



- NOTES:**
1. THE MINIMUM 11kV PHASE TO EARTH CLEARANCE IS 200mm. THE MINIMUM 11kV PHASE TO PHASE CLEARANCE IS 280mm.
  2. 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 SEGREGATED 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 INTELLIRUPTER. IF LV MAINS ARE PRESENT ON THE POLE, A 1-80 LV ABC INTERMEDIATE CONSTRUCTION MUST BE USED.
  3. HV SURGE ARRESTERS ARE TO BE EARTHED BY DAISEY CHAINING AND ELECTRICALLY BONDING TO THE TOP EARTH BAR USING 70mm<sup>2</sup> PVC INSULATED CONDUCTOR (ITEM 11).
  4. DANGER SIGNS (ITEM 18) ARE TO BE INSTALLED ON BOTH FRONT AND REAR OF THE POLE. SIGNS MUST BE BENT AROUND POLE BEFORE SECURING.
  5. WHERE 11kV CCT MAINS EXIST, STANDARD EARTHING POINTS AND COVERS ARE TO BE INSTALLED AS DETAILED IN NS128.
  6. THE INTELLIRUPTER 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 INTELLIRUPTER 1800mm ABOVE GROUND LEVEL AT ALL SITES. THE SIGN IS TO BE MADE FROM 25mm HIGH UV STABLE WEATHERPROOF LETTERING AND CAN UTILISE 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.
  7. THE INTELLIRUPTER IS TO BE LABELLED IN ACCORDANCE WITH NS158 TABLE 4.6 - "RECLOSERS & SECTIONALISERS". THE POLE NUMBER IS TO BE INSTALLED IN ACCORDANCE WITH NS148.
  8. INSTALL MEDIUM WALLED MASTIC LINED BLACK HEATSHRINK OVER THE BARE LUG BARREL AND CABLE INSULATION.
  9. THE ANTENNA USED MUST HAVE AN RF INDUSTRIES N-243 N ADAPTER M2M BARREL FITTED.
  10. THE INTELLIRUPTER 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.
  11. IF THE SITE SPECIFIC EARTHING DESIGN REQUIRES THE LV MAINS NEUTRAL TO BE CONNECTED TO THE INTELLIRUPTER 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.
  12. AFTER INSTALLATION OF THE POWER MODULE, CONNECTIONS TO THE POWER SOCKET ON THE INTELLIRUPTER BODY AND THE VOLTAGE TRANSFORMER TERMINAL BLOCK ARE TO BE MADE VIA THE FLEXIBLE CONDUIT, SOCKETS AND CABLE SUPPLIED. REFER TO THE MANUFACTURERS TECHNICAL DOCUMENTATION FOR FURTHER INFORMATION.
  13. AFTER INSTALLATION ON THE POLE IS COMPLETED, THE LIFTING RINGS ARE TO BE REMOVED FROM THE INTELLIRUPTER.
  14. THE STEEL EARTH CABLE COVER IS TO BE BONDED TO THE BOTTOM EARTH BAR.
  15. 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.
  16. REFER TO DESIGNER SAFETY REPORT D201415755 FOR A TYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	STOCK CODE	ARR-1 QTY	ARR-2 QTY
57	STEP - POLE SCREW-IN (SEE NOTE 15)	250144	185198	A/R	A/R
56	CONSTRUCTION - AIR BREAK SWITCH, 12/24kV, MID POLE OPERATED, 2455	175902		1	1
55	GUARD - EARTH CABLE, PVC, BLACK (ONLY REQUIRED IF SEGREGATED EARTHING SYSTEM SPECIFIED)	205775	197552	1	1
54	COVER - CCT, EARTHING POINT (SEE NOTE 5)		144741		6
53	WASHER - FLAT, M12, GALVANISED	518081	177982	6	6
52	MODERN - 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 02461 (SEE NOTE 9)		PURCHASE	1	1
45	ANTENNA - CELLULAR, PANORAMA LPB-7-27NU (SEE NOTE 9)		186408		
44	SIGN - INTELLIRUPTER, UNDERGROUND EARTH CABLES (SEE NOTE 6)	222408	182141	1	1
43	SIGN - INTELLIRUPTER, EARTH CABLES (SEE NOTE 6)	222408	182142	1	1
42	SIGN - INTELLIRUPTER, SERIAL NUMBER (SEE NOTE 6)			1	1
41	CONSTRUCTION - LV, OVERHEAD, ABC, INTERMEDIATE, 1-80 (SEE NOTE 2)	208544		1	1
40	FLAG - CONVERSION, 38 x 6.35mm, TINNED COPPER (SEE DETAIL 9)			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		18	18
34	CONDUCTOR - 19/1.53(35mm <sup>2</sup> ) COPPER, LDPE, SINGLE CORE, PVC SHEATHED, BLACK		H14578	A/R	A/R
33	LUG - COMPRESSION, COPPER, Ø14mm HOLE (TO SUIT 35mm <sup>2</sup> 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 <sup>2</sup> 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	4	4
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 <sup>2</sup> 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 <sup>2</sup> ) COPPER, PVC COVERED, BLACK (SEE NOTE 3)		60111	A/R	A/R
10	WASHER - FLAT, M20, GALVANISED	518081	177986	2	2
9	WASHER - CONICAL, M20, GALVANISED	518082	H39655	2	2
8	WASHER - SQUARE, 75 x 75 x 6mm (Ø22mm HOLE)	518081	H39231	4	4
7	BOLT & NUT - M20, HEX, GALVANISED (LENGTH TO SUIT POLE)	515466		2	2
6	ARRESTER - SURGE, 9kV, 10kA, POLYMERIC DISTRIBUTION TYPE, 12mm TOP & BOTTOM STUD (COMPLETE WITH BRDCCAP)		111948	6	6
5	INTELLIRUPTER - 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	
1	POLE - TIMBER (AS REQUIRED)	513988		1	1

**EQUIPMENT WEIGHTS**

INTELLIRUPTER	460kg
AIR BREAK SWITCH	135kg

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

CAD DRAWING  
DO NOT MANUALLY AMEND  
A REVISIONS  
DWG: PATRICIA ROS  
CHKD: PHILIP JONES  
DATE: 28/09/2020  
CCT OPTION ADDED.  
MATERIAL LIST & NOTES  
AMENDED.  
APPD by: DOMING SHIELDS

**ASSOCIATED DRAWINGS**

11kV S&C INTELLIRUPTER PULSECLOSER FOR CONTROLLING VOLTAGE REGULATOR	244228
11kV S&C INTELLIRUPTER PULSECLOSER	220041

NETWORK STANDARD  
**Ausgrid**  
145 NEWCASTLE RD WALLSEND,  
NSW 2287

SCALE	AS SHOWN
DESIGNED	D.DAFO
DRAWN	D.DAFO/P.JARVIS
CHECKED	M.ANDREWS
APPROVED	D.GRCEV
DATE	11/03/11
PROJECT NUMBER	STD
PROJ TRAK NUMBER	-

STANDARD CONSTRUCTION  
11kV S&C INTELLIRUPTER PULSECLOSER  
WITH BY-PASS AIR BREAK SWITCH  
MOUNTED ON A TIMBER POLE  
GENERAL ARRANGEMENT

SIZE: A1  
DRAWING No: 220251  
SHEET: 01  
AMD: 6