Date	22/09/2021	Certificate Serial No/Ref:	21-614-1

Connect -Green Ltd
Electrical Installation Certificate

(Requirements for Electrical Installations - BS 7671 IET Wiring Regulations)

DETAILS OF THE CLIENT

Client/Address	St Mary's Church, Church Street, Bocking, Braintree, CM7 5JY

DETAILS OF THE INSTALLATION

Address:	St Mary's church, Church Street, Bocking, CM7 5JY	**New**	N/A
Extent of the installation covered by this Certificate:	New heating circuits	**An Addition**	✓
		An Alteration	N/A

DESIGN

* BS 7671 amended to : **2018**

I/We being the person(s) responsible for the design of the electrical installation (as indicated by my/our signature(s) below, particulars of which are described above, having exercised reasonable skill and care when carrying out the design, hereby Certify that the design work for which I/we have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 amended to* except for the departures, if any, detailed as follows:

Details of departures from BS 7671 *as amended (Regulations 120.3, 133.1.3, 133.5) N/A

Details of permitted exceptions (Regulation 411.3.3). Where appropriate a suitable risk assessment should be attached to this certificate

N/A

Risk assessment attached

The extent of liability of the signatory/signatories is limited to the work described above as the subject of this certificate.
For the DESIGN of the installation: ** (Where there is divided responsibility for the design)

Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**Designer 1**
Signature		**Date**	22/09/2021	**Name** (CAPITALS)	N/A	**Designer 2 ** **

CONSTRUCTION

* BS 7671 amended to : **2018**

I being the person(s) responsible for the construction of the electrical installation (as indicated by my/our signature(s) below, particulars of which are described above, having exercised reasonable skill and care when carrying out the construction, hereby Certify that the construction work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 amended to* except for the departures, if any, detailed as follows:

Details of departures from BS 7671 *as amended (Regulations 120.3, 133.1.3, 133.5) N/A

The extent of liability of the signatory is limited to the work described above as the subject of this certificate.
For the CONSTRUCTION of the installation:

Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**Constructor**

INSPECTION AND TESTING

* BS 7671 amended to : **2018**

I being the person(s) responsible for the inspection and testing of the electrical installation (as indicated by my/our signature(s) below, particulars of which are described above, having exercised reasonable skill and care when carrying out the inspection and testing, hereby Certify that the inspection and testing work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 as amended to* except for the departures, if any, detailed as follows:

Details of departures from BS 7671 *as amended (Regulations 120.3, 133.1.3, 133.5) N/A

The extent of liability of the signatory is limited to the work described above as the subject of this certificate.
For the INSPECTION AND TESTING of the installation:

Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**Inspector**

Reviewed by

Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**Qualified Supervisor**

DESIGN, CONSTRUCTION, INSPECTION AND TESTING

*** This box is to be completed only where the design, construction, inspection and testing have been the responsibility of one person.**

I, being the person responsible for the design, construction, inspection and testing of the electrical installation (as indicated by my signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design, construction, inspection and testing, hereby CERTIFY that the inspection and testing work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 as amended to except for the departures, if any, detailed as follows:**

****BS 7671 amended to :** 2018

Details of departures from BS 7671, as amended (Regulations 120.3 & 133.5) None

The extent of liability of the signatory is limited to the work described above as the subject of this certificate.
For the DESIGN, CONSTRUCTION, and the INSPECTION AND TESTING of the installation.

Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**INSPECTOR**
Reviewed by						
Signature		**Date**	22/09/2021	**Name** (CAPITALS)	K GORDON	**Qualified Supervisor**

PARTICULARS OF THE ORGANISATION(S) RESPONSIBLE FOR THE ELECTRICAL INSTALLATION

DESIGN (1)
Organisation Connect -Green Ltd

Address: 12 Samuel Courtauld Avenue, Bocking, Braintree, Essex, CM7 5GJ

Registration No. (Where appropriate) 14108

Branch number (if applicable)

DESIGN (2)
Organisation N/A

Address: N/A

Registration No. (Where appropriate) N/A

Branch number (if applicable) N/A

CONSTRUCTION
Organisation Connect -Green Ltd

Address: 12 Samuel Courtauld Avenue, Bocking, Braintree, Essex, CM7 5GJ

Registration No. (Where appropriate) 14108

Branch number (if applicable)

INSPECTION & TESTING
Organisation Connect -Green Ltd

Address: 12 Samuel Courtauld Avenue, Bocking, Braintree, Essex, CM7 5GJ

Registration No. (Where appropriate) 14108

Branch number (if applicable)

SUPPLY CHARACTERISTICS AND EARTHING ARRANGEMENTS

System Types

TN-S	N/A
TN-C-S	✓
TN-C	N/A
TT	N/A
IT	N/A

Number and types of live conductors

a.c.	✓	d.c.	N/A
1-Phase 2 wire	N/A	2 wire	N/A
2-Phase 3 wire	N/A	3 wire	N/A
3-Phase 3 wire	N/A	Other	N/A
Other			

3-Phase 4 wire ✓

Confirmation of supply polarity ✓

Nature of supply parameters

Nominal voltage U/Uo	230	**Volts**
Nominal frequency	50	**Hz**
Prospective fault current	0.778	**kA**
External Ze	0.30	**Ohms**
Number of supplies	1	

CHARACTERISTICS OF THE SUPPLY OVERCURRENT PROTECTIVE DEVICE

Type BS/EN	BS 1361 Fuse HBC - Type 2	Rated current	100	**A**	Short circuit capacity	33	**kA**

PARTICULARS OF INSTALLATION AT THE ORIGIN

Means of earthing

Details of installation Earth Electrode (where applicable)

Supplier's facility	✓	Type: (e.g. rods, tape etc)	N/A	Location	N/A
Installation earth electrode	N/A	Electrode resistance to Earth	N/A **Ω**	Method of measurement	N/A
Maximum Demand (Load)	80 **Amps**			Protection under normal conditions	ADS

Main Switch/Switch-Fuse/Circuit-Breaker/RCD

Type BSEN	61008 RCD	No of poles	4	Fuse/Device rating	415 **V**	Current rating	100 **A**

If RCD main switch

RCD IΔn operating curent	100 **mA**	RCD rated time delay	300 **ms**	RCD at IΔn operating time	41.2 **ms**

Supply conductors

Conductor material	Copper
Conductor csa	25 **mm²**

Earthing conductors

Conductor material	Copper	Conductor csa	16 **mm²**	Continuity check	✓ **(✓) OK**

Main bonding conductors to extraneous-conductive-parts

Conductor material	Copper	Conductor csa	10 **mm²**	Continuity check	✓ **(✓) OK**

Bonding of extraneous conductive parts (✓)

Water Installation pipes	N/A	Gas Installation pipes	✓	Oil Installation pipes	N/A	Structural steel	N/A	Lightning protection	N/A	Other	N/A	**List in report notes**

COMMENTS ON THE EXISTING INSTALLATION

N/A

NEXT INSPECTION

I/We the designer(s), recommend that this installation is further inspected and tested after an interval of not more than 5 years

SCHEDULE OF INSPECTIONS (for new installation work only)

Item No	DESCRIPTION	OUTCOME	Item No	DESCRIPTION	OUTCOME
1.0	**DISTRIBUTOR'S / SUPPLY INTAKE EQUIPMENT** (VISUAL INSPECTION ONLY)			**CONSUMER UNIT(S) / DISTRIBUTION BOARD(S) continued**	
1.1	Service cable	✓	7.6	Protection against mechanical damage where cables enter equipment (522.8.1; 522.8.5; 522.8.11)	✓
1.2	Service head	✓	7.7	Confirmation that ALL conductor connections are correctly located in terminals and are tight and secure (526.1)	✓
1.3	Earthing arrangement	✓	7.8	Avoidance of heating effects where cables enter ferromagnetic enclosures e.g. steel (521.5)	✓
1.4	Meter tails	✓	7.9	Selection of correct type and ratings of circuit protective devices for overcurrent and fault protection (411.3.2; 411.4, 411.5, 411.6; Sections 432, 433; 537.3.1.1)	✓
1.5	Metering equipment	✓	7.10	**Presence of appropriate circuit charts, warning and other notices:**	
1.6	Isolator (where present)	N/A		• Provision of circuit charts/schedules or equivalent forms of information (514.9)	✓
2.0	**PARALLEL OR SWITCHED ALTERNATIVE SOURCES OF SUPPLY**			• Warning notice of method of isolation where live parts not capable of being isolated by a single device (514.11)	N/A
2.1	Adequate arrangements where a generating set operates as a switched alternative to the public supply (551.6)	N/A		• Periodic inspection and testing notice (514.12.1)	✓
2.2	Adequate arrangements where a generating set operates in parallel with the public supply (551.7)	N/A		• RCD six-monthly test notice; where required (514.12.2)	✓
3.0	**AUTOMATIC DISCONNECTION OF SUPPLY**			• AFDD six-monthly test notice; where required	N/A
3.1	**Presence, adequacy of earthing & protective bonding arrangements**			• Warning notice of non-standard (mixed) colours of conductors present (514.14)	✓
	• Distributor's earthing arrangement (542.1.2.1; 542.1.2)	✓	7.11	Presence of labels to indicate the purpose of switchgear and protective devices (514.1.1; 514.8)	✓
	• Installation earth electrode (where applicable) (542.1.2.3)	N/A	8.0	**CIRCUITS**	
	• Earthing conductor and connections, including accessibility (542.3; 543.3.2)	✓	8.1	Adequacy of conductors for current-carrying capacity with regard to type and nature of the installation (Section 523)	✓
	• Main protective bonding conductors and connections, including accessibility (411.3.1.2; 543.3.2; 544.1)	✓	8.2	Cable installation methods suitable for the location(s) and external influences (Section 522)	✓
	• Provision of safety electrical earthing/bonding labels at all appropriate locations (514.13)	✓	8.3	Segregation/separation of Band I (ELV) and Band II (LV) circuits, and electrical and non-electrical services (528)	✓
	• RCD(s) provided for fault protection (411.4.204; 411.5.3)	✓	8.4	Cables correctly erected and supported throughout including escape routes, with protection against abrasion (Sections 521, 522)	✓
4.0	**BASIC PROTECTION**		8.5	Provision of fire barriers, sealing arrangements where necessary (527.2)	N/A
4.1	**Presence and adequacy of measures to provide basic protection (prevention of contact with live parts) within the installation:**		8.6	Non-sheathed cables enclosed throughout in conduit, ducting or trunking (521.10.1; 526.8)	N/A
	• Insulation of live parts e.g. conductors completely covered with durable insulating material (416.1)	✓	8.7	Cables concealed under floors, above ceilings or in walls/partitions, adequately protected against damage (522.6.201, .202, .204)	✓
	• Barriers or enclosures e.g. correct IP rating (416.2)	✓	8.8	Conductors correctly identified by colour, lettering or numbering (Section 514)	✓
5.0	**ADDITIONAL PROTECTION**		8.9	Presence, adequacy and correct termination of protective conductors (411.3.1.1; 543.1)	✓
5.1	**Presence and effectiveness of additional protection methods:**		8.10	Cables and conductors correctly connected, enclosed and with no undue mechanical strain (Section 526)	✓
	• RCD(s) not exceeding 30 mA operating current (415.1; Part 7), see Item 8.14 of this schedule	N/A	8.11	No basic insulation of a conductor visible outside enclosure (526.8)	✓
	• Supplementary bonding (415.2; Part 7)	N/A	8.12	Single-pole devices for switching or protection in line conductors only (132.14.1; 530.3.3; 643.6)	✓
6.0	**OTHER METHODS OF PROTECTION**		8.13	Accessories not damaged, securely fixed, correctly connected, suitable for external influences (134.1.1; 512.2; Section 526)	✓
6.1	**Presence and effectiveness of methods which give both basic and fault protection:**		8.14	**Provision of additional protection by RCD not exceeding 30mA:**	
	• SELV system, including the source and associated circuits (Section 414)	N/A		• Socket-outlets rated at 32 A or less, unless exempt (411.3.3)	N/A
	• PELV system, including the source and associated circuits (Section 414)	N/A		• Supplies for mobile equipment with a current rating not exceeding 32 A for use outdoors (411.3.3)	N/A
	• Double or reinforced insulation i.e. Class II or equivalent equipment and associated circuits (Section 412)	✓		• Cables concealed in walls at a depth of less than 50 mm (522.6.202, .203)	N/A
	• Electrical separation for one item of equipment e.g. shaver supply unit (Section 413)	N/A		• Cables concealed in walls/partitions containing metal parts regardless of depth (522.6.202; 522.6.203)	N/A
7.0	**CONSUMER UNIT(S) / DISTRIBUTION BOARD(S):**			• Final circuits supplying luminaires within domestic (household) premises (411.3.4)	N/A
7.1	Adequacy of access and working space for items of electrical equipment including switchgear (132.12)	✓	8.15	**Presence of appropriate devices for isolation and switching correctly located including:**	
7.2	Components are suitable according to assembly manufacturer's instructions or literature (536.4.203)	✓		• Means of switching off for mechanical maintenance (Section 464; 537.3.2)	✓
7.3	Presence of linked main switch(es) (462.1.201)	✓		• Emergency switching (465.1; 537.3.3)	✓
7.4	Isolators, for every circuit or group of circuits and all items of equipment (462.2)	✓		• Functional switching, for control of parts of the installation and current-using equipment (463.1; 537.3.1)	✓
7.5	Suitability of enclosure(s) for IP and fire ratings (416.2; 421.1.6; 421.1.201; 526.5)	✓		• Firefighter's switches (537.4)	N/A

✓ *To indicate that an inspection or test has been carried out and the result is satisfactory* N/A *To indicate the inspection or test is not applicable to a particular item*

NOTE : This form is suitable for many types of smaller installation, not exclusively domestic. Electrical separation (see Section 413 and Regulation 418.3)

SCHEDULE OF INSPECTIONS (for new installation work only) continued

Item No	DESCRIPTION	OUTCOME	Item No	DESCRIPTION	OUTCOME
9.0	**CURRENT-USING EQUIPMENT (PERMANENTLY CONNECTED)**		10.0	**LOCATION(S) CONTAINING A BATH OR SHOWER (SECTION 701)**	
9.1	Equipment not damaged, securely fixed and suitable for external influences (134.1.1; 416.2; 512.2)	✓	10.1	30 mA RCD protection for all LV circuits, equipment suitable for the zones, supplementary bonding (where required) etc	N/A
9.2	Provision of overload and/or undervoltage protection e.g. for rotating machines, if required (Sections 445, 552)	N/A	11.0	**OTHER PART 7 SPECIAL INSTALLATIONS OR LOCATIONS**	
9.3	Installed to minimize the build-up of heat and restrict the spread of fire (421.1.4; 559.4.1)	✓	11.1	List all other special installations or locations present, if any. (Record separately the results of particular inspections applied)	N/A
9.4	Adequacy of working space. Accessibility to equipment (132.12; 513.1)	✓			

Inspected By

K Gordon

Date

22/09/2021

SCHEDULE OF ADDITIONAL RECORDS (See attached schedule)

Note: Additional page(s) must be identified by the Electrical Installation Certificate serial number and page number(s)

Page No(s) N/A

ESSENTIAL TESTS

✓	External earth loop impedance, Ze	N/A	Insulation of non-conducting floors or walls
N/A	Installation earth electrode resistance, Ra	✓	Earth fault loop impedance Zs
✓	Continuity of protective conductors	N/A	Verification of phase sequence
N/A	Continuity of ring circuit conductors	✓	Operation of residual current devices
✓	Insulation resistance between live conductors	✓	Functional testing of assemblies
✓	Insulation resistance between live conductors and earth	N/A	Verification of voltage drop
N/A	Protection by separation of circuits		
N/A	Basic protection against direct contact by barrier or enclosure provided during erection		
✓	Polarity		

TEST INSTRUMENTS USED

MFT

101860075/ MFT1721

Earth fault loop impedance

N/A

Insulation resistance

N/A

Continuity

N/A

RCD

N/A

Other

N/A

⚠ RISK ASSESSMENT

N/A

DISTRIBUTION BOARD DETAILS FOR St Mary's church Church Street, Bocking CM7 5JY

DB ref:	MDB1	Zs at this board (Ω):	0.30	Ipf at this board (kA):	0.778	Main switch type BSEN	61008 RCD	Rating:	100	**Amps**	Supply	25	**mm²**	Earth:	16	**mm²**
Distribution board location:	Entrance Cupboard	Phase Sequence Confirmed (where appropriate)	✓	Supplied from:	Mains	No. Of phases:	Three	Supply protective device type BSEN reference:	BS 1361 Type 2b					Rating:	100	**Amps**

CIRCUIT DETAILS — TEST RESULTS

Circuit Reference	Circuit Designation	Type of wiring	Reference method	Number of points served	Circuit Conductors		Max disconnection time	Protective Device					Continuity Ω					Insulation Resistance					Polarity	Maximum measured Zs Ω	RCD		AFDD
					Live (mm²)	cpc (mm²)		Type BS (EN)	Rating (A)	RCD IΔn mA	Short circuit capacity (kA)	Max permitted Zs (Ω*)	Ring final circuits only (measured end to end)			All circuits (At least 1 column to be completed)		Insulation resistance test voltage V	Live - Live	Live - Neutral	Live - Earth	Neutral - Earth			Disconnection time (ms)	RCD test button/ fucntionality	Manual AFDD test button/ functionality
													r_1	r_n	r_2	R_1+R_2	R_2										
1/L1	Heating control	A	B	3	1.0	1.0	0.4	60898 type B	6	N/A	10	5.82	N/A	N/A	N/A	N/A	0.01	500	N/A	>200	>200	>200	✓	0.29	N/A	N/A	N/A
1/L2	Heaters Mid Near row 4&5	O	B	2	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.07	500	N/A	>200	>200	>200	✓	0.38	N/A	N/A	N/A
1/L3	Heaters Mid Near row 8&9	O	B	2	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.04	500	N/A	>200	>200	>200	✓	0.38	N/A	N/A	N/A
2/L1	Heaters Mid Near row 6&7	O	B	3	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.04	500	N/A	>200	>200	>200	✓	0.37	N/A	N/A	N/A
2/L2	Heaters Mid Near row 1,2&3	O	B	3	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.13	500	N/A	>200	>200	>200	✓	0.43	N/A	N/A	N/A
2/L3	Heaters Mid Far row 7&8	O	B	2	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.07	500	N/A	>200	>200	>200	✓	0.36	N/A	N/A	N/A
3/L1	Heaters Mid Far row 1&2	O	B	3	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.13	500	N/A	>200	>200	>200	✓	0.54	N/A	N/A	N/A
3/L2	Heaters Mid Far row 5&6	O	B	3	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.13	500	N/A	>200	>200	>200	✓	0.44	N/A	N/A	N/A
3/L3	Heaters Mid Far row 3&4	O	B	2	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.13	500	N/A	>200	>200	>200	✓	0.39	N/A	N/A	N/A
4/L1	Heaters Choir front RHS	O	B	1	2.5	2.5	0.4	60898 type B	16	N/A	10	2.18	N/A	N/A	N/A	N/A	0.07	500	N/A	>200	>200	>200	✓	0.67	N/A	N/A	N/A
4/L2	Heaters Choir front LHS	O	B	1	2.5	2.5	0.4	60898 type B	16	N/A	10	2.18	N/A	N/A	N/A	N/A	0.07	500	N/A	>200	>200	>200	✓	0.70	N/A	N/A	N/A
4/L3	Heaters Choir side & rear RHS & LHS	O	B	4	2.5	2.5	0.4	60898 type B	16	N/A	10	2.18	N/A	N/A	N/A	N/A	0.10	500	N/A	>200	>200	>200	✓	0.73	N/A	N/A	N/A
5/L1	Heaters Rear far side	O	B	4	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.15	500	N/A	>200	>200	>200	✓	0.63	N/A	N/A	N/A
5/L2	Heaters Rear far side	O	B	4	2.5	2.5	0.4	60898 type C	20	N/A	10	0.87	N/A	N/A	N/A	N/A	0.15	500	N/A	>200	>200	>200	✓	0.64	N/A	N/A	N/A
/	Spare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6TP	Sub Main - DB2	D	B	1	16	16	5	60898 type C	63	N/A	10	0.28	N/A	N/A	N/A	N/A	0.01	500	>200	>200	>200	>200	✓	0.30	N/A	N/A	N/A

* Where the maximum permitted earth fault loop impedance value stated is taken at from a source other than the tabulated values given in Chapter 41 of BS 7671 , state the source of the data

Details of circuits and/or installed equipment vulnerable to damage when testing and/or remarks:

Heating control timers

NOTES FOR RECIPIENT

THIS CERTIFICATE IS A VALUABLE DOCUMENT AND SHOULD BE RETAINED FOR FUTURE REFERENCE

This safety certificate has been issued to confirm that the electrical installation work to which it relates has been designed, constructed and inspected and tested in accordance with British Standard 7671 (The IET Wiring Regulations).

If you were the person ordering the work, but not the owner of the installation, you should pass this Certificate, or a full copy of it including the schedules immediately to the user.

The original certificate should be retained in a safe place and be shown to any person inspecting or undertaking further work on the electrical installation in the future. If you later vacate the property, this certificate will demonstrate to the new owner that the electrical installation complied with the requirements of British Standard 7671 at the time the Certificate was issued was issued. The Construction (Design and Management) Regulations require that for a project covered by those regulations, a copy of this certificate, together with schedules is included in the health and safety documentations.

For safety reasons, the electrical installation will need to be inspected at appropriate intervals by skilled person or persons, competent in such work. The maximum time interval recommended before the next inspection is stated in the certificate under “Next Inspection.”

Notes for the person producing the certificate:

This certificate is intended to be issued only for a new electrical installation or for new work associated with an alteration or addition to a existing installation where new circuits have been introduced, or the replacement of a consumer unit/distribution board. It should not have been issued for the inspection of an existing electrical installation. An Electrical Installation Condition Report should be used in this case.

The certificate is only valid if a Schedule of Inspection of test results is attached.

CODES FOR TYPES OF WIRING							
A	B	C	D	E	F	G	Reference Methods are methods of installation for which the current-carrying capacity has been determined by test or calculation
PVC/PVC CABLES	PVC CABLES IN METALLIC CONDUIT	PVC CABLES IN NON-METALLIC CONDUIT	PVC CABLES IN METALLIC TRUNKING	PVC CABLES IN NON-METALLIC TRUNKING	PVC/SWA CABLES	XLPE/SWA CABLES	