ATTESTATION OF CONFORMITY

Issued to:	Guangzhou Felicity Solar Technology Co., Ltd. (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, China
For the product:	Hybrid Inverter
Trade name:	Felicitysolar® Make life full of hope
Type/Model:	IVGM50KHP3G2, IVGM40KHP3G2, IVGM30KHP3G2, IVGM29K9HP3G2, IVGM25KHP3G2
Ratings:	See annex
Manufactured by:	Guangzhou Felicity Solar Technology Co., Ltd. (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, China
Subject:	Complete evaluation of electrical system of the appliances
Requirements:	ENA EREC G100 A2 Issue 2:2023

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a test file / test report no 4951096.50.

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of this production with the specimen tested by DEKRA is not the responsibility of DEKRA.

This document does not authorize the use of any DEKRA approved mark.

Arnhem, 7 August 2026 Number: 4951096.02AOC

DEKRA Testing and Certification (Shanghai) Ltd.,
Guangzhou Branch

Phoebe chen

Phoebe Chen
Certification Manager

© Integral publication of this attestation and adjoining reports is allowed

DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch
Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China
T +86 20 6661 2000 F +86 20 6661 2001 www.dekra-product-safety.com

Annex

Document no. : 4951096.02AOC

Ratings:

Model List and Ratings:						
Model		IVGM25K HP3G2	IVGM29K9 HP3G2	IVGM30K HP3G2	IVGM40K HP3G2	IVGM50K HP3G2
Battery	Battery type	LFP($LiFePO_4$)				
	Battery Voltage Range [Vdc]	160 - 800				
	Max. charge current [Adc]	50.0*2				
	Max. discharge current [Adc]	50.0*2				
PV input	Max. PV input Voltage [Vdc]	1000				
	MPPT Voltage Range [Vdc]	150 - 850				
	Max. PV input current [Adc]	36.0*2	36.0*3		36.0*4	
	Isc current [Adc]	55.0*2	55.0*3		55.0*4	
AC terminal (On-grid)	Rated AC Voltage [Vac]	230/400, 3W+N+PE				
	Rated Frequency [Hz]	50/60				
	Max. AC input current [Aac]	39.9	43.4	47.9	63.9	79.7
	Max. AC input apparent Power [kVA]	27.5	29.9	33.0	44.0	55.0
	Rated AC output current [Aac]	36.3	43.4	43.5	58.0	72.5
	Max. AC output current [Aac]	39.9	43.4	47.9	63.9	79.7
	Rated AC output Power [kW]	25.0	29.9	30.0	40.0	50.0
	Max. AC output Apparent power [kVA]	27.5	29.9	33.0	44.0	55.0
	Power factor	0.8 leading to 0.8 lagging				
General	Type of inverter	Non-isolated				
	Ingress Protection	IP65				
	Operating Temperature Range [ºC]	-40 to 60 (Derating above 50 ºC)				
	Net Weight	87.1 kg				

G100/2 - Form B - Compliance Verification Report for Customer Export or Import Limitation Schemes	
Extract form test report number:	4951096.50
CLS Designation	CRS
Manufacturer name	Guangzhou Felicity Solar Technology Co., Ltd.
Address	(Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, China
CLS information:	
Hybrid Inverter	IVGM50KHP3G2, IVGM40KHP3G2, IVGM30KHP3G2, IVGM29K9HP3G2, IVGM25KHP3G2
Three-Phase Smart Meter	SDM630MCT
CT	CTSA050C

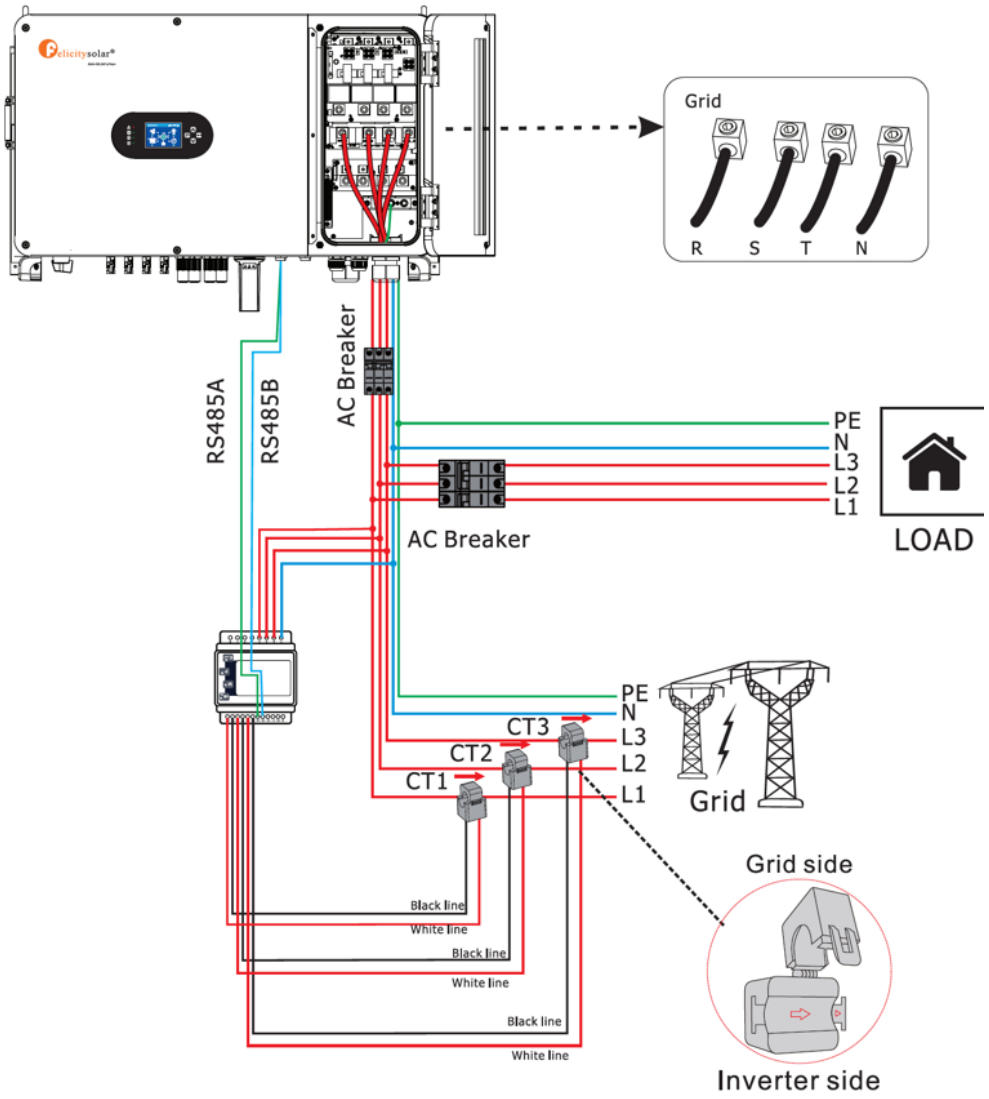
Export/Import capabilities			
Export	Y / ~~N~~	Import	Y / ~~N~~

Description of Operation

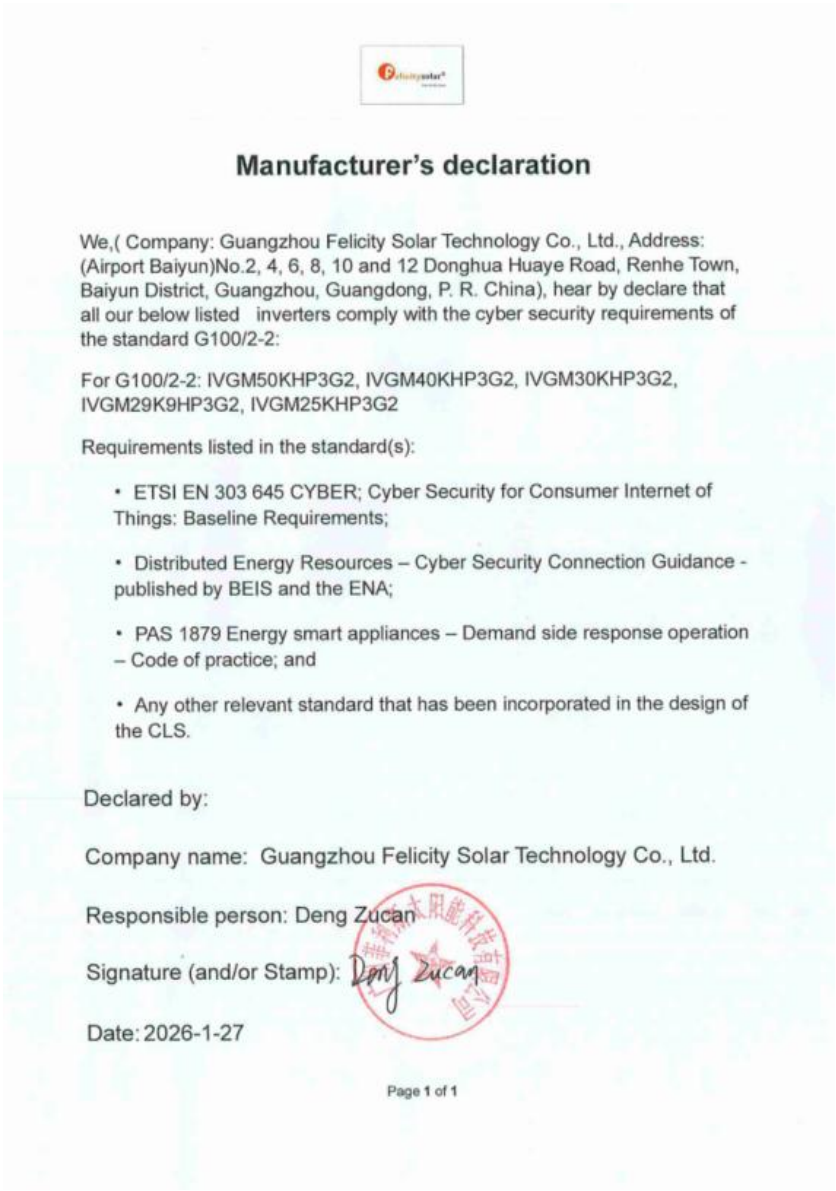
EREC G100 section 4.2 requires a description of the **CLS**, and schematic diagram, to be provided to the **Customer**. Please provide that description and the diagram here.

The anti-reverse flow function is achieved through real-time communication between the electricity meter and the inverter. The electricity meter communicates with the inverter via the RS485 interface. The electricity meter monitors the grid information in real time through its CT and responds and transmits information such as grid power to the inverter in real time. The inverter adjusts its own power based on the power information of the grid port it receives, thereby indirectly controlling the net flow of the grid port to ensure that it does not exceed the maximum allowable current.

Operational Diagram



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.
Dedicated hardwire MODBUS RTU -RS485. The communication mediums of the CLS is Wired. Through wired communication, correctly connected meters, pointing to the grid. The CLS has enabled an encryption function on the inverter screen, and the password will not be shared with any customers.
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.
 **Manufacturer's declaration** We,(Company: Guangzhou Felicity Solar Technology Co., Ltd., Address: (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, P. R. China), hear by declare that all our below listed inverters comply with the cyber security requirements of the standard G100/2-2: For G100/2-2: IVGM50KHP3G2, IVGM40KHP3G2, IVGM30KHP3G2, IVGM29K9HP3G2, IVGM25KHP3G2 Requirements listed in the standard(s): • ETSI EN 303 645 CYBER; Cyber Security for Consumer Internet of Things: Baseline Requirements; • Distributed Energy Resources – Cyber Security Connection Guidance - published by BEIS and the ENA; • PAS 1879 Energy smart appliances – Demand side response operation – Code of practice; and • Any other relevant standard that has been incorporated in the design of the CLS. Declared by: Company name: Guangzhou Felicity Solar Technology Co., Ltd. Responsible person: Deng Zucan Signature (and/or Stamp): Deng Zucan Date: 2026-1-27 Page 1 of 1
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.
The CLS controls the power of the relevant power generation/load modules by interacting with the generator system, usually through a communication interface, without any influence on the power quality of the generation system, which meets the requirements of the relevant standards (e.g. BS EN 61000-3-2 and/or BS EN 61000-3-12) or provides harmonic data in accordance with EREC G5 and EREC P28. For customers using the G100 solution provided by Guangzhou Felicity Solar Technology Co., Ltd., harmonic documentation in accordance with EREC G99 can be provided by the installer to confirm that the entire system including the generator and generator control system meets the requirements of the standard.

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.		
The electricity meter communicates with the inverter via the RS485 interface. The electricity meter can monitor the grid information in real time through its CT. The CLS is integrated within the DSP of the inverter. If any part of the electricity meter or CT fails, the inverter screen will display fault information, forcing it to enter the state 3 lock state. The inverter will record which state it has entered. If it does not exceed MEL/MIL, it will display state 1. If the fault current exceeds MEL/MIL for 15 seconds but less than 1 minute, it will display state 2, and the number of times it enters state 2 will be recorded. The CLS breaches any of the following criteria, it shall enter state 3 operation immediately and need to be manually cleared to return to state 1 for normal operation: • A single excursion into state 2 operation that persists for more than 1 minute • The time between any two consecutive excursions into state 2 operation of greater than 15s is 10 minutes or less (measured from the time of re-entry into state 1 operation from state 2 operation following the first excursion).; or • For installations where the maximum excursion period is 3 minutes the total time in state 2 operation in any 24 hour period, but neglecting any excursion of 15s or less, exceeds 8 minutes.		
Communication and power supply failures between **Components** and **Devices**. Please document here compliance with EREC G100 section 5.5.		
Component/Device number/description	Communication failure test	Power supply failure test
Inverter	--	Inverter Power supply removed (Inverter shutdown immediately, if the issue fixed, inverter and CLS immediately reset into state 1 operation)

The electricity meter	--	The electricity meter Power supply removed (If the inverter displays a communication failure and the reset fails immediately, the inverter and CLS are forced to enter state 3. If the problem is fixed, the inverter and CLS are immediately reset to state 1)
CT	--	CT Power supply removed (If the inverter displays a communication failure and the reset fails immediately, the inverter and CLS are forced to enter state 3. If the problem is fixed, the inverter and CLS are immediately reset to state 1)
Communication between Inverter and The electricity meter	Remove/interrupt communication of RS485 interface (If the inverter displays a communication failure and the reset fails immediately, the inverter and CLS are forced to enter state 3. If the problem is fixed, the inverter and CLS are immediately reset to state 1)	--

Operational Tests						
In accordance with EREC G100 section 5.6 undertake the tests A and 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:					21.7 A (14.97 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					21.7 A (14.97 kW)*	
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	20.50 A (95% of MEL)	22.66 A (105% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 11.0s	58 s	Yes, State 1
2	20.67 A (95% of MEL)	23.97 A (110% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 10.6s	58 s	Yes, State 1
3	20.73 A (95% of MEL)	26.25 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 14.6s	58 s	Yes, State 1
4	-20.61 A (95% of MIL)	-22.74 A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 11.0s	58 s	Yes, State 1
5	-20.64 A	-23.82 A	Yes, CLS in State 2	Yes, reacted in	58 s	Yes, State 1

	(95% of MIL)	(110% of MIL)	State 2 counter increments +1 24-hour timer and 10-minute timer starts	12.0s		
6	-20.61 A (95% of MIL)	-26.06A (120% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 11.8s	58 s	Yes, State 1
Test B						
Nominal Export Limit:					21.7 A (14.97 kW)*	
Nominal Import Limit					21.7 A (14.97 kW)*	
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	20.63 A (95% of MEL)	22.81 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 11.0s	62 s	Yes
8	-20.64 A (95% of MIL)	-22.73 A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 11.0s	62 s	Yes
Test A						
Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					42.66 A (29.44 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					42.66 A (29.44 kW)*	

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	40.39 A (95% of MEL)	44.45 A (105% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 7.6s	58 s	Yes, State 1
2	40.52 A (95% of MEL)	46.85 A (110% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 10.4s	58 s	Yes, State 1
3	40.39 A (95% of MEL)	51.01 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 9.4s	58 s	Yes, State 1
4	-40.77 A (95% of MIL)	-44.70A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 6.8s	58 s	Yes, State 1
5	-40.52 A (95% of MIL)	-46.91 A (110% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 13.0s	58 s	Yes, State 1
6	-40.76 A (95% of MIL)	-51.26 A (120% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 9.0s	58 s	Yes, State 1
Test B						

Nominal Export Limit:					42.66 A (29.44 kW)*	
Nominal Import Limit					42.66 A (29.44 kW)*	
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	40.45 A (95% of MEL)	44.44 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 7.6s	62 s	Yes
8	-40.46 A (95% of MIL)	-44.84 A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 6.8s	62 s	Yes
Test A						
Nominal Export Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					57.8 A (39.88 kW)*	
Nominal Import Limit (for type tests this will be at maximum, minimum and one intermediate setting) in Amp:					57.8 A (39.88 kW)*	
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	54.85 A (95% of MEL)	60.69 A (105% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 8.6s	58 s	Yes, State 1
2	54.82 A	63.57 A	Yes, CLS in State 2	Yes, reacted in	58 s	Yes, State 1

	(95% of MEL)	(110% of MEL)	State 2 counter increments +1 24-hour timer and 10-minute timer starts	13.6s		
3	54.84 A (95% of MEL)	69.23 A (120% of MEL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 9.8s	58 s	Yes, State 1
4	-54.93 A (95% of MIL)	-60.93 A (105% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 8.6s	58 s	Yes, State 1
5	-54.90 A (95% of MIL)	-63.65 A (110% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 11.4s	58 s	Yes, State 1
6	-54.93 A (95% of MIL)	-69.58 A (120% of MIL)	Yes, CLS in State 2 State 2 counter increments +1 24-hour timer and 10-minute timer starts	Yes, reacted in 9.4s	58 s	Yes, State 1
Test B						
Nominal Export Limit:					57.8 A (39.88 kW)*	
Nominal Import Limit					57.8 A (39.88 kW)*	
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	54.82 A (95% of MEL)	60.13 A (105% of MEL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments	Yes, reacted in 8.6s	62 s	Yes

			+1 State 3 counter increments +1.			
8	-54.80 a (95% of MIL)	60.64 A (105% of MIL)	Yes, system will stay in State 2 for <60s and will enter State 3 for >60s. State 2 counter increments +1 State 3 counter increments +1	Yes, reacted in 8.6s	62 s	Yes
NOTE: * Random value, adjustable from 0 to 72.5A (50000W).						

State 3 Reset
These tests are to demonstrate compliance with section EREC G100 4.5.2. 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.
In order to exit the state 3 locked state for any reason, it is necessary to first identify and resolve the source of the fault, and then manually clear the current fault information before returning to state 1 and resuming normal operation.

End