

Company Standard

Conditions Governing the Connection and Operation of Micro-Generation

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Document Number:	DTIS-230206-BRL	Version:	6.1
Document Status:	Effective	Status Date:	03/12/2021

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Foreword

This document sets out the requirements for the installation of Micro-Generation installations in the premises of LV connected demand customers.

Changes have been introduced to simplify the connection of Micro-Generation, commonly referred to as 'Micro-Generation (6/11 kVA) installations' (See Scope (i) below):

- I.S. EN 50438 has been superseded by I.S. EN 50549-1
- Interface protection settings have been updated from the previous version of this document.
- The inverter capacity connecting the Micro-Generation to the DSO network shall be used to assess the eligibility to be categorised as 'Inform and Fit' Micro-Generation, to assess the connection and to establish the MEC. This facilitates combinations of energy sources such as storage and generation, behind the inverter, whose potential output to the DSO network is limited by the inverter rating¹, and this rating is then deemed to be the MEC of the installation, within the limits allowed for Micro-Generation
- Where the Micro-Generation is non-inverter connected, or is a combination of non-inverter connected and inverter connected, then the continuous steady state rating of the non-inverter connected Micro-Generation itself plus that of any inverter connected Micro-Generation, is used in the assessment.
- Any installations with inverter capacity greater than Micro-Generation (6/11 kVA) are classified as Mini-Generation (up to 50kVA installed inverter capacity). There are no active Export Limitation Schemes available under the Micro-Generation 'Inform and Fit' process, as the inverter capacity itself, which shall be within the allowed Micro-Generation limits, is used to determine the export limits.

Active Export Limiting Schemes are, however, available under the Mini-Generation connection process.

i. Scope

This document applies to Micro-Generation installations in single customer premises with an inverter capacity, or non-inverter connected generation, not exceeding 25 A single phase (c. 6 kVA) or 16 A per phase three phase (c. 11 kVA) in demand installations connected to the DSO LV network.

For multiple customers sharing a single service to a building (e.g. apartment blocks, or apartments located above commercial unit, etc.), ESB Networks shall assess the shared incoming service and network to clarify its adequacy, and this shall be identified on the relevant application form. All proposed connections shall be listed on the relevant form.

In the 'Inform and Fit' process associated with multiple customers sharing a single service to a building, ESB Networks shall assess notifications where necessary, and in the above cases, it is deemed that each shall require an assessment. In these circumstances, Micro-Generation shall not be connected until after assessment, and permission has been granted by ESB Networks.

¹ The inverter rating is the continuous steady state rating of the inverter

The following documents cover the technical² conditions governing the connection and operation of generator installations to the DSO network:

Generation Installation	Document Title	Ref. No.
Micro-Generation:	Conditions Governing the Connection and	DTIS-230206-BRL
Up to and including 25 A single phase / 16 A	Operation of Micro-Generation	
three phase		
(c. 6 kVA/11 kVA, LV)		
Mini-Generation: (Inverter Connected)	Conditions Governing the Connection and	DOC-030221-GAP
Above Micro-Generation, up to and including 72	Operation of Mini-Generation	
A single phase / 72 A three phase (c. 17 kVA /		
50 kVA, LV)		
Export Limitation Schemes for Mini-Generator	Conditions Governing the Connection and	DOC-250221-GBT
installations	Operation of Export Limiting Schemes	
Up to and including 72 A three phase (c. 50		
kVA)		
All other generation	Conditions Governing Connections to the	DTIS 250701-BDW
	Distribution System at Medium Voltage	

Table 1: Conditions governing the connection and operation of generator installations documents

ii. Mandatory References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document applies.

Table 2: Mandatory References

Document No.	Title	
	Requirements for generating plants to be connected in parallel with distribution	
I.S. EN 50549-1	networks – Part 1: Connection to an LV distribution network - Generating plants up	
	to and including Type B	
	Requirements for generating plants to be connected in parallel with distribution	
PrEN 50549-10	networks — Part 10: Tests demonstrating compliance of units	
	(Standard in preparation applicable when published)	
DOC-060416-EEY	Distribution Code	
DTIS-250701-BDW	Connections Governing Connection to the Distribution System at Medium Voltage	
I.S.EN ISO/IEC 17065	Conformity Assessment – Requirements for bodies certifying products, processes	
1.3.EN 130/IEC 17005	and services	
DOC-030303-AEN	ESB Networks National Code of Practice for Customer Interface	
<u>I.S. 10101</u>	National Rules for Electrical Installations	

² In addition to the technical requirements in this document there are also commercial requirements which are listed separately on the <u>Micro-Generation section</u> on the ESB Networks website

1. Requirements for Micro-Generation Installations on ESB Networks

1.1 About this document

This document sets out ESB Networks' technical standard on the connection and operation of Micro-Generation, up to 25 A single phase (c. 6 kVA) or 16 A per phase, three phase (c.11 kVA)

1.2 Information required for connection

The technical information required for Micro-Generation connection is defined in the relevant application form and is required for system planning and operational purposes.

1.3 Definitions

For the purposes of this document, the following definitions apply:

1.3.1 Micro-Generation

Micro-Generation is defined as a source of electrical energy and all associated equipment, rated up to and including

25 A at low voltage $[230 V]^3$, when the DSO network connection is single-phase

16 A at low voltage $[230 V / 400 V]^4$, when the DSO network connection is three-phase,

and designed to operate in parallel with the DSO network.

Where multiple generating sources [of the same or varied technologies] are on the same site and share access to the same DSO network connection point, the aggregate rating per phase shall not exceed:

25 A at low voltage [230 V], when the DSO network connection is single-phase

16 A at low voltage [230 V / 400 V], when the DSO network connection is three-phase.

1.3.2 Energy Source Capacity (Generation and energy storage)

Energy Source Capacity is defined as the total capacity, of any Electrical Energy Source(s), expressed in kVA, that is connected through an inverter or directly to a Point of Connection (PoC) to the DSO network.

1.3.3 Installed Capacity

Where the Energy Source Capacity is connected through, and therefore limited by, an inverter then the Installed Capacity shall be deemed to be the inverter rating (in kVA), as shown in Figure 1. For the avoidance of doubt the rating of the inverter shall be taken as the continuous steady state rating of the equipment and may not exceed 25 A (c. 6 kVA) single phase or 16 A (c.11 kVA) three phase.

³ This equates to approximately 6 kVA

⁴ This equates to approximately 11 kVA

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- For inverter connected generation connected through multiple inverters, the Installed Capacity shall be the sum of the inverter ratings directly exporting through the DSO network connection point, as shown in Figure 2.
- Where there is no inverter the Installed Capacity shall be deemed to be the Energy Source Capacity, as shown in Figure 3.

1.3.4 Maximum Export Capacity (MEC)

The maximum power, expressed in kVA, that is permitted by ESB Networks to transfer from the Customer's Point of Connection to the DSO network.

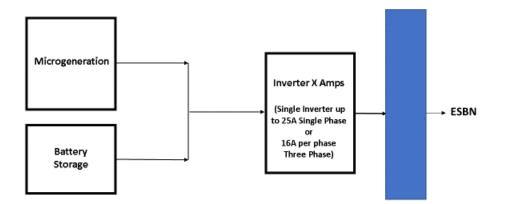
1.3.5 Relationship between MEC and Installed Capacity

Throughout this document, reference is made to "Installed Capacity" for Micro-Generation, as the categorisation of Micro-Generation as "Inform and Fit" is defined in terms of the Installed Capacity being up to 25A single phase (c. 6 kVA) or 16A three phase (c. 11 kVA); This shall, subject to these upper limits, be deemed to be the MEC.

In summary:

- > The MEC is equal to the Installed Capacity
- > The MEC shall not be greater than the MIC
- The MEC of Micro-Generation shall be in the range up to 25A single phase (c. 6 kVA) or up to 16A per phase three phase (c. 11 kVA).

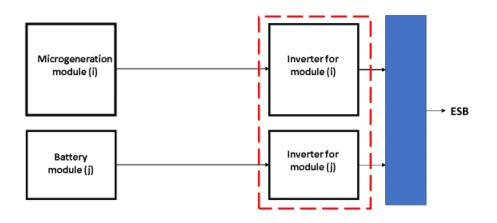
This definition makes no explicit reference to any specific form of generating technology but the interface with the DSO network <u>shall not</u> be capable of connecting the generation source to the DSO network if the DSO supply is not present and within parameters given in Table 3 below. Any form of generation whose interface with the DSO network does not comply with this provision, is considered outside the scope of this standard.



'Installed Capacity' is deemed to be the continuous steady state rating 'X' Amps, of the single inverter connecting the Microgeneration and associated equipment, with the Inverter not exceeding 25A Single Phase or 16A Three Phase continuous rating.

Figure 1: Micro-Generation connection through one inverter

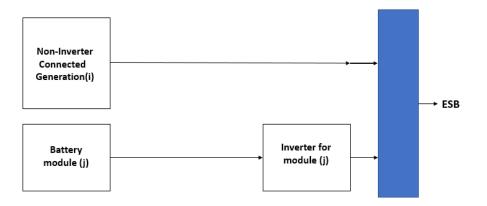
Where there is more than one inverter used to connect different Micro-Generation at the customer's premises then the total rating of all such inverters directly exporting to the DSO network connection point is deemed to establish the amount of Micro-Generation installed for the purpose of assessing the connection.



Installed capacity is deemed to be the continuous steady state rating of the sum of the individual inverters [Σ Microgeneration Inverter (i) + Σ Battery Inverter (j)] Amps connecting the Microgeneration and associated equipment, with a total of up to 25A Single Phase or 16Amps per phase three phase continuous rating.

Figure 2: Micro-Generation connection through more than one inverter

Where Micro-Generation is not inverter connected then the aggregate installed capacity of all generation sources directly exporting to the DSO network connection point, plus any inverter connected energy sources directly exporting to the DSO network connection point (including storage) shall not exceed 25 A (c. 6 kVA) single phase or 16 A (c. 11 kVA) three phase.



Installed capacity is deemed to be the continuous steady state rating of the sum of the total Non-Inverter Generation Capacity installed (X Amps) plus the sum of any other inverter connected energy sources (e.g. Battery Storage, other Microgeneration). This overall combination of noninverter connected microgeneration plus other Inverter connected energy sources, which forms the Installed Capacity, cannot exceed 25A Single Phase or 16A three phase continuous rating.

Figure 3: Micro-Generation connection with non-inverter connected generation

1.3.6 Cease Energise

No power shall be delivered from the generator to the DSO network. Where the interface comprises a bridge inverter on the DSO network side, the solid-state switching devices shall not be triggered and shall remain in a high impedance state such that leakage current is less than 0.1 mA at LV

2. Applicable Technical Standards

2.1 I.S. EN 50549-1

All installed Micro-Generators shall comply with <u>I.S. EN 50549-1</u> with the specific Irish protection settings set out below in <u>Table 3</u> of this document.

ESB Networks may in the future seek to invoke or apply some of the equipment capabilities cited in <u>I.S. EN 50549-</u> <u>1</u>. Where this arises, ESB Networks should communicate such proposed changes with industry and stakeholders as effectively as possible. Any applicable changes to the Distribution Code shall be progressed through the Distribution Code Review Panel (DCRP).

2.2 Interface Protection Settings

Table 3 below displays the specific Irish interface protection settings for Micro-Generators.

Table 3: Micro-Generation	interface settings
---------------------------	--------------------

Parameter		Trip setting	Clearance time
Over voltage		1	1
Pre I.S. EN 50549-1 Single Stage Voltage Settin	g	269 V / 468 V	0.7 s
	Stage 1	269 V / 468 V	70 s
I.S. EN 50549-1 Two Stage Voltage Settings	Stage 2	281 V / 488 V	0.7 s
Under voltage		191 V / 332 V	0.7 s
Over frequency*		52 Hz	0.5 s
Under frequency*		47 Hz	0.5 s
An explicit Loss of Mains functionality shall be Change of Frequency, or Source Impedance Mo this shall be achieved by purely passive means. DSO network, shall not be permitted.	easurement may be used	d. Where Source Impec	lance is measured,
ROCOF (**)		1.0 Hz/s	0.6 s
Vector Shift		Not pe	rmitted

(*) For relays that have a setting step of 0.1Hz then the frequency should be set to 52.1 Hz and 46.9 Hz respectively

(**) reset interval should be set to >0.6 seconds to detect step changes

3. Common Considerations

3.1 Metering

Metering requirements are outside the scope of this document, and are dealt with on the <u>Micro-Generation</u> <u>section</u> on the ESB Networks website.

3.2 Interface Protection

In accordance with <u>I.S. EN 50549-1</u>, each Micro-Generator shall have interface protection, as specified, which shall include the following elements.

- Undervoltage protection
- Overvoltage protection
- Underfrequency protection
- Overfrequency protection
- Means to detect island situation

Settings shall be as specified in Table 3 above.

3.3 Cease energise / Disconnection

The interface protection shall cease energisation of the DSO network when any parameter exceeds the applied operating setting.



Automatic disconnection shall be required in case of any hardware malfunctioning.

3.4 Mechanical / solid state switching device

Cease-energise-in-response-to-an-interface-protection operation shall be achieved either by the separation of mechanical contacts or by the operation of a suitably rated solid state switching device. Where a solid-state switching device is used, the Micro-Generator shall monitor the proper functioning of the device. In the event the solid-state switching device fails to interrupt the current, the Micro-Generator shall disconnect. The solid-state switching device shall be specified in accordance with the over-voltage category of the Micro-Generator as specified by the manufacturer and have a leakage current in the off-state of not more than 0.1 mA.

3.5 Accessibility of Isolation Switching Devices

Under the <u>I.S.HD 384</u> series there is a requirement that means shall be provided to enable a generator set to be isolated from the public supply and the means of isolation shall be accessible to ESB Networks at all times. However, it is recognised that Micro-Generators are a special case by virtue of their type testing and potentially large numbers, therefore it is acceptable to dispense with the requirement for the isolator to be accessible at all times, subject to the provision of two means of automatic disconnection, with a single control. At least one of the means of disconnection shall be afforded by the separation of mechanical contacts.

3.6 Location of the Interface Protection

The interface protection may either be incorporated within the Micro-Generator or afforded by separate devices. In either case the interface protection shall meet the relevant standards and the manufacturer of the Micro-Generator shall declare that the combined devices fulfil these requirements.

3.7 Changing Settings of the Interface Protection

The interface protection settings shall only be altered from those in place at the time of commissioning, with the written agreement of ESB Networks, or where ESB Networks instruct the customer to update the settings to required levels, and then only in accordance with the manufacturer instructions.

It shall not be possible for the user to alter the interface protection settings without the use of special tools or techniques.

Where modifications or additions are being carried out to any existing Micro-Generation installation, to improve performance, the interface protection settings should be updated if necessary, to be in conformance with the settings in <u>Table 3</u>. If this cannot be achieved, ESB Networks shall be informed via <u>networkservicesbureau@esb.ie</u>.

3.8 Means to Detect Islanding Situation

Means to detect islanding situations (known as 'Loss of Mains' or 'anti-islanding protection') shall operate to ensure cease energising or disconnection within the prescribed clearance time irrespective of where, on the DSO network the system the interruption takes place, for a generation to load mismatch of 75% and 125% or greater.

This functionality shall be demonstrated and explicitly stated in Type Testing certification.

The operation of this protection at any given site shall not in and of itself, disturb or cause spurious operation of interface protection at any other site.

3.9 Rate of Change of Frequency [ROCOF] Immunity Requirements

The Micro-Generator module shall stay connected to the distribution system when the frequency of the power system changes at a rate of up to 1 Hz/s. This rate is defined with a sliding measurement window of 500 ms.

This functionality shall be explicitly demonstrated in Type testing. If ROCOF is used as the means of detecting island situations, then the setting for the demonstration of compliance with this clause shall be as close as practical to 1 Hz/s.

3.10 Automatic Reconnection After a Network Outage

The interface protection shall ensure that feeding power to the DSO network shall only commence after the voltage and frequency on the DSO network have been within the limits of the interface protection settings for a minimum of

- 5 minutes for synchronous generation;
- 5 minutes for inverter-based systems.

In order to facilitate such automatic reconnection, power input to the interface protection equipment and sensing connections to the interface protection shall be made on the DSO network side of the disconnector (but on the Micro-Generator side of the isolator) that is initiated by the interface Micro-Generator protection. Manufacturers should give consideration to limiting the number of attempted reconnections within any one period of time.

3.11 Synchronisation

For synchronous machines, the operation of synchronising a Micro-Generator with the DSO network shall be fully automatic i.e. it shall not be possible to manually close the switch between the two systems to carry out synchronisation.

3.12 Type Testing and Certification for Interface Protection

Use of type tested equipment produced to <u>I.S. EN 50549-1</u>, with interface protection settings as per Table 3 certified by a competent supplier and otherwise confirmed by the installer are relied on to ensure that the Micro-Generator meets the requirements set out in this standard.

Accordingly, reliance is placed on a system of type testing and certification, to be operated as outlined below:

Every new Micro-Generator interface type and model, shall satisfy the following conditions:

- Provision of a Type-Test⁵ certificate confirming that the requirements of <u>I.S EN 50549-1</u> have been met.
- The methodology used to carry out the Type Test shall be as outlined in I.S. EN 50549-10 (when it is issued by CENELEC).
- In the interim, the Type Testing by the Laboratory issuing the Test Certificate shall confirm that the requirements of <u>I.S. EN 50549-1</u> are met, using the Test Methodology given in <u>I.S. EN 50438</u> and PrEN 50549-10 where applicable, and otherwise best industry practice.
- The Type Tests to confirm that the Micro-Generator meets the requirements of <u>I.S. EN 50549-1</u> shall be carried out by, or under the supervision of, a recognised Test Laboratory.
- On submission of the relevant application form, the following shall be provided:
 - A Type Test Certificate confirming compliance with I.S. EN 50549-1
 - Confirmation that the interface protection settings prescribed in Table 3 have been applied to the device
- A copy of the type-test certificates and confirmation of settings should also be supplied by the Micro-Generator installers, to each customer.

3.13 Safety of ESB Networks Personnel

Compliance with this standard, with the National Rules for Electrical Installations, (<u>I.S. 10101</u>) and the ESB Networks National Code of Practice for Customer Interface (<u>DOC-030303-AEN</u>) with shall be required to safeguard against electrical hazards being presented to persons working on or in close proximity to DSO network.

3.14 Labelling

Where an item of equipment contains live parts connected to more than one source of supply, a warning notice shall be fitted in such a position that any person gaining access to live parts is warned in advance of the need to isolate those parts from the various supplies. However, this shall not be required if an interlocking arrangement is provided to ensure that all circuits concerned are isolated.

Special attention should be paid to the possibility of the power supply, measuring circuits [sense lines] and other parts not being isolated from the grid when the switching device[s] associated with the interface are open.

As a minimum, warning notices shall be placed

- At the ESB Networks metering position of a location where a Micro-Generator is installed
- At the consumer unit position of a location where a Micro-Generator is installed
- On all switchboards between the consumer unit and the Micro-Generator itself
- At all points of isolation for the Micro-Generator

A suggested format is given in Figure 4:

⁵ Type Test shall be from a body certified to I.S.EN ISO/IEC 17065



Figure 4: Suggested format of warning notice

3.15 Voltage control

Subject to agreement with ESB Networks, generators may use voltage related active power reduction as per clause 4.7.3 of <u>I.S. EN 50549-1</u> to avoid the likelihood of tripping for high voltage events.

ESB Networks may in the future seek to invoke or apply some of the additional voltage control capabilities of the equipment cited in <u>I.S. EN 50549-1</u>. Where this arises, ESB Networks should communicate such proposed changes with industry and stakeholders as effectively as possible. Any applicable changes to the Distribution Code shall be progressed through the Distribution Code Review Panel (DCRP).

4. Sporadic Once-off Installations

4.1 Description

In a great many cases, the installation of a Micro-Generator, may arise sporadically in locations or households. Alternatively, there may be sporadic take-up in an area, due to an advertising campaign for Micro-Generation. A sporadic once-off installation is defined as follows:

- Only one customer is involved
- Only one installation is involved
- Where multiple customers on the same housing scheme are involved, and the penetration level achieved is less than that prescribed in 5.1 below.

4.2 Implementation of 'Inform and Fit' Process

For sporadic once-off installations <u>in existing premises</u>, as defined above, the customer shall complete the Micro-Generation Installation Notification Form (Form **NC6**, available on <u>www.esbnetworks.ie</u>).

For sporadic once-off installations <u>in new premises which also require a demand connection</u>, to avoid possible delay the customer should complete the relevant application form for new connections (available on <u>www.esbnetworks.ie</u>) <u>including details of Micro-Generation required</u> (where known) as set out on the application form, otherwise a separate application shall subsequently be required for the Micro-Generation installation.

Type-test certification to the requirements of <u>I.S EN 50549-1</u> from a recognised test laboratory, for the interface[s] associated with the Micro-Generator[s] in question should also accompany this notification with a declaration provided by the supplier stating compliance with the settings set out in <u>Table 3</u>, as per <u>3.12</u> above.

If Type-Test and Confirmation of Table 3 Settings certificates for the interface associated with the Micro-Generator[s] in question has **not been received** by ESB Networks, then ESB Networks shall formally request such Type Test certification Confirmation of Table 3 Settings from the customer, and direct that the installation should not proceed until such certificates are furnished.

If ESB Networks determines that for a given Type-Test /Confirmation of Table 3 Settings certificates, further clarification or information is required, then ESB Networks shall:

- Instruct the customer within 20 working days from receipt of both the Type-Test certification & Confirmation of Table 3 Settings, to refrain from installation or suspend installation and commissioning if already begun.
- 2. Require that the customer contact the installer/equipment supplier or test laboratory as appropriate to obtain any additional information or clarification.

Upon satisfactory resolution of the issue, ESB Networks shall notify any customers concerned and advise that installation may proceed

If ESB Networks become aware of any other technical or location specific reason why installation should not proceed, then ESB Networks shall inform the customer within 20 working days of receipt of the notification.

If no such notice, or request for Type Test certification, or instruction to suspend installation, is received by the customer within this time-frame, then the installation may proceed without any further correspondence with ESB Networks.

5. Planned Multiple Installations

5.1 Description

This section applies to planned [green field] multiple installations such as new housing schemes, where it is planned to have Micro-Generation installed in multiple houses or premises.

It shall also apply to existing housing schemes or other premises within a 500 m radius, where a successful advertising and promotional campaign, has resulted in a take-up by householders/occupants, to the extent that a penetration level, in terms of total installed Micro-Generation capacity [kVA], is expected to reach 40% of the capacity in kVA of the existing MV/LV substation that supplies the estate or scheme.

5.2 Application Process

For <u>new connections</u>, application for connection shall be made on the relevant application form for new connections (available on <u>www.esbnetworks.ie</u>) including details of Micro-Generation required as set out on the application form.

Thereafter, apart from the Type-Test certification issues referred to above, the application is processed in accordance with existing procedures.

However, in the case of installations with multiple customers and one incoming connection to the building, the connection to the building shall be assessed by ESB Networks, as the 'Inform and Fit' process is based on an assumption of one connection to a premises with one 25A single phase or 16 A three phase generator. Accordingly, the connection should not be processed under 'Inform and Fit' until confirmation is received from ESB Networks.

Planned installations with a total installed capacity of up to 25 A (c. 6 kVA) single phase or 16 A per phase three phase (c. 11kVA) shall be treated under the 'Inform and Fit' process. However, for clarity, installations above these levels shall be separately assessed outside the 'Inform and Fit' process under the connection procedures on ESB Networks' website.

5.3 Network sizing considerations

No allowance for import reduction shall be taken into consideration in the determination of the sizing of network components. All designs shall be based upon the consideration of the more onerous of

- > The MIC requested in the relevant application form and
- ➤ The MEC as defined in <u>Section 1.3</u>

But the MEC (deemed the Installed Capacity) shall not be greater than MIC.

Annex A. (Mandatory) Form NC6-01-R6 - Micro-Generation Protection Settings Confirmation Certificate

Micro-Generation Protection Settings Confirmation Certificate Form NC6-01-R6

(Please complete and return to ESB Networks with appropriate Application and Type Test Certificate)

Site Address:	MPRN:		Eircode:	
Microgenerator Manufacturer:		Model No:		
Corresponding Type Test Certificate Referencing	g above Unit:			
Single/Three Phase:		Single:	Three: 🗆	
Parameter		Trip setting	Clearance time	Confirm Settings Applied (Y/N)
Over voltage				
Pre I.S EN 50549-1 Single Stage Voltage Setting		269 V / 468 V	0.7 s	
	Stage 1	269 V / 468 V	70 s	
I.S. EN 50549-1 Two Stage Voltage Settings	Stage 2	281 V / 488 V	0.7 s	
Under voltage		191 V / 332 V	0.7 s	
Over frequency*		52 Hz	0.5 s	
Under frequency*		47 Hz	0.5 s	
An explicit Loss of Mains functionality shall be ind Rate of Change of Frequency, or Source Impedan Impedance is measured, this shall be achieved by involves the injection of pulses onto the DSO net	ce Measurement ma / purely passive mea	ay be used. Where ns. Any implement	Source	
ROCOF (**)		1.0 Hz/s	0.6 s	
Vector Shift		Not pe	rmitted	

Important Note:

- No deviations for the protection settings above a shall be allowed without permission in writing from ESB Networks.
- If a deviation exists, please provide correspondence from ESB Networks confirming acceptance of this deviation to <u>networkservicesbureau@esb.ie</u>

The Micro-Generation installation proposed for connection at the above address:

- (a) Conforms to <u>I.S. EN 50549-1</u> and that a Type Test identifying that this Manufacturers Model has been Type Tested is attached.
- (b) Details of the Generator interface protection settings installed are as per those applicable in the Conditions Governing the Connection and Operation of Micro-Generation (<u>DTIS-230206-BRL</u>) current at date of application, and the actual settings installed on the Micro-Generator are as listed above.



If a deviation exists for which no permission from ESB Networks had been granted, the installation shall be disconnected immediately, and contact made with ESB Networks to regularise the situation.

I confirm that the above information is accurate:

Installer Name:	Installer SafeElectric No:	
Installer Mobile No.:	Installer email:	
Installer Address [inc. Eircode]:		
Signature:		
Date:		
Date.		

Derogations

No Derogations are recorded against the Requirements of this document.

Terms, Definitions & Symbols Used

For the purposes of this document, the following terms and definitions apply.

Table 4: Terms & Definitions

Term / Symbol	Definition
Shall	Designates a Company Requirement, hence conformance is mandatory.
Should	Designates a Company Recommendation where conformance is not mandatory, but is recognised as best practice.
May	Designates a Permissive Statement - an option that is neither mandatory nor specifically recommended.



CAUTION: Used to give the end user information on what can happen, why and the consequences of ignoring the caution.



Used to give the end user specific, important information to help complete the task or procedure correctly.

This is a stop or critical point in the procedure. It contains a rule that shall be followed by the end user.

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