



**APPROVED  
CONTRACTOR**  
Contractor's Reference Number

55237

PART P NUMBER: N/A

This certificate is not valid if the serial  
number has been defaced or altered

ICN4/0524447

# ELECTRICAL INSTALLATION CERTIFICATE

Issued in accordance with British Standard 7671 - Requirements for Electrical Installations by an Approved Contractor  
Conforming Body enrolled with NICEIC, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable, LU5 5ZX

## DETAILS OF THE CLIENT

Client / Address: Cardiff Council, County Hall, Atlantic Wharf, Cardiff

Postcode: CF10 4UW

## DETAILS OF THE INSTALLATION

Address: Sophia Gardens, Cardiff

Postcode: CF11 9XR

The installation is:

New ☐

An addition ☐

An alteration ☒

Extent of the  
installation  
covered by this  
certificate:

This certificate covers the installation of 2 earth electrodes connected in parallel to the pop up feeder pillar DB situated inside the feeder pillar in the events field of Sophia Gardens. The existing SWA gland has been replaced for an insulated stuffing gland to divorce the earth connected to the TNCS earth at the supply feeder pillar. The 125A 3 pole main switch of DB has been replaced for a 100A 300Ma RCD main switch. The pop up pillar DB is now connected via TT system and should not be reconnected to the TNCS earth. Please see additional notes for test results of

## DESIGN

Details of permitted exceptions appended: N/A

Risk assessment appended: N/A

No. of pages

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/our knowledge and belief, in accordance with BS 7671 amended to N/A (date)

Details of departures from BS 7671, as amended (Regulations 120.3,133.5):

N/A

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  Name (CAPITALS)  Designer 1

Signature  Date  Name (CAPITALS)  \*\* Designer 2

## CONSTRUCTION

I, being the person responsible for the construction 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 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 N/A (date)

Details of departures from BS 7671, as amended (Regulations 120.3,133.5):

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  Name (CAPITALS)  Constructor

## INSPECTION AND TESTING

I, being the person responsible for the 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 inspection and testing, hereby CERTIFY that the work for which I have been responsible is to the best of my knowledge and belief, in accordance with BS 7671, amended to N/A (date)

Details of departures from BS 7671, as amended (Regulations 120.3,133.5):

N/A

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

Signature  Date  Signature  Date

Name (CAPITALS)  Inspector Name (CAPITALS)  Qualified Supervisor†

## DESIGN, CONSTRUCTION, INSPECTION AND TESTING \*

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

Details of permitted exceptions appended: N/A

Risk assessment appended: N/A

No. of pages

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 work for which I have been responsible is to the best of my knowledge and belief, in accordance with BS 7671, amended to N/A (date)

Details of departures from BS 7671, as amended (Regulations 120.3,133.5):

N/A

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

Reviewed by

Signature  Date 31/07/2017

Signature  Date 31/07/2017

Name (CAPITALS) KEIRYN SMITHERS

Name (CAPITALS) KEIRYN SMITHERS

Qualified Supervisor††

† Where the inspection and testing have been carried out by an Approved Contractor, the inspection and testing results are to be reviewed by the registered Qualified Supervisor.  
†† Where the design, the construction, and the inspection and testing have been the responsibility of one person, the inspection and testing results are to be reviewed by the registered Qualified Supervisor.

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

<b>DESIGN (1)</b>	Organisation	† CJS Electrical
Address:	The Old Workshops Mill Farm Industrial Estate Lisvane Cardiff South Glamorgan	Postcode: CF14 0SH
	NICEIC Enrolment No (where appropriate)	031690
	Branch number: (if applicable)	N/A
<b>DESIGN (2)</b>	Organisation	† N/A
Address:	N/A	Postcode: N/A
	NICEIC Enrolment No (where appropriate)	N/A
	Branch number: (if applicable)	N/A
<b>CONSTRUCTION</b>	Organisation	† CJS Electrical
Address:	The Old Workshops Mill Farm Industrial Estate Lisvane Cardiff South Glamorgan	Postcode: CF14 0SH
	NICEIC Enrolment No (Essential Information)	031690
	Branch number: (if applicable)	N/A
<b>INSPECTION AND TESTING</b>	Organisation	† CJS Electrical
Address:	The Old Workshops Mill Farm Industrial Estate Lisvane Cardiff South Glamorgan	Postcode: CF14 0SH
	NICEIC Enrolment No (where appropriate)	031690
	Branch number: (if applicable)	N/A

**SUPPLY CHARACTERISTICS AND EARTHING ARRANGEMENTS**

Tick boxes and enter details, as appropriate

Characteristics of Primary Supply  
Overcurrent Protective Device(s)

System Type(s)	Number and Type of Live Conductors	Nature of Supply Parameters	Characteristics of Primary Supply Overcurrent Protective Device(s)
TN-S	a.c. <input checked="" type="checkbox"/> d.c. <input type="checkbox"/>	Nominal Voltage(s): U <sub>(1)</sub> 230 V U <sub>0 (1)</sub> 400 V	BS(EN) LIM
TN-C-S	1-phase (2 wire) <input type="checkbox"/> 1-phase (3 wire) <input type="checkbox"/> 2-pole <input type="checkbox"/>	Nominal frequency, f <sup>(1)</sup> 50 Hz	Type LIM
TN-C	2-phase (3 wire) <input type="checkbox"/> 3-pole <input type="checkbox"/>	Prospective fault current, I <sub>p</sub> <sup>(2)(3)</sup> LIM kA	Rated current LIM A
TT	3-phase (3 wire) <input type="checkbox"/> 3-phase (4 wire) <input checked="" type="checkbox"/> other N/A	External earth fault loop impedance, Z <sub>e</sub> <sup>(2)(3)</sup> LIM Ω	Short-circuit capacity LIM kA
IT	Other N/A	Number of sources N/A	Confirmation of supply polarity <input checked="" type="checkbox"/>

Notes:  
(1) by enquiry  
(2) by enquiry or by measurement  
(3) where more than one supply, record the higher or highest values

**PARTICULARS OF INSTALLATION AT THE ORIGIN**

Details of Installation Earth Electrode (where applicable)

Means of Earthing	Distributor's facility: <input checked="" type="checkbox"/>	Type: N/A	Location: N/A
Installation earth electrode:	(eg rod(s), tape etc)	Electrode resistance, R <sub>A</sub> : N/A (Ω)	Method of measurement: N/A
Main Switch/Switch-Fuse/Circuit-Breaker/RCD		Maximum Demand (Load) LIM Amps	Protective measures against electric shock: ADS
Type: BS(EN)	LIM	Voltage rating LIM V	
No of Poles	LIM	Rated current, I <sub>n</sub> LIM A	
Supply conductors material	LIM	RCD operating current, I <sub>Δn</sub> * LIM mA	
Supply conductors csa	LIM mm <sup>2</sup>	RCD operating time (at I <sub>Δn</sub> )* LIM ms	
		Rated delay * LIM ms	
* (applicable only where an RCD is suitable and is used as a main circuit-breaker)		Earthing and Protective Bonding Conductors	
Earthing conductor		Main protective bonding conductors	Bonding of extraneous-conductive-parts (-)
Conductor material	LIM	Conductor material LIM	Water installation pipes <input type="checkbox"/>
Conductor csa	LIM mm <sup>2</sup>	Conductor csa LIM mm <sup>2</sup>	Oil installation pipes <input type="checkbox"/>
Continuity/connection verified	<input type="checkbox"/>	Continuity/connection verified	Gas installation pipes <input type="checkbox"/>
			Lightning protection <input type="checkbox"/>
			Structural steel <input type="checkbox"/>
			Other N/A

**COMMENTS ON EXISTING INSTALLATION**

In the case of an alteration or additions see Section 633	Not tested	Note: Enter 'NONE' or, where appropriate, the page number(s) of additional page(s) of comments on the existing installation.
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**NEXT INSPECTION \*\***

§ Interval in terms of years, months or weeks, as appropriate

I/We the designer(s), RECOMMEND that this installation is further inspected and tested after an interval of not more than	§ 5 years
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\*\* The proposed date for the next inspection should take into consideration the frequency and quality of maintenance that the installation can reasonably be expected to receive during its intended life, and the period should be agreed between the designer, installer and other relevant parties.

† Where the Approved Contractor responsible for the construction of the electrical installation has also been responsible for the design and the inspection and testing of that installation, the 'Particulars of the Organisation(s) responsible for the Electrical Installation' may be recorded only in the section entitled 'CONSTRUCTION'

‡ Where a number of sources are available to supply the installation, and where the data given for the primary source may differ from other sources, a separate sheet must be provided which identifies the relevant information relating to each additional source.

This certificate is based on the model shown in Appendix 6 of BS7671

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Please see the 'Notes for Recipients'

## SCHEDULE OF ITEMS INSPECTED

† See note below

### 1.0 CONDITION OF ELECTRICAL INTAKE EQUIPMENT

(the Distributor should be notified of any unsatisfactory equipment)

1.1	Service cable	N/A
1.2	Service head	N/A
1.3	Distributor's earthing arrangement	N/A
1.4	Meter tails - Distributor/Consumer	N/A
1.5	Metering equipment	N/A
1.6	Isolator	N/A

### 2.0 PARALLEL OR SWITCHED ALTERNATIVE SOURCES OF SUPPLY

2.1	Presence of adequate arrangements where generator to operate as a switched alternative	
a)	Dedicated earthing arrangement independent of that of the public supply	N/A
2.2	Presence of adequate arrangements where generator to operate in parallel with public supply system	
a)	Correct connection of generator in parallel	N/A
b)	Compatibility of characteristics of means of generation	N/A
c)	Means to provide automatic disconnection of generator in the event of loss of public supply system or voltage or frequency deviation beyond declared values	N/A
d)	Means to prevent connection of generator in the event of loss of public supply system or voltage or frequency deviation beyond declared values	N/A
e)	Means to isolate generator from the public supply system	N/A
2.3	Presence of alternative/additional supply warning notices at:	
a)	The origin	N/A
b)	The meter position, if remote from origin	N/A
c)	The consumer unit/distribution board to which the alternative/additional sources are connected	N/A
d)	All points of isolation of ALL sources of supply	N/A

### 3.0 AUTOMATIC DISCONNECTION OF SUPPLY

3.1	Presence and adequacy of protective earthing/ bonding arrangements as follows:	
a)	Distributor's earthing arrangement or installation earth electrode arrangement	N/A
b)	Earthing conductor and connections	N/A
c)	Main protective bonding conductors and connections	N/A
d)	Earthing/bonding labels at all appropriate locations	N/A
3.2	Accessibility of:	
a)	Earthing conductor connections	N/A
b)	All protective bonding connections	N/A
3.3	FELV - requirements satisfied	N/A
3.4	Reduced low voltage - requirements satisfied	N/A

### 4.0 BASIC PROTECTION

4.1	Presence and adequacy of protective measures to provide basic protection	
a)	Insulation of live parts	✓
b)	Barriers or enclosures	✓
c)	Obstacles**	N/A
d)	Placing out of reach**	N/A

### 5.0 ADDITIONAL PROTECTION

5.1	The presence and effectiveness of additional protection methods used, as follows:	
a)	RCDs not exceeding 30 mA operating current	✓
b)	Supplementary bonding	✓

### 6.0 OTHER METHODS OF PROTECTION

(insert location in box provided)

The presence and effectiveness of other methods of protection against electric shock where used, as follows:

6.1	Basic and fault protection	LOCATION	
a)	SELV		N/A
b)	PELV		N/A
c)	Double insulation/Reinforced insulation		N/A
d)	Electrical separation for one item of equipment		N/A
6.2	Fault protection		
a)	Non-conducting location/Earth-free local equipotential bonding**		N/A
b)	Electrical separation for more than one item of equipment**		N/A

### 7.0 DISTRIBUTION EQUIPMENT

7.1	Adequacy of working space/accessibility	✓
7.2	Security of fixing	✓
7.3	Insulation of live parts not damaged during erection	✓
7.4	Adequacy / security of barriers	✓
7.5	Suitability of enclosures for IP and fire ratings	✓
7.6	Enclosures not damaged during installation	✓
7.7	Presence and effectiveness of obstacles	✓
7.8	Presence of main switch(es), linked where required	✓
7.9	Operation of main switch(es) (functional check)	✓
7.10	Operation of circuit-breakers and RCDs to prove functionality	✓
7.11	RCD(s) provided for fault protection, where specified	✓
7.12	RCD(s) provided for protection against fire	✓
7.13	RCD(s) provided for additional protection, where specified	✓
7.14	Confirmation overvoltage protection (SPDs) provided where specified	N/A
7.15	Confirmation of indication that SPD is functional	N/A
7.16	Presence of RCD quarterly test notice at or near the origin	✓
7.17	Presence of diagrams, charts or schedules at or near each distribution board, where required	✓
7.18	Presence of non-standard (mixed) cable colour warning notice at or near the appropriate distribution board, where required	N/A
7.19	Presence of next inspection recommendation label	✓
7.20	Presence of other required labelling	✓
7.21	Selection of protective device(s) and base(s); correct type and rating	✓
7.22	Single-pole protective devices in line conductor only	✓
7.23	Protection against mechanical damage where cables enter equipment	✓
7.24	Protection against electromagnetic effects where cables enter ferromagnetic enclosures	✓
7.25	Confirmation that ALL conductor connections, including connections to busbars are correctly located in terminals and are tight and secure	✓

### 8.0 CIRCUITS

8.1	Identification of conductors	✓
8.2	Cables correctly supported throughout their length	✓
8.3	Examination of cables for signs of mechanical damage during installation	✓
8.4	Examination of insulation of live parts, not damaged during erection	✓

\*\* For use in controlled supervised/conditions only

## SCHEDULE OF ITEMS INSPECTED

† See note below

8.5	Non-sheathed cables protected by enclosure in conduit, ducting or trunking	✓
8.6	Suitability of containment systems (including flexible conduit)	✓
8.7	Correct temperature rating of cable insulation	✓
8.8	Adequacy of cables for current-carrying capacity with regard to the type and nature of installation	✓
8.9	Adequacy of protective devices: type and rated current for fault protection	✓
8.10	Presence and adequacy of circuit protective conductors	✓
8.11	Coordination between conductors and overload protective devices	✓
8.12	Wiring systems and cable installation methods / practices appropriate to the type and nature of installation and external influences	✓
8.13	Cables installed under floors, above ceilings, in walls / partitions, adequately protected against damage	
	• installed in prescribed zones	✓
	• incorporating earthed armour or sheath, or installed within earthed wiring system, or otherwise protected against mechanical damage by nails, screws and the like	✓
8.14	Provision of additional protection by RCDs having rated residual operating current ( $I_{\Delta n}$ ) not exceeding 30 mA	
	a) for mobile equipment with a current rating not exceeding 32 A for use outdoors	✓
	b) For all socket-outlets of rating 20 A or less, unless exempt	✓
	c) For cables installed in walls/partitions at a depth of less than 50 mm	N/A
	d) For cables installed in walls/partitions containing metal parts regardless of depth	N/A
8.15	Provision of fire barriers, sealing arrangements so as to minimize the spread of fire	✓
8.16	Band II cables segregated/separated from Band I cables	N/A
8.17	Cables segregated/separated from non-electrical services	N/A
8.18	Termination of cables at enclosures	
	a) Connections under no undue strain	✓
	b) No basic insulation of a conductor visible outside enclosure	✓
	c) Connections of live conductors adequately enclosed	✓
	d) Adequately connected at point of entry to enclosure (glands, bushes etc.)	✓
8.19	Suitability of circuit accessories for external influences	✓
8.20	Circuit accessories not damaged during erection	✓
8.21	Single-pole devices for switching in line conductor only	✓
8.22	Adequacy of connections, including cpcs, within accessories and at fixed and stationary equipment	✓

## 9.0 ISOLATION AND SWITCHING

9.1	Isolators	
a)	Presence and location of appropriate devices	✓
b)	Capable of being secured in the OFF position	✓
c)	Correct operation verified (functional check)	✓
d)	The installation, circuit or part thereof that will be isolated is clearly identified by location and/or durable marking	✓
e)	Warning label posted in situations where live parts cannot be isolated by the operation of a single device	N/A

9.2	Switching off for mechanical maintenance	
a)	Presence of appropriate devices	✓
b)	Acceptable location (state if local or remote)	✓
c)	Capable of being secured in the OFF position	✓
d)	Correct operation verified (functional check)	✓
e)	The circuit or part thereof to be disconnected clearly identified by location and/or durable marking	N/A
9.3	Emergency switching/stopping	
a)	Presence of appropriate devices	N/A
b)	Readily accessible for operation where danger might occur	N/A
c)	Correct operation verified (functional check)	N/A
d)	The installation, circuit or part thereof to be disconnected, clearly identified by location and/or durable marking	N/A
9.4	Functional switching	
a)	Presence of appropriate devices	✓
b)	Correct operation verified (functional check)	✓

## 10.0 CURRENT-USING EQUIPMENT (PERMANENTLY CONNECTED)

10.1	Suitability of equipment in terms of IP and fire ratings	✓
10.2	Enclosure not damaged/deteriorated during installation so as to impair safety	✓
10.3	Suitability for the environment and external influences	✓
10.4	Security of fixing	✓
10.5	Cable entry holes in ceilings above luminaires, sized or sealed so as to restrict the spread of fire	N/A
10.6	Recessed luminaires (downlighters)	
	a) Correct type of lamps fitted	N/A
	b) Installed to minimise build-up of heat	N/A
10.7	Provision of undervoltage protection, where specified	N/A
10.8	Provision of overload protection, where specified	N/A
10.9	Adequacy of working space/accessibility to equipment	N/A

## 11.0 SPECIAL INSTALLATIONS OR LOCATIONS

List below any Special Installations or Locations which are part of the installation to be verified, and confirm that the additional requirements given in the respective section of Part 7 are fulfilled.

## 12.0 OTHER

**All boxes must be completed.** ✓ indicates that an inspection was carried out and that the result was satisfactory. 'N/A' indicates that an inspection was not applicable to the particular installation.

\* Where the electrical work to which this certificate relates includes the installation of a fire alarm system and/or an emergency lighting system (or a part of such systems), this electrical safety certificate should be accompanied by the particular certificate(s) for the system(s).

This certificate is based on the model shown in Appendix 6 of BS7671

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## SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION

## CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE		TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*										
Location of distribution board:	Feeder Pillar in events field Sophia Gardens	Supply to distribution board is from:	Main feeder pillar				No of phases:	3	Nominal voltage:	400	V	
		Overcurrent protective device for the distribution circuit:						Associated RCD (if any): BS(EN)	61008			
Distribution board designation:	Pop up DB	Type: BS(EN)	LIM		Rating:	LIM	A	RCD No of poles:	4	I <sub>Δn</sub>	300	mA

[illegible]

↑ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	0 (Other - please state)
Thermoplastic insulated sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non-metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non-metallic trunking	Thermoplastic /SWA cables	Thermosetting /SWA cables	Mineral-insulated cables	N/A


## SCHEDULE OF TEST RESULTS FOR THE INSTALLATION

## TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION							Test instruments (serial numbers) used:			
Characteristics at this distribution board							Earth fault loop impedance	N/A	RCD	N/A
Yes		Confirmation of supply polarity								
* See note below										
Z <sub>s</sub>	8.67	Ω	Operating times of associated RCD (if any)	At I <sub>Δn</sub>	35	ms				
I <sub>pr</sub>	LIM	kA		At 5I <sub>Δn</sub>	LIM	ms				
Phase sequence confirmed (where appropriate)										

[illegible]

\* Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.

TESTED BY			
Signature:		Position:	Qualified Supervisor
Name: (CAPITALS)	KEIRYN SMITHERS	Date of testing:	02/08/2017

Earth Electrode test results:-

Electrode 1 - 11.6 ohms

Electrode 2 - 42.3 ohms

Electrode 1 & 2 - 9.37 ohms