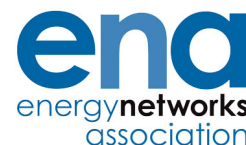


# EV & HP Application



## **Application Form for the Installation of Low Carbon Technologies**

This application form must be completed and sent by the installer to the DNO directly when installing an **Electric Vehicle Charge Point or Heat Pump**. This form should be used for premises with an existing DNO connection. For new DNO connections, this form should be used in addition to a new electricity connection application. To ensure the safety and security of the Electricity Networks, depending on the size, type and location of the installation, you may need to apply for a connection with the DNO **prior to installation** of the device. To determine if you need to apply to the DNO for a connection prior to installation or not, please ensure you read and understand the connection processes for Electric Vehicles and Heat Pumps on the ENA website here:

<http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html>

For help identifying the correct DNO and their contact details please visit:

[http://www.energynetworks.org/assets/files/electricity/futures/Electric%20Vehicles%20and%20Heat%20Pumps/dno\\_info\\_for\\_ev&hp\\_310818.pdf](http://www.energynetworks.org/assets/files/electricity/futures/Electric%20Vehicles%20and%20Heat%20Pumps/dno_info_for_ev&hp_310818.pdf)

Please note that:

- One form must be submitted per device per premises. For multiple devices (including multiple devices under one controller) or multiple properties, please use the multiple installations spreadsheet, also available on the ENA website here: <http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html>
- An 'adequacy of the supply' assessment is required prior to any Electric Vehicle Charge Point or Heat Pump installation. This requires a load survey to calculate the **new Maximum Demand (MD)**, including the device to be installed.
- The DNO must be contacted **in advance of installation** where there is an identified issue with adequacy or safety concern with the premises existing service equipment, where the new MD is greater than the cut-out rating, where the new MD is >60A (13.8kVA single phase) for residential properties or the devices do not meet the required standards.\* Depending on the size and/or number of devices being connected, the DNO may ask for additional information to be supplied.
- In certain circumstances, for example if the total MD of the premises is ≤60A and adequacy of the connection is known\*, the DNO shall be notified within 28 days of the installation.
- Any reinforcement costs associated with this installation may be recharged to the customer.

Providing that this form is fully and correctly completed, the following timeframes are applicable:

- Properties with **new MD** ≤60A and meeting all other relevant requirements\* - installers can connect their device(s) and shall notify the DNO by filling in this form within 28 days of the installation
- Properties with **new MD** between 60A and 100A inclusive (and not CT metered) - the installer must apply for a connection prior to installation by filling in this form and the DNO will assess the supply capacity within 10 working days
- Properties with **new MD** >100A (and not CT metered) - the installer must apply for a connection prior to installation by filling in this form. Timescales as per the Electricity Distribution Licence, Electricity (Guaranteed Standards of Performance) Regulations 2010: <https://www.ofgem.gov.uk/ofgem-publications/47616/connections-gsop-guidance-sept0809.pdf>. See local DNO connections Guaranteed Standards of Service for specific response timescales in your area.

\* All devices must comply with the process described on the ENA website here: <http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html>

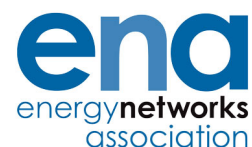
### **Installer Contact Details**

<b>Name</b>	
<b>Company</b>	
<b>Address line 1</b>	
<b>Address line 2</b>	
<b>Town</b>	
<b>Postcode</b>	
<b>Contact Number</b>	
<b>Email</b>	

### **Customer Contact Details**

<b>Name</b>	
<b>Address line 1</b>	
<b>Address line 2</b>	

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Town	
Postcode	
Contact Number	

## Installation Location Address (if different from Customer Address)

Name	
Address line 1	
Address line 2	
Town	
Postcode	
Contact Number	

## Electrical Installation Details

<b>Type of Installation</b> Please note that one technology per form should be used	<input type="checkbox"/> Electric Vehicle Charge Point <input checked="" type="checkbox"/> Heat Pump	
<b>MPAN (11 digit MPRN if Northern Ireland)</b> See <a href="http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html">http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html</a> for details. If the supply is unmetered, the 'Apply to Connect' process is applicable and the local DNO must be contacted.	-----	
<b>Number of Phases</b>	<input checked="" type="checkbox"/> Single Phase <input type="checkbox"/> Split/two Phase <input type="checkbox"/> Three Phase	
<b>Declared Voltage at Connection Point</b>	230 Volts	
<b>Maximum Demand (MD) of premises</b> Including proposed installation, concluded from a Load Survey, as well as any import or load limiting devices.	..... Amps (per phase)	
<b>Does this premises include an import or load limiting device?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Maximum Current Demand the proposed EV/HP can draw</b> Include any associated immersion elements. The maximum simultaneous demand must be stated <sup>†</sup> . Additional equipment/reconfiguration not included in this application is not permitted after installation	25 Amps	<input checked="" type="checkbox"/> Single Phase <input type="checkbox"/> Three Phase
<b>Has the DNO been contacted about this installation and confirmed the Premises Supply Capacity?</b> Essential if <u>new</u> MD >60A. Tick one as appropriate	<input type="checkbox"/> Yes – Reference Number / Date, if applicable: ..... Supply Capacity: .....A <input type="checkbox"/> No	
<b>Premises Cut-out Rating*</b> If known. See ENA website for guidance.	..... Amps	
<b>Final or Proposed Earthing Arrangements</b> as per BS 7671 and the IET Code of Practice: <a href="https://www.theiet.org/resources/standards/cop-electric.cfm">https://www.theiet.org/resources/standards/cop-electric.cfm</a>	<input type="checkbox"/> TN-C-S (PME) <input type="checkbox"/> TN-S (SNE) <input type="checkbox"/> TT (Direct)	
<b>Is the service looped?</b> Tick one as appropriate	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know	
<b>Type of installation</b> Tick one as appropriate	<input type="checkbox"/> Domestic <input type="checkbox"/> Non-domestic <input type="checkbox"/> Other - Please detail: .....	
<b>Have you identified any issues with adequacy of the existing supply equipment?</b> Tick one as appropriate	<input type="checkbox"/> Yes - Please detail: ..... ..... <input type="checkbox"/> No	
<b>Date of Installation (if 'connect and notify' applicable)</b>	DD/MM/YYYY	

# EV & HP Application

† The installer must ensure no other parallel devices can run simultaneously. If the installation is one controller but multiple devices, please use the multiple installations spreadsheet

\* If the cut-out rating is unknown or uncertain, it can be established by raising an enquiry with the DNO. If the supply capacity still cannot be established, the 'Apply to Connect' process must be followed and the aforementioned timeframes are applicable. Please note that one should not open the cut out. Guidance on cut-out ratings is available on the ENA website. If the cut-out rating is unknown, a picture can be provided to the DNO.

## Power Quality Declaration - Heat Pumps Only†

<b>Heat Pump Manufacturer</b>	Samsung Electronics
<b>Heat Pump Model</b>	AE090JXYDEH
<b>How will the Heat Pump be used?</b> Please tick one of the following options	<input checked="" type="checkbox"/> The Heat Pump model stated will provide HEATING ONLY <input type="checkbox"/> The Heat Pump model stated will provide HEATING & COOLING
<b>Does the Heat Pump have a Backup, Boost or Immersion Element installed?</b> If yes, please provide Immersion Element rating	<input checked="" type="checkbox"/> Yes - Rating: 13.0 Amps <input type="checkbox"/> No
<b>Is this model in the ENA Heat Pump Type Register Database and is the information in the Database correct?</b> See register <a href="#">here</a> . If yes, please proceed to 'Declaration' section.	<input type="checkbox"/> Yes - Register No: <input type="checkbox"/> No
<b>If no, please fill in the following additional Power Quality details required for non-registered Heat Pump Models</b>	
<b>Datasheet and other Power Quality documentation for the Heat Pump attached to this application?</b> <u>Must be provided.</u> It is the installer's responsibility to ensure all information required to populate the Heat Pump Type Register Database is provided.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Does the installation meet the Microgeneration Certificate Scheme* Product Requirements?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Harmonics</b> Does the proposed installation comply with the technical requirements of BS EN/IEC 61000-3-2?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Harmonics</b> Does the proposed installation comply with BS EN/IEC 61000-3-12?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Flicker</b> Does the proposed installation comply with the technical requirements of BS EN/IEC 61000-3-3?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Flicker</b> Does the proposed installation comply with BS EN/IEC 61000-3-11?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

† Please refer to the Manufacturers Declaration of Conformity, device type test certificate and datasheet. If using the multiple installations spreadsheet, the confirmation of standards compliance should refer to the whole installation, i.e. at the point of common coupling.

\* <https://www.microgenerationcertification.org/mcs-standards/product-standards/heat-pumps/>

## Declaration

I confirm that the information I have given in this form is true to the best of my knowledge for the electrical installation noted above. The customer at the above address has been advised that commissioning of the installation may only take place when the Network Operator has completed any reinforcement works the supply network requires.

<b>Name</b>		<b>Signed</b>		<b>Date</b>	
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## DATA ENTRY SHEET - $\leq 75A$ [Harmonics]

### Equipment

<b>Make</b>	Samsung Electronics
<b>Model</b>	AE050JXYDEH
<b>Model Reference</b>	Space heaters and Combination heaters
<b>Module</b>	Whole system

### Harmonic Current Emission Data

Phase	L1		Phase	L2		Phase	L3	
	<b>Current (A)</b>			<b>Current (A)</b>			<b>Current (A)</b>	
$I_{equ}$	20.823		$I_{equ}$			$I_{equ}$		
$I_{ref}$	21.322		$I_{ref}$			$I_{ref}$		
	<b>Current (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>		<b>Current (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>		<b>Current (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>
RMS			RMS			RMS		
<b>Harmonic h</b>	<b><math>I_h</math> (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>	<b>Harmonic h</b>	<b><math>I_h</math> (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>	<b>Harmonic h</b>	<b><math>I_h</math> (A)</b>	<b><math>I_h/I_{ref}</math> (%)</b>
2	0.0302	8.00%	2			2		
3	1.6026	21.60%	3			3		
4	0.025	4.00%	4			4		
5	0.6613	10.70%	5			5		
6	0.0148	2.67%	6			6		
7	0.4311	7.20%	7			7		
8	0.0111	2.00%	8			8		
9	0.3831	3.80%	9			9		
10	0.0115	1.60%	10			10		
11	0.1736	3.10%	11			11		
12	0.0087	1.33%	12			12		
13	0.1962	2.00%	13			13		
	<b>THC/<math>I_{ref}</math> (%)</b>			<b>THC/<math>I_{ref}</math> (%)</b>			<b>THC/<math>I_{ref}</math> (%)</b>	
THC	23%		THC			THC		
	<b>PWHC/<math>I_{ref}</math> (%)</b>			<b>PWHC/<math>I_{ref}</math> (%)</b>			<b>PWHC/<math>I_{ref}</math> (%)</b>	
PWHC	23		PWHC			PWHC		
<b>Manufacturer's Data Reference</b>	1583.CE DoC_AE050JXYDEH_150603_Rev01							

### Manufacturer's Documentation Declaration

<b>In accordance with EN 61000-3-12...</b>	<b>Minimum short-circuit level, <math>S_{sc\ min}</math> (kVA)</b>
Equipment complying with IEC 61000-3-12	

### Manufacturer's Declaration for Connection Design Purposes

<b>Statement</b>	Emissions do not exceed Class A limits in IEC 61000-3-2
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# EV & HP Application

## DATA ENTRY SHEET - ≤75A [Fluctuations]

**NOTE** Use this sheet to provide information and data for equipment falling within the scope of IEC 61000-3-11.

### DATA

#### Equipment

<b>Make</b>	Samsung Electronics
<b>Model</b>	AE050JXYDEH
<b>Model Reference</b>	Space heaters and Combination heaters
<b>Module</b>	Whole system

#### Manufacturer's Documentation Declaration

<b>In accordance with EN 61000-3-11...</b>	<b>Maximum source impedance, <math>Z_{max}</math> (<math>\Omega</math>)</b>
Equipment complying with IEC 61000-3-3 technical requirements	0.4
<b>Manufacturer's Data Reference</b>	1583.CE DoC_AE050JXYDEH_150603_Rev01