HPX/HP/FP/FPX/WMX/ GP/4Pak/Hub Dimmers

Dimmer Products

TNJLT104.doc

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Testing and Tagging of Dimmers

As part of the ongoing improvement in safety standards throughout Australia and the rest of the world, users are required to regularly perform tests on mains products to ensure they are safe. Testing should be carried out in accordance with AS/NZS 3760 *In-service safety inspection and testing of electrical equipment*. This tech note explores present test procedures and the results that should be obtained when they are performed on Jands dimmer products.

Earthing Continuity

The earth continuity test is intended to measure the integrity of the Earth connection. The earth resistance shall be measured from the plug earth pin to accessible earthed parts of the chassis and to the earth pin of all socket outlets on the device under test. Equipment being tested shall have a measured resistance of the protective earth circuit which does not exceed 1.0 Ohm.

Testing of Insulation

The insulation resistance test is intended to measure the integrity of the electrical insulation of the internal wiring and circuitry relative to the protective earth circuit. Make sure that all circuit breakers and residual current devices are switched on before performing this test.

Connect one probe of an insulation resistance meter (megger) to the earth pin on the input connector and the other probe of the meter is connected to the live conductors electrically shorted together. A nominal measuring voltage of 500V d.c. shall be used and a resistance of 1M Ohms or greater should be expected. The exception to this will be the HUB, HP and HPX series of dimmers, which will have a resistance of around 47k Ohms for the HUB and HPX series units and 16k Ohms for the HP series. This is due to monitoring circuitry between the Neutral and Earth Conductors.

If a leakage tester is used instead of an insulation resistance meter to test the integrity of the insulation, results should comply with the limits set out in Table 1 of AS/NZS 3760.

Trip Time

Where a dimmer is hardwired and fed from an RCD, it is a common requirement to test the trip time of RCD. This is performed using a trip time tester that is plugged into one of the dimmer outlets. When this test is performed the dimmer channel must be driven to full (by the front panel or DMX control) and a load must be present on the channel to ensure the thyrsitors are properly switched on. The load should be a minimum of 100 Watts.

Plug a trip time tester into one of the dimmer channels and follow testers instructions for performing the test. For 30mA RCDs a trip time of 300ms or less is acceptable. In the case of a 10mA RCD the trip time must be less than or equal to 40ms.

Important Notes

If there are any discrepancies between this document and AS/NZS 3760 *In-service safety inspection and testing of electrical equipment* then AS/NZS 3760 shall be used.

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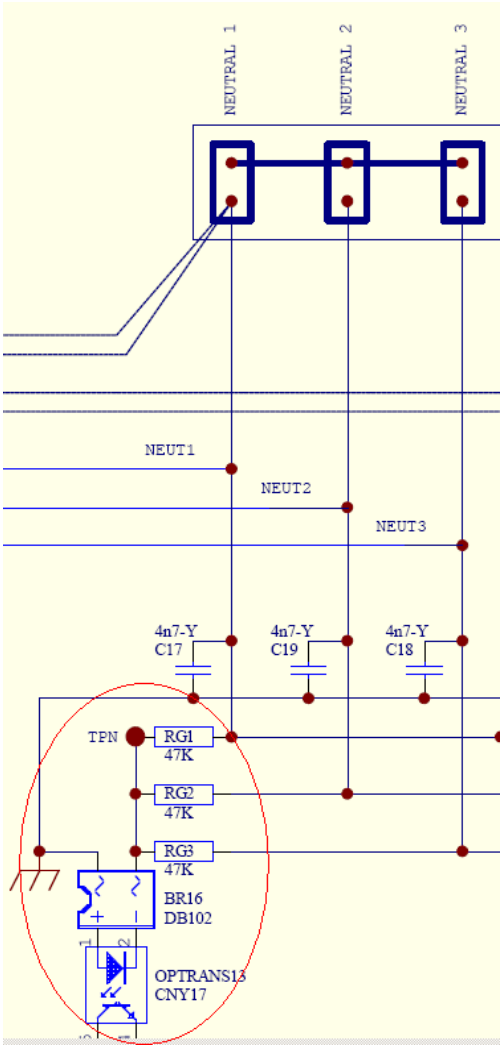
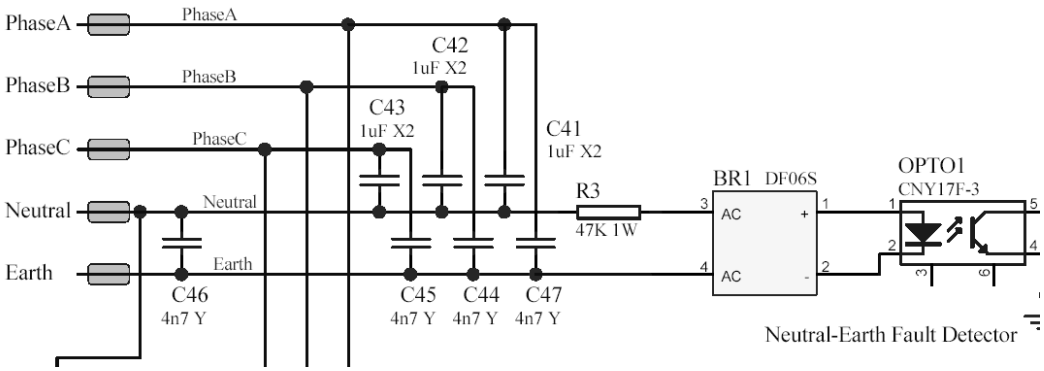
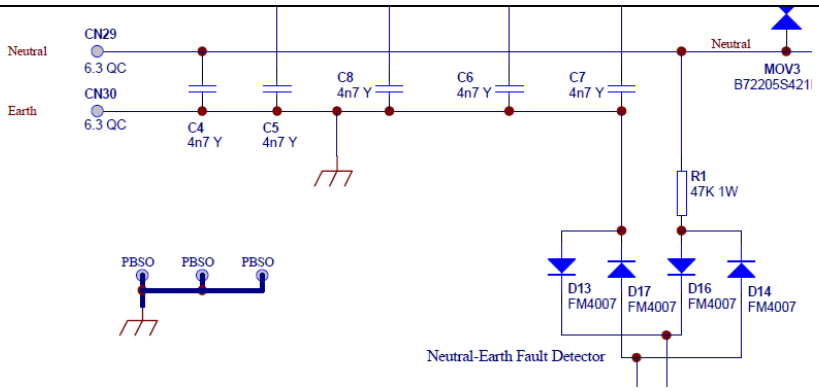
Addendum



Resistor and Diode network in Neutral/Earth circuit used in power fault detection circuit for HP Series dimmers.



Resistor and Diode network in Neutral/Earth circuit used in power fault detection circuit for HUB dimmer.



Resistor and Diode network in Neutral/Earth circuit used in power fault detection circuit for HPX series dimmers and switch units.

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