



**DISTRIBUTION COMMISSIONING TEST SHEET – NETWORK ACCESS POINTS AND RELAYS**  
**HPC-4DL-07-0034-2014**

This commissioning test sheet covers the checking, testing and commissioning of all new installations of network access points and relays.



**SAFETY:** At all times maintain suitable clearance to all other electrical equipment and verify planned escape routes.  
In preparation for the tests, wherever possible, isolate the supply to the equipment and make the area safe.

<b>DATE:</b>		<b>Reference Work Order No.</b>		<b>Name of Officer</b>	
<b>Location:</b>					

**1. DEVICE COMPONENT DESCRIPTIONS**

Item	Description	Value/Description	Comments
1.	Record the communication device location (Pole Pick Identification number).		
2.	Record the Street name and Suburb/Town.		
3.	Is the communication device an Access point or Relay?		
4.	Record serial number of communication device.		
5.	Record label number of communication device.		
6.	Record MAC address number of communication device.		
7.	Record battery Serial number.		
8.	Record battery catalogue number and description.		
9.	Record battery part number and manufacturing week.		
10.	Record height of communication device from ground level.		
11.	Record GPS co-ordinates of device (e.g. -24.87517, 113.69213).		



**2. SAFETY CHECK AND VISUAL INSPECTION**

Item	Description	Please Tick (if correct/complete)	Comments
1.	Check that the installation complies with the Distribution Construction Standards and applicable design drawings. <ul style="list-style-type: none"> <li>• M1-1 (May 2023) – SSN network device with LV aerial supply (ABC) arrangement.</li> <li>• M1-2 (Jun 2023) – SSN network device with LV aerial supply arrangement.</li> <li>• M1-3 (Jun 2023) – SSN network device with LV aerial supply (on HV pole) arrangement.</li> </ul>	<input type="checkbox"/>	
2.	Remove the fuse carrier/fuse from the supply box and check that the device is not connected to supply mains.	<input type="checkbox"/>	
3.	Prove that the supply mains are de-energised, use 'Test before you touch' FI 2.25.	<input type="checkbox"/>	
4.	Ensure that the neutral wire is removed from the incoming neutral terminal link (if connected).	<input type="checkbox"/>	
5.	Make the following unit connections in accordance with Horizon Power requirements: <ul style="list-style-type: none"> <li>• Down-earth cable to the earth bar terminal link and ground earth stake (6 mm<sup>2</sup>). Earth resistivity results as per Section 3 of this form.</li> <li>• Communication device (AP/Relay) earth cable to earth bar terminal link.</li> <li>• Communication neutral cable (blue wire) to outgoing neutral terminal link (Neutral OUT).</li> <li>• Active service-wire to incoming active terminal link (Active IN).</li> <li>• Communication device (AP/Relay) active to outgoing active terminal link (Active OUT).</li> <li>• AP/Relay case earth wire connections to earth wire terminal link and AP/Relay casing.</li> </ul>	<input type="checkbox"/>	

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6.	Ensure the device is attached on the pole bracket as far as possible away from the pole. This is to reduce radio frequency shadowing from the pole.	<input type="checkbox"/>	
7	All appropriate labels fitted.	<input type="checkbox"/>	
8.	Ensure the NAN antenna on the communication device is perpendicular to the ground.	<input type="checkbox"/>	
9.	Has a photograph been taken of the completed installation?	<input type="checkbox"/>	

**3. EARTH RESISTANCE TEST**

1	Test earth stake resistance using one of the following DCT's and record value in 3.4.						
2	New earth stake, use HPC-4DL-07-0038-2017 – Earth Testing of Distribution Poles, to test the earth						<input type="checkbox"/>
3	Existing earth stake, use HPC-4DL-07-0037-2017 – Earth Testing of Altered Systems, to test the earth						<input type="checkbox"/>
4	Previous test value if known	= _____Ω	Measured value	= _____Ω	Value acceptable	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Measured value would be acceptable if <b>below 30 Ohms</b> or a value between 0.8 and 1.2 is obtained when dividing the Measured value by the Previous test value. <b>Note</b> , if previous test value is not known a value less than or equal to 30 Ohms is acceptable.						
5	Earth stake resistances <b>above 30 ohms</b> or <b>outside of an acceptable value</b> must be communicated to the formal leader or Asset Manager.						<input type="checkbox"/>

**4. CONNECTION INTEGRITY TEST**

Item	Description	Please Tick if correct/complete	Values	Comments
1.	Install a temporary earth spike, a minimum of 2 metres from the structure in which the device is mounted. The temporary earth spike must be to a depth of 300 mm.	<input type="checkbox"/>	Not applicable	



Item	Description	Please Tick if correct/complete	Values	Comments
2.	Connect the Network Analyser's: <ul style="list-style-type: none"> <li>• earth lead to the independent temporary earth spike lead, and</li> <li>• neutral lead to the incoming neutral wire (supply box)</li> </ul>	<input type="checkbox"/>	Not applicable	
3.	Identify both the supply mains neutral and the neutral service-wire and make the connection.  <i>(If the Network Analyser displays a red light and two green lights, stop work immediately and check all connections as part of the installation. Rectify the appropriate connection(s) and recommence test).</i>	<input type="checkbox"/>	Not applicable	
4.	Appropriately identify both the supply mains active and the active service-wire and make the connection.  <i>(Use the divide by 3 rule, to determine the appropriate phase. Record supply phase).</i>	<input type="checkbox"/>	Not applicable	
5.	Place the Network Analyser active phase probe onto the incoming side of the fuse holder (Fuse F1), push start and record the following results: <ul style="list-style-type: none"> <li>• Voltage: (V) line to neutral</li> <li>• Voltage: (V) line to earth</li> <li>• Impedance: (Z) line to earth</li> <li>• Impedance: (Z) line to neutral</li> <li>• Neutral wire impedance</li> </ul> <i>(If results are within tolerances proceed. If results are not within tolerances, stop work immediately and check all connections as part of the installation. Rectify the appropriate connection(s) and recommence test).</i>	<input type="checkbox"/>	Not applicable	
6.	Reinstate/Connect the incoming neutral wire into the incoming neutral terminal link (Neutral IN).	<input type="checkbox"/>	Not applicable	
7.	Energise communication device by inserting the fuse carrier/fuse.	<input type="checkbox"/>		

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Item	Description	Please Tick if correct/complete	Values	Comments
8.	Using an independent earth and a voltmeter, check the communication device has less than 5 volts on the metal pole bracket.  <i>(Important – check the test instrument in functioning correctly.)</i>	<input type="checkbox"/>	Not applicable	

**5. FUNCTION CONFIRMATION**

Item	Description	Please Tick if correct/complete	Comments
1.	Has Metering Services team been contacted to confirm if device is commissioned and communicating correctly via the network?	<input type="checkbox"/>	
2.	Has Metering Services team confirmed the device is working on mains supply and not the battery backup?	<input type="checkbox"/>	
3.	Has Metering Services team confirmed the device will work on battery power if the mains supply is not available?	<input type="checkbox"/>	

**6. HANDOVER OF RESPONSIBILITY**

The commissioning officer must ensure that all checks are completed, and the test results comply with the minimum standards.

I hereby certify that all sections have been completed with satisfactory results and transfer responsibility to the network operating authority.

Commissioning Officer: \_\_\_\_\_ Pay Number: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Date:     /    /     Time:     :    

1. Ensure the work area is left tidy with no hazards to the public.
2. Hand over responsibility to the operating authority
3. Return this sheet to the project/working file as a record of commissioning and as a document required for the Handover Certificate.