DATASHEET

Three-Phase Hybrid/AC Inverter

H3-5.0 / 6.0 / 8.0 -E

AC3-5.0 / 6.0 / 8.0 -E

H3-10.0-E1 / AC3-10.0-E1

3-PHASE

HYBRID/AC **INVERTER**

Harness the power of the sun day and night with the ground-breaking range of Hybrid & AC inverters from Fox ESS.

Full of advanced features and compatible with our very own range of high-voltage batteries, the hybrid range from Fox ESS. It is a new class of Inverter.

Fox ESS storage solutions are available with advanced and intuitive app based remote control and monitoring functionality.

Easy Installation

Flexible configuration, plug and play set-up, built-in fuse protection.

High Voltage

Includes high-voltage batteries for maximum round-trip effciency.

IP65 Rated

Engineered to last with maximum flexibility. Suitable for outdoor installation.

Remote Monitoring

Monitor your system remotely via smartphone app or web portal.

REFINED - POWERFUL - FLEXIBLE

BATTERY EXPANSION

EASY UPGRADE

Easily expand your system by just add extra batteries. There are three battery series you can choose, which enables a storage capacity of up to 33.24 kWh. There are Max. 10 storage inverters can be connected in parallel to allow you enlarge the system scale base on different installation requirement.

For more about the Fox ESS range, visit:

WWW.FOX-ESS.COM

TECHNICAL SPECIFICATIONS

Model	H3-5.0-E AC3-5.0-E	H3-6.0-E AC3-6.0-E	H3-8.0-E AC3-8.0-E	H3-10.0-E1 AC3-10.0-E1
INPUT PV (only for hybrid)				
Max. Input Power [W]	7500	9000	10400	13000
Max. Input Voltage [V]			1000	
Start-up Input Voltage [V]			160	
Rated Input Voltage [V]			720	
MPPT Operating Voltage Range [V]			160 ~ 950	
Max. Input Current [A]	14/14	14/14	26/14	26/14
Max. Short-circuit Current [A]	16/16	16/16	32/16	32/16
No. of Independent MPP Trackers			2	
No. of Strings per MPP Tracker	1/1	1/1	2/1	2/1
BATTERY CONNECTION				
Battery Type			Lithium Battery (LFP)	
Battery Voltage Range [V]			180 ~ 600 [1]	
Max. Charge/Discharge Current [A]			26.0	
Communication Interface			CAN(Communicate with inverter), RS485 (Upgrade BMS)	
AC INPUT AND OUTPUT (GRID)				
Max. AC Input Power [VA]	10000	12000	16000	16000
Max. AC Input Current (per phase) [A]	15.2	18.2	24.2	24.2
Rated Output Power [W]	5000	6000	8000	10000
Max. Output Apparent Power [VA]	5500	6600	8800	10000
Rated Output Current (per phase) [A]	7.2	8.7	11.6	14.5
Max. Output Current (per phase) [A]	8.0	9.6	12.8	16.0
Rated Grid Voltage [V]			230/400	
Rated Grid Frequency [Hz]			50/60	
Power Factor			1 (Adjustable from 0.8 leading to 0.8 lagging)	
THDI [%]			<3 @Rated Power	
EPS OUTPUT				
Max. Output Apparent Power [VA]	5000	6000	8000	10000
Peak Output Apparent Power (60s) [VA]	10000	12000	14000	15000
Max. Current (per phase) [A]	15.2	18.2	21.2	22.7
Rated Output Voltage [V]			230/400	
Rated Output Frequency [Hz]			50/60	
Power Factor			1 (Adjustable from 0.8 leading to 0.8 lagging)	
THDv (linear Load) [%]			<3 @Rated Power	
Switch time [ms]			<20	
EFFICIENCY				
Euro Efficiency [%]			97.30	
Max. Efficiency [%]			97.80	
Max. Battery Charge Efficiency (PV to BAT) (@full load) [%]			98.50	
Max. Battery Discharge Efficiency (BAT to AC) (@full load) [%]			97.00	
PROTECTION				
Insulation Monitoring			YES	
Residual Current Monitoring			YES	
DC Reverse Polarity Protection			YES	
Anti-islanding Protection			YES	
AC Short-circuit Protection			YES	
AC Overcurrent/Overvoltage Protection			YES	
DC Switch			YES	
SPD			DC: Type II, /AC: Type II	
AFCI			Optional	
GENERAL DATA				
Dimensions (WxHxD) [mm]			449*519*198	
Weight [kg]			28	
Installation			Wall-Mounted	
Topology			Non-isolated	
Cooling Method		Natural		FAN Cooling
Noise Emission [db]		35		45
Max. Operating Altitude [m]			2000	
Operating Temperature Range [°C]			-25 ~ 60	
Humidity (No Condensation) [%]			0 ~ 100	
Protection Degree			IP65	
Standby consumption [W]			＜15	
Monitoring Module			WiFi, LAN, 4G, GPRS (Optional)	
Communication			2*RS485, DRM, Ripple Control, USB	
Display			LCD, App, Website	
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)				
Safety			EN 62109-1, EN 62109-2, EN 62477-1	
EMC			IEC 61000-6-1, IEC 61000-6-3	
Grid Regulation			C10/11	

* More technical characteristics are avaliable on demand and customized.

[1] Minimum operation battery voltage is 120V.

UK & Ireland Fox Warranty Policy (Inverters & Chargers)

i. Scope of Warranty

Fox provides the following limited and extended warranty for inverters and charge controllers (herein referred to as the Product(s) unless explicitly stated otherwise) produced/provided by Fox. Fox under its own discretion has the right to decline the replacement of the device if the terms and conditions on the Policy is breached. This Fox Warranty Policy (herein referred to as the Policy) is applicable in all the countries where the product is sold through recognised Fox partners. The Product(s) included in this Policy are:

S Series, E Series, F Series, T Series, G series, U series, K series, R series, Hybrid Series, AC Series, AIO Series

Important:

Please note, this warranty policy covers Fox Products as specified herein. Where batteries are supplied separately with a Fox inverter or charger please refer to the relevant warranty policy document. This warranty is limited to the Fox inverter/charger range only and does not cover any external or ancillary parts. Any ancillary parts or add-on devices supplied by Fox may be covered by a separate warranty policy.

This Policy shall not be held as a guarantee of the product durability nor does it include any product ability.

This Policy is limited only to the parties listed as per section 2. **ii.**

ii. Contracting Parties

This Policy is only provided to the original purchaser of the product from Fox (Purchaser), where the Purchaser is a distributor, solar retailer or an accredited electrician (Installer), who on-supplies the product to another party, or to that other- party (End-User) where the product is installed.

iii. Warranty Period and Warranty Extension

The Policy provides warranty cover as outlined below:

Standard Warranty

The Product will be free from defects in materials and workmanship for a period of sixty(60) months from the date of installation, but no more than sixty-five (65) months from the date of manufacture of the Product (whichever comes first).

Free Warranty Extension

If the registration of the Product (see section 7) is successfully completed via the Fox website before the end of thirty-six (36) months from the date of manufacture of the Product, an additional sixty (60) months of warranty will be provided beyond the sixty (60) standard warranty period.

Note: Free warranty extension does not available for AIO series.

FoxPro (Extended Warranty)

The Product may be eligible for a warranty extension (*FoxPro Warranty*) of an additional sixty (60) or one-hundred and twenty (120) months. The *FoxPro* warranty extension is available for purchase up to thirty-six (36) months from the commissioning date of the Product. For full warranty coverage beyond the standard warranty period of sixty (60) months, the Product may be eligible for a warranty extension (*FoxPro Warranty*) of an additional one hundred and eighty (180) months. The *FoxPro* warranty extension is available for purchase up to thirty-six (36) months from the commissioning date of the Product.

On account of the product being replaced, the unexpired warranty is transferred to the replacement product, applicable to both the standard and extended (*FoxPro*) warranty. Note: FoxPro warranty do not available for AIO series.

iv. Policy Claim Eligibility

The only person(s) eligible to claim warranty under this contact are the Installer and Fox authorized personnel. If the Installer has gone into administration or insolvency or if the site is in a remote area, the End-User/Installer at their discretion and expense may appoint a Local Installer to carry out the functions of the original Installer. Eligibility of a Service Rebate is in accordance with sections 5 and 6 of this Policy.

v. Limited Liability

In the event of damages related to the causes listed below, no warranty claims will be acknowledged or accepted. Claims that relate to defects that are caused by the following factors are not covered by Fox's warranty obligations:

- Inadequate ventilation and circulation resulting in minimized cooling and natural air flow;
- Improper installation of the Product(s) and/or installation performed by a non-accredited Installer;
- Improper or noncompliant use, installation, commissioning, start up or operation;
- Improper wiring of the Product causing arching or damage of the Product or its parts;
- Improper use or misuse of the Product(s) by the Installer or End-User e.g. damage resulting from dropping the Product during installation;
- Use of improper connectors, e.g. where the Installer has installed the Product with different brand and/or model of connectors other than those supplied with the Product;
- Damage of the Product(s) that originate from other parts of the system;
- Force majeure (storm damage, lightning strike, overvoltage, fire, thunderstorm, flooding etc.)
- Damage that occurred during the transportation of the Product(s);
- Flaws that do not adversely affect the proper functioning of the product(s), e.g. cosmetic issues, wear and tear;
- Unauthorized repair and reinstallation of the Product(s);
- Where the Installer has not followed the warranty claim process and detailed in section 9, and/or proper evidence of the fault and/or test carried out on site has not been provided to Fox;
- Failure to follow the safety regulations and/or operating instructions in respect to the Product(s) operating manual.

Where authorized Fox personnel verify that the claim is valid and the Product is faulty owing to defects from materials and workmanship, Fox under its discretion will:

- repair of the product on site or at a designated Fox office or service centre;
- provide the closest Product within its current range of products for the replacement of the faulty or damaged Product.

The replacement Product(s) may differ in the specification and size within parameters deemed reasonable by Fox. Fox may replace parts with refurbished parts.

vi. Exclusions

This Policy does not cover the components that were not initially sold by Fox as a part of the system. This also includes components of the system sourced by the End-User or Installer that may be of the same manufacturer and/or model as the one provided by Fox.

vii.Registration

It is recommended that all Products are registered in order that they qualify under the terms of this Policy and to qualify for the free warranty extension. Warranties should be registered within thirty-six (36) months of installation, however it is recommended that they are registered no more than six (6) weeks following the successful installation and commissioning of the Product where possible. The information required at the point of registration via the Fox website is as follows:

1. Product model
2. Product serial number
3. Installation date
4. Customer name
5. Installation postal/zip code
6. Full installation address
7. Name of installation company

viii. Warranty Claim Process

It is the duty of the Installer to contact Fox in the event of a fault with the following information.

Name of the Installer:
Product Model No:
Fault Code:

Fault Details:
Contact Details:

Fox may ask for additional details depending on the fault conditions. Fox will run tests on the product and may advise the Installer to take photos for verification purposes. The Installer is required to submit an RMA Form with the evidence and any additional information requested by Fox. Once the form is received a unique ticket number is issued which will be used for tracking the progress of the claim. Fox is obliged to approve and dispatch the Product within 3 working days subject to availability of the product. Once the replacement is completed, the Installer is obliged to arrange the shipping of the faulty product to Fox within a maximum of thirty (30) days of the replacement being received. Failure to do so will forfeit eligibility for the service rebate outlined in section 5.

If an allegedly faulty Product is returned to Fox pursuant to this Policy, and is found by Fox to be free of defects that would qualify it for replacement under this policy, or due to limited liability as stated in section 6, Fox will apply a flat-rate inspection charge for each Product and/or will seek to recover the full costs of the replacement Product.

Note: Any Product replacement has to be approved by Fox in all cases. Any replacement of the Product issued without the consent of Fox will invalidate an associated claim.

ix. Further Rights at Law

In addition to the warranty provided by Fox, the end-user/Installer have statutory rights that will not be limited or replaced by this warranty. The products provided by Fox comes with guarantees that cannot be excluded under United Kingdom consumer law.

Contact Information

Foxess Co., Ltd
8, Xiqin Road, Xinwu District, Wuxi City, Jiangsu Province, China 214000
service@fox-ess.com www.fox-ess.com

G98 Manufacturer Type Test Declaration

We hereby to declare that all products supplied by FOXESS with the below Type Tested reference number will be manufactured and tested to ensure that they perform as stated in the test report, prior to shipment to site and that no site modifications are required to ensure that the product meets all the requirements of EREC G98.

Inverter module	AIO-H1-3.0 AIO-H1-3.7 AIO-AC1-3.0 AIO-AC1-3.7 AIO-H3-5.0 AIO-AC3-5.0 AIO-H3-6.0 AIO-H3-8.0 AIO-H3-10.0
Manufacturer's reference number	FOXES/03516/V1 FOXES/03517/V1 FOXES/03521/V1 FOXES/03522/V1 FOXES/03511/V1 FOXES/03512/V1 FOXES/03513/V1 FOXES/03514/V1 FOXES/03515/V1
Micro-generator technology	Grid-tied inverter
Manufacturer name	FOXESS CO.,LTD.
Factory address	No.11,Lijiang Road, Xinwu District,Wuxi City, Jiangsu Province,China

Tel	0510-68092998	Fax	
E-mail	info@fox-ess.com	Web site	www.fox-ess.com

Registered Capacity, use separate sheet if more than one connection option.	Connection Option	
	3.0	kW single phase
	3.68	kW single phase
	5.0	kW three phase
	6.0	kW three phase
	8.0	kW three phase
	10.0	kW three phase

Signed		On behalf of	FOXESS CO.,LTD.

Manufacturer's CLS Product Information

This form is available in a Microsoft Word version from the ENA's website.

G100/2 - Form B - Compliance Verification Report for Customer Export or Import Limitation Schemes

This form shall be used by the **Manufacturer** to demonstrate and declare compliance with the requirements of EREC G100. The form can be used in a variety of ways as detailed below:

1. For **Fully Type Tested** status

   The **Manufacturer** can use this form to obtain **Fully Type Tested** status for a **CLS** by registering this completed form with the Energy Networks Association (ENA) Type Test Register.

2. To obtain **Type Tested** status for a product

   The **Manufacturer** can use this form to obtain **Type Tested** status for one or more **Components** which are used in a **CLS** by registering this form with the relevant parts completed with the Energy Networks Association (ENA) Type Test Register.

3. One-off Installation

   The **Installer** can use this form to confirm that the **CLS** has been tested to satisfy the requirements of this EREC G100. This form shall be submitted to the **DNO** before commissioning.

A combination of (2) and (3) can be used as required, together with Form C where compliance of the **CLS** is to be demonstrated on site.

Note:

If the **CLS** is **Fully Type Tested** and registered with the Energy Networks Association (ENA) Type Test Register, Form C shall include the **Manufacturer**'s reference number (the Type Test Register system reference), and this form does not need to be submitted.

Where the **CLS** is not registered with the ENA Type Test Register or is not **Fully Type Tested** this form (all or in parts as applicable) shall be completed and provided to the **DNO**, to confirm that the **CLS** has been tested to satisfy all or part of the requirements of this EREC G100.

CLS Designation			
Manufacturer name		FOXESS CO., LTD.	
Address		No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China	
Tel	0510-68092998	Web site	www.fox-ess.com
Email	foxrd@fox-ess.com		
Installer's name			
Address			
Tel		Web site	
Email			

Export/Import capabilities

Export	**Y** / N	Import	**Y** / N

Description of Operation

EREC G100 section **Error! Reference source not found.** requires a description of the **CLS**, and schematic diagram, to be provided to the **Customer**. Please provide that description and the diagram here.

The FoxESS CLS solution is an end to end energy management solution, which consists of monitoring meter, inverter, FoxCloud/Mobile APP and protection circuits such as fuse or breaker. Inverter is a main component for communicating with both generation, load devices and monitoring meter.

FOXESS CLS Controls & Settings

1. **FOXESS Monitoring Meter :** The grid data is sampled in real-time by the monitoring meter. The CLS system ensures that all the potential import/ export energy flows are captured and self-controlled within the required DNO requirements (import/export limit).
2. **FOXESS Control Response Times:** The FOXESS CLS response time are compliant to the G100 2nd amendment time harmonization requirement fixes and will tether the applicable import / export elements to ensure no excursion into State 2 is greater than 15 seconds.
3. **FOXESS State 1, 2 & 3:** FOXESS's solution meets the requirements (timing and allowable number of excursions) for state 1, 2 and 3 requirements, as mentioned in the G100 2nd amendment policy.
4. **FOXESS Interrogation & Data:** FOXESS's solution captures all control, power and current data which is presented in real-time via an HMI (Human Machine Interface) both on site and off site which enables multi-tier extensive data interrogation (by either installer or manufacturer).

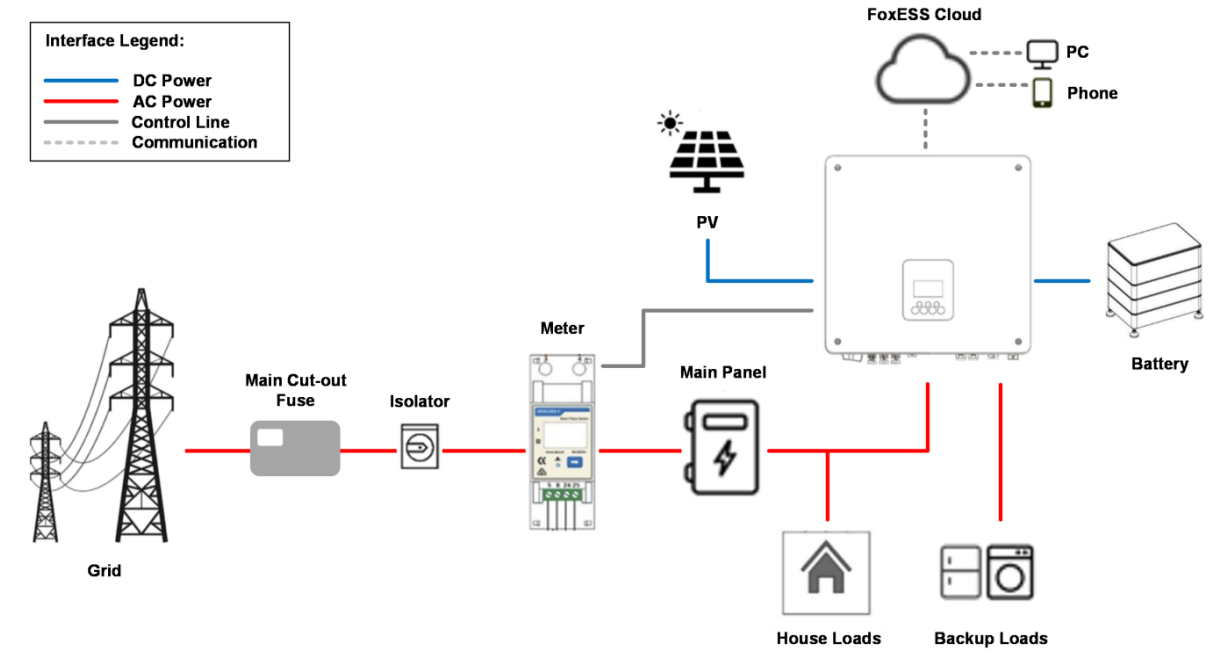
State 1: normal operation
The inverter interacts with the data sampled by the monitoring meter and the inverter regulates itself to ensure that the output or inlet data is within the required range.

State 2: Occasional Excursion
When the device enters state 2 due to load or other reasons, the inverter is quickly adjusted to return to state 1 within 15 seconds by the monitoring meter.

State 3: Failed State
When the communication line is interrupted, the control unit loses power, the grid voltage is greater than 257.6V, etc., the inverter will stop output within 5s until the installer or fabricator confirms with the user that the operating environment of the equipment meets the requirements and then restarts operation.

Customer connection scheme

Single Inverter



No.	Product type	Product number
1	Inverter	H1-6.0-E; H1-5.0-E; H1-4.6-E; H1-3.7-E; H1-3.0-E; AC1-6.0-E; AC1-5.0-E; AC1-4.6-E; AC1-3.7-E; AC1-3.0-E; AIO-H1-6.0; AIO-H1-5.0; AIO-H1-4.6; AIO-H1-3.7; AIO-H1-3.0; AIO-AC1-6.0; AIO-AC1-5.0; AIO-AC1-4.6; AIO-AC1-3.7; AIO-AC1-3.0; H1-6.0-E-G2; H1-5.0-E-G2; H1-4.6-E-G2; H1-3.7-E-G2; H1-3.0-E-G2; AC1-6.0-E-G2; AC1-5.0-E-G2; AC1-4.6-E-G2; AC1-3.7-E-G2; AC1-3.0-E-G2; KH7; KH8; KH9; KH10; KH10.5; KA7; KA8; KA9; KA10; KA10.5;
2	MonitoringMeter	CHINT DDSU666
3	Battery	HVS 5.2; HVS 7.8; HVS 10.4 HS5.2; HS7.8; HS 10.4; HS 13; HS 15.6; HS 18.2; HS 20.8; HS 5; HS 7.5; HS 10; HS 12.5; HS 15; HS 17.5; HS 20; ECS2800-H2; ECS2800-H3;ECS2800-H4; ECS2800-H5;ECS2800-H6; ECS2800-H7; ECS2900-H2; ECS2900-H3;ECS2900-H4; ECS2900-H5;ECS2900-H6; ECS2900-H7; ECS4100-H2; ECS4100-H3;ECS4100-H4; ECS4100-H5;ECS4100-H6; ECS4100-H7; ECS4300H-H2; ECS4300H-H3;ECS4300H-H4; ECS4300H-H5;ECS4300H-H6; ECS4300H-H7; ECS4800-H2; ECS4800-H3;ECS4800-H4; ECS4800-H5;ECS4800-H6; ECS4800-H7;

Communications Media

Document the provisions made for the use of various communication media, and both the inherent characteristics and the design steps made to ensure security and reliability.

The FOXESS's solution CLS Internal communications: All the components of the CLS as part of the solution use the following:

1. FOXESS's solution CLS Internal Communications: All the component parts within the Solution: CLS system use a combination of:

a. Hard-wired serial Modbus RTU
b. Hard-wired wired communication (LAN)
c. Hard-wired serial dedicated protocol (over RS485)
d. Hard-wired dedicated CT
e. Standardized wireless communication (Wi-Fi/4G)

2. Local Network Communications: All units that complete the CLS system are connected via hard-wired and dedicated communication cables (Ethernet RJ45). No 3rd party equipment is connected to this device to ensure that the system is a ring-fenced network.
3. Remote communications: FoxESS's solution has the option to communicate remotely via local Lan/Wi-Fi or via 4G communication module installed with in the inverter. The password is stored and protected.

Cyber Security

Confirm that the **Manufacturer** or **Installer** of the **CLS** has provided a statement describing how the **CLS** has been designed to comply with cyber security requirements, as detailed in section 4.7.

We FOXESS CO., LTD declare that G100 certified products,

And the variant models to be included in the certification,

Are in compliance with Cyber security requirements in accordance with the standards:

- *ENA_EREC_G99_Issue_1*
- *ENA_EREC_G98_Issue_1*
- ETSI EN 303 645;
- PAS 1879 "Energy smart appliances – Demand side response operation – Code of practice";

Please also refer to the documents provided (FOXESS Declaration _Cyber and Information Security).

Power Quality Requirements

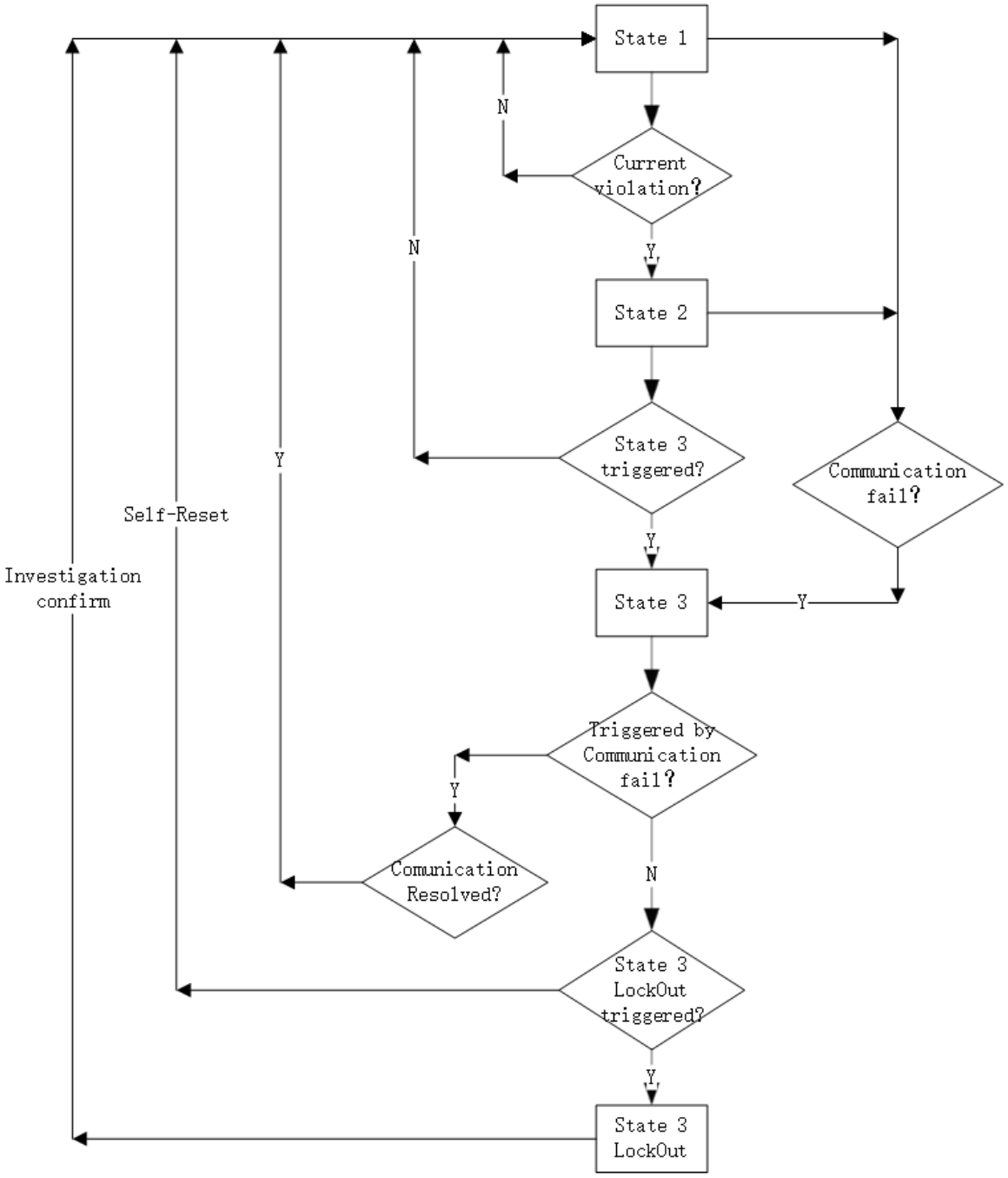
Where the **CLS** includes the power electronics that controls generation or loads (as opposed to the power electronics being included in **Devices** that are subject to their own power quality compliance requirements) please submit the harmonic and disturbance information here as required by EREC G5 and EREC P28.

FOXESS CO.,LTD confirms that FOXESS's solution CLS comply with the relevant harmonic standards which has been tested for and for which relevant harmonic data has been provided as required for G98 and G99 testing (submitted to the ENA type test register) and including G5 and P28.

Fail Safe

CLS internal failure: please submit here the description of the internal **Fail-Safe** design and operation. Please also document how it has been demonstrated, including the non-volatile recording of times and numbers of state 2 operations, and confirm the overall response of the **CLS** to this internal failure.

Fail safe design and operation



FOXESS G100 Fail Safe Compliance

FOXESS G100 CLS was designed with a fail-safe mechanism according to G100 section 4.5. Therefore, the FOXESS system design ensures that it will limit the imported/exported current at the site to the DNO's agreed limit(s).
All the components in the FOXESS system are either wired or wireless and are registered by the CLS. At the commissioning process the device is registered as a generation/non generation device.
In the event of a detected failure the system will operate the Fail-safe mechanism by reducing the inverter to zero immediately according to the table above.

Communication and power supply failures between **Components** and **Devices**. Please document here compliance with EREC G100 section **Error! Reference source not found.**.		
Component/Device number/description	Communication failure test	Power supply failure test
Monitoring meter	PASS	PASS
Inverter	PASS	PASS
Communication cable	PASS	-

Operational Tests

In accordance with EREC G100 section **Error! Reference source not found.** undertake the tests A to B to confirm correct operation in state 1 and state 2, that transition into state 3 occurs as required, and that behaviour in state 3 is also as required.

Test A

Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:	20A
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:	20A

No	Starting level	Step value	**CLS** registers change in level?	**CLS** and/or **Component** and/or **Device** initiates correct response of ≥ 5%?	Duration of step in test	Correct state 1/ state 2 operation
1	Below export limit (EL)	105% of EL	Yes. Correct power level shown and CLS allows system to sit in “state 2 “state. State 2 Export excursion counter increases by 1	Yes	58s	state：1 > 2 > 1
2	Below export limit (EL)	110% of EL	Yes. See above.	Yes	58s	state：1 > 2 > 1
3	Below export limit (EL)	120% of EL	Yes. See above.	Yes	58s	state：1 > 2 > 1

4	Below Import limit (IL)	105% of IL	Yes. Correct power level shown and CLS allows system to sit in “state 2 “state. State 2 Import excursion counter increases by 1	Yes	58s	state：1 > 2 > 1
5	Below Import limit (IL)	105% of IL	Yes. See above.	Yes	58s	state：1 > 2 > 1
6	Below Import limit (IL)	105% of IL	Yes. See above.	Yes	58s	state：1 > 2 > 1

Test B						
Nominal Export Limit:						20A
Nominal Import Limit						20A
No	Starting level	Step value	**CLS** registers change in level?	**CLS** and/or **Component** and/or **Device** initiates correct response of ≥ 5%?	Duration of step in test	Correct state 3 operation
7	Below export limit (EL)	105 % of EL	Yes. Correct power level shown and CLS allows system to sit in “state 2 ” state until 61 seconds when system reduces the inverter to zero and enters “State 3”. State 2 Export excursion counter increases by 1. State 2 Export trip counter increases by 1 State 3 counter increases by 1	Yes	62s	state：1 > 2 > 3
8	Below export limit (IL)	105 % of IL	Yes. Correct power level shown and CLS allows system to sit in “state 2” state until 61 seconds when system reduces the inverter to zero and enters “State 3”. State 2 Import excursion counter increases by 1. State 2 Import trip counter increases by 1 State 3 counter increases by 1	Yes	62s	state：1 > 2 > 3

Test C						
Nominal Voltage						V=Vn
No	Starting voltage	Step value	**CLS** registers change in voltage?	**CLS** and/or **Component** and/or **Device** initiates correct response?	Duration of step in test	Correct state operation
9	100%Vn	112 %Vn	Yes. Correct voltage level shown and CLS allows system to sit at voltage level for stated duration. Overvoltage excursion counter increases by 1 to show that voltage has exceeded limit yet not tripped.	Yes	58s	state：1>2 >1
10	100%Vn	112 %Vn	Yes. Correct voltage level shown and CLS allows system to sit in “state 2” state until 61 seconds when system reduces the inverter to zero and enters “State 3”. Overvolatge excursion counter increases by 1. Overvolatge state 2 trip counter increases by 1 State 3 counter increases by 1	Yes	62s	state：1>2 >3

Test D						
Nominal Voltage						V=Vn
No	Starting voltage	Step value	**CLS** registers change in voltage?	**CLS** and/or **Component** and/or **Device** initiates correct response?	Duration of step in test	Correct state operation
11	100%Vn	87% Vn	Yes. Correct voltage level shown and CLS allows system to sit at voltage level for stated duration. Undervoltage excursion counter increases by 1 to show that voltage has gone below limit yet not tripped.	Yes	58s	state：1>2 >1
12	100%Vn	87% Vn	Yes. Correct voltage level shown and CLS allows system to sit in “state 2” state until 61 seconds when system reduces the inverter to zero and enters State 3. Undervolatge excursion counter increases by 1. Undervolatge state 2 trip counter increases by 1 State 3 counter increases by 1	Yes	62s	state：1>2 >3

State 3 Reset

These tests are to demonstrate compliance with section EREC G100 **Error! Reference source not found.**.

Please document how the reset from state 3 to state 1 has been demonstrated. Please include how the reset is achieved.

Please confirm that for **CLSs** to be installed in **Domestic installations** three (3) resets causes lockout or that for non-domestic installations lockout can only be reset after four hours. Please explain how lockout is reset.

1. “State 3” is triggered, then the system will show “State 3” on the main metering HMI.it can be reset by the user
2. After 3 times reset by the user , System state "State 3 Lockout” will be triggered.
3. Expert investigation has ended successfully.
4. CLS changes system state to "State 1 " and sends commands to Generation devices.
5. CLS Clears all G100 related events from its memory due to investigations.
6. Devices receive the command and enter their Normal Operational Mode.
7. CLS logs the state change.
8. CLS sends generated event to "Cloud”.
9. CLS sends and alert to a User Interface that the system is in "State 1”.