x%. The short circuit position is valid for a single PV string. If there are multiple PV strings, check the PV strings one by one. For details, see <a href="#">8.6 Locating Insulation Resistance Faults</a>.</li> </ol>

**Table 7-1 LED indicators**

Category	Status		Description
Running indication 	<b>LED1</b>	<b>LED2</b>	-
	Steady green	Steady green	The inverter is running in grid-tied state.
	Blinking green slowly (on for 1s and off for 1s)	Off	The DC is on and the AC is off.
	Blinking green slowly (on for 1s and off for 1s)	Blinking green slowly (on for 1s and off for 1s)	Both the DC and AC are on, and the inverter is off-grid.
	Off	Blinking green slowly (on for 1s and off for 1s)	The DC is off and the AC is on.
	Steady yellow	Steady yellow	The inverter is running in off-grid state.
	Blinking yellow slowly	Off	The DC is on and the inverter has no output in off-grid state.
	Blinking yellow slowly	Blinking yellow slowly	The inverter is in off-grid overload state.
	Off	Off	Both the DC and AC are off.
	Blinking red fast (on for 0.2s and off for 0.2s)	-	There is a DC environmental alarm, such as <b>String Voltage High, String Reverse Connection, or Low Insulation Resistance.</b>
-	Blinking red fast (on for 0.2s and off for 0.2s)	There is an AC environmental alarm, such as <b>Grid Undervoltage, Grid Overvoltage, Grid Overfrequency, or Grid Underfrequency.</b>	
Steady red	Steady red	A fault exists.	

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 for and on behalf of iStore

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