

Home Energy Grants: Technical Bulletin – Heat Pump Systems

Documentation Handling Guidance

Series 2023-07-001



Guidance for Correct Documentation Handling for Heat Pump System Grant Installations

This technical bulletin outlines the most frequent non-compliance noted by SEAI inspectors of heat pump system installations. The documentation handling topics detailed below are guidance with the aim of reducing the number of reworks for Contractors and subsequently lead to a more efficient Programme with faster turnaround time for payment.

It is important to note that all aspects of the installation of heat pump systems must be as per the Domestic Technical Standards and Specifications (DTSS) document and in accordance with the Contractors Code of Practice.

Please see the Contractors Support page for further information which may aid Contractors in achieving high compliance on the Better Energy Homes Programme: <https://www.seai.ie/grants/supports-for-contractors/>.

In this bulletin on documentation guidance for the installation of heat pump systems, the non-compliances are listed below along with suggested corrective action.

Non-Compliances and Notes covered in Technical Bulletin:

Commissioning and Handover:

1. Submitting Designer/Installer form and EcoDesign datasheets at DOW stage.
2. Commissioning documents not available/correct & RECI cert not present/correct upon Inspection.

Commissioning and Handover

Details of Non-Compliance

The absence of heat pump documentation is responsible for the highest number of inspection reworks. This is a frequently reoccurring item which can result in unnecessary long delays to grant payments and contractor works.

Contractors must provide homeowners with the following design documents, completed in their entirety and signed by the Contractor, for submission with the Declaration of Works (DOW) form:

- Designer/Installer Form
- Ecodesign datasheets

These forms can be found at the following link - <https://www.seai.ie/grants/supports-for-contractors/>

The figure displays two sections of a form. The left section, titled 'DEAP Heat Pump - Designer/Installer Sign Off Form (Version 5.3.4)', includes fields for address, MPRN, BEA, and a table for heat pump selection with columns for Heat pump #1, #2, and #3. The right section, 'Heat Emission Design', contains a table for heat pump systems and a declaration section with fields for full name, company name, and signature.

Figure 1: Sections of the Designer/Installer Sign-off Form. To be submitted at DOW Stage

The figure shows a 'Heating Design Details' table with 12 columns: Room, Room Heat Loss [W], Type of emitter, Manufacturer, Model / Size, Single heat emitter output at ΔT_{design} [W], Number of emitters, Total heat output [W], Design Room Temp [°C], ΔT_{design} for heat output, UF for heat output [W/m²], Supply Air Temperature [°C], Air Volume l/s, and Notes. Summary fields at the bottom include Total Heat Loss (Watts/m²), Area of Dwelling (m²), HLI (Design) (W/m²), Heat pump output at design conditions (kW), Total Output (Watts), and Full Name, Company Name, Email, and Date.

Figure 2: Heating Design Ecodesign Datasheets to be submitted at DOW Stage

The homeowner must also be provided with the following documentation upon installation of the heat pump system for the purposes of a possible pre-pay or post-pay inspection, where required:

- Register of Electrical Contractors (RECI) Certificate
- Heat Pump Commissioning Certificate
- User Manual
- F-Gas Certificate (if applicable)
- Ground and water collector design (if applicable)

The most frequent documents which are absent upon an inspection, and subsequently cause inspection fails and reworks, are the **Commissioning Documents and Register of Electrical Contractors Ireland (RECI) Cert.**

The Commissioning Checklist is to be completed by the installer and accompanied as a means of demonstrating compliance with the requirements of the Regulations and Form handed to the customer to keep for future reference. For further information, please refer to the relevant sections of the training manual and commissioning manual. Failure to install and commission the equipment to the manufacturer's instructions may invalidate the warranty and other related statutory rights.

Commissioning Checklist Making a World of Difference

Customer Name: _____ Address: _____
 No. _____
 County: _____
 Commissioned By: _____ Commissioning Date: _____

400 Company Name & Address: _____

CONTROLS - SYSTEM AND HEAT PUMP (Tick for appropriate boxes if applicable)

1. Check & Reconnect	Reset Thermostat & Programmable Roommate	Weather Compensated	Outdoor Reset
2. Check & Reconnect Control To Heat Source	Control Thermostat & Programmable Roommate	Controlled with heat pump controller	
3. Heating Zone Valve (including underfloor heating)	Reset	As Required	
4. Hot Water Zone Valve or 3 way valve	Reset	As Required	
5. Thermostatic Radiator Valve	Reset	As Required	
6. Heat Pump Safety Interlock	Reset	As Required	
7. Check & Lubricate temperature sensors correctly installed?	Yes	No	No
8. Outdoor Sensor Status	Reset	As Required	As Required
9. Weather Compensation Settings	Reset	As Required	As Required
10. Control System	Reset	As Required	As Required
11. Heat Pump Control	Reset	As Required	As Required
12. Are the heat pump controls correctly installed?	Yes	No	No

ALL SYSTEMS (Tick for appropriate boxes if applicable)

1. The heating system has been bleed and pressure tested	Yes	No
2. Expansion vessel has been checked. Check if expansion is in accordance with manufacturer's instructions	Yes	No
3. The heat pump is fixed on a suitable & level surface (verify using a spirit level)	Yes	No
4. The system has been flushed and cleaned in accordance with BS7440 and heat pump manufacturer's instructions	Yes	No
5. Heat pump clean air vent?	Yes	No
6. Outdoor fan setting	A	B
7. Outdoor coil surface area or Plate heat exchanger	As	As
8. Outdoor coil size (check)	As	As
9. Size of the compressor head?	As	As
10. Legally installed	As	As
11. Operating controls correct with?	As	As
12. Minimum outside temperature	As	As
13. Minimum outside max/min (Flow and Return)	As	As

OUTDOOR UNIT (Tick for appropriate boxes if applicable)

1. Full external approach measured?	Yes	No
2. Is the fan fixed from vibration and squeaking? Addressed and fixed?	Yes	No
3. Has additional condensation been made by condensation discharge?	Yes	No
4. Fan and when installed cable fixed?	Yes	No
5. Fan electrical correctly earthed?	Yes	No

HEATING MODE (Tick for appropriate boxes if applicable)

1. Heating System Status	Heating Flow Temperature	°C	Heating Return Temperature	°C
2. Outdoor type	As	As	As	As
3. Outdoor sensor?	Yes	No	As	As
4. Is airspeed from outdoor?	Yes	No	As	As

DOMESTIC HOT WATER MODE (Tick for appropriate boxes if applicable)

1. Is the hot water pump connected to a hot water cylinder?	As	As	As
2. Domestic hot water pump temperature	As	As	As
3. Hot water has been checked at outlets	Yes	No	As
4. Have thermostatic mixing valves been fitted?	Yes	No	As

ADDITIONAL SYSTEM INFORMATION (Tick for appropriate boxes if applicable)

1. Additional hot water connection	As	As	As
2. Reset and clear the error if present	Yes	No	As
3. The operation of the heat pump will appear correct to the user	Yes	No	As

Commissioning Engineer's Signature: _____ Customer's Signature (owner/authorized person for sign-off): _____

Figure 3: Commission Cert

National Rules for Electrical Installations
Completion Certificate for Existing Installations
 THIS CERTIFICATE CANNOT BE USED TO OBTAIN A CONNECTION / RE-CONNECTION FROM THE DSO.

MPRN No: _____ (if applicable) Serial Number: 0000000

CUSTOMER NAME (Block Capitals): _____

ADDRESS OF INSTALLATION (Block Capitals): _____

Installation Type: Controlled Works Minor Works Test (only of the existing installation)

Please tick (-) or appropriate, see Chapter 62 & Annex 63B

Premises Description (e.g. Commercial, Domestic, Agricultural, etc.): _____

Details of what this cert covers: _____
 Details to include include, but not limited to, 1. 1.4.1.1. 1.4.1.2. 1.4.1.3. 1.4.1.4. 1.4.1.5. 1.4.1.6. 1.4.1.7. 1.4.1.8. 1.4.1.9. 1.4.1.10. 1.4.1.11. 1.4.1.12. 1.4.1.13. 1.4.1.14. 1.4.1.15. 1.4.1.16. 1.4.1.17. 1.4.1.18. 1.4.1.19. 1.4.1.20. 1.4.1.21. 1.4.1.22. 1.4.1.23. 1.4.1.24. 1.4.1.25. 1.4.1.26. 1.4.1.27. 1.4.1.28. 1.4.1.29. 1.4.1.30. 1.4.1.31. 1.4.1.32. 1.4.1.33. 1.4.1.34. 1.4.1.35. 1.4.1.36. 1.4.1.37. 1.4.1.38. 1.4.1.39. 1.4.1.40. 1.4.1.41. 1.4.1.42. 1.4.1.43. 1.4.1.44. 1.4.1.45. 1.4.1.46. 1.4.1.47. 1.4.1.48. 1.4.1.49. 1.4.1.50. 1.4.1.51. 1.4.1.52. 1.4.1.53. 1.4.1.54. 1.4.1.55. 1.4.1.56. 1.4.1.57. 1.4.1.58. 1.4.1.59. 1.4.1.60. 1.4.1.61. 1.4.1.62. 1.4.1.63. 1.4.1.64. 1.4.1.65. 1.4.1.66. 1.4.1.67. 1.4.1.68. 1.4.1.69. 1.4.1.70. 1.4.1.71. 1.4.1.72. 1.4.1.73. 1.4.1.74. 1.4.1.75. 1.4.1.76. 1.4.1.77. 1.4.1.78. 1.4.1.79. 1.4.1.80. 1.4.1.81. 1.4.1.82. 1.4.1.83. 1.4.1.84. 1.4.1.85. 1.4.1.86. 1.4.1.87. 1.4.1.88. 1.4.1.89. 1.4.1.90. 1.4.1.91. 1.4.1.92. 1.4.1.93. 1.4.1.94. 1.4.1.95. 1.4.1.96. 1.4.1.97. 1.4.1.98. 1.4.1.99. 1.4.1.100.

Date of Installation: _____

Number of: Lighting Points Socket Outlets Fixed Appliance Outlets

TEST RESULTS POLARITY AND EARTHING OF ALL OUTLETS (Tick if all 2 boxes YES/N/A)

MINIMUM INSULATION RESISTANCE	Ω	RATING & TYPE OF THE ASSOCIATED PROTECTIVE DEVICE	
MAX FAULT LOOP IMPEDANCE	Ω	MAX Trip Time of RCD 1 s to	ms
OPERATION OF ALL RCDs VERIFIED (tick)	Yes	MAX Trip Time of RCD 5 s to	ms

DETAILS OF TESTS ARE GIVEN IN TEST RECORD SHEET No: _____

COMMENTS (Exclude any defects to existing installation observed)

CERTIFICATION
 I certify that the installation work detailed at the above address has been constructed, and/or pre-energization and post-energization tests have been carried out, in accordance with the National Rules for Electrical Installations (current issue at date of contract) published by the Electro-Technical Council of Ireland, and has been found to be satisfactory. Additional circuits do not impact the safety of the existing installation. This certificate and the test record sheets associated with it shall be submitted to the DSO.

PRE & POST-ENERGISATION TESTS

Registered Electrical Contractor (Block Capitals)
 Name: _____
 Address: _____
 Tel: _____
 Registration Number: _____

Signature: _____ Constructor Tester
 Qualification: _____ Qualified Certifier's No: _____
 Date: _____

NOTE: This certificate is issued and signed by the person responsible for the installation/rectification of electrical work as a person duly authorized. This document is a certificate for the purpose of the Energy Efficiency (Permitted AC) 2006. The Electro-Technical Council of Ireland or the Regulatory Body are not responsible for the electrical installation or for the accuracy of the information given on this certificate. Electrical installations should be inspected periodically.

Figure 4: RECI Cert

Tips to Reduce Occurrence of Non-Compliance

In order to reduce the occurrence of these non-compliances in relation to documentation on heat pump installations, the following mitigation measures are suggested to ensure documentation is handled correctly and the Homeowner is well informed of the same.

Documentation for Submitting along with DOWs

It is recommended as part of a Contractors Quality Management System (QMS) for documentation handling, that the registered Contractor provides a **Handover Pack** to the Homeowner.

This **Handover Pack** should contain the signed and completed DOW, Designer/Installer form and EcoDesign datasheets. The Homeowner should be informed these additional documents must be submitted to SEAI when submitting the completed DOW.

Important Reminder Note: Designer/Installer forms and DOWs must only be signed by nominated personnel.

Documentation Handover to Homeowner for Inspection Purposes

It is recommended that the steps detailed below are taken with homeowners following the installation of a heat pump system.

1. **Leave Physical Copy of Necessary Documentation:** Firstly, the Contractor should leave all necessary documents (as mentioned above) with the homeowner and inform the homeowner that they may be subject to a pre-pay or post-pay inspection from SEAI. Should that particular homeowner be randomly selected for inspection, they will have to produce this documentation upon request from the Inspector. Please note, failure to produce this documentation may result in delay in payment of the grant or loss of the grant money entirely should the Contractor fail to complete necessary reworks.
2. **Email a copy of Documentation to Homeowner with the subject line “HEAT PUMP DOCUMENTS FOR SEAI INSPECTION”:** An email with the necessary documentation attached with the above subject line ensures that even if the homeowner misplaces the physical copy of the documents, there is a backup copy of the documents on an email which is easily searchable with the above subject line.

Grant Administration and Quality Management

An effective QMS can address all of the above issues and ensure:

- Faster processing of payments
- Reduced costs
- Fewer reworks
- Better quality of service for your customers

All of which will help you grow your business. Please visit <https://www.seai.ie/grants/supports-for-contractors/> for more information on how to manage quality.

w: www.seai.ie
e: info@seai.ie
t: 01 8082100



Rialtas na hÉireann
Government of Ireland