

How to configure the I.P. Address in Dual Redundant Ethernet Board.

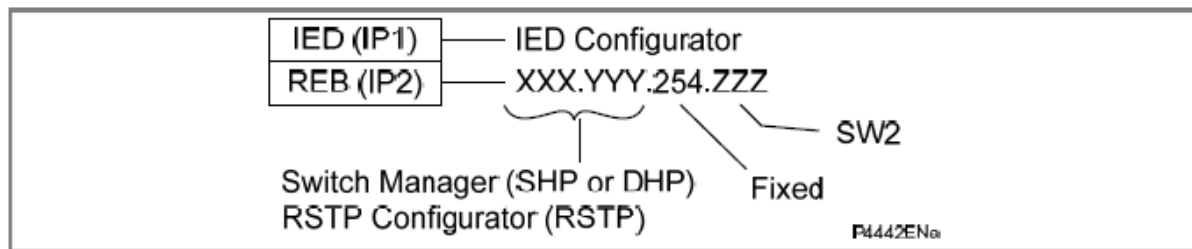
Answer:

An Internet Protocol (IP) address is a logical address assigned to devices in a computer network that uses the Internet Protocol for communication between nodes. IP addresses are stored as binary numbers but they are usually displayed in the following format. "10 . 86 . 254 . 85"

Both the IED and the redundant Ethernet board each have their own IP address.

Figure below shows the IED as IP1 and the redundant Ethernet board (REB) as IP2. Note that IP1 and IP2 must be different and are in the same subnet mask.

The switch IP address must be configured through the network



➤ **Configuring the IED IP Address**

The IP address of the IED is configured using the IED Configurator software in MiCOM S1 Studio. If using IEC 61850 the IED IP address is set using the IED Configurator. If using DNP3 over Ethernet, the IED IP address is managed directly through the DNP3 file. The available range is 128 to 254 in the last octet of the IED IP address.

Note: In the IED Configurator, set the port type to **Copper**, not **Fiber**.

➤ **Configuring the Board IP Address**

The IP address of the redundant Ethernet board is configured in both software and hardware, as shown in Figure 10. Therefore this must be configured before connecting the IED to the network to avoid an IP address conflict.

➤ **Configuring the First Two Octets of the Board IP address**

If using Self Healing Protocol or Dual Homing Protocol, the first two octets are configured using Switch Manager or an SNMP MIB browser. An H35 (SHP) or H36 (DHP) network device is needed in the network to configure the Px40 redundant Ethernet board IP address using SNMP.

If using Rapid Spanning Tree Protocol, the first two octets are configured using the RSTP Configurator software tool or using an SNMP MIB browser.

➤ **Configuring the Third Octet of the Board IP Address**

The third octet is fixed at 254, regardless of the protocol.

➤ **Configuring the Last Octet of the Board IP Address**

The last octet is configured using board address switch SW2 on the board. It is necessary to first remove the IED front cover to gain access to the board address switch, regardless of the redundant protocol.

- a. Refer to the safety section of the IED.
- b. Switch the IED off. Disconnect the power and all connections.
- c. Before the front cover is removed take precautions to prevent electrostatic discharge damage, according to the ANSI/ESD-20.20 -2007 standard.
- d. Wear a 1 MΩ earth strap and connect it to the ground (earth) point on the back of the IED. See Figure 11.

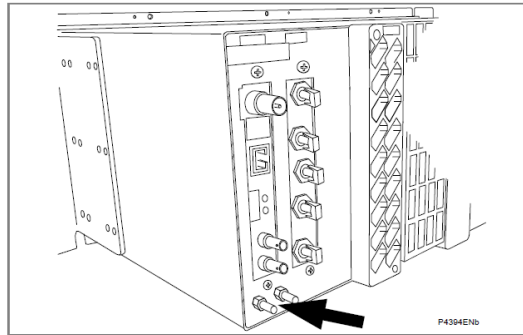


Figure 11 - IED earth (ground) point

- e. Remove the six screws securing the front panel.

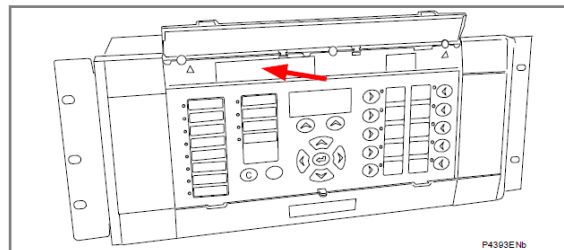


Figure 12 - IED front panel

- f. Remove the front panel and disconnect the ribbon cable from the front panel. You now have access to the address switches on the dual Ethernet board.

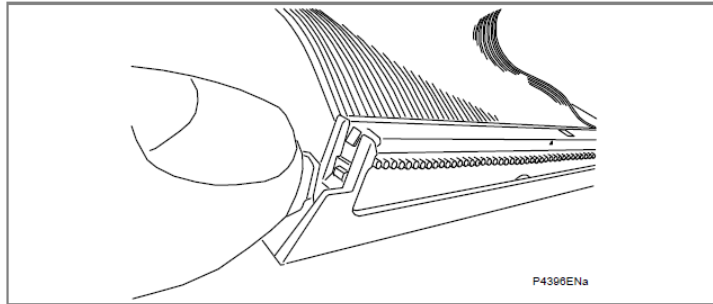


Figure 13 - Ribbon cable connector

- g. Set the last octet of the board IP address. The available address range is 1 to 127. See Figure 14.

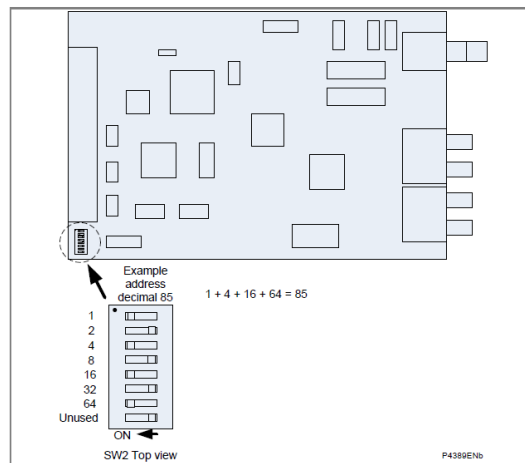


Figure 14 - Dual Ethernet board address switches (SW2)

- h. Once the IP address of the board is changed, reassemble the relay in the reverse order. Take care not to damage the pins of the ribbon cable connector on the front panel when reinserting the ribbon cable.