POWER AUTOMATION TECHNOLOGIES

DIGSI 5 QUICK NOTES

DIGSI-5-QN0009: SIPROTEC 5 – DIGSI 5 connection via Ethernet:

It is possible to connect to SIPROTEC 5 relays from DIGSI 5 using front panel USB or rear Ethernet connections. DIGSI 5 Quick Note 0007 introduces this topic, and Quick Note 008 steps through the process of downloading fault records via USB or Ethernet connection to Port J. This Quick Note discusses connecting to the relay using an Ethernet SCADA port.

The connection method are DIGSI 5 software dependant. DIGSI 5 V7.9 simplifies the connection and offers alternative methods.

Port J versus other Ports:

Port J:

- Port J is the "Integrated Ethernet Interface" fitted to all SIPROTEC 5 relays.
- It is only available as a copper port.
- Port J is intended as the Remote Engineering Interface, but may also in some versions allow IEC 61850 reporting
- No setting file is need to make a Remote Engineering Connection.

Port E/F/M/N/P:

- SIPROTEC 5 relays have two communication interface **slots** (Port E and Port F) that may be populated with a variety of communication and sensor interfaces. An expansion I/O module may also be fitted adding Ports M, N & P. Commonly Port E or F is fitted with an Ethernet interface for SCADA connection (DNP-iP and/or IEC 61850 – or other protocols).
- There are available copper (2 x RJ-45) or fibre Ethernet modules (2 x Optical LC duplex 1300 nm interfaces)
- These Port can be used for SCADA connection, PTP time synchronisation and Remote Engineering Access.
- For DIGSI 5 versions prior to V7.9, to allow Remote Engineering Access via the 'SCADA' interface, DIGSI 5 must have a valid setting file pre-loaded which provides the IP address of the interface and you must have the desired Ethernet SCADA interface selected in the 'DIGIS 5 uses.'. [DIGSI 5 V7.9 onwards does not require a setting file – the IP address can be freely entered]

WEB interface with Firmware 7.9 or later

SIPROTEC 5 relays have a built in diagnostic web page for each interface. Relays with Firmware 7.9 or later now have a web based Remote Engineering Access facility on all Ethernet ports. This can be disabled, enabled with read access or enabled with read/write access. Refer to DIGSI 5 Quick Note 0022 for details.

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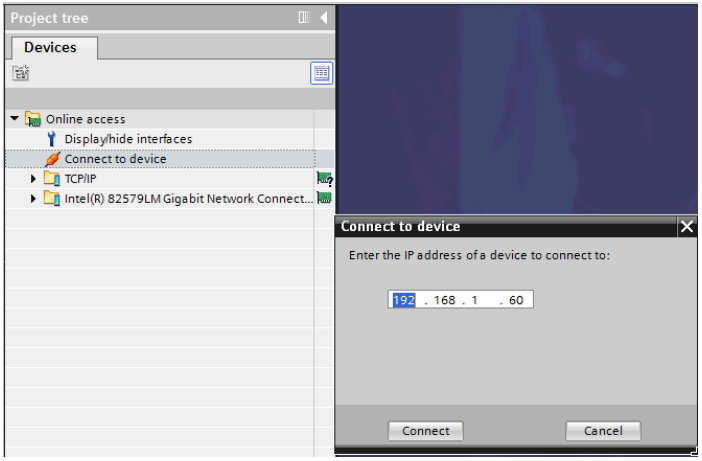
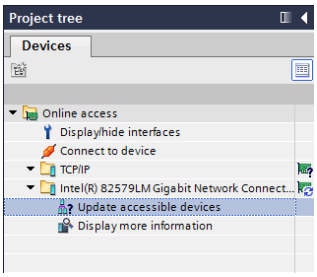
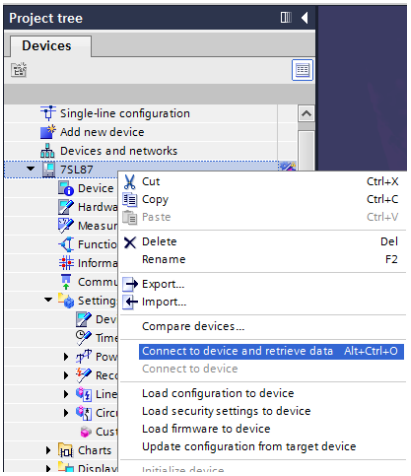
Examples of using DIGSI 5 V7.9 to access a SIPROTEC 5 relay via an Ethernet port

Note these methods are the same for (Remote Engineering) Port J or (SCADA) Port E onwards.

1	**Use the 'Connect-to-device' function enter the IP address**  ***This will work for an IP address in another subnet***
2	**Scan the PC Ethernet interface to look for a device**  ***This will find relays with IP addresses in other subnets***
3	**From a project file with the matching relay, such as using 'Connect to device and retrieve data'**  ***Note that "DIGSI 5 uses the following IP address" must match the port to be used. Refer last page.***

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QUICK GUIDE TO: 'DIGSI 5 uses following IP address'

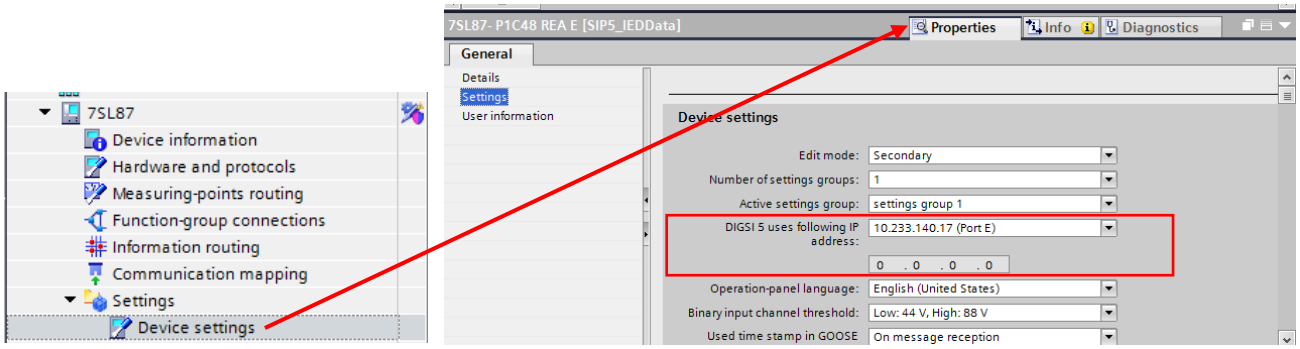

Figure 1. DIGSI 5 setting file showing Port E selected for DIGSI 5 connection.

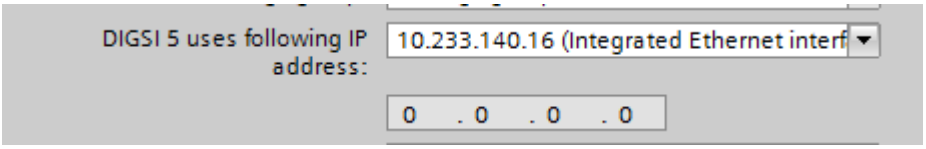

Figure 1. Example showing Port J selected (Port J is the "Integrated Ethernet interface)

It may be (incorrectly) inferred from Figure 1 & 2, that the relay is pre-set to allow DIGSI 5 to connect via just Port J or just Port E. **This is not the case**. This selection is not actually loaded to the relay, but rather informs DIGSI 5 which interface to make the connection via when using a Project File to connect to the relay. [The most current selection is saved in the PC setting file].

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