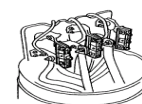


## DISTRIBUTION COMMISSIONING FORM (DCF) 2.9 – Pole to Pillar



**Purpose:** This instruction covers the testing and commissioning of new and replacement LV cable installations between the overhead network and a pillar (Pole to pillar).

For more information refer to the *Distribution Commissioning Forms Guideline (EDM 34137510)*

**Parameters:** The following tests must be carried out after the cable and pillar have been installed.

For cable upgrade or replacement, a phase rotation test must be performed before de-energising.

Ensure that no customer supplies will be energised during the commissioning or connection process.

### 1. Task Parameters

Work Package No:		Test Site/Location:		
Service Address (House/Lot No and Road Name):				
Instrument		Serial Number:	Cal Date:	
Size of Cable	mm <sup>2</sup>	Length of Cable (approx.)	m	
Pole Pick ID		Mini pillar		
Pillar Pick ID		Uni pillar		

### 2. Replacing a cable

1	Before de-energising the cable to be replaced, test and record the phase rotation at the pillar	∅ #	∅ #	∅ #
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### 3. Preparation

1	Check that the pillar is on the correct alignment.		
2	Check all incoming connections at the pillar for correct positioning and tightness.		
3	Separate the earth conductor from the neutral terminal block at the pillar.		
4	Check the cable and conduit to the pole is in its final position.		
5	Separate the cable cores at the pole-top for testing.		
6	Identify the aerial mains neutral conductor and the cable neutral conductor and fit a neutral tag (HG 2101) to both.		
7	At the pillar, conduct an insulation test on the incoming cable and record the results.  Use a 1kV insulation resistance tester for one minute between phase-to-phase and phase-to-neutral. Values must be greater than 10MΩ. Ensure that all persons are clear of the circuit before testing.	Red – white	MΩ
		White – blue	MΩ
		Blue – red	MΩ
		Red – neutral	MΩ
		White – neutral	MΩ
		Blue – neutral	MΩ
8	Perform a sheath integrity test on the cable and record the results.		
	a. Disconnect all neutral/screen connections of the cable that is to be tested. b. Use a 1kV insulation resistance tester and test for one minute between all the neutrals/screens and an effective earthed reference point (i.e. rod) embedded in the ground more than 2m from any electrically conductive object. a. Values must be: i. greater than 10MΩ for new cables ii. greater than 1MΩ for old cables c. Reconnect all the neutral/screen connections.	Neutral – earth	MΩ

#### 4. Commissioning

**Note:** A high impedance voltmeter may indicate stray or 'ghost' voltages on unconnected phase(s), when one phase is energised. Utilise a stray voltage eliminator or connect a load tester across the test points to dissipate this voltage and give a true reading (< 6V). If voltage of 6V or greater still exists, commence a fault-finding procedure.

1	Prove the test equipment is functioning correctly.			
2	Prove aerial mains correct voltages: R-N, W-N, B-N (all 226–254V). <b>Note:</b> The linesperson in the EWP must confirm the OH line voltages and check that there is no voltage between each core and the line before connecting at step 3. This step may be omitted for aerial bundled conductor.			
3	Connect the cable neutral and phase cores to the aerial mains.			
4	Test between the pillar earth electrode and the neutral terminal block at the pillar. (< 6V)			V
5	Test between the neutral block and the blue terminal block at the pillar. (226–254V)			
6	Test between the neutral block and the white terminal block at the pillar. (226–254V)			
7	Test between the neutral block and the red terminal block at the pillar. (226–254V)			
8	Reconnect the earth conductor to the neutral terminal block at the pillar.			
9	Record the final voltages at the pillar terminals.	Expected Value 226–254V $\emptyset$ - N	Red - Neutral	V
			White - Neutral	V
			Blue - Neutral	V
		Expected Value 390–440V $\emptyset$ - $\emptyset$	Red to White	V
			White to Blue	V
			Blue to Red	V
10	Test for correct phase rotation and record. For cable replacement this must be the same as recorded in Sect 2.	$\emptyset$ #	$\emptyset$ #	$\emptyset$ #
11	Conduct a service connection test on all installations where the service connections have been disturbed.			

#### 5. Handover of Responsibility

I hereby certify that:			
1. The above tests have been completed in sequence.			
2. The test results recorded above are all true and correct.			
Commissioned by		Full NAC no.	
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 form to the project file as a record of the commissioning/handover certificate.