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08.04.2011

No. 1

Report

Issue

1

Topic

**"Step-By-Step" configuration guide FPA 5000 network (2.7.x) –
FPA-5000-OPC (single and redundant Ethernet connection)**

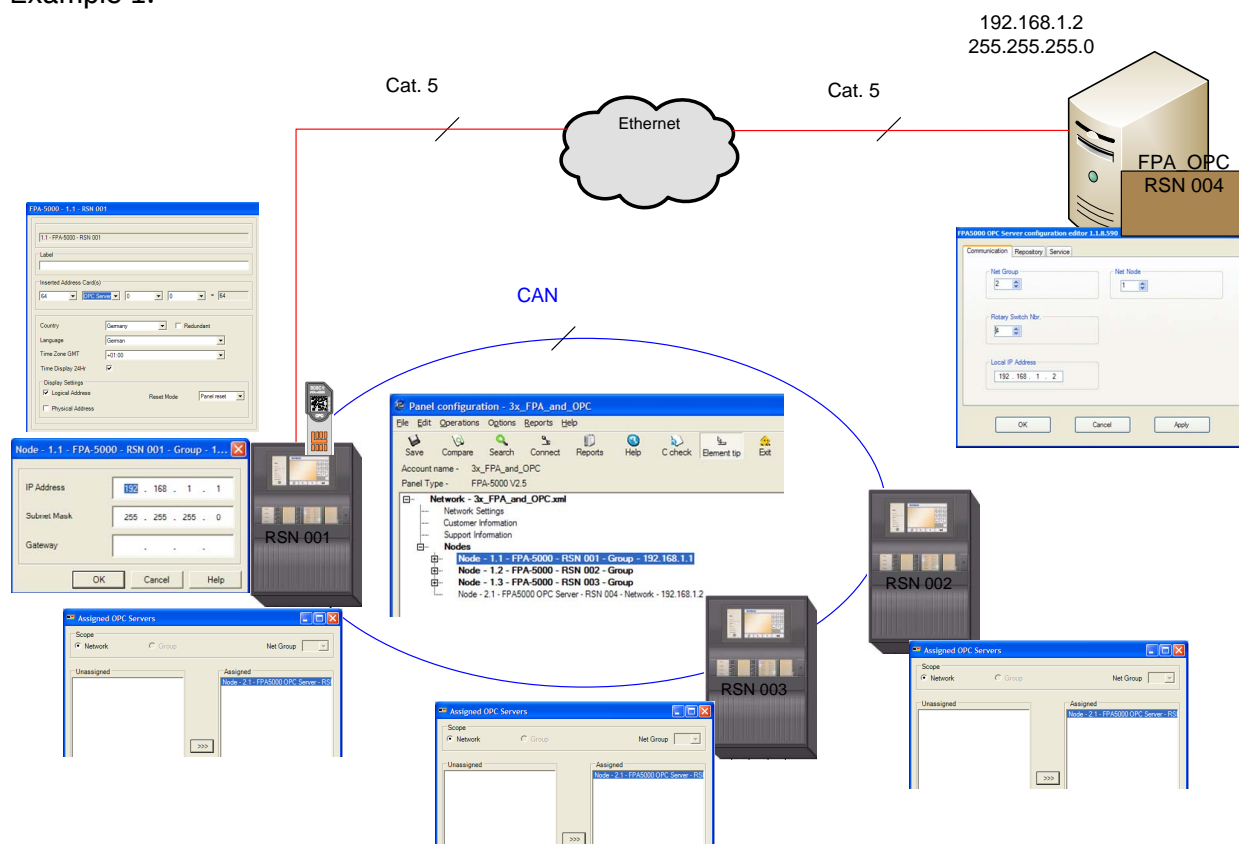
Description

1. Introduction

This guide is designed to aid the technician on site in successfully configuring the FPA 5000 network and the corresponding FPA-5000-OPC server to enable communication between the two via a single Ethernet connection. In completing these steps successfully a functional interface is provided for a subsequent connection to BIS 2.x.

Basic IT-knowledge is required. The supported data protocol between FPA5000 and OPC is UDP (**U**ser **D**atagram **P**rotocol)

Example 1:

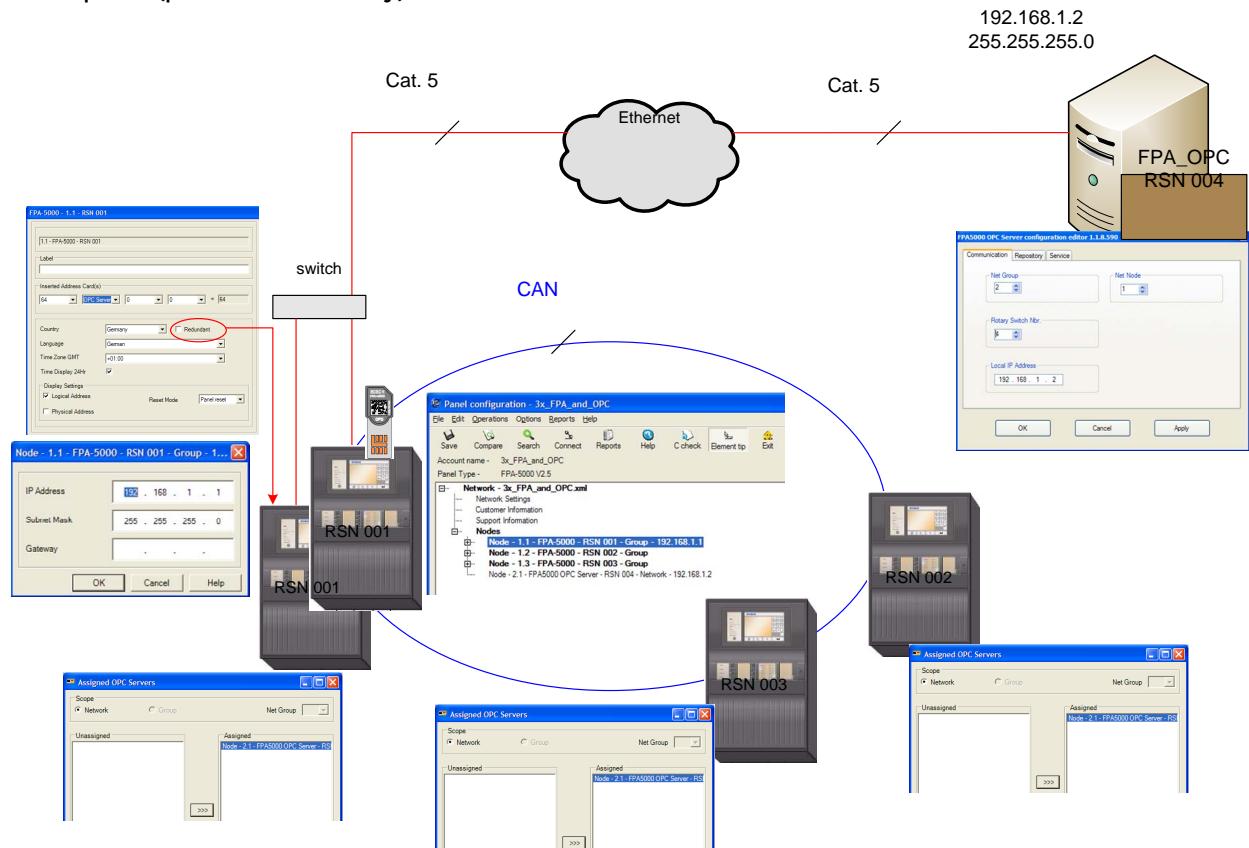


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Example 2 (panel redundancy):



2. Precondition

- FPA 5000 network with "MPC xxxx B" panel version
- ADC-5000-OPC license card
- Latest FSP-5000-RPS installation CD
- Latest FPA-5000-OPC Server (download from Extranet)
- Existing Ethernet network with Cat. 5e cable (see "additional infos")
- PC to install FPA-5000-OPC on

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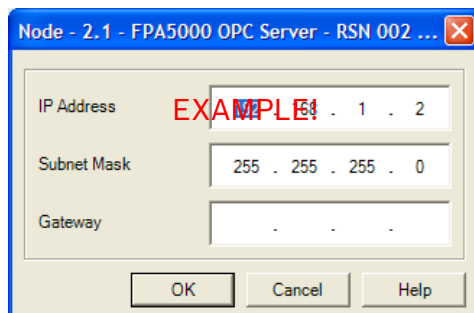
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3. Step-By-Step Guide

1. FSP-5000-RPS:

- In an existing 2.x configuration select an "FPA-5000-OPC Server" node located under "nodes" (create FPA-5000-OPC-Server)

In the window that pops up click on "IP settings..." and edit the fields accordingly. **The settings must match the network adapter/card settings of the computer the FPA-5000-OPC Server will be installed on!**



- Double-click on the panel node that will be physically connected to the Ethernet, e.g. "Node – 1-1 – FPA 5000.....". Click on "IP settings..." and edit the fields accordingly. Panels not directly connected to the Ethernet are not assigned an IP address.

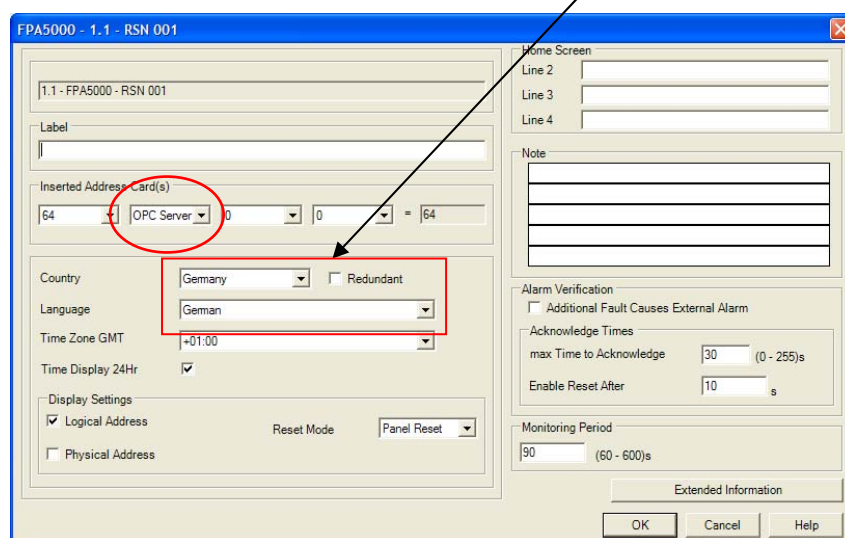
- Double-click on the "FPA 5000" node, e.g. "FPA 5000 – 1.1 – RSN..." and select "OPC server" under a vacant "Inserted Address Cards" field.
Note: It is mandatory that this node is then assigned to the OPC server! (see next step)

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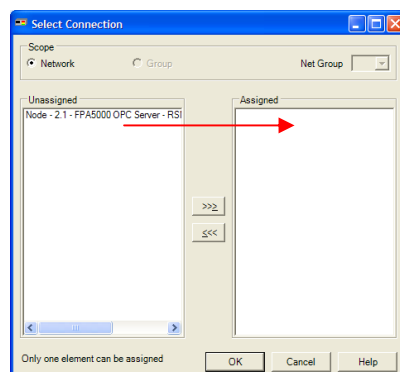
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- **ATTENTION!! BIS 2.x will display commands and detector names in the selected language!**



Double-click on "Assigned OPC Servers" and assign the panel to the OPC Server. Repeat this task for each node that is to transmit its states to the OPC.



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2. MPC-xxxx-B

- Insert the ADC-5000-OPC card into one of the vacant address card slots.



- Go to the node that has been assigned an IP address and connect the Cat.-5 cable to the MPC-xxxx-B "Ethernet" port (RJ45)



3. PC/Server

- Install the downloaded FPA-5000-OPC Server (DE/EN).
If not present, install DotNet Framework 2.0 first (included on CD).
After installing the OPC you must restart the computer!
- Navigate to *Start → All Programs → Bosch → FPA 5000 OPC-Server* and run *Configuration Editor* or open Windows Explorer, navigate to *C:\Program Files\Bosch\FPA 5000 OPC-Server* and run *ConfigEditor.exe*
- Under the "Communications" tab adopt the settings that were entered for the node "FPA5000 OPC Server" in the RPS configuration.

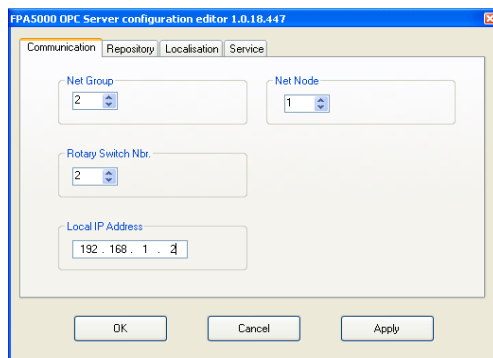
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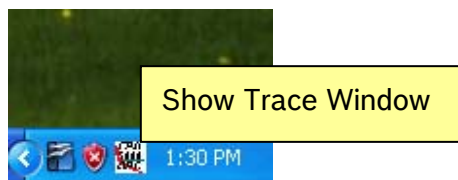
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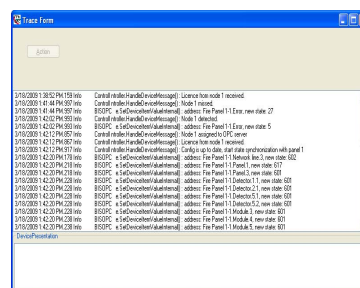
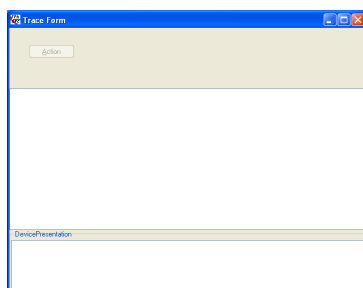
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- Connect the Cat.-5 cable to the PC Ethernet port. Afterwards open the DOS command window and successfully "ping" the MPC.
- Right-click on the FPA-5000-OPC icon in the systray and select "Show Trace Window"



- The trace window will display the communication between FPA5000 nodes and the FPA-5000-OPC Server.



- When communication has been established to the nodes a bin file for each node, e.g. MP1_1.bin, will be created. The files are located under *C:\MPOPCServer\Repository*

4. Trouble-shooting

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- ⊕ Confirm that IP address and MAC address are assigned and "ping" the MPC
- ⊕ De-activate firewall
- ⊕ Follow steps 1 – 3:
 1. Stop OPC (see "Service" tab in Configuration Editor)
 2. Delete bin file(s) under C:\MPOPCServer\Repository
 3. Start OPC → A new file per node will be created.

5. Additional Infos

• LAN Technology Specifications

Name	IEEE Standard	Data Rate	Media Type	Maximum Distance
Ethernet	802.3	10 Mbps	10Base-T	100 meters
Fast Ethernet/ 100Base-T	802.3u	100 Mbps	100Base-TX 100Base-FX	100 meters 2000 meters
Gigabit Ethernet/ GigE	802.3z	1000 Mbps	1000Base-T 1000Base-SX 1000Base-LX	100 meters 275/550 meters 550/5000 meters
10 Gigabit Ethernet	IEEE 802.3ae	10 Gbps	10GBase-SR 10GBase-LX4 10GBase-LR/ER 10GBase-SW/LW/EW	300 meters 300m MMF/ 10km SMF 10km/40km 300m/10km/40km

• Guide to Ethernet Coding

10	at the beginning means the network operates at 10Mbps.
BASE	means the type of signaling used is baseband.
2 or 5	at the end indicates the maximum cable length in meters.
T	at the end stands for twisted-pair cable.
X	at the end stands for full duplex-capable cable.
FL	at the end stands for fiber optic cable.



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For example: 100BASE-TX indicates a Fast Ethernet connection (100 Mbps) that uses a twisted pair cable capable of full-duplex transmissions.

- Cable Grade Capabilities

Cable Name	Makeup	Frequency Support	Data Rate	Network Compatibility
Cat-5	4 twisted pairs of copper wire -- terminated by RJ45 connectors	100 MHz	Up to 1000Mbps	ATM, Token Ring, 1000Base-T, 100Base-TX, 10Base-T
Cat-5e	4 twisted pairs of copper wire -- terminated by RJ45 connectors	100 MHz	Up to 1000Mbps	10Base-T, 100Base-TX, 1000Base-T
Cat-6	4 twisted pairs of copper wire -- terminated by RJ45 connectors	250 MHz	1000Mbps	10Base-T, 100Base-TX, 1000Base-T