Software support for NIVELCO instruments

PACTware™ – the manufacturer-independent configuration and diagnostic software

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Fifteen to twenty years ago, in the era of intelligent transmitters, instrument manufacturers offered their own- developed software to set up their transmitters and control their operation. Different manufacturers have, of course, created differing configuration and diagnostic applications with different operation logic, making the work of system integrators and maintenance staff much more difficult. There was often a need to use a number of manufacturer-specific programs simultaneously to allow multiple devices based on different measurement principles to co-ordinate in a larger project.

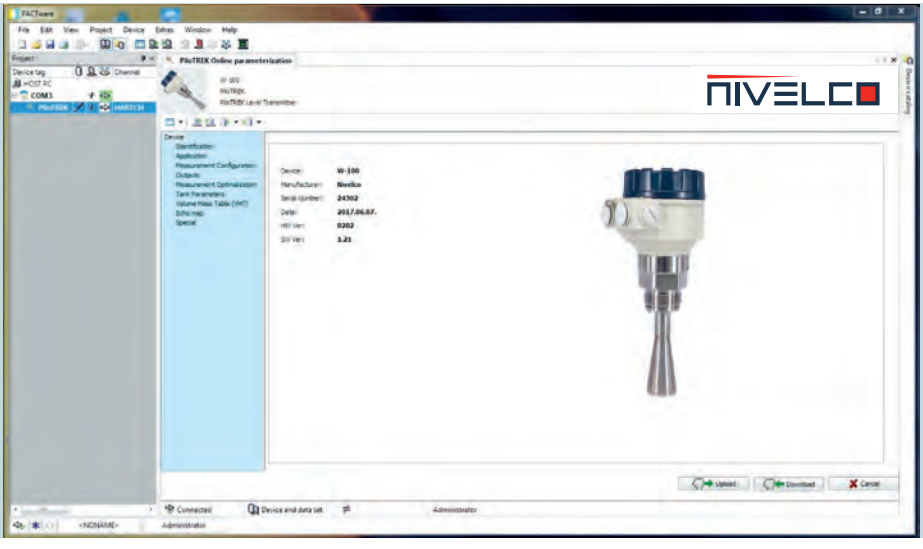
The introduction of PACTware™ created order in this chaos. Nowadays, there is not necessarily a need for applications from different producers. PACTware™ namely enables remote monitoring and management of any intelligent field device from any manufacturer. PACTware™ is a manufacturer-independent shared platform.

PACTware™ uses a standardized software interface between the framework program and the different software modules to communicate with intelligent devices. This software interface is known as the FDT (Field Device Tool). The software modules describing the operation of each manufacturer-specific device are referred to as DTMs, which is the abbreviation of Device Type Manager.

This software structure allows the adjustment interface to be optimally connected to single software modules and so users can configure the devices in a modern, user-friendly environment that meets their expectations.

The 80 manufacturers that joined the PACTware™ community, FDT Group until 2018 – adopting and implementing the FDT standardized common interface – set up a diagnostic software to help them flexibly use and monitor their devices in mixed projects.

The range of applicability of PACTware™ is broadened by the fact that it supports not only the most commonly used HART® protocol communication, but also different communication DTMs can be added to the framework. Thus, any specific device or communication DTM can be run in PACTware™ in accordance with the specific instrumentation configuration and user needs.



With PACTware™ it is therefore possible to have comprehensive and complete configuration of any intelligent measuring instrument through any bus.

Presently, the active DTM selection supports the following fieldbus communication buses for transmitting measurement data and setting parameterization:

- PROFIBUS PA
- HART®
- Fieldbus Foundation
- Modbus
- ControlNET
- DeviceNet™ / CIP
- Ethernet
- AS-Interface
- Interbus
- Standard communication (RS232)

What is a DTM?

Similarly to an office printer driver that allows the operating system to handle the device's functions, DTM attaches the user interface of the field intelligent tool to PACTware™. As DTMs are made by device manufacturers in the FDT development system, it is ensured that each DTM allows access to the setup features of the given device in the most optimal configuration.

At the same time, DTM flexibly serves the user needs. The settings can be made by entering alphanumeric text data or graphically in any FDT based environment.

What types of DTMs exist?

DTMs can basically be divided into two groups: device DTMs and communication DTMs.

Device DTMs

DTMs are used to parameterize and monitor the operation of field devices (e.g. valves, positioners, transmitters, motors, etc.). DTMs required for the operation of each intelligent device are provided – mostly free of charge – by the manufacturers for the customers.

Communication DTMs

Communication DTMs are required for specific network communication of field devices. Different DTMs are available for each bus systems and communication elements (e.g. PC communication cards, gateways, hardware interfaces, I-O modules, host adapters, multiplexers, etc.). Each communication DTM is also provided by the manufacturer of the relevant communication component. PACTware™ includes the communication DTM of standard HART® modems.

DTM licensing

With the increase in the number of DTMs, the importance of DTM production to be of guaranteed quality has increased simultaneously. This resulted that they must undergo an officially approved, multi-stage testing and licensing process. Available DTM permissions are published by the FDT Group on its website (https://fdtgroup.org).

NIVELCO DTMs

Following the international trend, **NIVELCO** has also started to support intelligent transmitters with DTM files. These DTMs enable the set up and programming of instruments from any FDT (Field Device Tool) framework. By the time this article was written, DTMs of **EchoTREK SE / SG-300** ultrasonic level transmitter family and **PiloTREK W-100** non-contact microwave level transmitter series were finished and can be downloaded free of charge from **www.nivelco.com**.

PACTware Consortium e. V.

MEMBER