

Help for commissioning and fault finding on central control of SIPROTEC 4 devices

Testing Central Control

Commissioning should be co-ordinated and done in small steps. In distributed topologies, it is recommended to commission individual branches (e.g. cascaded star coupler or several RS485 buses) in turn.

If all devices are properly connected, these can be sequentially operated with DIGSI 4 via the rear interface. For this purpose select “**Open Object**” in the DIGSI 4 manager (“Edit”; “Open Object”) (refer to screen shot on the right). In this example, the connection with the protection device is established via the COM 1 interface of the operating PC to the rear service interface of the selected SIPROTEC 4 device. Thereby the communication parameters of the service interface, set with DIGSI 4, are automatically used.



Fault diagnosis

Experience has shown that if fault free operation of the device is not possible, this is often only due to small errors that have crept in and that prevent correct operation. Therefore use a systematic approach in the fault diagnosis.

Method

- Check the settings with DIGSI 4.
- Check device settings via the front display.
- Check the communication components.
- Check all connections of the communication equipment.
- Test communication with the first protection device (all other devices are disconnected).
- Sequentially connect and test the other devices/branches.

Settings DIGSI 4 / Protection Devices

- Was the project generated on a single PC i.e. no duplication of VD addresses?
- Do the service interfaces in DIGSI 4 all have unique IEC addresses?
- Do the baud rate and data frame of all service interfaces in DIGSI 4 have the same setting?
- Were all the protection devices initialised with these settings?
- Are the jumper settings on all service interfaces (RS232/RS485) in the protection devices correct?

Communication components

- Are the settings of the used converters correct e.g. data frame, Idle state of FO connection etc.
- Have the prescribed electrical communication cables with correct pin allocation been used?
- Have plastic FO connectors longer than 3.5 m been used?
- Do the implemented FO cables match the wave length 820nm viz. 1300nm of the converter?
- Are the FSMA-plugs of the FO cables fitted properly and not over tightened?
- Have all the FO connectors been crossed over (transmitter to receiver and vice versa)?

Have fun!