ORIGINAL

Reference Number: SPW D.301

DOMESTIC ELECTRICAL INSTALLATION CERTIFICATE

(REQUIREMENTS FOR ELECTRICAL INSTALLATIONS - BS7671 (IET WIRING REGULATIONS))

1 Details of the Installation

Details of the Client:
Telford Homes PLC
Telford House
Queensgate
Brittania Road
Waltham Cross EN8 7TF

Installation/Address:
Current Occupier
301 Duesbury House
42 St Pauls Way
London
E3 4YJ

Extent of installation covered by this certificate: New Installation ✓ An addition N/A An alteration N/A

ALL OF THE INSTALLATION (3 bed 3rd floor flat) NO FIXED OR PORTABLE APPLIANCES. NO HEATING OR SECURITY EQUIPMENT.

2 Design, Construction, Inspection and Testing Declaration

I/We being the person(s) responsible for the design, construction, inspection and testing of the electrical installation (as indicated by my/our signatures below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design hereby CERTIFY that the work for which I/we have been responsible is to the best of my/our knowledge and belief in accordance with BS7671:2008, amended to No.3 - January 2015 (date) except for the departures, if any, detailed as follows.

Details of departures, if any, from BS7671: The extent of liability of the signatory is limited to the work described above as the subject of this certificate.

NONE

Signature: Date: 20/06/2018 Name: A. THOROGOOD

Results of the inspection and testing reviewed by

Signature: Date: 20/06/2018 Name: R. MINNITT

NOMICO ELECTRICAL CO. LTD
817 BARKING ROAD
DAGENHAM, ESSEX RM10 7UP
020 8595 1119

3 Supply Characteristics & Earthing Arrangements

System Earthing Arrangement: TN-S

Other Sources of Supply (to be detailed on attached schedules): N/A

Supply Polarity: ✓

Supply Protective Device

BS(EN): 1361 Type: HRC

Rating: 60 A Breaking capacity: 16.5 kA

No. & Type of Live Conductors: a.c. 1 phase - 2 wire

Nominal Voltage, U/Uo(1): 230 V

Nominal Frequency, f(1): 50 Hz

External Loop Impedance, Z_e(2): 0.35 (1) Ω

Prospective Fault Current, I_{pf}(2): 4.6 kA

(1) By Enquiry
(2) By Enquiry or by measurement

4 Particulars of the Installation

Maximum Demand (Load): 50 A

Fault Protection: ADS

Means of Earthing

Distributors Facility: ✓

Installation Earth Electrode: N/A

Electrode Details (if applicable)

Type: N/A

Location: N/A

Resistance to Earth: N/A Ω

Main Switch or Circuit-breaker

Location: DISBOARD

BS(EN): 60947-3

Type: 60947-3

Current Rating: 100 A

No. of poles: 2

Voltage Rating: 500 V

RCD Operating current: N/A mA

RCD Rated time delay: N/A ms

RCD Operating time at $I_{\Delta n}$: N/A ms

Main Protective Conductors

Earthing Conductor:
Material: Copper Csa: 16 mm² Continuity & Connection: ✓

Main Protective Bonding Conductor:
Material: Copper Csa: 10 mm² Continuity & Connection: ✓

Other Bonded Services:
Water: ✓ Oil: N/A
Gas: N/A Steel: N/A
Other: Communal Heating F

ORIGINAL

Reference Number: SPW.D.301

Domestic and similar premises with up to 100A supply - Inspection Schedule (1)

This inspection schedule is suitable for many types of smaller installation and is not exclusively domestic

1 - DISTRIBUTOR'S / SUPPLY INTAKE EQUIPMENT

- ✓ Service cable condition
- ✓ Condition of service head
- ✓ Condition of distributor's earthing arrangement
- ✓ Condition of meter tails - Distributor/Consumer
- ✓ Condition of metering equipment
- ✓ Condition of isolator (where present)

2 - PARALLEL OR SWITCHED ALTERNATIVE SOURCES OF SUPPLY

- N/A Adequate arrangements where a generating set operates as a switched alternative to the public supply
- N/A Adequate arrangements where a generating set operates in parallel with the public supply

3 - AUTOMATIC DISCONNECTION OF SUPPLY

Presence and adequacy of earthing and protective bonding arrangements:

- N/A • Installation earth electrode (where applicable)
- ✓ • Earthing conductor and connections, including accessibility
- ✓ • Main protective bonding conductors and connections, including accessibility
- ✓ • Provision of safety electrical earthing / bonding labels at all appropriate locations
- ✓ • RCD(s) provided for fault protection

4 - BASIC PROTECTION

Presence and adequacy of measures to provide basic protection:

- ✓ • Insulation of live parts
- ✓ • Barriers or enclosures

5 - ADDITIONAL PROTECTION

Presence and effectiveness of additional protection methods:

- ✓ • RCD(s) not exceeding 30mA operating current
- N/A • Supplementary bonding

6 - OTHER METHODS OF PROTECTION

Presence and effectiveness of methods for both basic and fault protection:

- ✓ • SELV system, including the source and associated circuits
- N/A • PELV system, including the source and associated circuits
- ✓ • Double or reinforced insulation
- ✓ • Electrical separation for one item of equipment

7 - CONSUMER UNIT(S) / DISTRIBUTION BOARD(S)

- ✓ Adequacy of access and working space for items of electrical equipment including switchgear
- N/A Presence of linked main switch(s)
- ✓ Isolators for each circuit or group of circuits and all items of equipment
- ✓ Suitability of enclosure(s) for IP and fire ratings
- ✓ Protection against mechanical damage where cables enter equipment
- ✓ Confirmation that ALL conductor connections are correctly located in terminals and are tight and secure
- ✓ Avoidance of heating effects where cables enter ferromagnetic enclosures eg. steel
- ✓ Selection of correct type and rating of circuit protective devices for overcurrent and fault protection

Presence of appropriate circuit charts, warning and other notices:

- ✓ • Provision of circuit charts/schedules or equivalent information
- ✓ • Warning notice of method of isolation where live parts not capable of being isolated by a single device
- ✓ • Periodic inspection and testing notice
- ✓ • RCD quarterly test notice where required
- N/A • Warning notice of non-standard (mixed) wiring colours
- ✓ Presence of labels to indicate purpose of switchgear and protective devices

8 - CIRCUITS

- ✓ Adequacy of conductors for current-carrying capacity with regard to the type and nature of the installation
- ✓ Segregation/separation of Band I and Band II circuits and electrical and non-electrical services
- ✓ Cables correctly erected and supported throughout including escape routes, with protection against abrasion
- ✓ Provision of fire barriers, sealing arrangements where necessary
- ✓ Non-sheathed cables enclosed in conduit, ducting or trunking
- ✓ Cables concealed under floors, above ceilings or in walls/partitions, adequately protected against damage
- ✓ Conductors correctly identified by colour, lettering or numbering
- ✓ Presence, adequacy and correct termination of protective conductors
- ✓ Cables and conductors correctly connected, enclosed and with no undue mechanical strain

✓ : Inspection has been carried out with satisfactory result. N/A : Inspection is not applicable to this item.

ORIGINAL

Reference Number: SPW.D.301

Domestic and similar premises with up to 100A supply - Inspection Schedule (2)

This inspection schedule is suitable for many types of smaller installation and is not exclusively domestic

8 - CIRCUITS (continued)

✓	No basic insulation of a conductor visible outside enclosure
✓	Single-pole devices for switching or protection in line conductors only
✓	Accessories not damaged, securely fixed, correctly connected, suitable for external influences

Provision of additional protection by RCD not exceeding 30mA:

✓	• Socket outlets rated at 20A or less, unless exempt
✓	• Mobile equipment not exceeding 32A for use outdoors
✓	• Cables concealed in walls at a depth of less than 50mm
✓	• Cables concealed in walls/partitions containing metal parts regardless of depth

Presence of appropriate devices for isolation and switching correctly located including:

✓	• Means of switching off for mechanical maintenance
N/A	• Emergency switches
✓	• Functional switches, for control of parts of the installation and current using equipment
N/A	• Firefighter's switches

9 - CURRENT-USING EQUIPMENT (PERMANENTLY CONNECTED)

✓	Equipment not damaged, securely fixed and suitable for external influences
N/A	Provision of overload and/or undervoltage protection eg. for rotating machines, if required
✓	Installed to minimize the build-up of heat and restrict the spread of fire
✓	Adequacy of working space. Accessibility to equipment

10 - LOCATIONS CONTAINING A BATH OR SHOWER (SECTION 701)

✓	30mA RCD protection for all LV circuits
N/A	Where used as a protective measure, requirements for SELV or PELV met
✓	Shaver sockets comply with BS EN 61558-2-5 formerly BS3535
✓	Presence of supplementary bonding conductors (if required)
✓	Low voltage (230v) socket outlets sited at least 3m from zone 1
✓	Suitability of equipment for external influences from installed location in terms of IP rating
✓	Suitability of equipment for installation in a particular zone
✓	Suitability of current-using equipment for particular position within the location

11 - OTHER PART 7 SPECIAL INSTALLATIONS OR LOCATIONS

List all other special installations or locations present, if any.
(Record separately the results of particular inspections applied.)

N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Inspected by:

Name: A. THOROGOOD

Date: 20/06/2018

Position: APPROVED ELECTRICIAN

Signature: [signature]

I/We the designer(s), recommend that this installation is further inspected and tested after an interval of not more than 10 years

Comments on existing installation (In the case of an addition or alteration see Section 633)

N/A

Details of the Contractor

* Enter the name of the competent person scheme (CPS) provider and the companies registration number where available.

Company/Address including postcode:

Nomico Electrical Co Ltd
817 Dagenham Road
Dagenham
Essex
RM10 7UP

Telephone No: 02085951119

CPS Provider*: NICEIC

CPS Registration No*: 008898

✓ : Inspection has been carried out with satisfactory result. N/A : Inspection is not applicable to this item.

ORIGINAL

Reference Number: SPW.D.301

Circuit Details

DB Reference: 301 Duesbury House **DB Location:** HALL CUPBOARD

Distribution Board Comments:
CCT's numbered Left to Right. All circuits are RCD protected. CCT's 1-5 are on RCD1. CCT's 6-10 are on RCD2.

Supplied from: meter
Board Manufacturer: MK
Overcurrent Device: 1361 -
Device Rating: 60 A
RCD Operating Current: N/A mA
RCD time delay: N/A ms
RCD Operating time at $I_{\Delta n}$: N/A ms

*Codes for Installation methods
A. In conduit in thermally insulated wall
B. In conduit on a wall or in trunking
C. Clipped direct
D. Direct buried or in ducting or conduit in ground
E & F. In free air or on cable tray or ladder touching
G. In free air on cable tray or ladder spaced
Twin & Earth cable only:
100. Above plasterboard ceiling, insulation <100mm
101. Above plasterboard ceiling, insulation >100mm
102. Insulated stud wall, touching inner wall
103. Insulated stud wall, not touching inner wall

Circuit Number	Circuit Description	Circuit Category	Number of points served	Disconnection Time (s)	Device BS (EN)	Device Type	Device Rating (A)	Device Breaking Capacity (kA)	RCD Operating Current (mA)	Maximum Permitted Zs (Ω)	Type of Wiring	Installation Method*	Live csa (mm²)	Cpc csa (mm²)
D	16mm SWA from meter in riser cupboard via self connect isloator	Sub Main	1	5	1361	-	60	16.5	N/A	0.665	G	E	16	16
	CCTS/DEVICES read left to right													
MS	MAIN SWITCH													
MS	MAIN SWITCH													
RCD1	RCD 1 Protects circuits 1 to 5 Ze = 0.11 ohm			5	61008	-	80	16.5	30	1666				
RCD1	RCD 1 Protects circuits 1 to 5 Ze = 0.11 ohm			5	61008	-	80	16.5	30	1666				
1	HOB	Radial Circuit	1	0.4	60898	B	32	6	30	1.3656	A	100	6	2.5
2	SOCKETS (LOUNGE, HALL)	Ring Circuit	7	0.4	60898	B	32	6	30	1.3656	A	100	2.5	1.5
3	ALARM SPUR	Radial Circuit	1	0.4	60898	B	6	6	30	7.2833	A	100	1	1
4	LIGHTING (HALL, LOUNGE, KITCHEN)	Lighting Circuit	16	0.4	60898	B	6	6	30	7.2833	A	100	1	1
5	SPARE													
RCD2	RCD 2 Protects circuits 6 to 10 Ze = 0.11 ohm			5	61008	-	63	16.5	30	1666				
RCD2	RCD 2 Protects circuits 6 to 10 Ze = 0.11 ohm			5	61008	-	63	16.5	30	1666				
6	SOCKETS (KITCHEN)	Ring Circuit	7	0.4	60898	B	32	6	30	1.3656	A	100	2.5	1.5
7	SOCKETS (CUPBOARD, BEDROOMS)	Ring Circuit	14	0.4	60898	B	32	6	30	1.3656	A	100	2.5	1.5
8	HIU	Radial Circuit	1	0.4	60898	B	16	6	30	2.7312	A	100	2.5	1.5
9	LIGHTING (CUPBOARD, BEDROOMS, BATHROOMS, FAN)	Lighting Circuit	15	0.4	60898	B	6	6	30	7.2833	A	100	1	1
10	SMOKES	Radial Circuit	4	0.4	60898	B	6	6	30	7.2833	A	100	1	1

Codes for type of wiring: A PVC/PVC Cables; B PVC Cables in metallic in non-metallic conduit; C PVC Cables in non-metallic in metallic conduit; D PVC Cables in metallic in metallic trunking; E PVC Cables in non-metallic in non-metallic trunking; F PVC/SWA Cables; G XLPE/SWA Cables; H Mineral Insulated cables

ORIGINAL

Test Results

Reference Number: SPW.D.301

DB Reference: 301 Duesbury House

DB Location: HALL CUPBOARD

Tested by:
Name: A. THOROGOOD
Signature:
Date: 20/06/2018

Test instrument serial numbers:
Continuity: KT63 225509
RCD: KT63 225509
Other: N/A
Earth electrode resistance: N/A
Earth fault loop impedance: KT63 225509
Insulation resistance: KT63 225509

Details of circuits and/or installed equipment vulnerable to damage when testing
Smoke/Heat detectors
Heating equipment

Distribution Board Characteristics
Zs: 0.09 Ω
I_{pf}: 2.51 kA
Nominal Voltage: 230 V
No. of phases: 1
Polarity: ✓
Phase rotation: N/A

Circuit Number	Ring final circuit continuity (Ω) R_1 (line)	R_n (neutral)	R_2 (cpc)	R_1+R_2	R_2	Continuity (Ω)	Insulation Resistance (MΩ) Live-Live	Live-Neutral	Live-Earth	Neutral-Earth	Polarity	Measured Zs (Ω)	RCD (ms) @ $I_{\Delta n}$	@ 5$I_{\Delta n}$	Test Button Operation	Circuit Comments
D				0.05			200	200	200	✓	0.09	N/A	N/A	N/A		SUB MAIN from meter Ze RCD1 = 0.11 ohm, Ze RCD2 = 0.11 ohm
MS																
MS																
RCD1																
RCD1																
1				0.24			200	200	200	✓	0.35	36	17	✓		Cooker circuit
2	0.52	0.52	0.84	0.25			200	200	200	✓	0.35	36	17	✓		RING MAIN General - metal backboxes fixed to metal caddy bars
3				0.04			200	200	200	✓	0.18	36	17	✓		INTRUDER ALARM SPUR (future use)
4				1.70			200	200	200	✓	1.80	36	17	✓		Lighting circuit
5																
RCD2																
RCD2																
6	0.18	0.18	0.30	0.15			200	200	200	✓	0.27	38	19	✓		Includes Multigang grid switch with 20A DP spurs to appliances
7	0.83	0.83	1.36	0.25			200	200	200	✓	0.37	38	19	✓		RING MAIN General - metal backboxes fixed to metal caddy bars
8				0.14			200	200	200	✓	0.26	38	19	✓		Heating - HIU - Includes Guru heat meter and controls
9				1.04			200	200	200	✓	1.16	38	19	✓		Lighting circuit including extract fan
10				1.10			200	200	200	✓	1.21	38	19	✓		3 smoke detectors, 1 heat detector

ELECTRICAL INSTALLATION CERTIFICATE
GUIDANCE FOR RECIPIENTS

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

You should have received an 'Original' Certificate and the contractor should have retained a duplicate. 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 owner.

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. 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 project health and safety documentation.

For safety reasons, the electrical installation will need to be inspected at appropriate intervals by a skilled person or persons, competent in such work. The maximum time interval recommended before the next inspection is stated on Page 1 under 'Next Inspection'.

This Certificate is intended to be issued only for a new electrical installation or for new work associated with an addition or alteration to an existing installation. It should not have been issued for the inspection of an existing electrical installation. An 'Electrical Installation Condition Report' should be issued for such an inspection.

This Certificate is only valid if accompanied by the Schedule of Inspections and the Schedule(s) of Test Results.

ORIGINAL

Reference Number: SPW-D.301-F

DOMESTIC FIRE DETECTION & ALARM SYSTEM CERTIFICATE OF DESIGN, INSTALLATION & COMMISSIONING

Details of the Installation 1

Details of the Client:

Telford Homes PLC
Telford House
Queensgate
Brittania Road
Waltham Cross EN8 7TF

Installation/Address:

Current Occupier
301 Duesbury House
42 St Pauls Way
London E3 4YJ

Extent of the System covered by this certificate: New Installation ✓ An addition N/A An alteration N/A

ALL OF THE INSTALLATION (3 bed 3rd floor flat) 3 SMOKE DETECTORS AND 1 HEAT DETECTOR.

Variations, if any, from the recommendations of BS 5839-6:2013:

NONE

System grade: D System category: LD2

Commissioning and User Instructions 2

The entire system has been installed and tested for satisfactory operation in accordance with the recommendations of Clause 23.3 BS5839-6:2013 including but not limited to:

- ✓ All manual call points and automatic fire detectors function correctly
- ✓ All fire alarm warning devices operate correctly
- ✓ Earth continuity & Earth Fault Loop Impedance test results satisfactory
- ✓ Insulation resistance test results satisfactory
- ✓ Cables have been installed to the recommendations of BS5839-6:2013 Clause 23.3
- ✓ An Electrical Installation or Minor Works Certificate, as appropriate, has been issued in accordance with BS7671
- ✓ Any other tests required by the manufacturer have been carried out
- ✓ Operating and maintenance instructions have been issued to the occupier/owner of the dwelling in accordance with Clause 24 of BS5839-6:2013

This certificate may be required by an authority responsible for enforcement of fire safety legislation, such as the building control authority or housing authority. The recipient of this certificate might rely on the certificate as evidence of compliance with legislation. Liability could arise on the part of any organisation or person that issues a certificate without due care in ensuring its validity.

Declaration 3

I/We being the competent person(s) responsible, as indicated by my/our signatures below, for the DESIGN, INSTALLATION & COMMISSIONING of the fire alarm system, particulars of which are set out above, CERTIFY that the said installation for which I/we have been responsible complies to the best of my/our knowledge and belief with the specification described above and with the recommendations of BS 5839-6:2013 for the system described above, except for the variations, if any, stated in this certificate.

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

Signature: Date: 20/06/2018 Name: A. THOROGOOD Position: APPROVED ELECTRICIAN

Certificate reviewed by:

Signature: Date: 20/06/2018 Name: R. MINNITT Position: QUALIFIED SUPERVISOR

Details of the Contractor 4

Company and Address including postcode:

Nomico Electrical Co Ltd
817 Dagenham Road
Dagenham
Essex
RM10 7UP

Telephone Number: 02085951119

Fax Number:

Email Address: support@nomicoelectrical.co.uk

ORIGINAL

NOTES FOR RECIPIENT

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

This certificate has been issued to confirm that the fire detection and alarm system to which it relates has been installed in accordance with the recommendations given in:

BS 5839-6 Fire detection and alarm systems for buildings - Part 6: Code of practice for the design, installation, commissioning and maintenance of fire detection and alarm systems in dwellings.

and in accordance with the requirements given in:

BS 7671 Requirements for Electrical Installations

This certificate is intended to be issued only for the Installation work associated with a new fire detection and alarm system or for Installation work associated with an alteration or extension to an existing system. This certificate is intended to be used only for grade B, C, D, E, & F systems. Grade A systems should be certified according to BS5839-1.

This certificate should be read in conjunction with an Electrical Installation Certificate or Minor Works Cerificate issued to confirm that the electrical installation to which it relates has been designed, constructed, inspected, tested and verified in accordance with BS 7671.

You should have received the certificate marked 'Original' and the organisation(s) responsible for the design, installation & commissioning of the fire detection and alarm system should have retained the certificate marked 'Duplicate'. This certificate is a valuable document and should be retained for future reference as you may, subsequently, rely on this certificate as evidence of compliance with legislation. If you were the person ordering the work but not the User of the system, you should pass this certificate, or a full copy of it including these notes and all the related reference documents, immediately to the User and/or the Responsible Person.

The 'Original' certificate should be retained in a safe place and shown to persons responsible for servicing, modifying or using the fire detection and alarm system. If you later vacate the property or building this modification certificate will demonstrate to the new Responsible Person that the modification made to the fire detection and alarm system complied with the recommendations of BS5839-6 (except for any variations noted on the certificate) at the time the certificate was issued.