

POWERTRACK

TESTING GUIDE

TESTING + SAFETY GUIDANCE

All instructions should be read carefully, and the safety precautions detailed below should be followed at all times to reduce the risk of fire, electric shock, and personal injury. Novus48 will not accept any responsibility for injury, damage or loss which may occur due to incorrect installation, operation, or maintenance of Powertrack.

Prior to connecting Powertrack to a live electrical source such as a 10kVa transformer each run of Powertrack should be dead tested.

Initially we recommend that a visual inspection take place on the run of Powertrack, inspecting each module to ensure it is of sound working condition and undamaged and that the test equipment being used is inspected and that the calibration certificate is within date. We also recommend noting the test unit number on the RLV test sheet.

Following this inspection, check that the Powertrack run that is about to be tested is disconnected from the transformer. We suggest removing the Starter Module and placing this in a safe lockable location (such as the Power Pallet) and placing a Powertrack end cap on the first module of your run for safety purposes while you prepare for the test.

At this point the test engineer should be able to carry out the R1 and R2 Test.

R1 AND R2 TEST

- Nullify your test leads.
- Remove the Powertrack end cap placed on the first section of your Powertrack run.
- Connect a temporary link from the earthing terminal to the phase conductor of the Power terminals on the first section of the Powertrack run (i.e. the closest section to the transformer).
- Once the link is in place, go to the furthest point of your Powertrack run and insert your test probes into the Powertrack Test Lead between phase and earth on the power conductor.
- Record the highest reading in ohms – this being R1 + R2 value on the schedule of tests. (The R1/R2 method also proves polarity is correct on single phase circuits).
- Once complete, remove the link between the power connectors and repeat this method on the lighting conductor.

DEAD TESTING COMPLETE

Following the completion and the noting of the R1 and R2 test results within the RLV test sheet the test engineer can now move onto Live Testing.

The first action of Live Testing is to arrange for a competent person to energise Powertrack supply i.e. energise the local transformer.

EARTH LOOP IMPEDANCE ZS

Prior to commencing the test, we recommend checking the testing calibration certificate is valid and noting the instrument number on your test sheet.

When testing the Earth Loop Impedance Zs go to the furthest point of the Powertrack run and connect the male end of your Powertrack Testing Lead into the last module of your Powertrack run.

At this point insert your testing probes into the power crimps of your Powertrack Test Lead.

If your Powertrack circuit is protected by an RCD/ RCBO use the non-trip loop test facility on your tester.

Once connected, press your earth loop impedance test button and note the values of the power circuit on your test sheet.

Now repeat the same process but this time place your electrical testing probes into the Powertrack 2.5mm female lighting connectors.

Please note, the initial verification of all electrical LV and RLV installations shall be in accordance with Part 6 of the current edition of the IET Wiring Regulations BS7671 and its associated Guidance Note 3.

For clarity, RLV shall be inspected and tested before being put into service. The measured earth fault loop impedance shall not exceed the values given in table 41.6 of BS7671. Where these cannot be achieved, a supplementary RCD should be fitted to the circuit, the size and rating of which shall be advised by the Electrical Contractor who has set up the on-site transformers and be compliant with BS7671.

All initial test results should be retained in the appendices of the Project Electrical Safety Plan.

On completion of your live testing, Powertrack can now be used to distribute 110volt power and lighting across your construction site.

TRANSPORTING POWERTRACK FROM PROJECT TO PROJECT

We recommend that when taking Powertrack from one Project to another that you visually inspect, and PAT Test each module.

Please note that at your request each Powertrack module you purchase will come with its own unique code which is to assist with these inspections and keep a PAT Test log.

VISUAL INSPECTIONS

While your Powertrack system is installed on site, we recommend carrying out a visual inspection of your Powertrack runs every three months with periodic testing also taking place at this time.

Visual Inspections should include:

- Check for any cuts or abrasions to modules.
- Check the male and female connectors at either end of the Powertrack module, checking for any cracks or damage to pins.
- Check for any signs of overheating or burns to commando sockets on Power modules.
- Check the lighting diffuser on the lighting modules aren't chipped or cracked (diffusers can be ordered individually we also have an online video showing how diffusers can be changed over should any become damaged, please note that when changing a diffuser that the lighting module is off and disconnected from mains power).

Once the Visual Inspection is completed, we then recommend carrying out a Class 1 Electrical PAT Test of each profile, which includes:

Earth Continuity Test and Insulation Resistance, the PAT testing can be carried out using a standard PAT Test Unit, we suggest using Powertrack PAT test leads for this.

Once the module being tested has been checked, it is given a pass or fail. A sticker can be added to the module however due to the environment that Powertrack is installed we suggest keeping an on-site log noting the unique number, the date and status of the module. This schedule can be downloaded from www.Novus48.com