Hawkesworth

MINOR ELECTRICAL INSTALLATION MULTIPLE WORKS

Requirements For Electrical Installations - BS 7671

Certificate Number: HET-CM-5253

1. DESCRIPTION OF THE MINOR WORKS

Client address:	Infratec Uk Ltd Unit 8-9, Easter Park, Barton Road, Middlesbrough, Cleveland, TS2 1RY
Installation address:	Infratec Uk Ltd Unit 8-9, Easter Park, Barton Road, Middlesbrough, Cleveland, TS2 1RY

Description of the minor works:

1): Repair containment on lighting in multiple places (DB4 - Unit 8 Warehouse above Door, Obs 1). Unit 8 DB1 Kitchen, obs 1 - See continutation sheet for details.

2): Install correct breakers and reduce where required as no ring continuity can be obtained: DB1 Unit 9- Workshop, Obs 2, Circuits 1L1, & 5L3: B16 breakers swapped for B6s. Obs 5 No RCD on shower circuit: B40 RCBO fitted.

3): Fix cpc fault on lighting (Unit 8 DB4, obs 2) and correctly terminate ground floor lighting issues located - (Unit 8 DB1 - Kitchen - Electrical Cupboard Obs 2). Unit 8, Db 2 Kitchen - Electrical Cupboard, Obs 2: See continuation sheet.

4): Seal holes in distribution boards (Unit 8 DB1 Obs 1, Unit 8 DB3, Obs1 and Unit 9 DB1 Workshop Obs 1) and re terminate cables with single insulation outside of enclosure (Unit 8, DB2 Kitchen - Electrical Cupboard - Obs 3).

5): Connect main bonding to extraneous conductive parts. Unit 9, DB1 Workshop, Obs 4 Open ring on 2L1: Further investigation found circuit is not a ring. B20 breaker fitted. Obs 6 unidentified circuit 4L2: Unable to trace circuit. Circuit left isolated.

Details of departures from BS 7671:2018 as amended to 2022 for the circuit altered or extended (Regulation 120.3, 133.1.3 and 133.5). Where applicable, a suitable risk assessment(s) must be attached to the Certificate:

None

Date minor works completed: 07/09/2023 Risk assessment attached: N/A

Comments on (including any defects observed in) the existing installation (Regulation 644.1.2):

20/10/2023 - Returned to site to fit correct breaker: Unit 9 DB1, obs 3 Hi Zs on sockets ground. C32 swapped for B32 breaker. Updated readings added to schedule of tests.

2. PRESENCE AND ADEQUACY OF INSTALLATION EARTHING AND BONDING ARRANGEMENTS

System type and earthing arrangements: TN-C-S N/A TN-S N/A TT N/A

Earth fault loop impedance at distribution board (Z_{db}) supplying the final circuit: N/A Ω

Presence of adequate main protective conductors: Earthing Conductor ✔

Main protective bonding conductor(s) to: Water N/A Gas ✔ Oil N/A Structural Steel N/A Other: N/A

3. DECLARATION

I/we certify that the work covered by this certificate does not impair the safety of the existing installation and the work has been designed, constructed, inspected and tested in accordance with BS 7671:2018 amended to 2022 and that to the best of my/our knowledge and belief, at the time of my/our inspection, complied with BS 7671 except as detailed in Section 1 above.

Trading Title: Hawkesworth

Address: Guidance House
Thirsk
North Yorkshire
Postcode: YO7 3BT

Registration Number (if applicable): 609910000

Telephone Number: 01845 524498

Name: Craig McKenna Position: Engineer Signature: C.McKenna Date: 07/09/2023

DISTRIBUTION BOARD DETAILS

DB reference: DB 1 unit 8 | Location: Kitchen - Electrical cupboard | Supplied from: N/V

Distribution circuit OCPD: BS (EN): N/A | Type: N/A | Rating/Setting: N/A A | No of phases: 3

SPD Details: Types: T1 N/A | T2 N/A | T3 N/A | N/A N/A | Status indicator checked (where functionality indicator present) N/A

Confirmation of supply polarity N/A | Confirmation of phase sequence N/A | Zs at DB: 0.17 Ω | Ipf at DB: 1.4 kA

SCHEDULE OF CIRCUIT DETAILS AND TEST RESULTS

CIRCUIT DETAILS															TEST RESULT DETAILS														
		Conductor details						Overcurrent protective device					RCD				Continuity (Ω)					Insulation resistance				Zs	RCD		AFDD
					Number and size												Ring final circuit			R_1+R_2 or R_2									
Circuit number	Circuit description	Type of wiring	Reference method	Number of points served	Live (mm²)	cpc (mm²)	Max disconnect time permitted by BS7671 (s)	BS (EN)	Type	Rating (A)	Breaking capacity (kA)	Maximum permitted Zs (Ω)	BS (EN)	Type	Rated operating current (mA)	Rating (A)	r_1 (line)	r_n (neutral)	r_2 (cpc)	R_1+R_2	R_2	Test voltage (V)	Live - Live (MΩ)	Live - Earth (MΩ)	Polarity (tick)	Maximum measured (Ω)	Disconnection time (ms)	Test button operation (tick)	Manual test button operation (tick)
1 L1	Sockets - Upstairs office	D	B	LIM	2.5x2	1.5	0.4	61009	B	20	10	2.19	N/A	A	30	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.5	5.9	✔	N/A
1 L2	DB 4	D	B	1	16	16	5	60898	C	32	6	0.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.28	N/A	N/A	N/A
1 L3	Fire Alarm	D	B	1	1.5+2.5	1.5	5	60898	B	10	6	4.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.41	N/A	N/A	N/A
2 L1	Sockets & Heaters - Downstairs plus kitchen	D	B	LIM	2.5x3	1.5	5	60898	B	32	6	1.37	N/A	N/A	N/A	N/A	0.4	0.36	0.4	LIM	N/A	250	>200	>200	✔	0.31	N/A	N/A	N/A
2 L2	Lights - Upstairs	D	B	LIM	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	✔	1.13	N/A	N/A	N/A
2 L3	DB 2	D	B	1	16	1.5	5	60898	B	50	6	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
3 L1	Lights downstairs	D	B	LIM	1.5x4	1.5	5	60898	B	10	6	4.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	✔	0.7	N/A	N/A	N/A
3 L2	Outdoor floodlights	D	B	1	2.5	1.0	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
3 L3	Hot water heater	D	B	1	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A

CODES FOR TYPE OF WIRING	A	B	C	D	E	F	G	H	O - Other
	Thermoplastic insulated/sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in nonmetallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in nonmetallic trunking	Thermoplastic /SWA cables	Thermosetting /SWA cables	Mineral insulated cables	N/A

DETAILS OF TEST INSTRUMENTS

Details of test instruments used (serial and/or asset numbers):

Multi-functional: 5528022 | Insulation resistance: N/A | Continuity: N/A

Earth electrode resistance: N/A | Earth fault loop impedance: N/A | RCD: N/A

TESTED BY

Name: Craig McKenna | Position: Engineer | Signature: C.McKenna | Date: 07/09/2023

This form is based on the model shown in Appendix 6 of BS 7671:2018+A2:2022.

SCHEDULE OF CIRCUIT DETAILS AND TEST RESULTS

DB reference: DB 1 unit 8 | Location: Kitchen - Electrical cupboard | Supplied from: N/V

CIRCUIT DETAILS																TEST RESULT DETAILS																	
		Conductor details						Overcurrent protective device					RCD				Continuity (Ω)					Insulation resistance				Z_s	RCD		AFDD
					Number and size												Ring final circuit			R_1+R_2 or R_2											
Circuit number	Circuit description	Type of wiring	Reference method	Number of points served	Live (mm²)	cpc (mm²)	Max disconnect time permitted by BS7671 (s)	BS (EN)	Type	Rating (A)	Breaking capacity (kA)	Maximum permitted Zs (Ω)	BS (EN)	Type	Rated operating current (mA)	Rating (A)	r_1 (line)	r_n (neutral)	r_2 (cpc)	R_1+R_2	R_2	Test voltage (V)	Live - Live (MΩ)	Live - Earth (MΩ)	Polarity (tick)	Maximum measured (Ω)	Disconnection time (ms)	Test button operation (tick)	Manual test button operation (tick)
4 L1	(3P) DB 3	D	B	1	6	1.5	5	60898	D	50	6	0.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.18	N/A	N/A	N/A
4 L2	(3P) DB 3	D	B	1	6	1.5	5	60898	D	50	6	0.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.18	N/A	N/A	N/A
4 L3	(3P) DB 3	D	B	1	6	1.5	5	60898	D	50	6	0.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.18	N/A	N/A	N/A
5 L1	RCD Sockets	D	B	LIM	2.5x2	1.5	5	60898	B	32	6	1.37	N/A	N/A	N/A	N/A	1.4	1.42	0.23	LIM	N/A	250	>200	>200	✔	0.51	7	N/A	N/A
5 L2	Lights - Workshop	D	B	4	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
5 L3	Lights - Workshop	D	B	5	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
6 L1	(3P) Roller door	D	B	1	2.5	1.5	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
6 L2	(3P) Roller door	D	B	1	2.5	1.5	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A
6 L3	(3P) Roller door	D	B	1	2.5	1.5	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	LIM	LIM	N/A	N/A	N/A

CODES FOR TYPE OF WIRING	A	B	C	D	E	F	G	H	O - Other
	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

DISTRIBUTION BOARD DETAILS

DB reference: DB 1 unit9 | Location: Workshop | Supplied from: Mains

Distribution circuit OCPD: BS (EN): LIM | Type: LIM | Rating/Setting: LIM A | No of phases: 3

SPD Details: Types: T1 N/A | T2 N/A | T3 N/A | N/A ✔ | Status indicator checked (where functionality indicator present) N/A

Confirmation of supply polarity ✔ | Confirmation of phase sequence ✔ | Zs at DB: 0.17 Ω | Ipf at DB: 1.4 kA

SCHEDULE OF CIRCUIT DETAILS AND TEST RESULTS

CIRCUIT DETAILS															TEST RESULT DETAILS														
		Conductor details						Overcurrent protective device					RCD				Continuity (Ω)					Insulation resistance				Zs	RCD		AFDD
					Number and size												Ring final circuit			R_1+R_2 or R_2									
Circuit number	Circuit description	Type of wiring	Reference method	Number of points served	Live (mm²)	cpc (mm²)	Max disconnect time permitted by BS7671 (s)	BS (EN)	Type	Rating (A)	Breaking capacity (kA)	Maximum permitted Zs (Ω)	BS (EN)	Type	Rated operating current (mA)	Rating (A)	r_1 (line)	r_n (neutral)	r_2 (cpc)	R_1+R_2	R_2	Test voltage (V)	Live - Live (MΩ)	Live - Earth (MΩ)	Polarity (tick)	Maximum measured (Ω)	Disconnection time (ms)	Test button operation (tick)	Manual test button operation (tick)
1 L1	Lights - Outside floods	D	B	1	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	LIM	N/A	N/A	N/A
1 L2	Lights - Unit	D	B	9	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	1.02	N/A	N/A	N/A
1 L3	Heater - Kitchen	D	B	1	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
2 L1	Sockets - rooms 1,4,7 - Hand dryer, heater 3, W/C alarm	D	B	LIM	2.5x2	1.5	0.4	61009	B	20	10	2.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	1.56	8.1	✔	N/A
2 L2	Shower	D	B	2	10	1.5	0.4	61009	B	40	10	1.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	0.27	10.4	N/A	N/A
2 L3	Sockets - Kitchen	D	B	LIM	2.5x2	1.5	0.4	61009	C	32	10	0.68	N/A	N/A	N/A	N/A	0.1	0.12	0.13	LIM	N/A	250	>200	>200	✔	N/A	N/A	✔	N/A
3 L1	DB 2	D	B	1	16	1.5	5	60898	B	50	6	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
3 L2	Lights - upstairs and down	D	B	LIM	1.5x3	1.0	5	60898	B	10	6	4.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
3 L3	Water heater	D	B	1	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	N/A	N/A	N/A	N/A

CODES FOR TYPE OF WIRING	A	B	C	D	E	F	G	H	O - Other
	Thermoplastic insulated/sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in nonmetallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in nonmetallic trunking	Thermoplastic /SWA cables	Thermosetting /SWA cables	Mineral insulated cables	N/A

DETAILS OF TEST INSTRUMENTS

Details of test instruments used (serial and/or asset numbers):

Multi-functional: 5528022 | Insulation resistance: N/A | Continuity: N/A

Earth electrode resistance: N/A | Earth fault loop impedance: N/A | RCD: N/A

TESTED BY

Name: Craig McKenna | Position: Engineer | Signature: C.McKenna | Date: 07/09/2023

SCHEDULE OF CIRCUIT DETAILS AND TEST RESULTS

DB reference: DB 1 unit9 | Location: Workshop | Supplied from: Mains

CIRCUIT DETAILS																TEST RESULT DETAILS																
		Conductor details						Overcurrent protective device					RCD				Continuity (Ω)					Insulation resistance				Z_s	RCD		AFDD
					Number and size												Ring final circuit			R_1+R_2 or R_2											
Circuit number	Circuit description	Type of wiring	Reference method	Number of points served	Live (mm²)	cpc (mm²)	Max disconnect time permitted by BS7671 (s)	BS (EN)	Type	Rating (A)	Breaking capacity (kA)	Maximum permitted Zs (Ω)	BS (EN)	Type	Rated operating current (mA)	Rating (A)	r_1 (line)	r_n (neutral)	r_2 (cpc)	R_1+R_2	R_2	Test voltage (V)	Live - Live (MΩ)	Live - Earth (MΩ)	Polarity (tick)	Maximum measured (Ω)	Disconnection time (ms)	Test button operation (tick)	Manual test button operation (tick)
4 L1	Sockets - ground	D	B	LIM	2.5x2	1.5	5	61009	B	32	10	1.37	61009	A	30	N/A	0.92	0.95	1.73	LIM	N/A	250	>200	>200	✔	0.88	40	✔	N/A
4 L2	Unidentifed	D	B	LIM	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	N/A	N/A	N/A	N/A
4 L3	High spur	D	B	2	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
5 L1	Heaters - 1 & 2	D	B	2	2.5	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
5 L2	Sockets - unit	D	B	LIM	2.5x3	1.5	5	60898	B	16	6	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	>200	>200	✔	N/A	N/A	N/A	N/A
5 L3	Lights - Ground floor	D	B	LIM	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	0.98	N/A	N/A	N/A
6 L1	(3P) Roller shutter	D	B	1	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	N/A	N/A	N/A	N/A
6 L2	(3P) Roller shutter	D	B	1	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	N/A	N/A	N/A	N/A
6 L3	(3P) Roller shutter	D	B	1	1.5	1.0	5	60898	B	6	6	7.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LIM	N/A	250	LIM	LIM	---	N/A	N/A	N/A	N/A

CODES FOR TYPE OF WIRING	A	B	C	D	E	F	G	H	O - Other
	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

CONTINUATION FOR GENERAL COMMENTS

GENERAL COMMENTS

General Comments for the Installation or Inspection of the report:

1.
Unit 8, DB1 Kitchen - Electrical Cupboard
Obs 1: No ring continuity from sockets tested. Further investigation carried out, no ring final circuit found. B20 breaker fitted to protect cable.

3.
Unit 8, Db 2 Kitchen - Electrical Cupboard,
Obs 2: Spares 3, 4, 5 & 6 did not have correct sized blanks fitted. Correct blanks fitted.

MINOR ELECTRICAL INSTALLATION WORKS CERTIFICATE
GUIDANCE FOR RECIPIENTS

(to be appended to the Certificate)

This 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 BS 7671.

You should have received an 'original' Certificate and the person that issued the certificate 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 copy of it, to the owner. A separate Certificate should have been received for each existing circuit on which minor works have been carried out. This Certificate is not appropriate if you requested the person that issued the certificate to undertake more extensive installation work, for which you should have received an Electrical Installation Certificate.

The 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 minor electrical installation work carried out complied with the requirements of BS 7671 at the time the Certificate was issued.

For safety reasons, the electrical installation will need to be inspected at appropriate intervals by a skilled person or person(s), competent in such work. Where the installation includes a residual current device (RCD) it should be tested six-monthly by pressing the button marked 'T' or Test. The device should switch off the supply and should then be switched on to restore the supply. If the device does not switch off the supply when the button is pressed, seek expert advice. For safety reasons it is important that this instruction is followed.

Where the installation includes an arc fault detection device (AFDD) having a manual test facility it should be tested six-monthly by pressing the test button. Where an AFDD has both a test button and automatic test function, manufacturer's instructions shall be followed with respect to test button operation.

Where the installation includes a surge protective device (SPD) the status indicator should be checked to confirm it is in operational condition in accordance with manufacturer's information. If the indication shows that the device is not operational, seek expert advice. For safety reasons it is important that this instruction is followed.

Where the installation includes alternative or additional sources of supply, warning notices should be found at the origin or meter position or, if remote from the origin, at the consumer unit or distribution board and at all points of isolation of all sources of supply.