



NOTES:

- THE MINIMUM 11kV PHASE TO EARTH CLEARANCE IS 200mm. THE MINIMUM 11kV PHASE TO PHASE CLEARANCE IS 280mm.
- IF LV MAINS EXIST, THE LV MAINS ATTACHMENT POINT IS TO BE DETERMINED BASED ON THE GROUND CLEARANCE REQUIREMENTS WHILST GIVING CONSIDERATION TO AUSGRID'S ELECTRICAL SAFETY RULES MINIMUM SAFE WORKING DISTANCES. WHERE BARE LV MAINS EXIST, THEY SHALL BE CONVERTED TO ABC FOR AT LEAST ONE SPAN EITHER SIDE OF THE INTELLIAPTER. IF LV MAINS ARE PRESENT ON THE POLE, A 1-80 LV ABC INTERMEDIATE CONSTRUCTION MUST BE USED.
- HV SURGE ARRESTERS ARE TO BE EARTHED BY DAISEY CHAINING AND ELECTRICALLY BONDING TO THE TOP EARTH BAR USING 70mm² PVC INSULATED CONDUCTOR (ITEM 11).
- DANGER SIGNS (ITEM 18) ARE TO BE INSTALLED ON BOTH FRONT AND REAR OF THE POLE. SIGNS MUST BE BENT AROUND POLE BEFORE SECURING.
- WHERE 11kV CCT MAINS EXIST, STANDARD EARTHING POINTS AND COVERS ARE TO BE INSTALLED AS DETAILED IN NS126.
- THE INTELLIAPTER SIGNS (ITEMS 42, 43 & 44) ARE TO BE BENT AROUND POLE BEFORE SECURING. THE SERIAL NUMBER SIGN (ITEM 42) IS TO BE MOUNTED ON THE SAME POLE FACE AS THE INTELLIAPTER 180mm ABOVE GROUND LEVEL AT ALL SITES. THE SIGN IS TO BE MADE FROM 25mm HIGH UV STABLE WEATHERPROOF LETTERING AND CAN UPOLE POLE NUMBERING METHODS OR SIMILAR. THE EARTH CABLE SIGN (ITEM 43) IS TO BE MOUNTED BELOW THE EARTH BAR AT ALL SITES. THE UNDERGROUND EARTH CABLE SIGN (ITEM 44) IS TO BE MOUNTED ADJACENT TO THE POLE NUMBER.
- THE INTELLIAPTER IS TO BE LABELLED IN ACCORDANCE WITH NS158 TABLE 4.6 - 'RE-CLOSERS & SECTIONALISERS'. THE POLE NUMBER IS TO BE INSTALLED IN ACCORDANCE WITH NS148.
- INSTALL MEDIUM WALLED MASTIC LINED BLACK HEATSHRINK OVER THE BARE LUG BARREL AND CABLE INSULATION.
- THE ANTENNA USED MUST HAVE AN RF INDUSTRIES N-243 N ADAPTER M2M BARREL FITTED.
- THE INTELLIAPTER SHOULD BE MOUNTED SO THAT THE BOTTOM OF THE DISCONNECTOR OPERATING MECHANISM IS NOT MORE THAN 8 METRES ABOVE THE GROUND TO ALLOW FOR MANUAL OPERATION. EXCEPTIONS TO THIS MAY BE ACCEPTABLE IF LONGER OPERATING STICKS HAVE BEEN APPROVED FOR USE IN THE AREA.
- IF THE SITE SPECIFIC EARTHING DESIGN REQUIRES THE LV MAINS NEUTRAL TO BE CONNECTED TO THE INTELLIAPTER EARTHING SYSTEM AND IF LV MAINS EXIST IN CLOSE PROXIMITY TO THE POLE, DETAIL 6 SHOULD BE USED FOR THE CONNECTION. IF TWO LV MAINS CABLES ARE ON THE POLE, ONLY ONE LV MAINS CABLE IS TO BE CONNECTED. FOR A COMBINED EARTHING SYSTEM, A CONNECTION IS TO BE MADE TO THE TOP EARTH BAR. FOR A SEGREGATED EARTHING SYSTEM, THE CABLE IS TO BE RUN DOWN THE POLE TO A SEPARATE LV EARTH ROD SYSTEM.
- AFTER INSTALLATION OF THE POWER MODULE, CONNECTIONS TO THE POWER SOCKET ON THE INTELLIAPTER BODY AND THE VOLTAGE TRANSFORMER TERMINAL BLOCK ARE TO BE MADE VIA THE FLEXIBLE CONDUIT, SOCKETS AND CABLE SUPPLIES REFER TO THE MANUFACTURERS TECHNICAL DOCUMENTATION FOR FURTHER INFORMATION.
- AFTER INSTALLATION ON THE POLE IS COMPLETED, THE LIFTING RINGS ARE TO BE REMOVED FROM THE INTELLIAPTER.
- THE STEEL EARTH CABLE COVER IS TO BE BONDED TO THE BOTTOM EARTH BAR.
- THE LOAD AND DEVIATION ALLOWABLE ON THE EYEBOLT IS TO BE DETERMINED FROM DRG-520324.
- POLE STEPS SHOULD ONLY BE INSTALLED ON POLES WHERE ACCESS FOR NORMAL MAINTENANCE VEHICLES CANNOT BE MAINTAINED FOR THE LIFE OF THE POLE. IF POLE STEPS ARE INSTALLED, THEY ARE TO COMPLY WITH THE REQUIREMENTS OF NETWORK STANDARD NS128.
- REFER TO DESIGNER SAFETY REPORT D201415761 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	STOCK CODE	ARR-1 QTY	ARR-2 QTY
68	STEP - POLE SCREW-IN (SEE NOTE 16)	250144	185198	A/R	A/R
67	COVER - STRAIN CLAMP		144543	3	3
	CLAMP - CONDUCTOR STRAIN, FOR CCT180		178513		
66	CLAMP - CONDUCTOR STRAIN, FOR CCT120		144527	3	3
	CLAMP - CONDUCTOR STRAIN, FOR CCT80		144535		
65	INSULATOR - STRAIN ROD		144550	3	3
64	LINK - SAG, 70kN (PLP PART No. CTSLEW-070-1)		PURCHASE	3	3
63	BLOCK - GAIN, ALUMINIUM, 100mm		146274	1	1
62	WASHER - LIP, M24, GALVANISED	518081	176912	2	2
61	EYEBOLT - M20 x 200mm, GALVANISED (SEE NOTE 15)	513653	H37881	3	3
60	WASHER - CONICAL, M12, GALVANISED	518082	H39639	2	2
59	WASHER - FLAT, M12, GALVANISED	518081	177982	10	10
58	BOLT & NUT - M12 x 180mm, HEX, GALVANISED	515466	46888	2	2
57	CROSSARM - 2700 x 150 x 100mm, HARDWOOD (SEE DETAIL 10)		H23761	1	1
56	BRACE - CROSSARM, FLAT, 690mm, GALVANISED	514385	H17738	2	2
55	CONSTRUCTION - AIR BREAK SWITCH, 12/24kV, MID POLE OPERATED, 2-455	175902		1	1
54	GUARD - EARTH CABLE, PVC, BLACK (ONLY REQUIRED IF SEGREGATED EARTHING SYSTEM SPECIFIED)	205775	157552	1	1
53	COVER - CCT, EARTHING POINT		144741	3	9
52	MODEM - SIERRA WIRELESS RV50X		185100	1	1
51	ADAPTER - RF, RF INDUSTRIES N-243		PURCHASE	1	1
50	WASHER - SPRING, M16, STAINLESS STEEL	518082	96149	2	2
49	WASHER - FLAT, M16, STAINLESS STEEL	518081	H39621	2	2
48	SCREW - SET, M16 x 40mm, HEX, STAINLESS STEEL	515467	H38413	2	2
47	CONNECTOR - INSULATION PIERCING, 95-150 LV ABC/95-150 (SEE NOTE 11)		176591	2	2
46	SCREW - COACH, M12 x 50mm, GALVANISED		50476	6	6
45	ANTENNA - CELLULAR, BENELEC 02481 (SEE NOTE 9)		PURCHASE		
	ANTENNA - CELLULAR, PANORAMA LPB-7-27-AJ (SEE NOTE 9)		185408	1	1
44	SIGN - INTELLIAPTER, UNDERGROUND EARTH CABLES (SEE NOTE 6)	222408	182141	1	1
43	SIGN - INTELLIAPTER, EARTH CABLES (SEE NOTE 6)	222408	182142	1	1
42	SIGN - INTELLIAPTER, SERIAL NUMBER (SEE NOTE 6)			1	1
41	CONSTRUCTION - LV, OVERHEAD, ABC, INTERMEDIATE, 1-80 (SEE NOTE 2)	206544		1	1
40	FLAG - CONVERSION, 38 x 6.35mm, TINNED COPPER (SEE DETAIL 7)			6	6
39	WASHER - SPRING, M10, STAINLESS STEEL	518082	50120	24	24
38	WASHER - FLAT, M10, STAINLESS STEEL	518081	49411	48	48
37	NUT - M10, HEX, STAINLESS STEEL	515467	H39401	24	24
36	SCREW - SET, M10 x 30mm, HEX, STAINLESS STEEL	515467	45088	24	24
35	LUG - COMPRESSION, BI-METALLIC, 2 x M10 HOLES (TO SUIT CONDUCTOR)	514053		15	15
34	CONDUCTOR - 19/1.53(35mm ²) COPPER, LDPE, SINGLE CORE, PVC SHEATHED, BLACK		H14576	A/R	A/R
33	LUG - COMPRESSION, COPPER, Ø14mm HOLES (TO SUIT 35mm ² CABLE)		H20501	6	6
32	COVER - CLAMP, PARALLEL GROOVE, 3-BOLT		144576	6	6
31	CLAMP - PARALLEL GROOVE, BI-METALLIC, 3-BOLT		176491	6	6
30	PLATE - TINNED COPPER (33kV UGOSH TERMINATION PLATE)	116989	91132	6	6
29	CONNECTOR - COMPRESSION, COPPER (70mm ² CONDUCTOR TO Ø15mm ROD)		H31699	A/R	A/R
28	COUPLER - EARTH ELECTRODE (TO SUIT Ø15mm ROD)		H31649	A/R	A/R
27	ELECTRODE - DRIVEN EARTH, Ø15mm x 1800mm		H31631	A/R	A/R
26	STRIP - CABLE, COVER, 150mm WIDE		151100	A/R	A/R
25	SCREW - COACH, EYE, M6, GALVANISED		PURCHASE	1	1
24	SCREW - COACH, M12 x 100mm, GALVANISED		H40484	5	5
23	STUBB - EARTH, McKEOWN	520088	H108415	2	2
22	BAR - EARTH, TOP, FLAT, TINNED COPPER, 50.8mm x 6.3mm (SEE DETAIL 1)	222406	182110	1	1
21	BAR - EARTH, BOTTOM, FLAT, TINNED COPPER, 50.8mm x 6.3mm (SEE DETAIL 1)	222406	182110	1	1
20	CLOUT - Ø2.8 x 30mm, GALVANISED		50971	A/R	A/R
19	SIGN - DANGER, HIGH VOLTAGE (SEE NOTE 4)		H47012	2	2
18	NUT - M12, HEX, STAINLESS STEEL	515467	8987	A/R	A/R
17	WASHER - SPRING, M12, STAINLESS STEEL	518082	143859	A/R	A/R
16	LUG - COMPRESSION, COPPER, Ø14mm HOLE (TO SUIT 70mm ² CABLE)		74831	A/R	A/R
15	WASHER - FLAT, M12, STAINLESS STEEL	518081	49429	A/R	A/R
14	SCREW - SET, M12 x 30mm, HEX, STAINLESS STEEL	515467	H38528	A/R	A/R
13	COVER - CABLE, EARTH, STEEL (SEE NOTE 14)	22407	182121	1	1
12	SADDLE - CABLE, 12mm, DOUBLE SIDED, GALVANISED		176494	A/R	A/R
11	CONDUCTOR - 19/2.14(70mm ²) COPPER, PVC COVERED, BLACK (SEE NOTE 3)		60111	A/R	A/R
10	WASHER - FLAT, M20, GALVANISED	518081	177986	5	5
9	WASHER - CONICAL, M20, GALVANISED	518082	H39655	5	5
8	WASHER - SQUARE, 75 x 75 x 6mm (Ø22mm HOLE)	518081	H39231	8	8
7	BOLT & NUT - M20, HEX, GALVANISED (LENGTH TO SUIT POLE)	515466		3	3
6	ARRESTER - SURGE, 9kV, 10kA, POLYMERIC DISTRIBUTION TYPE, 12mm TOP & BOTTOM STUD (COMPLETE WITH BRD-CAP)		111948	6	6
5	INTELLIAPTER - S&C, PULSECLOSER (WITH POWER MODULE)		183071	1	1
4	CLAMP - PARALLEL GROOVE, 3-BOLT (TO SUIT CONDUCTORS)	514099		6	
3	CONDUCTOR - CCT (TO SUIT PHASE CONDUCTORS)			A/R	A/R
2	CONSTRUCTION - 11kV, OVERHEAD, 2-11CCT (EXCLUDING BRIDGES)	174962			1
1	CONSTRUCTION - 11kV, OVERHEAD, 2-11 (EXCLUDING BRIDGES)	513915		1	
	POLE - TIMBER (AS REQUIRED)	513988		1	1

EQUIPMENT WEIGHTS

INTELLIAPTER	460kg
AIR BREAK SWITCH	135kg

AN EARTHING DESIGN MUST BE UNDERTAKEN FOR EACH SITE. THE EARTHING SHOWN ON THIS DRAWING IS INDICATIVE ONLY

ASSOCIATED DRAWINGS

20mm EYEBOLT LOADING & DEVIATION GRAPH	520324
11kV POLE MOUNTED VOLTAGE REGULATOR WITH CONTROLLING INTELLIAPTER	224227
11kV S&C INTELLIAPTER PULSECLOSER WITH BY-PASS AIR BREAK SWITCH	220251
11kV S&C INTELLIAPTER PULSECLOSER	220041

NETWORK STANDARD

Ausgrid

145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE
DESIGNED: AS SHOWN
DRAWN: P.JARVIS
CHECKED: M.ANDREWS
APPROVED: D.GREVE

DATE
11/05/11

PROJECT NUMBER
STD

PROJTRAK NUMBER
-

STANDARD CONSTRUCTION
11kV S&C INTELLIAPTER PULSECLOSER FOR CONTROLLING A POLE MOUNTED REGULATOR MOUNTED ON A TIMBER POLE
GENERAL ARRANGEMENT

SIZE
DRAWING No: A1

SHEET
224228

AMD
01

QTY
6

APPD by: DOMINIC SHIELDS

6 DATE: 28/09/2020
CCT OPTION ADDED.
MATERIAL LIST & NOTES AMENDED.

DWN: PATRICIA RIOS
CHKD: PHILIP JONES

5. ITEMS ADDED TO REGULATOR SUPPLY CABLE DRAWING TITLE ALTERED. DRAWING ENDORSEMENT CHANGED TO "RECORD ONLY".
PN 12/902/84.0
P: JARVIS 25.7.18
CHECKED: CHAMBITT
APPROVED: D.GREVE

4. EARTH CONNECTION TO ITEM 14 ALTERED TO COMPLY WITH NETWORK STANDARD 127.
DETAIL 8 ADDED.
NOTE 15 ALTERED.
PN 02-2013-0-2103
P: JARVIS 16.9.14
CHECKED: M.ANDREWS
APPROVED: M.ANDREWS

3. DETAIL 7, NOTE 17 AND COMBINED EARTHING NOTE ADDED TO LV NEUTRAL CONNECTION ON EARTHING SCHEMATIC. TO EARTH CABLE & ROD ADDED TO SIDE VIEW & SECTION A-A.
LIFTING RING NOTE ADDED TO FRONT VIEW & SECTION A-A.
PN 02-2010-1-3-1
P: JARVIS 16.12
CHECKED: M.ANDREWS/KOVELLY
APPROVED: P.GUNATILLEKE

2. TO LV ABC CONNECTION ITEM 4, 3, NOTE 14 ALTERED TO SHOW ALTERNATIVES FOR ANTENNA (ITEM 45).
PN 02-2010-1-3-1
P: JARVIS 20.12.11
CHECKED: M.ANDREWS
APPROVED: M.ANDREWS

1. SURGE ARRESTOR CONNECTIONS RELOCATED. TERMINALS TO PARALLEL CLAMPS ON CONNECTING CABLES.
ITEM 32 WERE CABLE LUGS.
ITEM 63 RENUMBERED AS ITEM 32.
PN 02-2010-1-3-1
P: JARVIS 6.9.11
CHECKED: M.ANDREWS
APPROVED: M.ANDREWS

CAD DRAWING
DO NOT MANUALLY AMEND.
A. R. E. N. D. R. E. S.