

# Biffi ICON3000

PROFIBUS EDD for AMS



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**NOTICE**

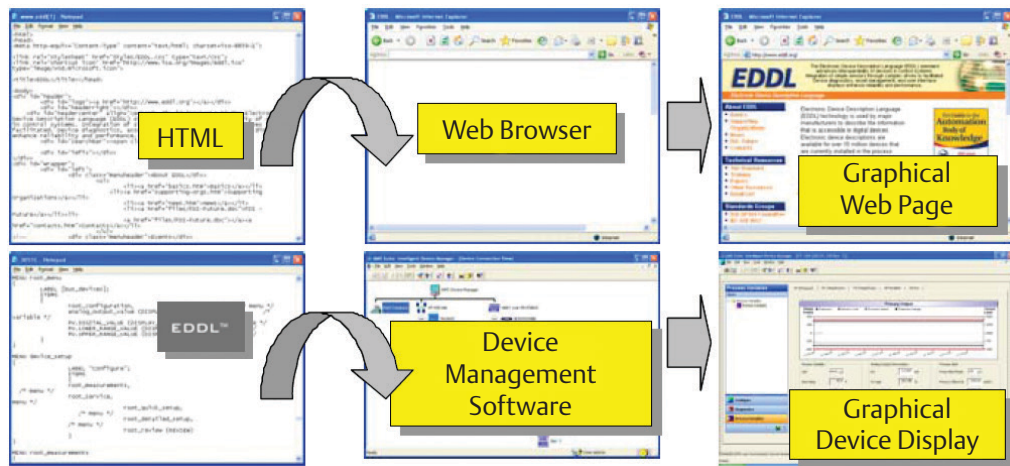
Biffi Italia has taken every care in collecting and verifying the documentation contained in this Installation, Operation and Maintenance Manual. The informations herein contained are reserved property of Biffi Italia.

# Section 1: The EDDL Technology

The Electronic Device Description Language (EDDL) is a text-based language that may be used to describe the characteristics of field devices.

It is very similar to HTML web pages concept. There's an EDDL text file that tells which commands to send to request data, how to decode answers from the field device, and how to display data on the user interface. The text file is managed by an "EDDL interpreter" in the same way as a "web browser".

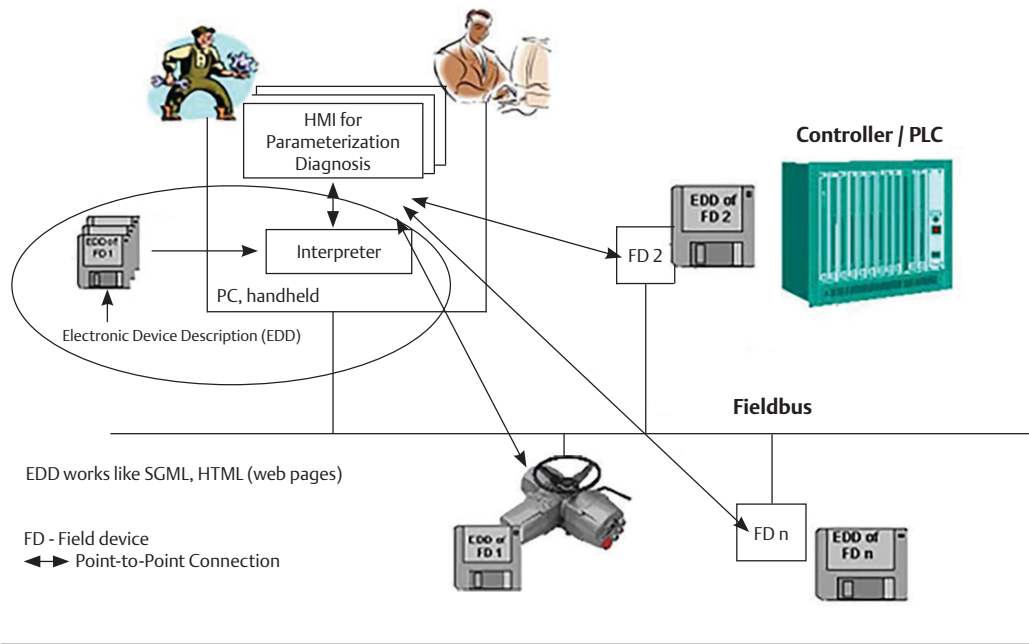
Figure 1



The EDDL is used to create Electronic Device Description (EDD) files that are used by host systems (e.g. AMS) to communicate with field devices independently by communication protocol and operating system of the field device.

The EDDL files provide a standardized access to field devices data: online data are displayed in a graphical way that makes devices easy to use.

Figure 2



## Section 2: ICON3000 PROFIBUS EDD for AMS

This EDD, developed by Biffi, provides to customers an easier access to parameters of ICON3000 and ICON3000v2 actuators equipped with ICON2000v4\_DPV1 module interface. It is designed and tested for AMS Device Manager Version 12.5.000.118, under Windows 7 Operating System.

The ICON3000v2 actuator can be recognized because when it is switched on, the name "ICON3000v2" appears on the local screen, as shown in Figure 3.

This manual has been written by capturing some screenshot from a laboratory system that uses the following devices and tools:

Frame application:	AMS Device Manager Version 12.5.000.118
Ethernet/PROFIBUS gateway:	Softing FG-100 PB
DP Master Class 1:	SyCon CIF 60-PB

**Figure 3**      **ICON3000v2**



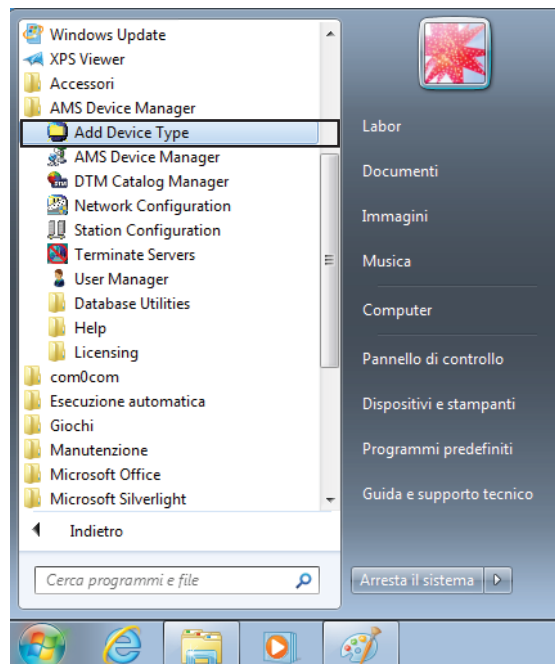
# Section 3: Installation

## 3.1 EDD Installation

The installation of the EDD provided by Biffi Italia must be done by following the procedures below:

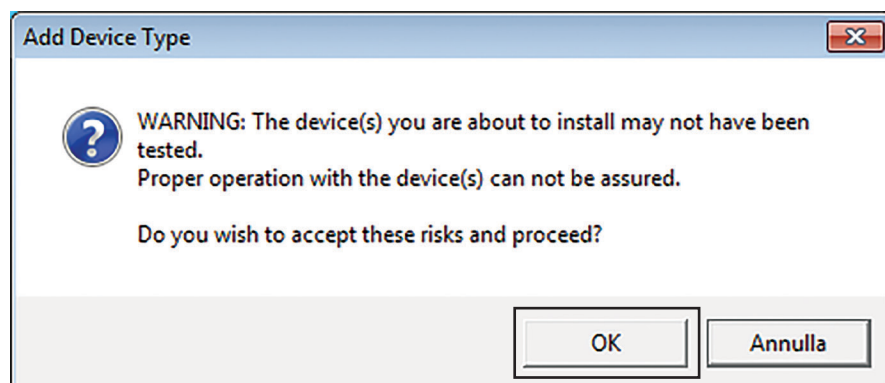
1. Select “Add Device Type” into the “AMS Device Manager” program group.

Figure 4



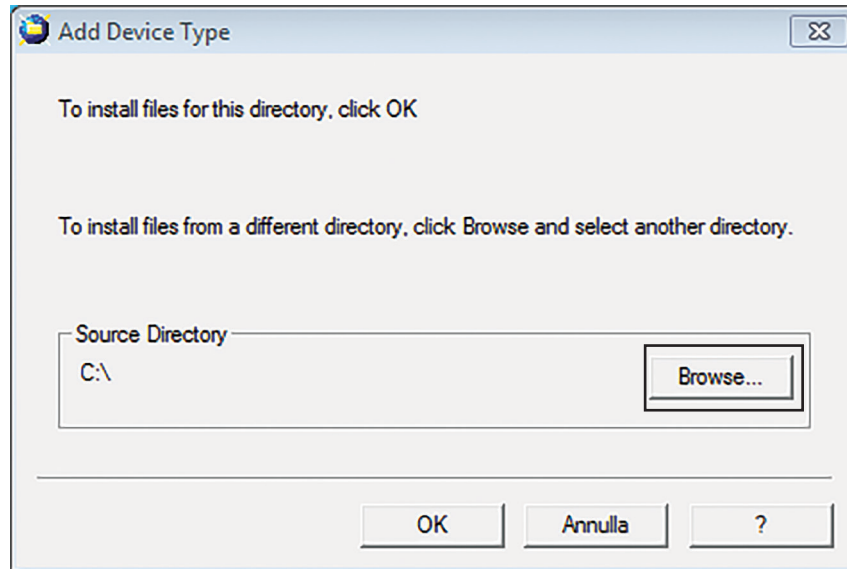
2. A Warning message will be displayed. Confirm with the “OK” button to continue with the installation.

Figure 5



3. A new page will be displayed: Select the “Browse” button to define the area where the EDD installation kit is saved. The selected area will be shown on the “Source Directory” file.

Figure 6



4. Select the “OK” button to install the EDD. The installation progress bar will be displayed.

Figure 7

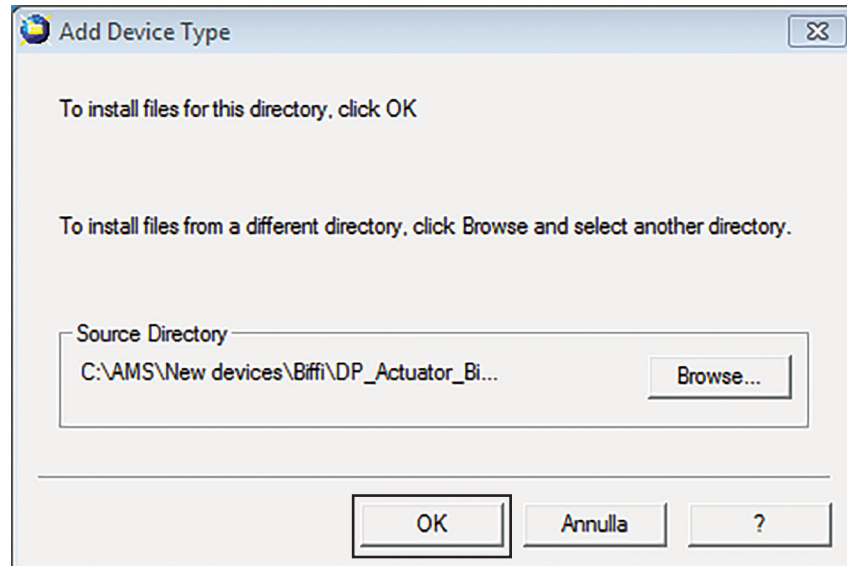
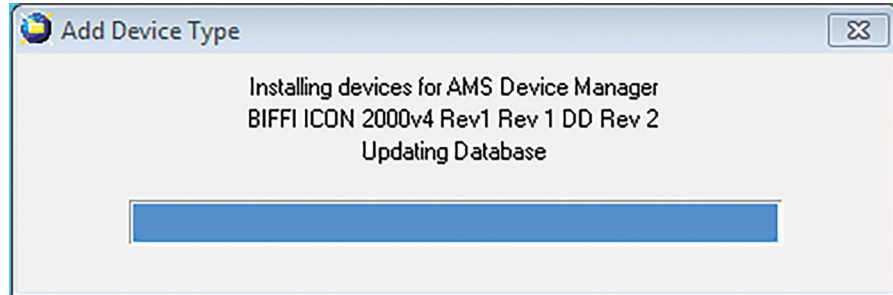
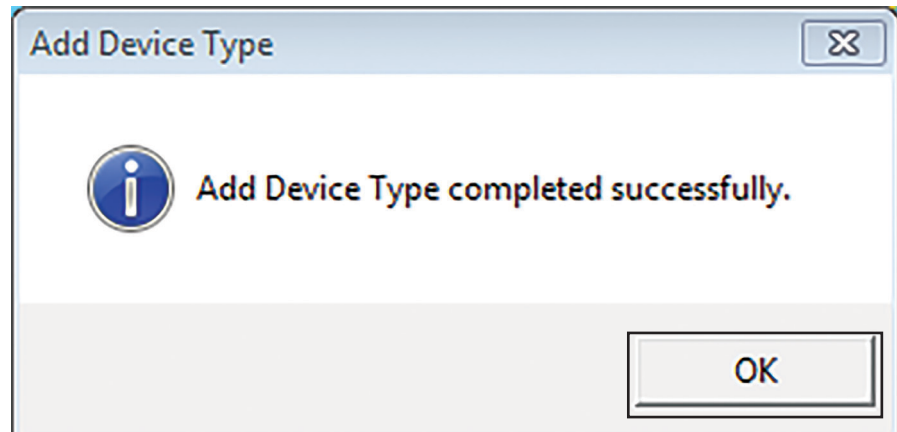


Figure 8



5. A termination message will be displayed at the end of the installation. Select "OK" button to terminate.

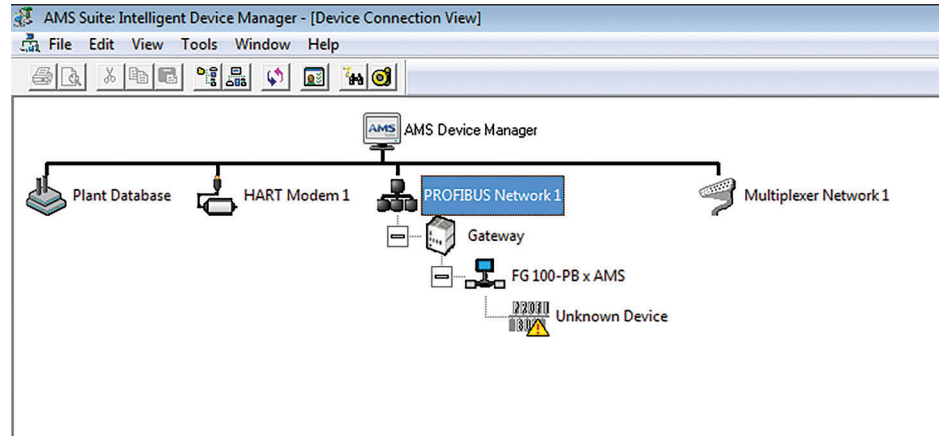
Figure 9



## 3.2 EDD Configuration

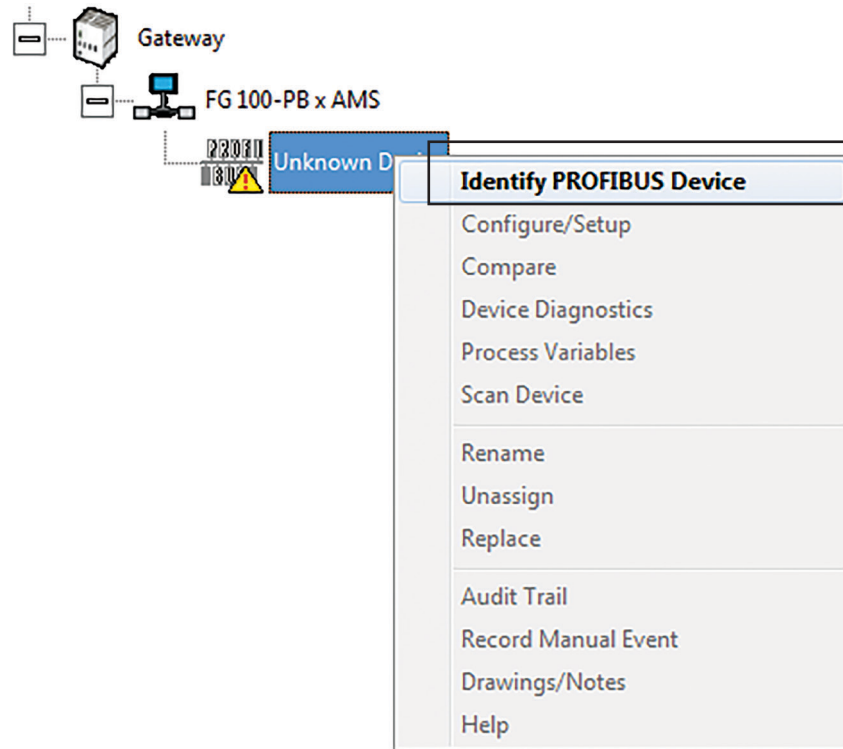
When an ICON3000 or ICON3000v2 is connected to the PROFIBUS network, the actuator will be shown into the “AMS Device Manager” application, as shown in Figure 10.

Figure 10



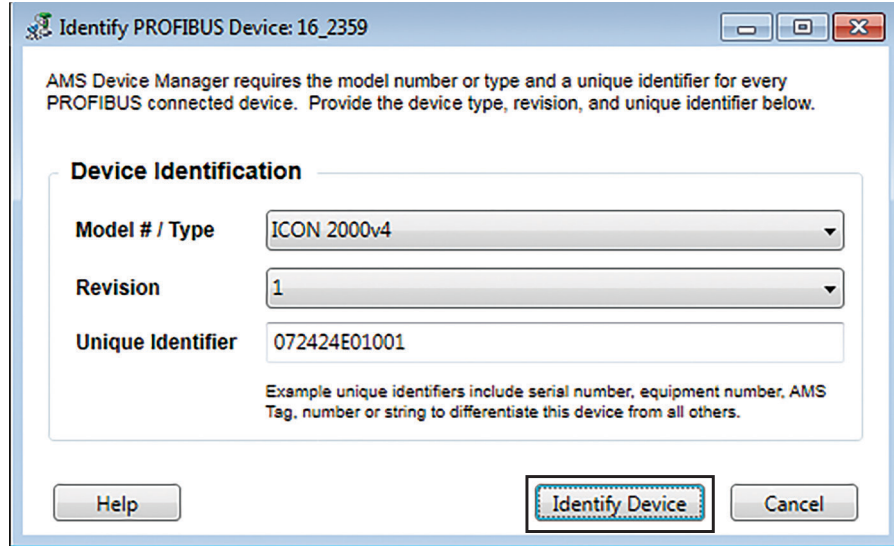
1. Select the device and press the right button of the mouse to open the device task list. Select “Identify PROFIBUS device”.

Figure 11



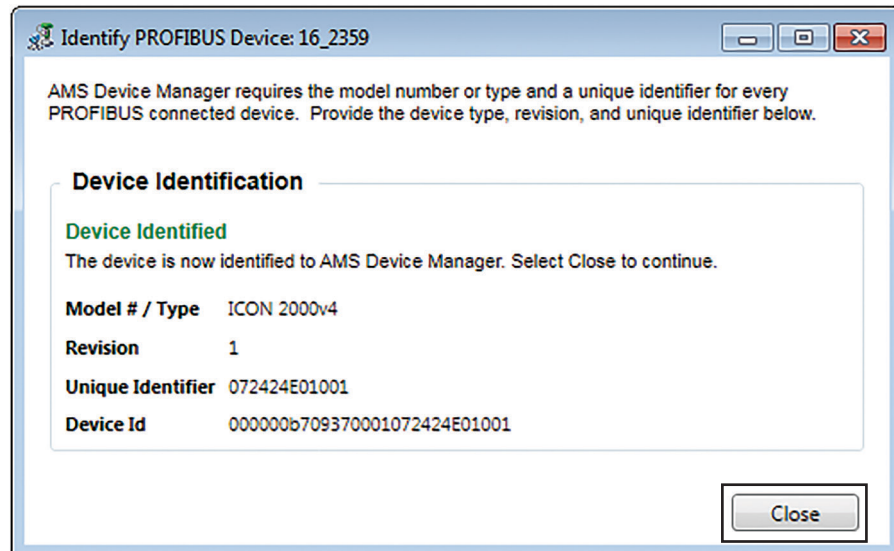
2. A new window will be displayed. Select the “Identify Device” button.

Figure 12



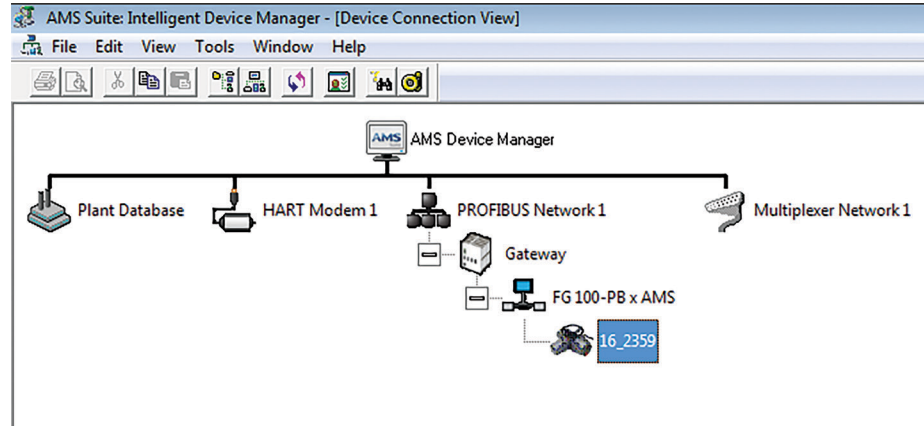
3. Once identified, the window will be updated with device data. Select “Close” button to terminate.

Figure 13



The actuator will be displayed into the “AMS Device Manager” application, as shown in Figure 14.

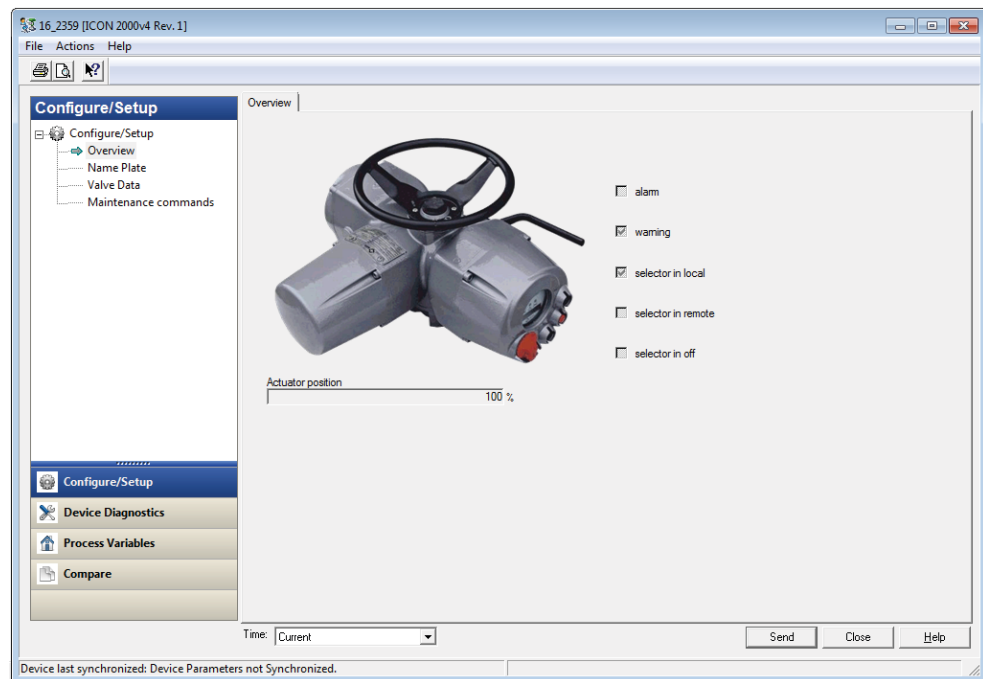
Figure 14



# Section 4: Configure/Setup

## 4.1 Overview

Figure 15



This is the first page shown when the actuator into the AMS interface was double-clicked with the mouse and displays the more significant status information.

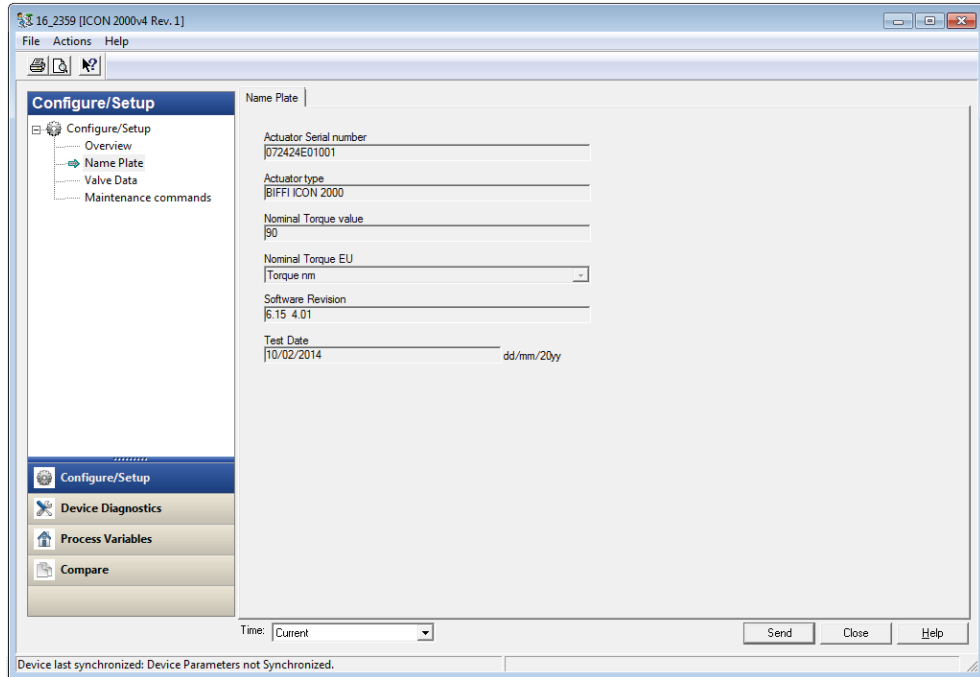
All the displayed data are READ-ONLY and dynamically updated.

Table 1.

Name	Description
Actuator Position	Actuator Position
Alarm	Indicates the presence of an Alarm
Warning	Indicates the presence of a Warning
Selector in local	The local Selector is in local mode
Selector in Remote	The local Selector is in Remote mode
Selector in OFF	The local Selector is in OFF mode

## 4.2 Name Plate

Figure 16



This page displays information about the actuator Name Plate.

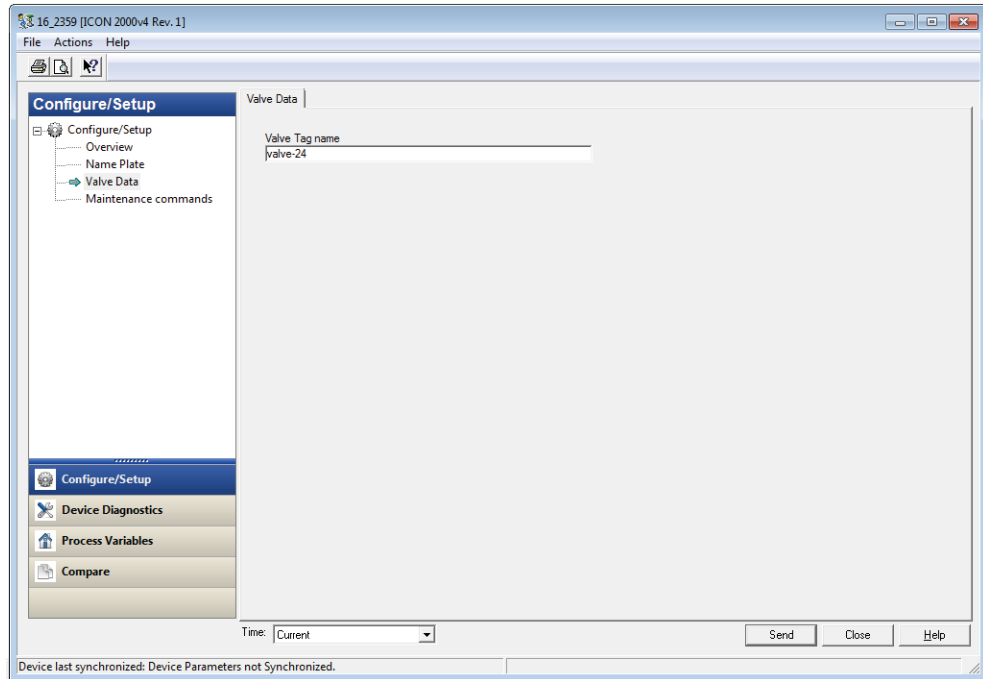
All the displayed data are READ-ONLY and static: the data are read from the actuator only when the window is opened.

Table 2.

Name	Description
Actuator Serial number	Actuator serial number
Actuator Type	Actuator Type: ICON3000 or F01
Nominal Torque value	Nominal torque/thrust
Nominal Torque EU	Torque engineering unit
Software Revision	Base and fieldbus cards Software version
Test Date	Date of factory commissioning

## 4.3 Valve Data

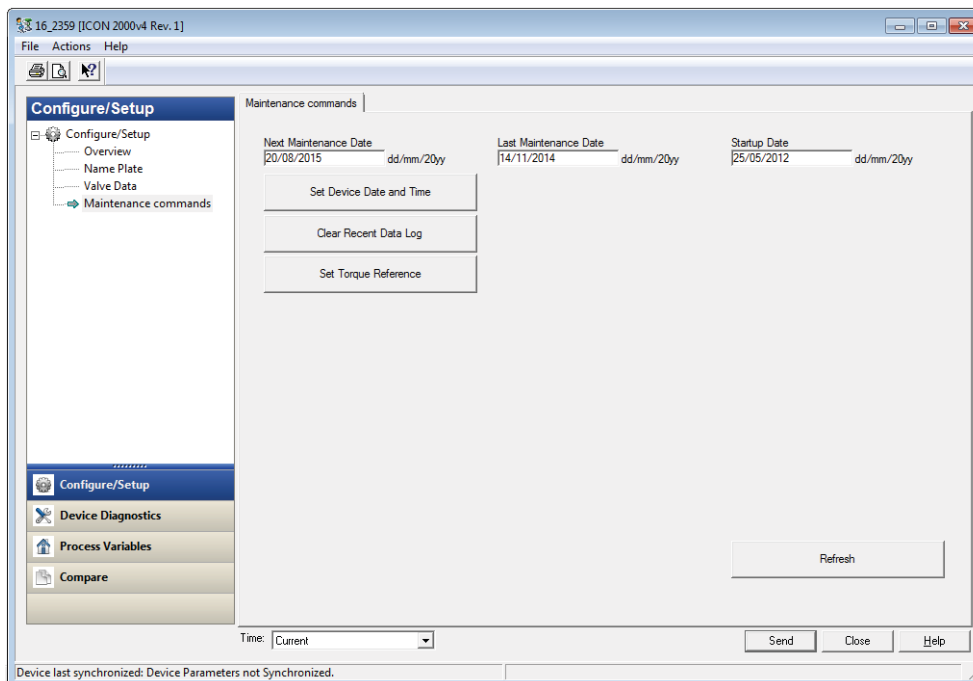
Figure 17



In this page, the “Valve Tag name” parameter is displayed and can be modified. The value is read from the actuator when the window is opened.

## 4.4 Maintenance Commands

Figure 18



This page contains grouped maintenance operations that can be done on the ICON3000 or ICON3000v2 actuator.

All the displayed data can be modified. The data are read from the actuator when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

Table 3.

Name	Description
Next Maintenance Date	This is the date of the next scheduled actuator maintenance
Last Maintenance Date	This is the date of the last maintenance operation done
Start-up Date	This is the date of the actuator start-up

Three maintenance buttons are present:

- “Clear Recent Data Log” that allows to clear the counters of the recent operation log
- “Set Torque Reference” that allows to set the last torque profile as to be the Reference
- “Set device date and time”

When the “Set device date and time” button is selected, a new window is displayed.

## 4.4.1 Set Device Date and Time

**Figure 19**

Through this window, the current date and time can be sent to the ICON3000 or ICON3000v2 actuator.

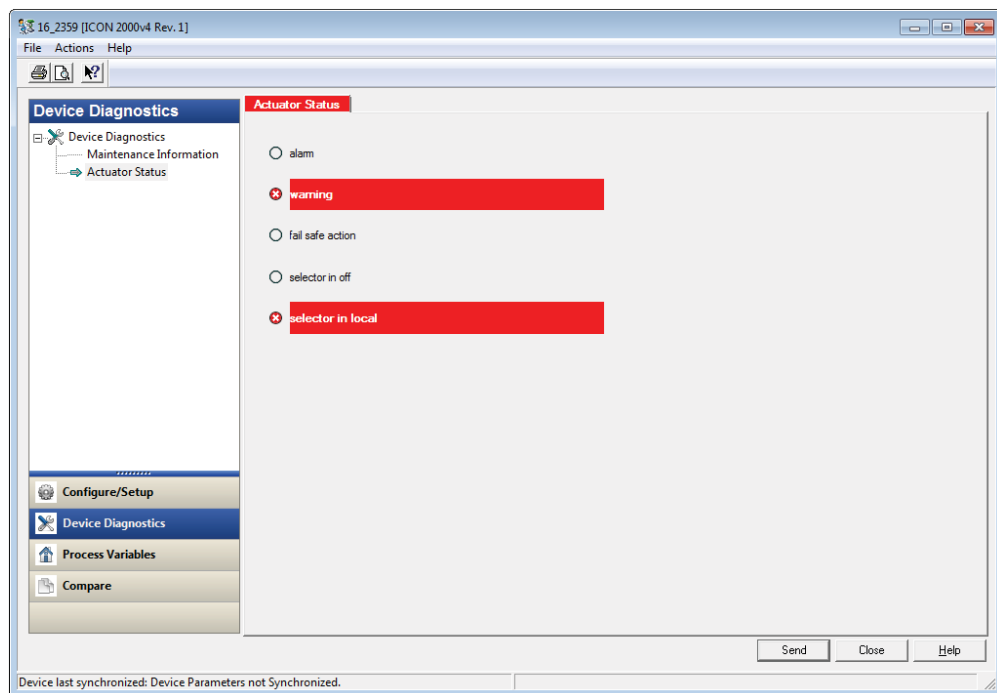
**Table 4.**

Name	Description
Set Current Date	Entry filed to define the current date
Set Current Time	Entry filed to define the current time
Set Current Date (Device Parameter)	Current date in Device format (READ_ONLY)
Set Current Time (Device Parameter)	Current time in Device format (READ_ONLY)

# Section 5: Device Diagnostics

## 5.1 Actuator Status

Figure 20



The critical actuator statuses that can stop the functioning of the actuator are highlighted in this page.

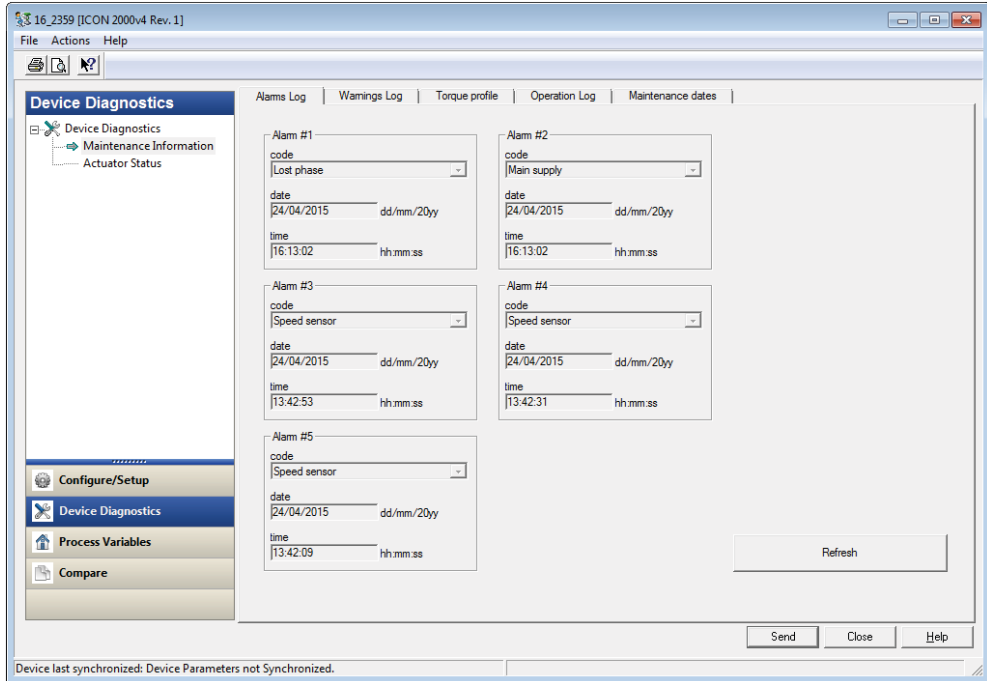
All the displayed statuses are READ-ONLY and dynamically updated.

Table 5.

Name	Description
Alarm	Indicates the presence of an alarm
Warning	Indicates the presence of a warning
Selector in local	The local selector is in local mode
Fail-safe action	The actuator is performing a Fail-safe action
Selector in OFF	The local selector is in OFF mode

## 5.2 Maintenance Information/Alarms Log

Figure 21



The Alarms Log Tab, shows the last 5 alarms that occurred on ICON3000 or ICON3000v2 actuator. The Alarm #1 is the most recent and the Alarm #5 is the oldest.

All the displayed data are READ-ONLY and static. The data are read from the actuator only when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

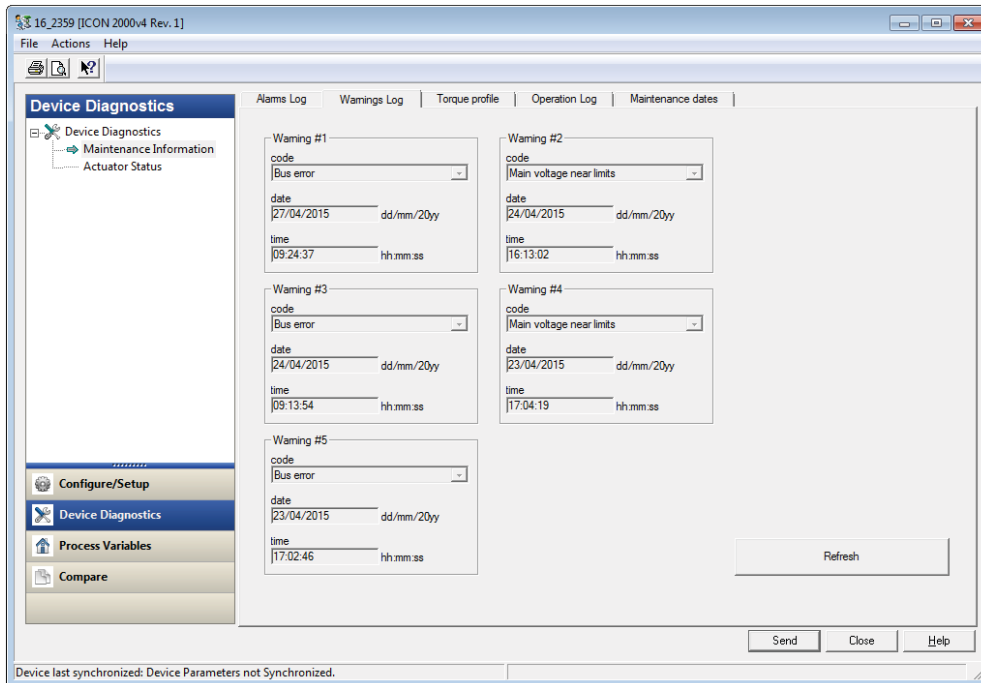
Each alarm log includes the information mentioned in Figure 21.

Table 6.

Name	Description
Code	Is the Alarm text
Date	Is the Alarm occurrence date
Time	Is the Alarm occurrence time

## 5.3 Maintenance Information/Warnings Log

Figure 22



The Warnings Log Tab, shows the last 5 warnings that occurred on ICON3000 or ICON3000v2 actuator. The Warning #1 is the most recent and the Warning #5 is the oldest.

All the displayed data are READ-ONLY and static. The data are read from the actuator only when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

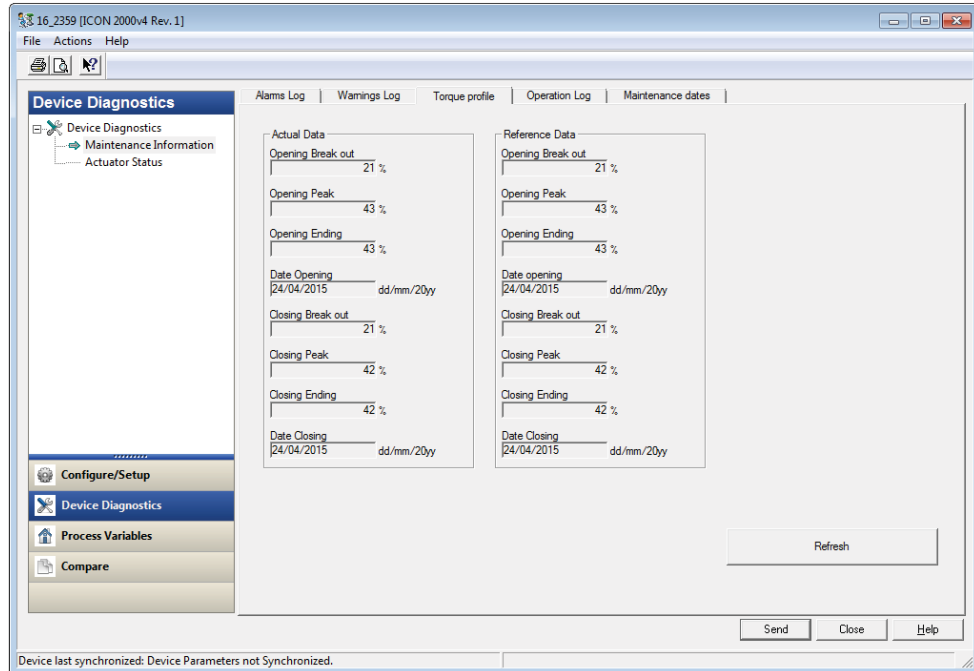
Each warning log includes the information mentioned in Figure 22.

Table 7.

Name	Description
Code	Is the Warning text
Date	Is the Warning occurrence date
Time	Is the Warning occurrence time

## 5.4 Maintenance Information/Torque Profile

Figure 23



The Torque profile Tab collects the information about the ICON3000 or ICON3000v2 torque profile.

All the displayed data are READ-ONLY and static. The data are read from the actuator only when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

The page is divided into two areas: one for the "Actual data", and another for the "Reference data" (data used as reference). The displayed data for both areas are:

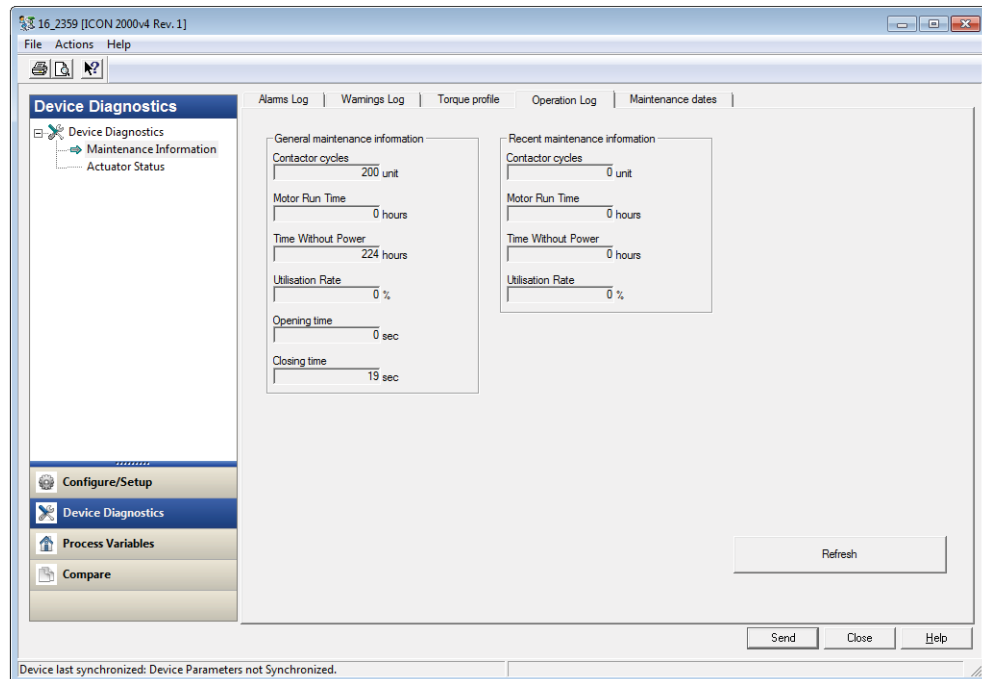
Table 8.

Name	Description
Opening Break out	Max. % of torque to unseat the valve in opening stroke
Opening Peak	Max. % of torque when the valve runs from breakout to ending in opening stroke
Opening Ending	Max. % of torque to seat the valve in opening stroke
Date Opening	Date of the opening stroke
Closing Break out	Max. % of torque to unseat the valve in closing stroke
Closing Peak	Max. % of torque when the valve runs from breakout to ending in closing stroke
Closing Ending	Max. % of torque to seat the valve in closing stroke
Date Closing	Date of the closing stroke

It is possible to set reference data dates from the "Configure/Setup - Maintenance Commands" page.

## 5.5 Maintenance Information/Operation Log

Figure 24



This Tab collects the Operation log information of ICON3000 or ICON3000v2 Actuator.

All the displayed data are READ-ONLY and static. The data are read from the actuator only when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

The page is divided in two areas: one for the "General Maintenance Information", and another for the "Recent Maintenance Information". The displayed data are:

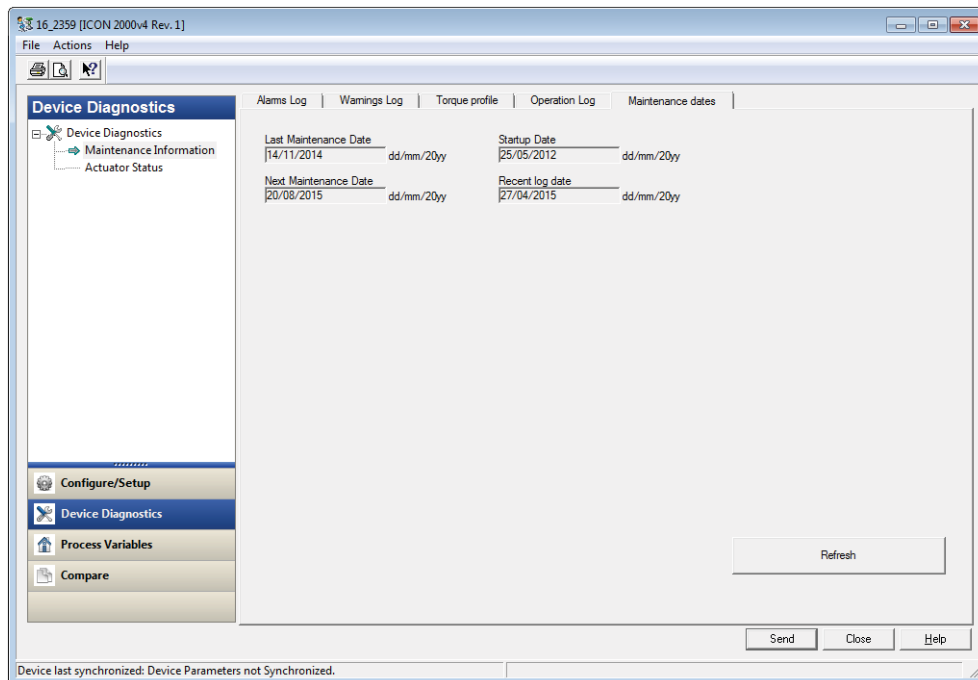
Table 9.

Name	Description
Contactor cycles	Count of the cycles of contactors K1 and K2
Motor Run Time	Count of the hours with motor energized
Time Without Power	Count of the hours without electrical power
Utilization Rate	Incremented every 200 full stroke of the actuator
Opening time	Time necessary to the valve to move from the close position to the open position (only on "General Maintenance Information" area)
Closing time	Time necessary to the valve to move from the open position to the close position (only on "General Maintenance Information" area)

It is possible to clear recent maintenance information from the "Configure/Setup - Maintenance Commands" page.

## 5.6 Maintenance Information/Maintenance Dates

Figure 25



This Tab collects the dates of important actuator services.

All the displayed data are READ-ONLY and static. The data are read from the actuator only when the window is opened: a 'Refresh' button is present to re-read all the data from the actuator.

Table 10.

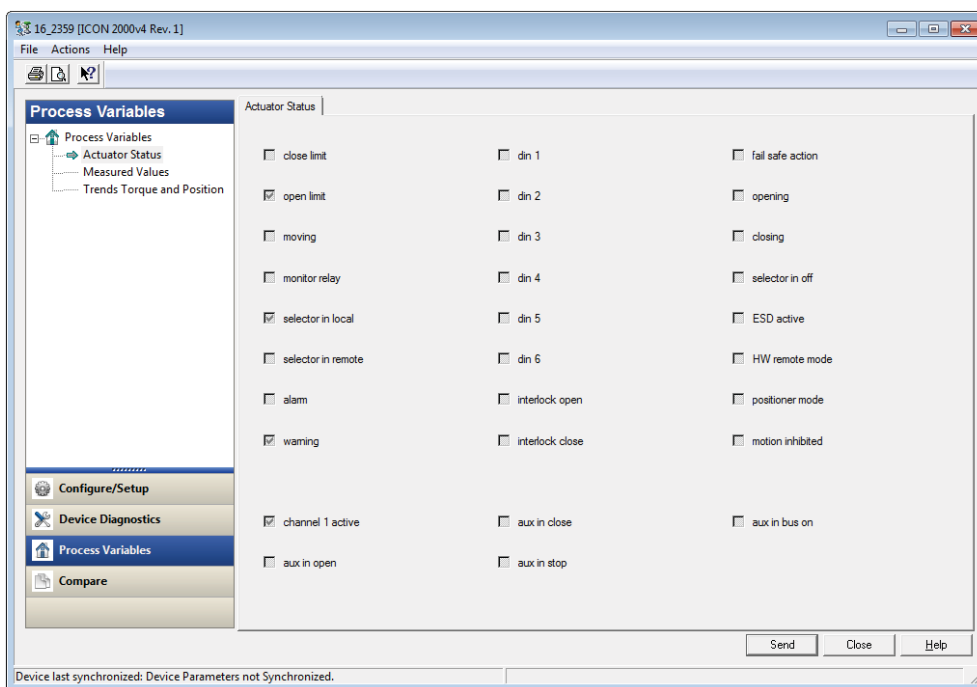
Name	Description
Last Maintenance Date	This is the date of the last maintenance operation
Next Maintenance Date	This is the date of the next scheduled actuator maintenance
Start-up Date	This is the date of the actuator start-up
Recent log date	The date of the last clearing of recent Log. This is updated after entering the command "Clear recent data log"

It is possible to write these dates from the "Configure/Setup - Maintenance Commands" page.

# Section 6: Process Variables

## 6.1 Actuator Status

Figure 26



The complete list of the statuses of the actuator is displayed into this page.

All the displayed statuses are READ-ONLY and dynamically updated. The following data are displayed:

Table 11.

Name	Description
close limit	The Valve is in close position
open limit	The Valve is in open position
moving	The Valve is moving
monitor relay	Monitor relay status
selector in local	The Local selector in LOCAL position
selector in remote	The Local selector in REMOTE position
alarm	Indicates that an alarm is present
warning	Indicates that a warning is present

Table 12.

Name	Description
din 1	Status of configurable DIN1 condition
din 2	Status of configurable DIN2 condition
din 3	Status of configurable DIN3 condition
din 4	Status of configurable DIN4 condition
din 5	Status of configurable DIN5 condition
din 6	Status of configurable DIN6 condition
interlock open	Interlock open active
interlock close	Interlock close active

Table 13.

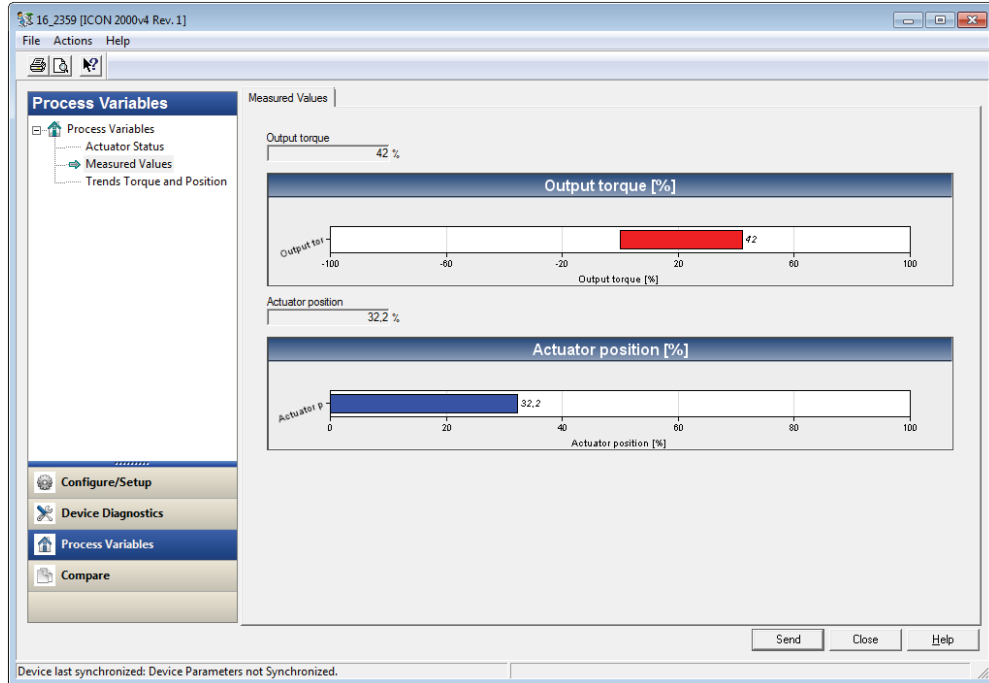
Name	Description
Fail-safe action	The actuator is performing the Fail-safe Action
opening	The Valve is moving in open direction
closing	The Valve is moving in close direction
selector in OFF	The Local selector is in OFF position
ESD active	ESD command active
HW remote mode	Hardwired mode enable
positioner mode	Actuator ready to follow the setpoint
motion inhibited	Motor will not open or close

Table 14.

Name	Description
channel 1 active	Channel 1 active
aux in open	Auxiliary input open active
aux in close	Auxiliary input close active
aux in stop	Auxiliary input stop active
aux in bus on	Auxiliary input bus active

## 6.2 Measured Value

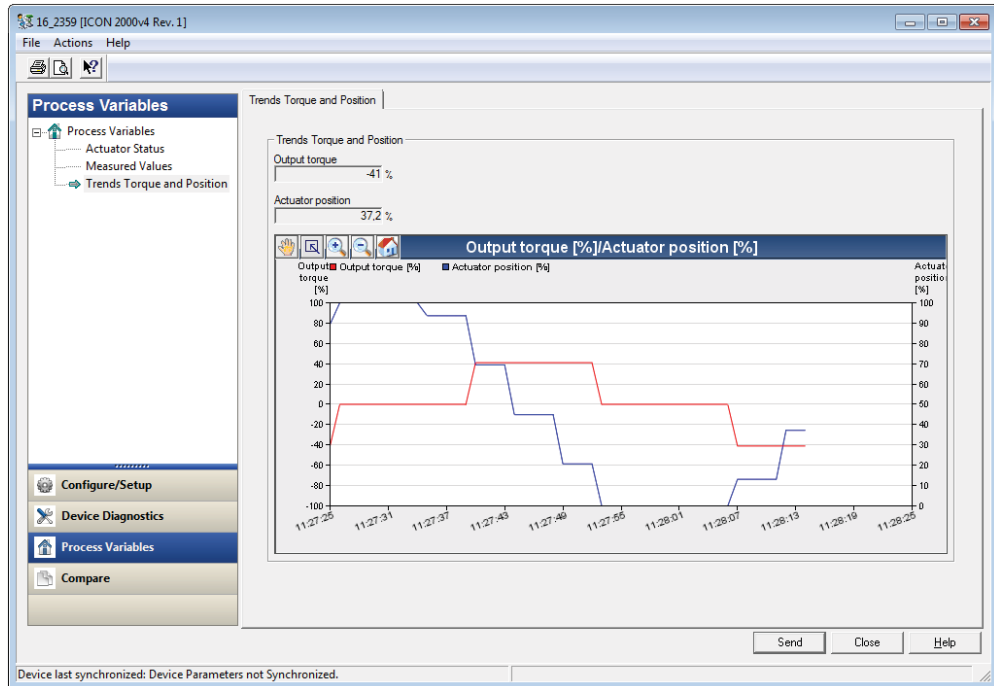
Figure 27



This window shows the actual position and the output torque of ICON3000 or ICON3000v2 actuator.

## 6.3 Trends Torque and Position

Figure 28



This window shows the trend curve of torque and the position of ICON3000 or ICON3000v2 actuator in a single graph.

The buttons positioned over the graph, like zoom, scroll, and return, can be used for the standard display.

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