

# REFERENCE Device Configuration

Efficient parameterization of HART devices including PROFIBUS diagnostics



## About SI Group

The US SI Group is one of the world's leading developer and manufacturer of chemical intermediates, phenolic resins, alkylphenolic resins, and alkylated phenols. The company focuses on seven key market segments including rubber resins, industrial resins, adhesive resins, fuels and lubricants, plastic additives, surfactants, and engineering plastics. At its Swiss location in Pratteln, the company primarily manufactures chemical intermediate products for the European plastics industry.

To centrally manage their field devices, the SI Group trusts FDT and a facility asset management tool. The prerequisite for this is seamless communication. This is only possible thanks to an extremely versatile module from Trebing + Himstedt connecting the disparate worlds. The outstanding feature of the intelligent solution: TH LINK provides both Ethernet-based access for central device access and is also a diagnostic unit. It also incidentally collects extensive, valuable information on the network and participants.



“We encountered FDT for the first time 10 years ago through our radar level measurement of VEGA,” explains Janos Horvath, head of EMSR at the SI Group in Pratteln, near Basel. “As a result of our products’ characteristics, there are frequently spurious echoes, which must be suppressed. It is therefore very helpful to not always have to enter the facility, but instead directly examine the device from the office and parameterize remotely.”

At the US chemical company’s Swiss location, one of the world’s leading developers of chemical intermediaries, the central and comfortable parameterization of field devices is clearly the most important use for FDT technology.

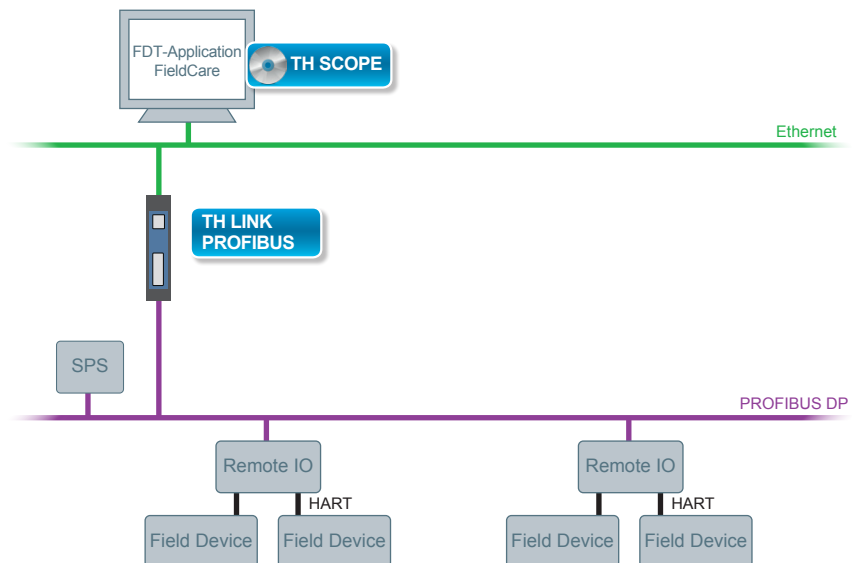
Since the SPS's used are not all HART, a bypass was required to ensure communication with HART devices. The Swiss discovered the Ethernet Profibus interface from Trebing + Himstedt relatively quickly. "We were satisfied with it and have stuck with it. As soon as we use PROFIBUS in a facility, standard procedure for us during modernization, a TH LINK PROFIBUS, is also used," says Horvath.

TH LINK PROFIBUS allows central, facility-wide access to all HART field devices.



„With our level measurement, there are frequently spurious echoes, which must be suppressed. It is therefore very helpful to not always have to enter the facility, but instead can directly examine the device from the office and parameterize remotely.“

**Janos Horvath,**  
Head of Elektro  
Automation/MSRE,  
SI Group Switzerland  
GmbH



### Gateway with value added: Field device configuration and PROFIBUS diagnostics in one

The compact module from the Schwerin software house connects PROFIBUS and Ethernet networks and thereby opens the way for manufacturer-independent solutions and flexible concepts for continuous vertical integration of production processes. The hardware TH LINK PROFIBUS, combined with the clever diagnostic software TH SCOPE, is the basis for modern field device and asset management approaches with central configuration, calibration, diagnostics and condition monitoring. In this way, not only manufacturer-independent operation and monitoring of all field devices is possible with a single tool, but it is also simultaneously possible to constantly monitor the network state and its participants. Condition monitoring of PROFIBUS networks and field devices can even be performed simultaneously. The user always has an overview of the state, disruptions and diagnostic messages. In addition to a live list, bus statistics with important network parameters and an error statistic to identify critical participants are available. The clever tool from Trebing + Himstedt is the key to facility-wide monitoring of all PROFIBUS networks, including automatic email notification, as well as OPC support. And: the software is simple to use and intuitive to learn. "Once you have understood it, it is very good. You can find everything relatively quickly and don't need any special expert knowledge," says Horvath.

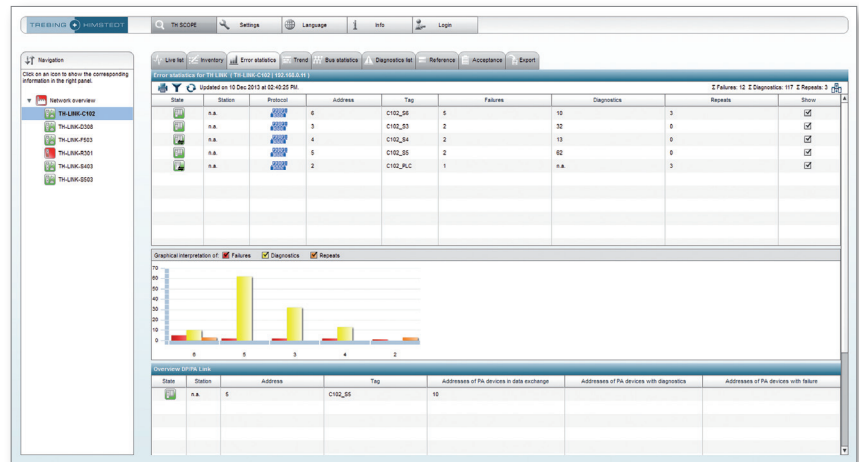
### PROFIBUS Diagnostics 340 days a year, around the clock

In the opinion of the head of EMSR, the current software generation has made a real leap forward. Until recently, there were only two choices: either use the module as an access point or for bus monitoring. Today, through a firmware update, all 7 to 8 modules, which the SI Group has in use in Pratteln, can do both. With this, a single piece of hardware provides central access to the facility asset management tool FieldCare from Endress+Hauser, while at the same time making possible constant monitoring of the PROFIBUS network.

The chemical company currently uses the module primarily to access FieldCare. Naturally, in the future the SI Group also hopes for shorter reaction times as a positive effect of the diagnostics. According to Horvath, fieldbus monitoring is a feature

that is becoming ever more important because PROFIBUS technology has been used for about 10 years in a broad market, and a bus only becomes problematic after many years. Connections corrode, terminals loosen, etc. Consequently, there are malfunctions in the bus. “Periodic testing is currently a huge topic. We have 24-hour operations approximately 340 days per year. To avoid production delays, it is better if we work with foresight and can react early,” says the engineer.

The TH LINK PROFIBUS diagnostic software provides an overview of malfunctioning participants and diagnoses in PROFIBUS networks.



The SI Group has long monitored its PROFIBUS networks using its process control system. “What was missing was the diagnostics. Our process control system can’t do that. Only the software from Trebing + Himstedt can. You buy the hardware, and the basic version of the diagnostic application is preinstalled,” explains the head of EMSR. If there is a problem, you can inspect the field device via FieldCare and can, for example, check what is in the diagnostic buffer. About once per month, Horvath checks the protocols and sees if a particular value is getting worse. If, for example, a remote I/O is gradually dying and repeatedly produces failures, he can see this in the diagnostic files and take steps in time: “That is very interesting. Nevertheless, our main requirement and greatest benefit is the centralized management.”

### Automatic creation of device documentation thanks to central access

One feature with which FDT technology can definitely score with Horvath is the documentation. The law demands that chemical companies document the settings of every device. Of course, employees could write everything down by hand. But automatic documentation, like that which can be created using FDT framework applications like FieldCare, is doubtless faster, easier and more comfortable.

The big plus: All data is always up-to-date. That is also important because different colleagues work on the devices. Ideally, a device replacement today looks like this: remove the old device, install new device, load software, done. “The automatic documentation and the central access via TH LINK are a great help. No one must enter the facility and first get authorization for his laptop,” says Horvath.



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The technology for a uniform and manufacturer-independent device installation is also extremely useful during commissioning. For example, an employee can check the entire bus and eliminate possible problems before the controller and the complete logic are installed. "It is fantastic during commissioning to have FieldCare here and my process control system there. Then I perform a line test, simulate a value on one end and see if it appears in the process control system," says Horvath. "That's just perfect. I no longer have to access the device directly. If everything works the first time, we save a lot of time – maybe even as much as 50 percent."



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