DISTRIBUTION COMMISSIONING TEST SHEET – NETWORK ACCESS POINTS AND RELAYS ON STREETLIGHT POLES
HPC-4DL-07-0044-2024

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

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.

DATE:		**Reference Work Order No.**		**Name of Officer**	
Location:					

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.	Disconnect streetlight at source of supply.	☐	
2.	Install a temporary independent earth stake more than 2 meters from steel pole streetlight. You must: • ensure no underground services are within the vicinity of the stake, and • the stake is to a minimum depth of 300 mm up to a maximum of 600 mm.	☐	
3.	Conduct a safety touch test, prior to opening the streetlight panel, test between the streetlight column and the temporary independent earth stake. Further work is to cease if a voltage greater than 6 V is measured, the source of voltage should be investigated.	☐	
4.	Check all cables and terminations are free from damage and that the installation complies with the distribution construction standards and applicable design drawings. • M1-4-1 (May 2024) – SSN Network device with streetlight supply Class 1 arrangement • M1-4-2 (May 2024) – SSN Network device with streetlight supply Class 1 & 2 hybrid arrangement	☐	
5.	At the cut-out, test between the following for results of 0 Volts: 1) Supply-side active point and neutral, 2) Supply-side active point and temporary independent earth, and 3) Supply-side neutral and temporary independent earth stake. ***Testing is to cease if a voltage greater than 6 V is measured, the source of voltage should be investigated.*** • Test the voltmeter to ensure correct functionality.	☐	
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.	☐	
7.	All appropriate labels fitted.	☐	
8.	Ensure the NAN antenna on the communication device is perpendicular to the ground.	☐	
9.	Has a photograph been taken of the completed installation?	☐	

- **If this is an existing installation, then move to section 5.**
- **For a new installation go to section 3.**

3. INSULATION RESISTANCE TEST – For New AP/Relay Installations Only

Item	Description		Please Tick (if correct/complete)	Comments
1.	Disconnect all AP cable connections to the cut-out (Active, Neutral, Earth).		☐	
2.	**Access Point/Relay Cable tests** Disconnect the cable from the AP/Relay (pole top) Test using 500 V insulation resistance tester. Each test to be for 1 minute (results >1 MΩ = OK)	Load Active and Earth	☐	
		Load Neutral and Earth	☐	
		Load Active and Steel Pole Streetlight	☐	
		Load Neutral and Steel Pole Streetlight	☐	
		Earth and Steel Pole Streetlight	☐	
3.	Reconnect the cable to the AP/Relay.		☐	
4.	Reconnect all AP/Relay cable connections to the cut-out (Active, Neutral, Earth).		☐	

4. POLARITY TEST (USING NETWORK ANALYSER) - Only for Changing Cut out from Class II to Class I for New AP/Relay Installations

Item	Description		Please Tick (if correct/complete)	Comments
1.	Remove MEN connection.		☐	
2.	Energise the streetlight cable at the source of supply.		☐	
3.	Connect network analyser earth lead to temporary independent earth stake.		☐	
4.	Connect the analyser neutral probe to the steel pole.		☐	
5.	Check that the analyser does not display 'Wiring Error Do Not Proceed' (red light).		☐	
	A wiring error indicates the supply neutral has been wired to active, and the pole is live (due to the pole MEN link for Class I). Cease test, de-energise supply and investigate (including isolation of streetlight circuits if required).			
6.	Connect network analyser neutral lead to incoming supply neutral.		☐	
7.	Connect the analyser active probe to the cut-out supply-side active terminal.		☐	
8.	Push 'test' button, record:			
	Record phase voltage. (Circle correct phase)	red / white / blue	☐	
	Line active to line neutral (VL-N)	226 V to 254 V	☐	
	Line active to independent earth (VL-E)	226 V to 254 V	☐	
	Prospective Short Circuit current (PSCL-N)	> 100 A	☐	
	Earth Fault Loop Impedance (ZL-E)	< 2000 Ω	☐	
	Line Neutral Impedance (ZN)	< 0.8 Ω	☐	
	Testing is to cease if line neutral impedance exceeds 0.8 Ω, investigate neutral connections back to transformer			
9	Disconnect the streetlight at the source of supply		☐	
10	Reinstate the MEN connection		☐	

5. FUNCTION CONFIRMATION

Item	Description	Please Tick if correct/complete	Comments
1.	Reconnect at streetlight source of supply	☐	
2.	Insert/Check the fuse size is 10 Amp in the cutout fuse holder.	☐	
3.	Reinstate the cutout fuse holder in the cutout.	☐	
4.	Test between streetlight column and temporary independent earth (less than 6V).	☐	
5.	Has Metering team been contacted to confirm if device is commissioned and communicating correctly via the network?	☐	
6.	Has Metering team confirmed the device is working on mains supply and not the battery backup?	☐	
7.	Has Metering team confirmed the device will work on battery power if the mains supply is not available?	☐	

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: DD/MM/YY Time: HH:MM

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.