Inner Range Advanced Surge Protection Devices 995040/41/42

The Inner Range Advanced Surge Protection Devices provide surge protection for the Concept 2000/3000/4000 family of products, they consist of the Power Surge Diverter, IR LAN Surge Diverter and the PSTN (Telecom) Line Surge Diverter.

Sources of electrical surges are numerous. The most common is a nearby lightning strike, which will affect nearby data lines through induction. Industrial transient surges are also significant because they are man made disturbances, caused by, switching large power loads such as lighting systems, the start-up of electric motors or industrial welders.

Surge Protectors limit the transient Voltage to a level, which is safe for the equipment they protect, by conducting the large surge current safely to ground.

The Electrical Earth of a building is the “Protective Earth”, the Advanced Surge Protection devices divert electrical energy to “Protective Earth”, and therefore the **Earth wire** on the Advanced Surge Protection Devices, must connect to earth.

Earth connection in Inner Range Products
Inner Range products that are mounted in chassis, that have transformers, provide an earth point on the chassis, while three wire plug packs provide connection to earth through the earth wire. The wiring in the chassis and the construction of the plug pack provide connection to the building earth via the mains power point.

Note: when a module is not powered and requires surge protection, then a suitable earth must be found for the Surge Protection Devices.

It is important to remember that the **Surge Protection Devices are only as effective as the Earth connection they divert to**. The integrity of the path to earth is vital for the proper functioning of these devices.

For a technical introduction to Advanced Surge Protection, contact your Supplier for a copy of the Application Note (Part Number 630066).

Disclaimer: While every effort has been made to ensure the accuracy of this manual, the manufacturer assumes no responsibility or liability for any errors or omissions. Due to ongoing development, this manual is subject to change without notice.

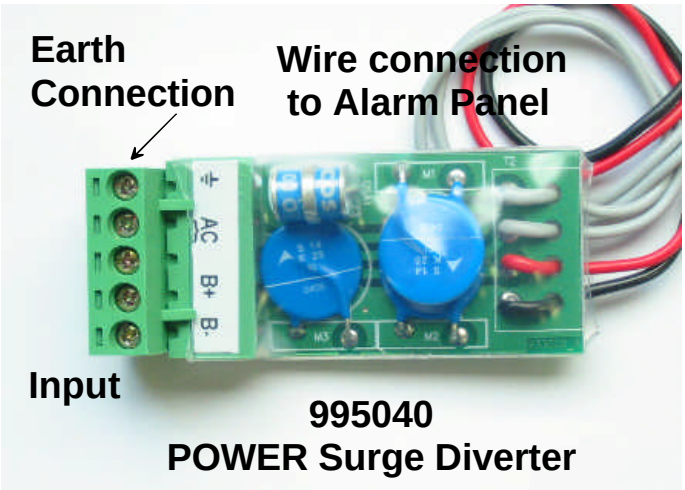
© 2004. Inner Range Pty. Ltd. Part No: 635040

The IR 995040 Power Surge Diverter is designed to connect to the AC and Battery inputs on the Concept 2000, Concept 3000/4000 Type 1, Type 2 Control Modules and other AC powered modules in the Inner Range family.

Physical dimensions (mm) : PCB: 70(L) x 28(W) x 20(D)
(including terminal block) The assembly is surrounded by insulating plastic.
Installation environment: 0º - 40º C @ 15% to 85% Rel. Humidity(non-cond.)

Power Surge Diverter PARTS LIST:

- Installation Manual (this document)
- 4 way Terminal Block

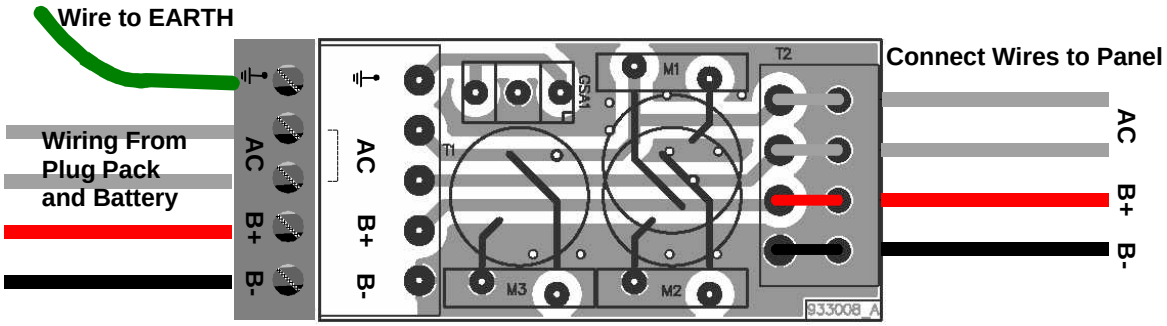


Connect the supplied 4 way terminal block into the connector on the PCB as shown in the image on the left.

Connect the Grey flying leads to the **AC** input on the controller, connect the Black wire to Battery **B-** input and the Red wire to the **B+** input on the controller.

Connect the external AC and Battery to the 4 way Input terminal block.

Make sure the Earth connection is wired to an earthed chassis or plug pack.



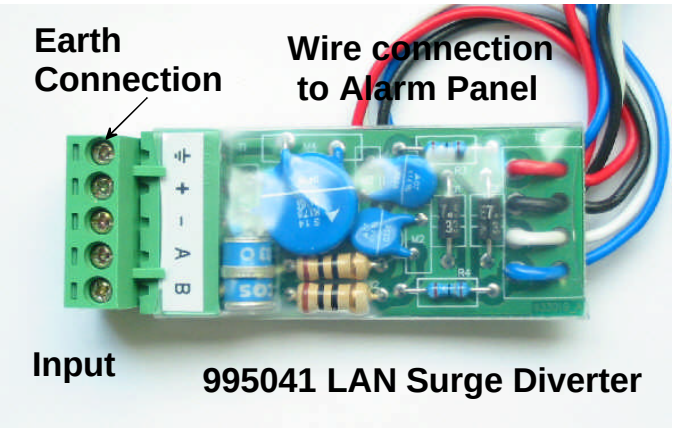
Power Surge Diverter wiring diagram.

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The IR 995041 LAN Surge Diverter is designed to connect to any LAN input on the Concept 2000, Concept 3000/4000 range of Modules; the module must have a nearby “Protective Earth” connection for the Surge Diverter.

Physical dimensions (mm) : PCB: 75(L) x 28(W) x 20(D)
(including terminal block) The assembly is surrounded by insulating plastic.
Installation environment: 0º - 40º C @ 15% to 85% Rel. Humidity(non-cond.)

LAN Surge Diverter PARTS LIST:
- Installation Manual (this document)
- 4 way Terminal Block

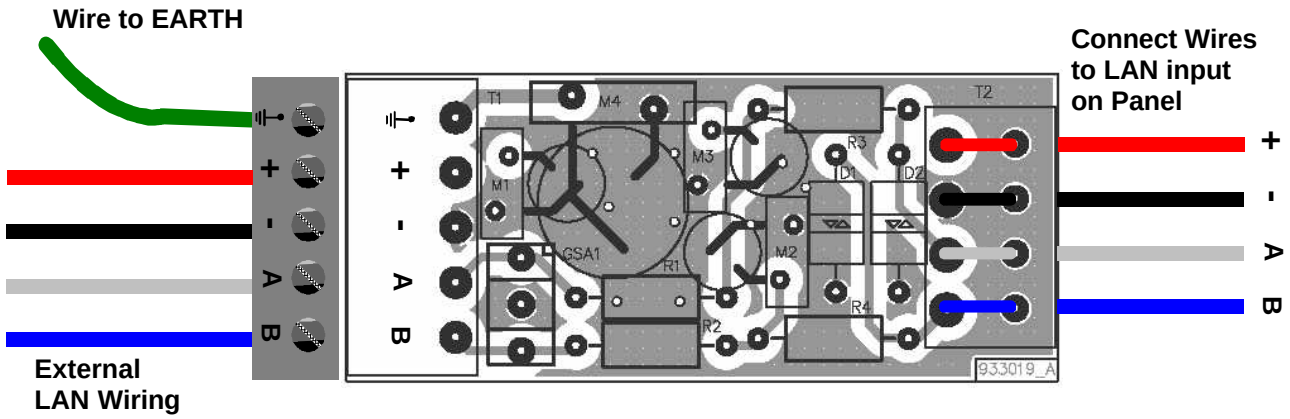


Connect the supplied 4 way terminal block into the connector on the PCB as shown in the image on the left.

Connect the flying leads to the LAN connection on the controller, **Black** wire to the LAN **NEG** input and the **Red** wire to the LAN **POS,** connect the **White** wire to LAN **A** and the **Blue** wire to LAN **B**.

Connect the external LAN wiring to the 4 way Input terminal block.

Make sure the Earth connection is wired to an earthed chassis or plug pack.



LAN Surge Diverter wiring diagram.

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The IR 995042 PSTN Surge Diverter is designed to connect to the phone input on the Concept 2000, Concept 3000/4000 Type 1, Type 2 Control Modules and other modules in the Inner Range family that have PSTN connection.

Physical dimensions (mm) : PCB: 88(L) x 23(W) x 20(D)
(excluding cable) The assembly is surrounded by insulating plastic.
Installation environment: 0º - 40º C @ 15% to 85% Rel. Humidity(non-cond.)

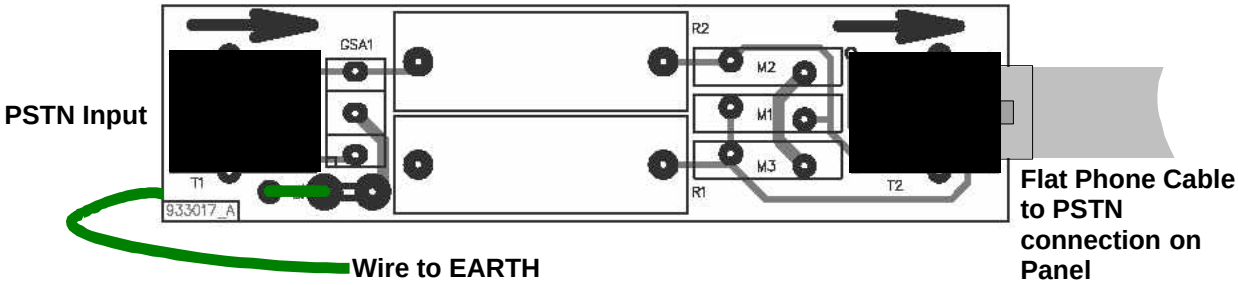
PSTN Surge Diverter PARTS LIST:
- Installation Manual (this document)
- RJ12 Phone Cable



Connect one end of the supplied RJ12 cable to the PSTN connector on the controller, connect the other end of the cable to the connector on the PCB as shown in the image on the left.

Connect the in-comming phone cable into the connector on the earth wire end of the PCB.

Make sure the Earth connection is wired to an earthed chassis or plug pack.



It is proposed that this philosophy of surge protection will be incorporated into new revisions of many Inner Range Products. Contact Inner Range Technical Support for further in formation.

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