

# Yamatake Corporation (azbil group) DTM for HART Type Smart Positioner Overview

2010-4  
Yamatake Corporation

**azbil**  
Group

Leaping Ahead from Yamatake's 100 Years  
Human-centered Automation

Copyright © 2009 Yamatake Corporation All Rights Reserved.

## Table of Contents





- I. Specification
- II. Functions overview
- III. Typical system structure
- IV. Sample interface images

## I. Specification

### A) Standard

- FDT Interface specification 1.2.0
- HART Rev.5

### B) Smart positioner specification

Model number	AVP302	AVP102	AVP202	SVX102
Description	HART General type. Ex. Proof casing	HART General Type Int. Safe casing	HART Remote type	HART for Rotary Valve Water proof casing
HART Device revision	2	2	2	2
Yamatake S/W Ver.	3.D or later	4.D or later	3.D or later	4.D or later
Released date	2004/9/1	2004/11/1	2004/9/1	2004/9/1
Appearance				

Copyright © 2009 Yamatake Corporation All Rights Reserved.

**azbil**  
Group

Leaping Ahead from Yamatake's 100 Years  
Human-centered Automation

## II. Functions overview

### A) Calibration

Executing Auto-setup (Automatic calibration program) ,  
Manual zero-span adjustment, current signal calibration, etc.

### B) Parameterization

Valve system configuration (Direct/ Reverse setting), In/Out characterization,  
Actuator size, Gland packing type, etc.

### C) Simulation

Dummy input signal , Dummy drive signal

### D) Device status and alarms

Failures alarms (i.e. VTD fault, NVM fault, Low input signal, etc),  
Status information (i.e. Manual mode, HI/LO EPM OUT, etc)

### E) Valve diagnostics status and alarm

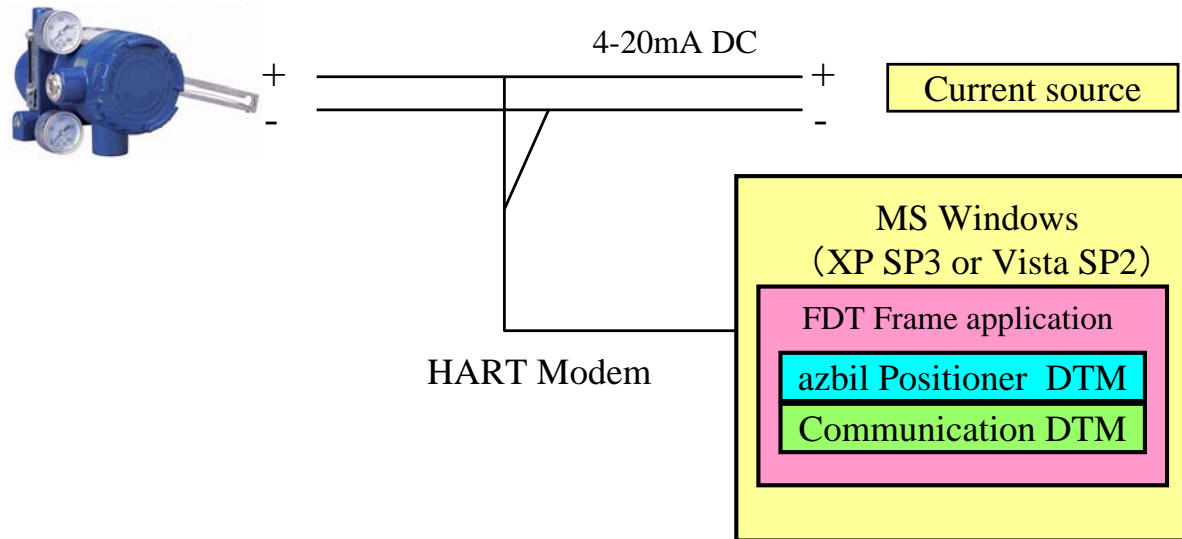
Stick slip parameter status and alarm, Total stroke parameter status and  
alarm, etc.

Copyright © 2009 Yamatake Corporation All Rights Reserved.

**azbil**  
Group

Leaping Ahead from Yamatake's 100 Years  
Human-centered Automation

## Typical system structure



Copyright © 2009 Yamatake Corporation All Rights Reserved.

**azbil**  
Group

Leaping Ahead from Yamatake's 100 Years  
Human-centered Automation

## IV. Sample interface images

- FDT Frame application  
PACTWare consortium / PACTWare
- Communication DTM  
CodeWrights GmbH / HART Communication DTM
- Device DTM  
Yamatake / HART positioner Device DTM (Ver. 1.0.0)

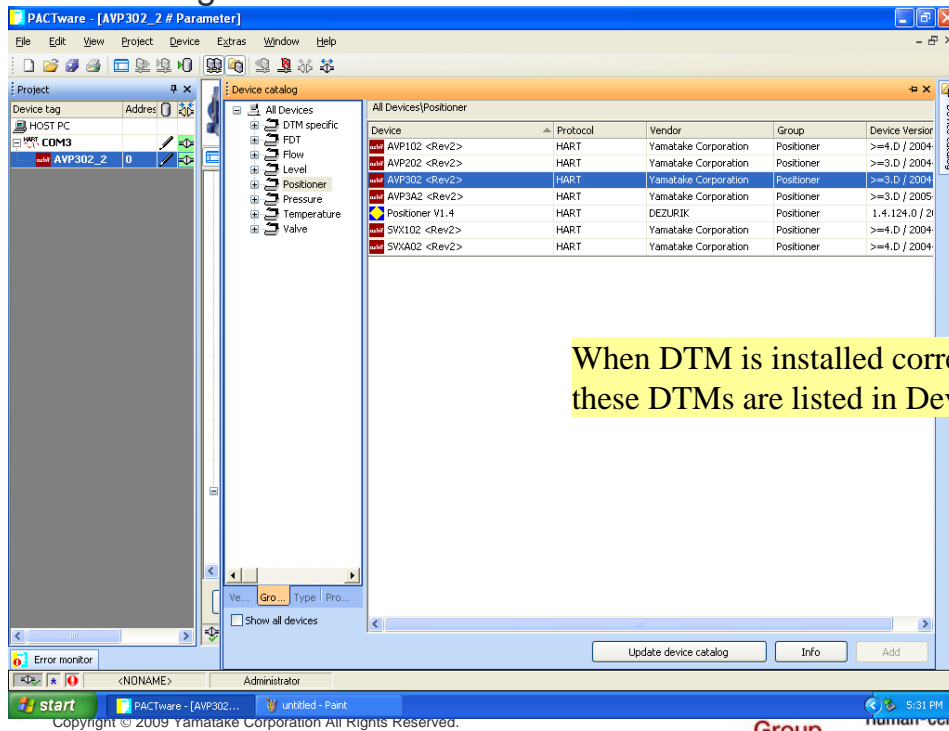
Copyright © 2009 Yamatake Corporation All Rights Reserved.

**azbil**  
Group

Leaping Ahead from Yamatake's 100 Years  
Human-centered Automation

# IV. Sample interface images

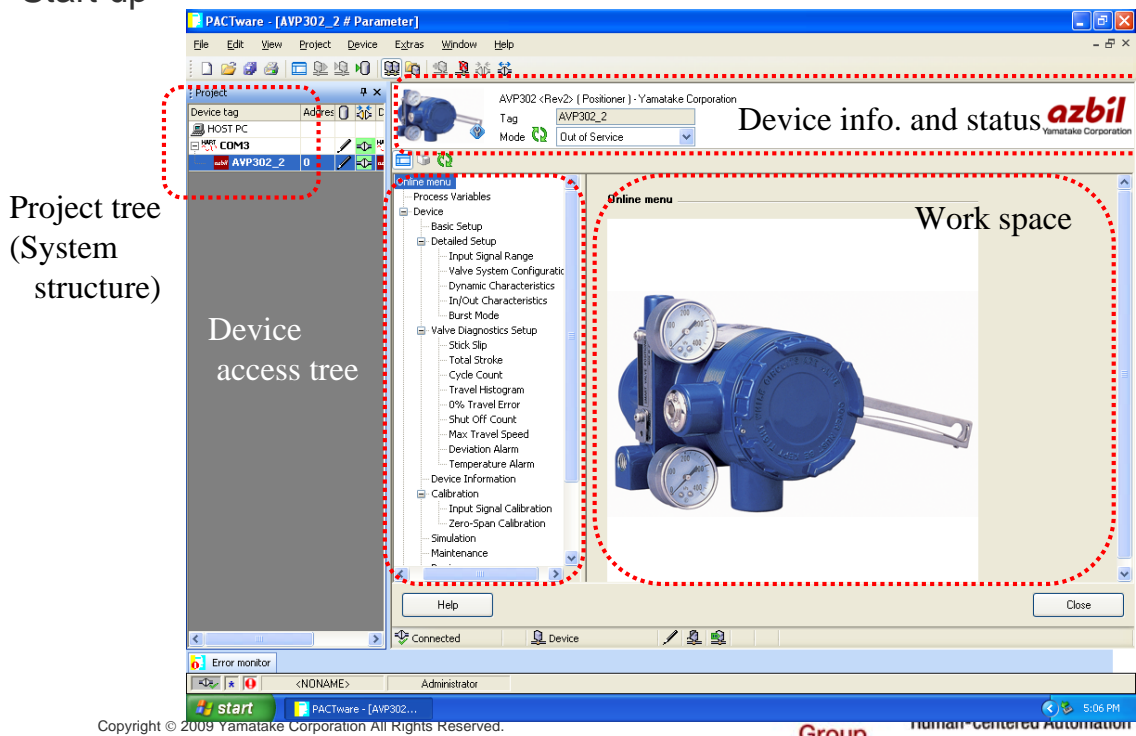
## Device catalogue



When DTM is installed correctly, these DTM's are listed in Device catalogue.

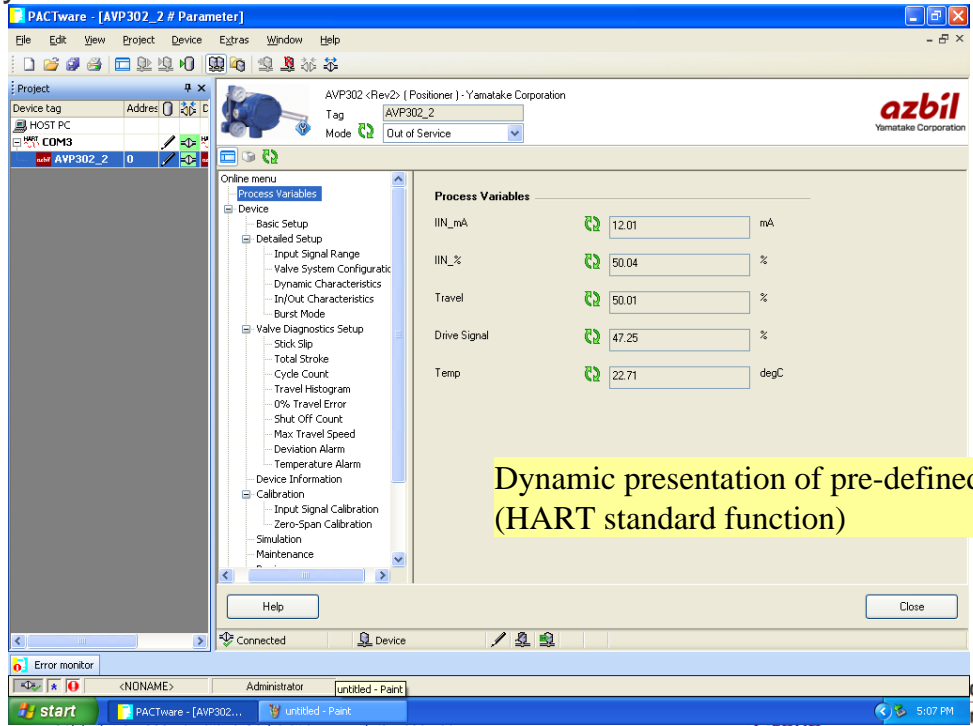
# IV. Sample interface images

## Start up



# IV. Sample interface images

## Dynamic variables



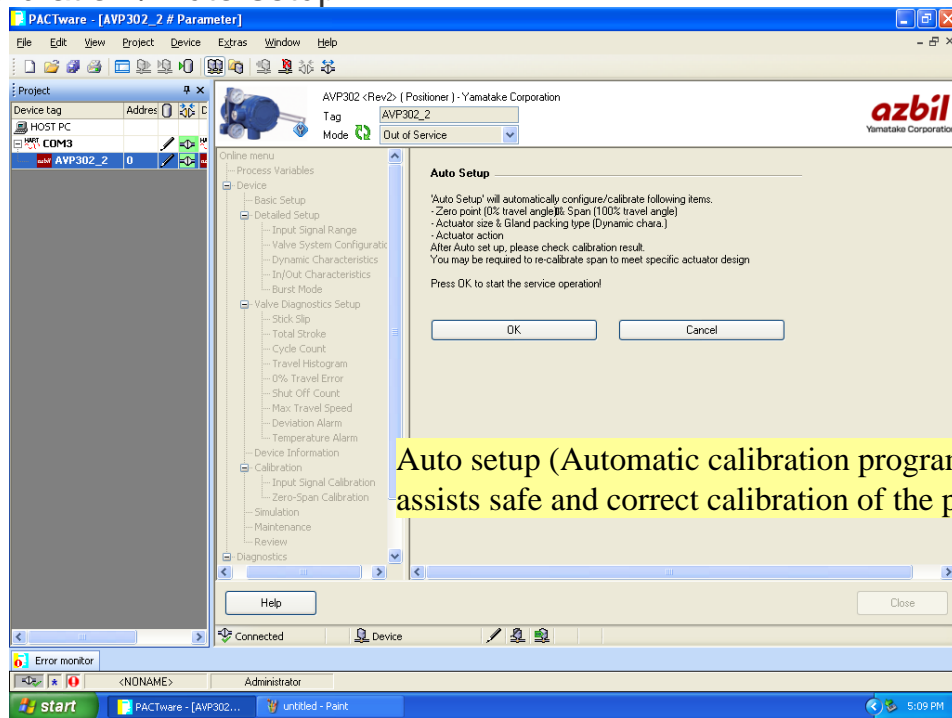
Dynamic presentation of pre-defined 4 variables.  
(HART standard function)

from Yamatake's 100 Years  
red Automation

Group

# IV. Sample interface images

## Calibration / Auto-setup



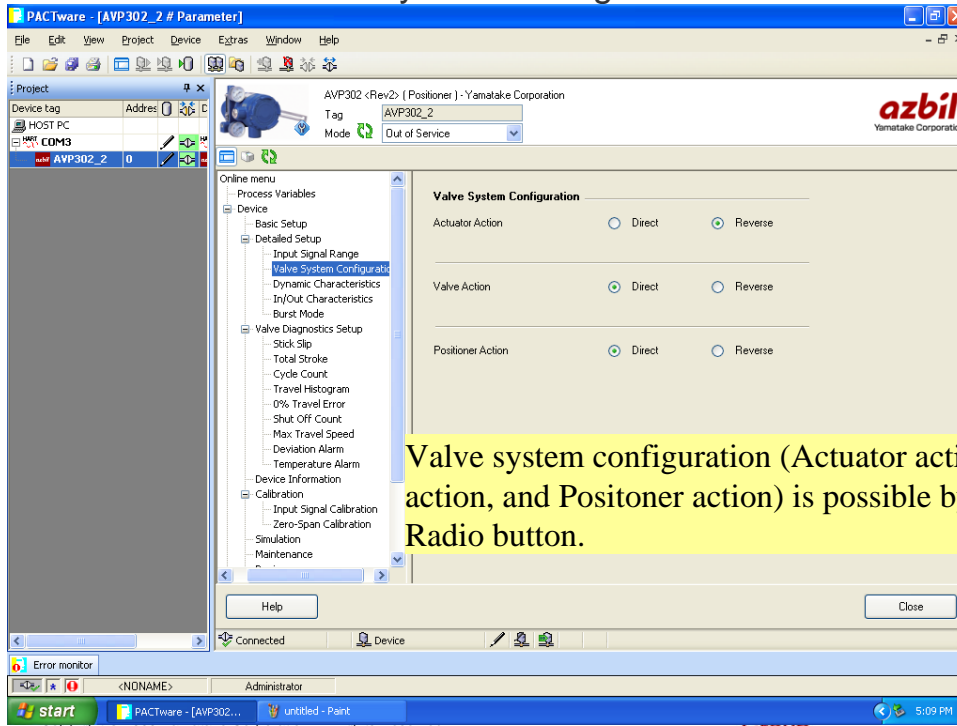
Auto setup (Automatic calibration program) wizard  
assists safe and correct calibration of the postioner.

from Yamatake's 100 Years  
human-centered Automation

Group

# IV. Sample interface images

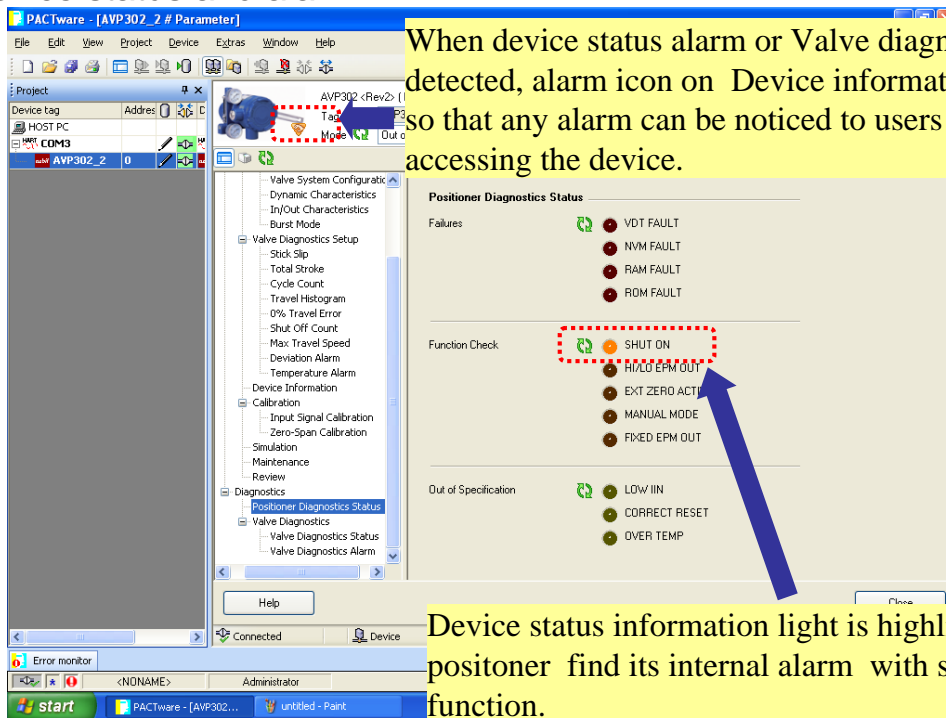
## Parameterization / Valve System Configuration



from Yamatake's 100 Years  
Automation

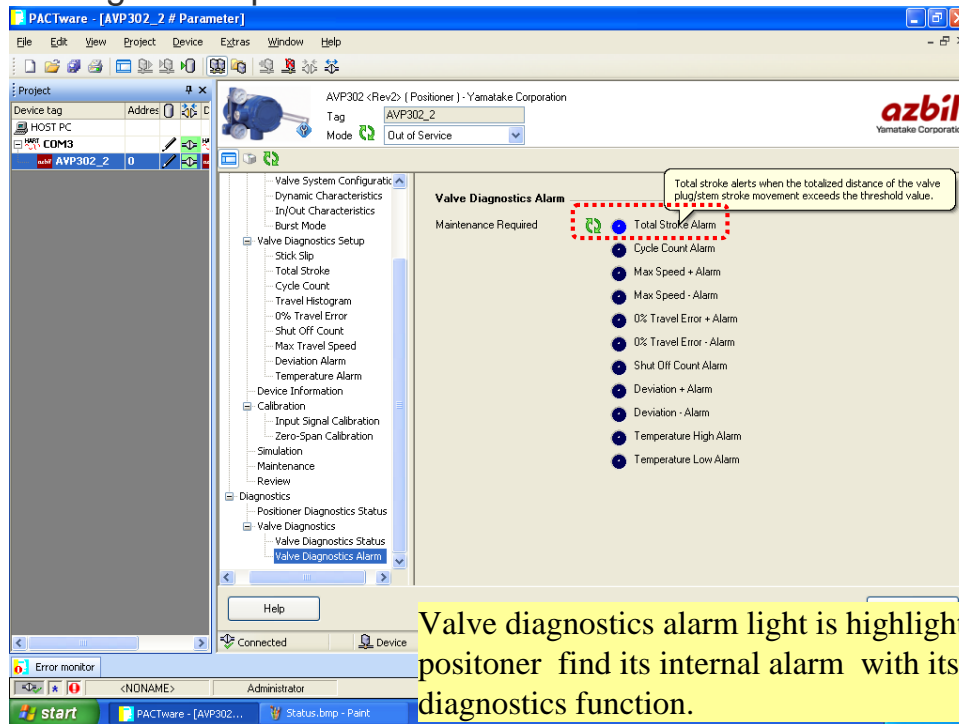
# IV. Sample interface images

## Device status and alarm



## IV. Sample interface images

### Valve diagnostics parameters and alarm



The screenshot displays the PACTware software interface for configuring a valve. The main window is titled "PACTware - [AVP302\_2 # Parameter]". The interface includes a menu bar (File, Edit, View, Project, Device, Extras, Window, Help), a toolbar, and a project tree on the left. The project tree shows the following structure:

- Valve System Configuration
- Dynamic Characteristics
- In/Out Characteristics
- Burst Mode
- Valve Diagnostics Setup
  - Stick Slip
  - Total Stroke
  - Cycle Count
  - Travel Histogram
  - 0% Travel Error
  - Shut Off Count
  - Max Travel Speed
  - Deviation Alarm
  - Temperature Alarm
- Device Information
  - Calibration
    - Input Signal Calibration
    - Zero-Span Calibration
  - Simulation
  - Maintenance
  - Review
- Diagnostics
  - Positioner Diagnostics Status
  - Valve Diagnostics
    - Valve Diagnostics Status
    - Valve Diagnostics Alarm

The "Valve Diagnostics Alarm" section is highlighted in the project tree. The main window displays the "Valve Diagnostics Alarm" settings, which include a "Maintenance Required" status and a list of alarm types:

- Total Stroke Alarm (highlighted with a red dashed box)
- Cycle Count Alarm
- Max Speed + Alarm
- Max Speed - Alarm
- 0% Travel Error + Alarm
- 0% Travel Error - Alarm
- Shut Off Count Alarm
- Deviation + Alarm
- Deviation - Alarm
- Temperature High Alarm
- Temperature Low Alarm

A tooltip for the "Total Stroke Alarm" reads: "Total stroke alerts when the totalized distance of the valve plug/stem stroke movement exceeds the threshold value." The "Error monitor" window at the bottom shows a "Connected" status and a "Device" icon.

Valve diagnostics alarm light is highlighted when the positoner find its internal alarm with its valve diagnostics function.