Setting Type 3374 Electric Actuator equipped with digital positioner

using TROVIS-VIEW Operator Interface
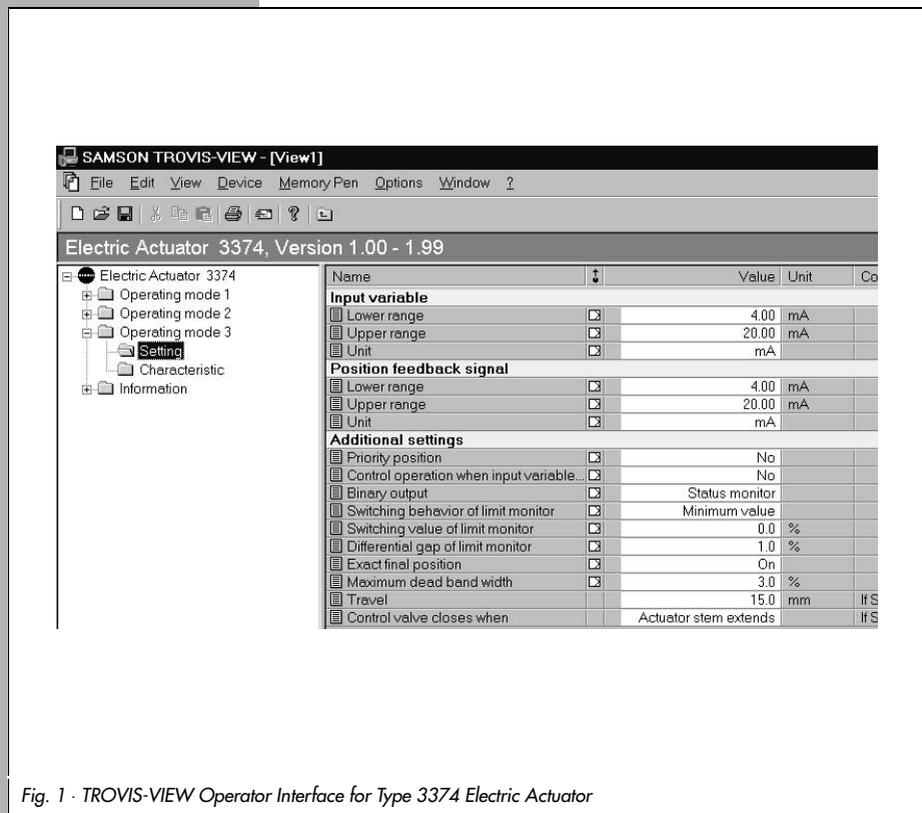
SAMSON

SAMSON TROVIS-VIEW - [View1]

File   Edit   View   Device   Memory Pen   Options   Window   ?

Electric Actuator 3374, Version 1.00 - 1.99

Name		Value	Unit	Co
Input variable				
Lower range		4.00	mA	
Upper range		20.00	mA	
Unit			mA	
Position feedback signal				
Lower range		4.00	mA	
Upper range		20.00	mA	
Unit			mA	
Additional settings				
Priority position		No		
Control operation when input variable...		No		
Binary output		Status monitor		
Switching behavior of limit monitor		Minimum value		
Switching value of limit monitor		0.0	%	
Differential gap of limit monitor		1.0	%	
Exact final position		On		
Maximum dead band width		3.0	%	
Travel		15.0	mm	If S
Control valve closes when		Actuator stem extends		If S

Fig. 1 · TROVIS-VIEW Operator Interface for Type 3374 Electric Actuator

Operating instructions

EB 8331-2 EN

TROVIS®
Electronics from SAMSON

Contents

Modifications of positioner firmware in comparison to previous version	
Former 1.1	**New 1.2**
	In operating modes 1 and 2, travel calibration is also possible for the closed position of the valve even when the actuator stem retracts.

1. General information

A CD-ROM containing the program for installing the TROVIS-VIEW Configuration and Operator Interface is provided by SAMSON.

To start the installation program, insert the installation CD-ROM. Once inserted, the CD-ROM usually starts the installation program automatically - depending on the configuration of the operating system. If the program is not started automatically, double-click *setup.exe* in the root directory of the CD-ROM in order to install TROVIS-VIEW. Then, observe the instructions that come with the installation program.

The system requirements are specified in the *readme.txt* file in the root directory of the CD-ROM.

As different SAMSON devices can be operated using the TROVIS-VIEW Operator Interface, the installation program prompts you to select the device modules acquired by you. Note that the installation program also offers you the possibility of installing a demo version of the software. On installing the respective device modules, you need to enter the corresponding identification codes indicated on the CD-ROM case.

To enable communication with the PC, connect the serial interface COM1 or COM2 to the serial interface (RJ-12 jack) located on the positioner board of the actuator using a SAMSON connecting cable.

You can set the positioner using the TROVIS-VIEW Operator Interface installed on your PC and then transfer this setting directly to the positioner at the place of installation of the control valve using a SAMSON connecting cable. During the transfer, the positioner checks if the data set by you is reliable and complete.

You can calibrate the travel of a control valve using the TROVIS-VIEW Operator Interface. Alternatively, you can make the TROVIS-VIEW Operator Interface read and display the current setting of your positioner.

Note: *A hardware package (Order No. 1400-7704) is available that includes a memory pen, a connecting cable and a modular adapter. The memory pen is also available separately, see chapter 5.*

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2. Setting

2.1 Start-up

Note: *Before you set the positioner using the TROVIS-VIEW Operator Interface, you must first mount the actuator onto the control valve as described in section 2.2 and establish the electrical connections as described in section 3 of the mounting and operating instructions EB 8331-1 EN.*

1. Set the selector switch (2) to operating mode **0** = ☐ (control switched off).
2. Check if the rated travel indicated on top of the potentiometer gear (12) corresponds with the rated travel of the control valve.

The inscription for the rated travel ("Nennhub") is
15 (for 6 to 20 mm travel) on one side or
30 (for 6 to 35 mm travel) on the other side of the potentiometer gear.

If the rated travel indicated on top of the potentiometer gear and hence the mounting position of the gear (see Fig. 2) do not correspond with the rated travel of the control valve, pull the gear off the shaft and put it back on again with the other side facing upward allowing the mating gear (14) to engage properly.

Make sure that the shaft of the potentiometer (13) is not altered.

Important: *Actuators with fail-safe action "actuator stem retracts or extends" are only designed for rated travel 15 mm. Do not rearrange the gear.*

3. Switch on the auxiliary power.
4. Set the selector switch (2) to operating mode **3**.
5. Establish communication between the PC and actuator using the SAMSON connecting cable.

1 Operating mode 1
2 Selector switch
3 Operating mode 2
4 Travel calibration button
5 Operating mode 0
6 Operating mode 3
7 Potentiometer clockwise
   or counterclockwise
8 Upper signal lamp
9 Lower signal lamp
10 Actuator stem retracts
   and extends
11 Jack (serial interface)
12 Potentiometer gear
13 Potentiometer
14 Mating gear

SAMSON

Stellungsregler
Positioner
Régulateur de position

CE
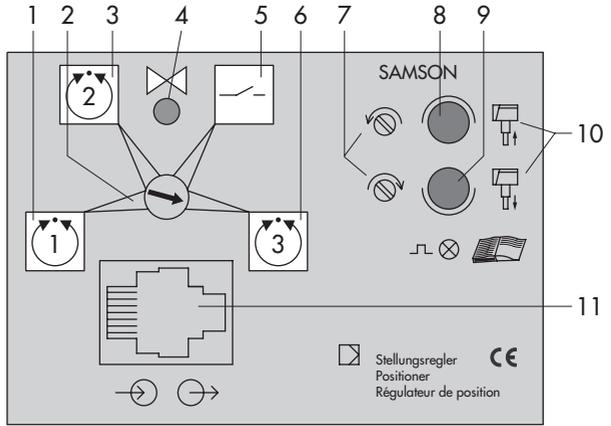
Potentiometer gear (12)
Mounting position for
rated travel 15
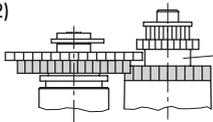
Potentiometer gear (12)
Mounting position for
rated travel 30
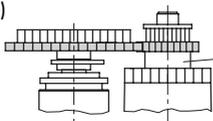
Inscription for
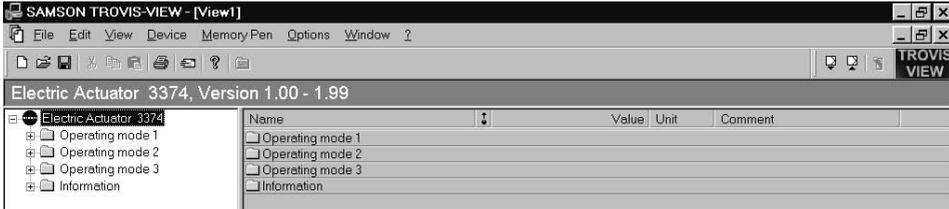rated travel
("Nennhub")

Nennhub 15
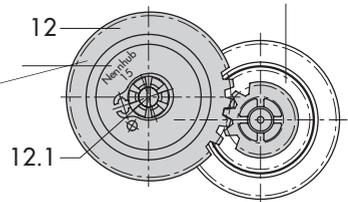
Fig. 2 · Positioner board and mounting position of potentiometer gear

2.2 Using TROVIS-VIEW

1. Start TROVIS-VIEW.

2. If you want to change the language, click on the *Options* (or *Optionen*) menu, point to *Language* (or *Sprache*) and then select the language you want.

3. On the *View* menu, deactivate the bars you do not want to be displayed, e.g. the infobar.

4. To select the corresponding serial interface, click the *Options* menu, choose *Communication* and then *Settings*.
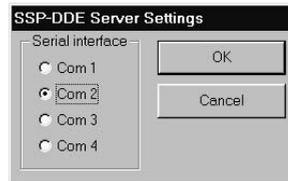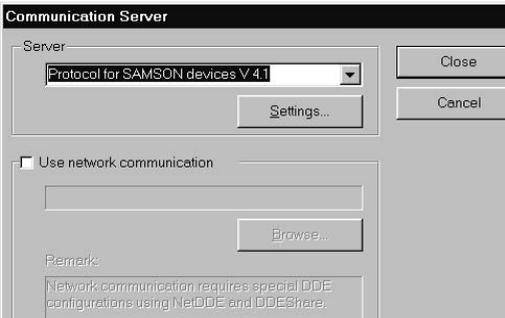

5. The expert is allowed to set and modify the positioner data whereas the maintenance technician (default) is only allowed to read it. To be able to set the data according to the following instructions, click on the *Device* menu, choose *User Level* and then select *Expert* from the drop-down list. The options *Expert* and *Factory calibration* require a password to be entered. In order to modify the default password *samson* of one option, click the *Modify Password* button and specify a new password of up to 8 characters.

Default password: samson
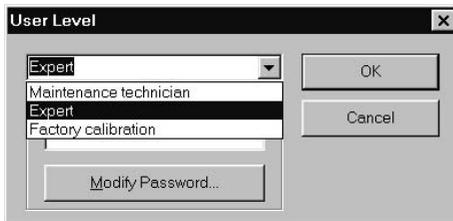
6. Double-click the *Operating mode 3* folder in the folder hierarchy.
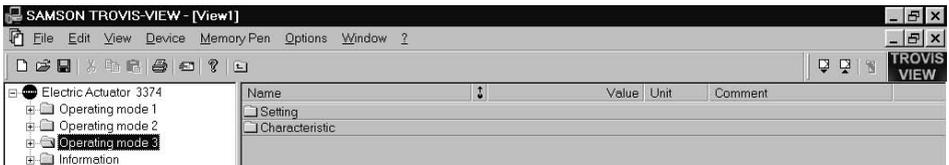
7. Then double-click the *Setting* folder to display the current setting.
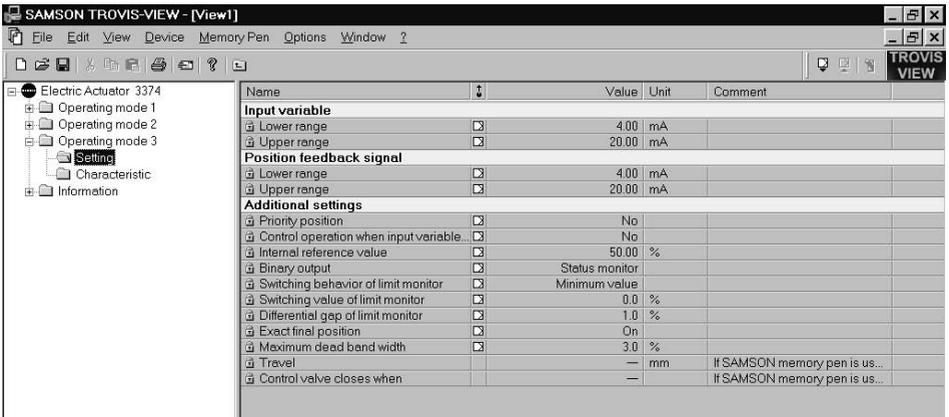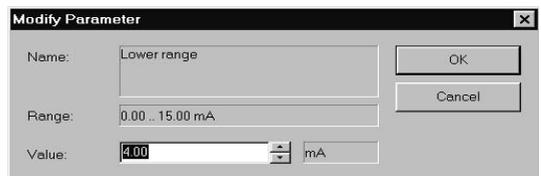

Setting:
Note that you can only modify parameters featuring the ▤ symbol. Parameters with the 🔒 symbol cannot be modified. In order to modify the parameters of the input variable (reference variable), the position feedback signal or additional settings, use the left mouse button to double-click the corresponding row. This brings up the *Modify Parameter* dialog box in which you can change the setting of the respective parameter.

Input variable
The default values of the lower and upper ranges of the reference variable are 4 and 20 mA. If you, for example, want to connect two or more actuators in parallel to achieve split range service, set the lower range of the actuator to a value between 0 and 15 mA and the smallest span to 4 mA.

Position feedback signal
The position feedback signal is used for remote transmission of the current valve position. The lower and upper ranges can lie between 0 and 20 mA.

Additional settings
Priority position
If the priority position function is activated in the *Setting* folder of the *Operating mode 3* folder and an external signal triggers the priority position function at terminals 81 and 82 during the control operation, the actuator stem moves into the opened position (actuator stem retracts) or into the closed position of the valve (actuator stem extends) according to the setting of the priority position selected from the drop-down list of the *Modify Parameter* dialog box.

Control operation when input variable fails
This function allows you to determine whether the last travel value or the internal reference value is used for control operation when the input variable fails. These values can be selected from the drop-down list in the corresponding *Modify Parameter* dialog box. This control operation is activated when the input variable falls below 0.5 V or 1 mA.

Binary output
This function is used to determine whether the binary output signal serves as a status monitor, as a monitor for *control switched off* or as a limit monitor. If you select *limit monitor* from the drop-down list, you have to determine the parameters of the limit monitor (i.e. the switching behavior, switching value and differential gap) in the following rows, too.

Exact final position
When this function is activated, the plug stem moves into its exact final position in the closing phase because the differential gap resulting from the three-step behavior of the positioner is reduced by means of optimization.

Maximum dead band width
Can be set to values ranging between 1.1 and 5.0 %.

Travel (if SAMSON memory pen is used)
In case the travel range of the control valve is transferred by the SAMSON memory pen, you can set the travel to any value between 6.0 and 35.0 mm.

**Control valve closes when** (if SAMSON memory pen is used)
This function is used to determine whether the control valve closes when the actuator stem "extends" or "retracts".

7. Double-click the *Characteristic* folder of the *Operating mode 3* folder. Then double-click the *Characteristic* row in the list to bring up the *Characteristic* dialog box which displays the default setting of a linear characteristic defined by two points and called *<Custom>*.

   In order to define a new characteristic on the basis of the default characteristic, click the *Point* button and then select *Add* from the pop-up menu to add one point.

   In order to save this characteristic, click the *Characteristic* button, select *Save As* from the pop-up menu and specify a new name.

   To open another default characteristic or a characteristic already stored by you, click the *Characteristic* button and then select *Open* to bring up the *Open* dialog box in the language of your operating system. In this box, click the desired characteristic or double-click the *3374* folder and then one of the default characteristics *Gleichproz.inv.txt* (i.e. *Rev.equalpercentage.txt*), *Gleichprozentig.txt* (i.e. *Equalpercentage.txt*), *Linear fallend.txt* (i.e. *Linearlydecreasing.txt*) or *Linear steigend.txt* (i.e. *Linearlyincreasing.txt*).
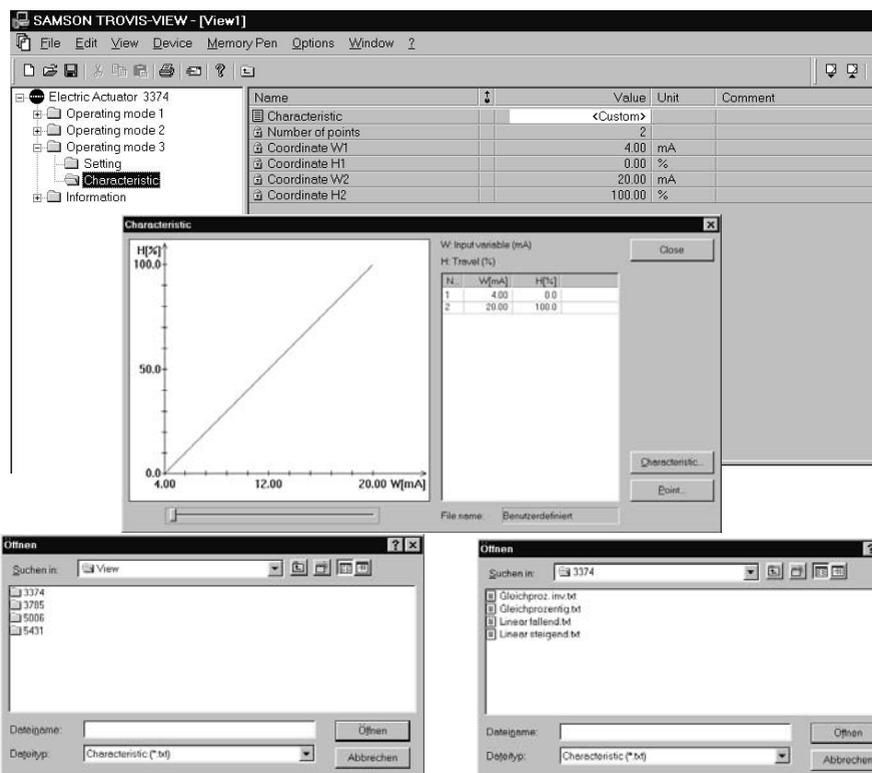
8. On the *Edit* menu, click *Customer Data* to bring up the *Customer Data* window. Then, enter the customer-specific data concerning the actuator.
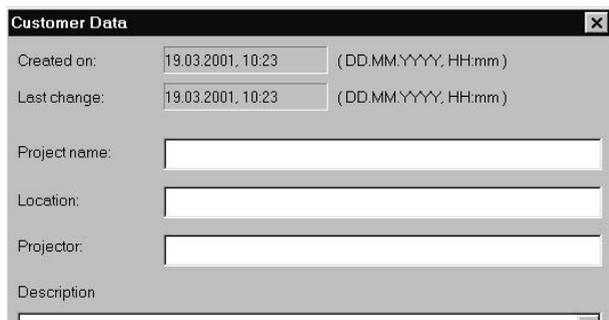
Customer Data		
Created on:	19.03.2001, 10:23	(DD.MM.YYYY, HH:mm)
Last change:	19.03.2001, 10:23	(DD.MM.YYYY, HH:mm)
Project name:		
Location:		
Projector:		
Description		

9. On the *Device* menu, click *Download to Device* (or activate the respective symbol on the devicebar) to download the setting data to the device. Click *OK* when the following message appears.

SAMSON TROVIS-VIEW

⚠ Testing is finished.
All data will be overwritten!

[OK]   [Cancel]

Note: You can print the setting data by clicking Print *on the* File *menu.*

Important: The operator interface enables you to reset the data modified by you to the default values at any time. To reset the data, click on the Edit *menu and then select* Load Factory Defaults.

Uploading: Click Upload from Device *on the* Device *menu or click the* 🖳 *symbol to transfer all setting data of the control valve to the operator interface where you can check and modify them if necessary. Note that you can activate and deactivate the* Additionally Read Factory Setting *function by clicking on the* Device *menu and selecting* Additionally Read Factory Setting.

Downloading: Click Download to Device *on the* Device *menu or the* 🖳 *symbol in order to transfer the modified setting data back to the actuator.*
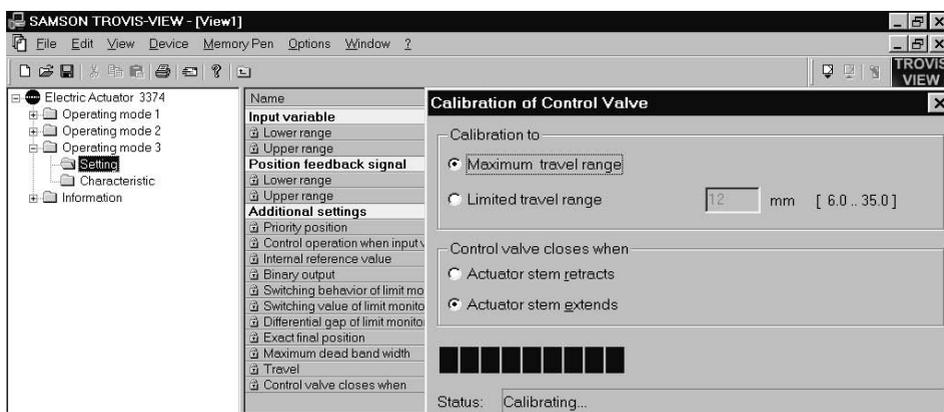

2.3 Travel calibration

After having transferred all setting data to the actuator, you can calibrate the travel.

⚠ **CAUTION**
The automatic travel calibration lasts approximately twice as long as the actuator's transit time. During this, the valve moves out of its present position. Carry out the travel calibration on the test bench or when the shut-off valves in the plant are closed.

1. On the *Device* menu, select *Calibration of Control Valve* to bring up the *Calibration of Control Valve* dialog box.

2. In this box, select either calibration
   to *Maximum travel range* or to *Limited travel range* and determine whether the control valve closes when the actuator stem retracts or extends.
3. In order to initialize the travel calibration, click the *Start Calibration* button.
   The progress bar indicates the calibration progress. Pay attention to the messages displayed in the status field!
   If the status field reads *Mounting position of potentiometer shaft is incorrect,* the corresponding signal lamp of the positioner board starts to blink indicating that the potentiometer shaft (13) has been wrongly positioned and must be readjusted manually (see Fig. 2).
   But do not alter the potentiometer until the closed position is actually reached. The closed position is indicated by the associated limit switch located on the board and activated by the tag.

In order to correct the position of the potentiometer shaft (13), use a screwdriver to gradually turn the potentiometer shaft clockwise or counterclockwise in accordance with the symbols (7) until the signal lamp stops blinking and is lit constantly. Turn the screwdriver counterclockwise if the upper signal lamp (8) blinks and turn it clockwise if the lower signal lamp (9) blinks. The travel calibration will not continue until both signal lamps are lit at the same time.

If the status field reads *Calibration finished*, the travel has been calibrated successfully. The actuator starts its control operation in response to its reference variable.

If the status field reads *Mounting position of potentiometer gear is incorrect* during the travel calibration, check if the correct side of the gear is facing upward.

Note: If there is no travel movement during the calibration (which is due to a loose or missing potentiometer gear, for example), the two signal lamps blink alternately. Then, the travel calibration is canceled after a short period of time and the error message *Controlled variable does not change*! is displayed. Click *OK,* remedy the error and then restart the travel calibration.

4. Close the *Calibration of Control Valve* dialog box and cancel communication by disconnecting the SAMSON connecting cable.

3. Additional functions

The operator interface allows you to take advantage of the following functions:

▸ Testing with the stored setting data

▸ Monitoring the positioner's control behavior in control operation

▸ Displaying the relevant setting data

▸ Reporting defined events in control operation.

3.1 Testing

To start the test run, click *Test* on the *Device* menu and then select *Start*. Note that you can only carry out the test run in one of the operating modes **1**, **2** and **3.** In order to select one of the operating modes, set the selector switch (2) of the positioner to the corresponding operating mode.

The test run starts to generate an input variable which increases from the determined lower range (if the input variable corresponds to the lower range value) to the determined upper range at a constant rate. When it reaches the upper range value, it automatically switches over and continuously decreases until it reaches the lower range again and stops the test run. This continuously changing input signal is transferred from the operator interface to the positioner of the actuator during the test run and causes the control valve to open or close according to the increasing or decreasing signal. The resulting travel position of the control

valve, the difference between the input variable and the travel position as well as the current dead band width are continuously transferred from the positioner to the operator interface during the test run and their continuously changing values can be monitored on the operator interface. The changing values of the input variable (reference variable w) and travel position (controlled variable x) are displayed graphically and numerically whereas the difference between the input variable and the travel position in percent, the current dead band width and the operating mode are only displayed numerically.

You can determine the rate of change of the input variable by entering a time parameter in the *Time slot* text box. The time parameter determines the transit time from the lower range to the upper range of the input variable. This parameter should exceed the transit time of the actuator.
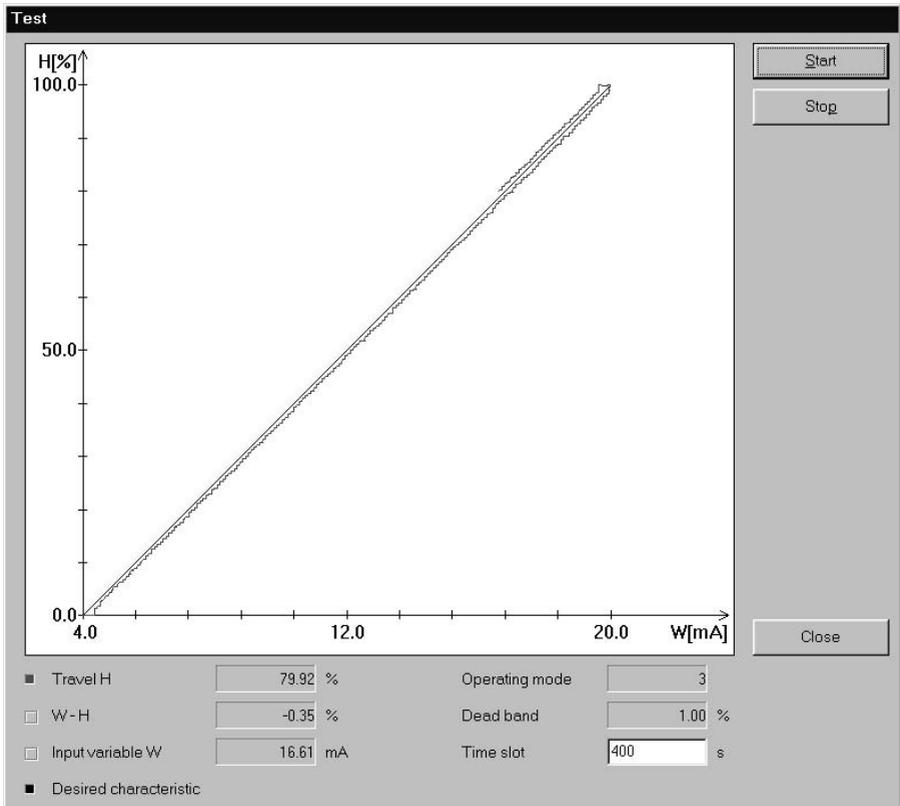
3.2 Monitoring

You can monitor the control behavior of the positioner in any operating mode. In order to select one operating mode, set the selector switch (2) of the positioner to the desired operating mode. In order to monitor the positioner during normal operation, click on the *Device* menu and select *Monitor* to bring up the *Monitor* dialog box. Then determine the monitoring time interval in the *Time slot* text box and select *Start*.

After the transfer has been initialized, the current input variable, the current travel position of the control valve, the difference between the input variable and the travel position as well as the current dead band width are continuously transferred from the positioner to the operator interface and can be monitored on the operator interface.
The values of the input variable and the travel position are continuously displayed as graphs on the operator interface for certain periods of time. Moreover, the input variable and the travel position, their difference in percent, the dead band width and the operating mode are displayed numerically.

Note that you cannot influence the control behavior of the positioner by just monitoring it.
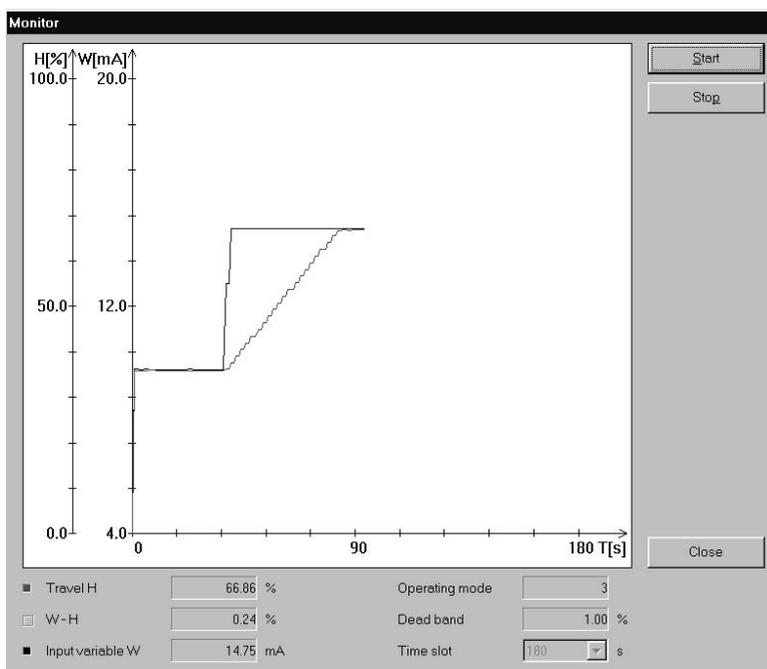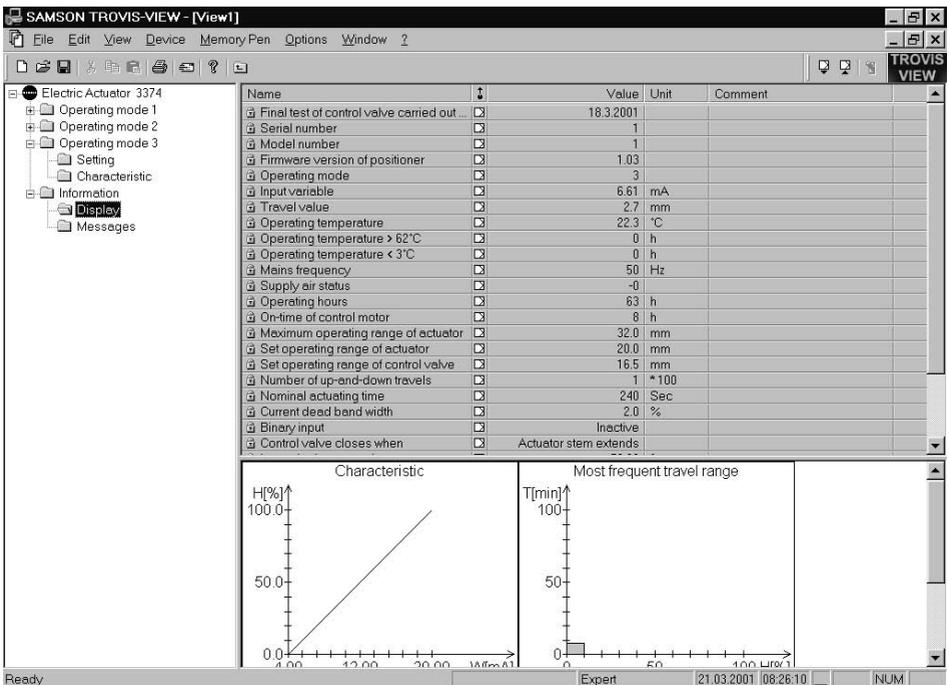
3.3 Displaying positioner data

In order to display the most important data of the positioner, double-click the *Information* folder and then the *Display* folder in the folder hierarchy. Then click on the *Device* menu and select *Upload from Device* to upload the current setting data and other information from the positioner and to display them on the operator interface.

The relation between the input variable and the travel position is displayed as a characteristic and the most frequent travel range as a bar graph which is updated whenever the data is uploaded from the positioner.

Note that the display of the data varies according to the operating mode selected.

3.4 Reporting defined events

In order to display the events which have occurred during the control operation of the positioner, double-click the *Information* folder and then the *Messages* folder in the folder hierarchy. Then click on the *Device* menu and select *Upload from Device* to upload the currently reported events from the positioner and to display them on the operator interface.
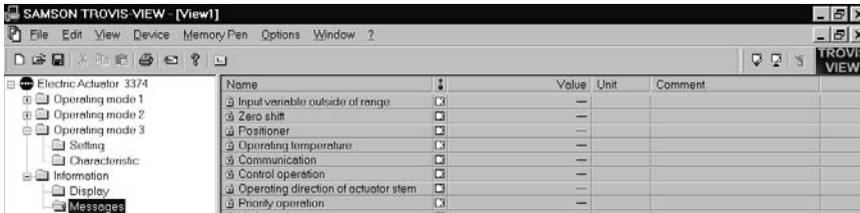
The following defined events might be reported:

▷ Input variable outside of range [< 0 %; > 105 %]

▷ Zero shift [has occurred] -> Initialization if travel > 5 % and travel rate = 0 mm/s and input variable corresponds to the lower range of the reference variable

▷ Positioner [cannot calibrate] -> if error > 2 dead band widths and travel rate = 0 mm/s; time-delayed message

▷ Operating temperature [outside of operating range] -> if temperature < 1 °C or > 64 °C

▷ Communication [inactive] -> if time-monitored data traffic does not take place

▷ Operating direction of actuator stem [check] -> display if operating mode 3 is switched over to 1 or 2 or vice versa and the closed position of the control valve is altered

▷ Priority operation [active] -> if binary entry is switched active

▷ Limit monitor [active] -> if set limit value is not reached or is exceeded.

▷ Control operation [with last travel value; with internal reference value] -> when input variable fails

4. Factory calibration

The factory calibration comprises the basic setting of the positioner, the travel calibration of the actuator as well as the entering of the serial number and is carried out at the factory. If necessary, for example, if you have replaced the electronic components, you can also carry out the factory calibration at the place of installation of the actuator using a PC, the TROVIS-VIEW Operator Interface, a current or a voltage source, a sufficiently precise ammeter or voltmeter and a sufficiently precise, mechanical length measuring instrument.

Note: The factory calibration requires that the actuator be isolated from the control valve. After factory calibration is completed, you have to recalibrate the travel of the control valve! Moreover, factory calibration requires that the selector switch (2) be set to operating mode **0 =** ⬚ .

In order to start factory calibration, click on the *Device* menu, choose *User Level* and then select *Factory calibration* from the drop-down list. Enter the required password *samson* (also refer to page 6) and click *OK*. Then double-click the *Factory calibration* folder.

You can calibrate the input variable and the position feedback signal if necessary. Connect the corresponding instruments and use the right mouse button to execute the factory calibration.

The calibration of the actuator requires that you first determine the maximum operating range by measuring the final positions of the actuator stem. To determine the final positions, double-click the *Extend actuator stem* row and select *Yes* from the drop-down list. Then right-click the same row and select *Write* from the pop-up menu to cause the actuator stem to extend. Then measure the final position. Right-click the *Extend actuator stem* row and select *Default: No* from the pop-up menu. Then right-click the same row again and select *Write* to execute this command. Double-click the *Retract actuator stem* row and proceed as described above. Then calculate the difference of the two measured values to obtain the maximum operating range.

In order to calibrate the actuator, double-click the *Activate actuator calibration* row. This brings up the *Calibration of Actuator* dialog box. Determine the mains frequency, the rated travel, the nominal actuating time (for indication, refer to nameplate) and enter the calculated value of the maximum operating range in the *Maximum operating range of actuator* text field. Then start calibration by clicking the *Start Calibration* button. For further details, refer to section 2.3, step 3 on page 11.

Note: If the factory calibration has not been carried out completely, the signal lamp (9) starts to blink. The message that the calibration or the serial number is missing is displayed in the *Calibration has not been carried out completely* section of the *Messages* folder located in the *Information* folder.
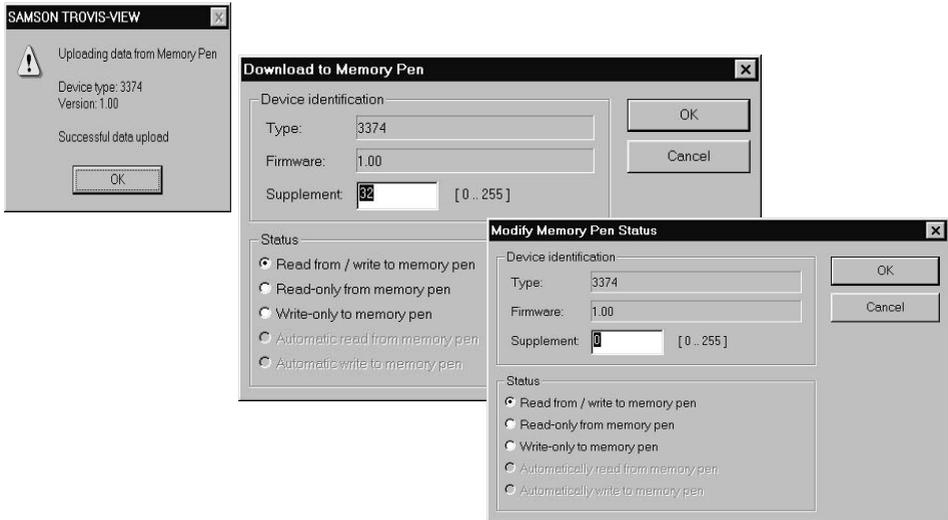
5. SAMSON memory pen

The SAMSON memory pen (Order No.1400-7697) is able to load and store data in its non-volatile memory and serves as a data carrier because it can be used to transfer the setting data of the positioner from the TROVIS-VIEW Operator Interface to the actuator and vice versa. From the *Memory Pen* menu of the TROVIS-VIEW Operator Interface, you can select the most relevant functions such as *Upload from Memory Pen, Download to Memory Pen* and *Modify Memory Pen Status* and then modify the settings.

Note that you need a SAMSON modular adapter (Order No.1400-7698) to transfer the setting data from the PC to the memory pen and vice versa. In order to transfer the setting data from the memory pen to the positioner and vice versa, you do not require any adapter because the connector of the memory pen fits the jack of the positioner board. The SAMSON memory pen makes it easy to exchange data with the positioner.

The memory pen enables you, for example, to copy the setting data of one positioner to the positioner of another control valve of the same type. You can also download the setting data from a PC or notebook to the memory pen when you are, for example, in your office or at the place of installation of the control valve. Then, you can download this data to the positioner of the corresponding actuator on site. Furthermore, you can archive the setting data of the positioner of your actuator in the memory pen. If you have to replace this actuator by a new one, you can download the archived setting from the memory pen to the new actuator.

Note that the calibration data needed for setting the hardware components of the positioner can only be loaded and transferred using the operator interface and not by means of the SAMSON memory pen. The memory pen can only be used to load and transfer the setting data of the positioner. All setting data of operating mode **3** can be downloaded from the memory pen or PC to the positioner whereas the operating modes **1** and **2** only allow the information whether the mA or V unit is to be used for the input variable and the position feedback signal to be downloaded from the memory pen or PC to the positioner. All operating modes, however, allow you to upload all setting data from the positioner to the memory pen or the operator interface. Regardless of the operating mode selected, the interface always uploads the setting data of all operating modes.

In order to transfer, for example, the setting data of the positioner from the memory pen to the positioner, first set the selector switch (2, Fig. 2) to operating mode **0** and then plug the memory pen into the jack of the positioner to enable communication between the two components. The associated signal lamp (9) starts to blink for about 10 seconds to indicate that communication has been established successfully and that the setting data is being checked.

If the positioner considers the transferred data to be incorrect, corrupt or incompatible, the data transfer is canceled and the signal lamp (9) is not lit continuously. In this case, connect the memory pen to the PC via the adapter, open the *Setting* folder of the corresponding *Operating mode* folder and then select *Upload from Memory Pen* on the *Memory Pen* menu of the TROVIS-VIEW Operator Interface to display and check the data stored in the memory pen.

If the positioner considers the data to be correct, the data transfer is carried out. After that the signal lamp stops blinking and remains lit, indicating that the data transfer has been carried out successfully. The signal lamp does not go out until the memory pen has been disconnected from the jack.

In order to activate the new setting and start the control operation, reset the selector switch (2) to operating mode **3**.

Note: *Select the* Setting *folder of the* Operating mode 3 *folder to set the travel and closed position of the control valve when using the memory pen.*

5.1 Downloading data from SAMSON memory pen to positioner (writing)

Note: Before you download data from the SAMSON memory pen to the positioner, you must first mount the actuator onto the control valve as described in section 2.2 and establish the electrical connections as described in section 3 of the mounting and operating instructions EB 8331-1 EN.

1. Set the selector switch (2) to operating mode **0** = ▱ (control switched off). Also refer to Fig. 2 on page 10.
2. Check if the rated travel indicated on top of the potentiometer gear (12) corresponds with the rated travel of the control valve.

The inscription for rated travel ("Nennhub") is
15 (for 6 to 20 mm travel) on one side or
30 (for 6 to 35 mm travel) on the other side of the potentiometer gear.

If the rated travel indicated on top of the potentiometer gear and hence the mounting position of the gear (see Fig. 2) do not correspond with the rated travel of the control valve, pull the gear off the shaft and put it back on again with the other side facing upward, allowing the mating gear (14) to engage properly.

Make sure that the shaft of the potentiometer (13) is not altered.

Important: Actuators with fail-safe action "actuator stem retracts or extends" are only designed for rated travel 15 mm. Do not rearrange the gear.

3. Switch on auxiliary power.
4. Plug the SAMSON memory pen into the jack (11) of the positioner board and wait until the signal lamp (9) stops blinking and then remains lit.
5. If you want to use the travel value and the closed position of the control valve indicated in the *Setting* subfolder of the *Operating mode 3* folder, initialize the travel calibration by activating the travel calibration button (4). If, however, this is not the case, disconnect the memory pen from the jack, set the selector switch (2) to operating mode **3** and carry out the travel calibration according to EB 8331-1 EN, pages 13 and 14.

⚠ **CAUTION**
The automatic travel calibration lasts approximately twice as long as the actuator's transit time. During this, the valve moves out of its present position. Carry out the travel calibration on the test bench or when the shut-off valves in the plant are closed.

After having activated the travel calibration button (4), both signal lamps (8 and 9) remain lit at the same time to indicate the beginning of the travel calibration. The actuator stem extends as far as the closed position of the valve. The mounting position of the potentiometer gear (12) is determined automatically and signalized by the illumination of the signal lamp (8) for 6 to 35 mm travel and the signal lamp (9) for 6 to 20 mm travel. Then, the actuator stem retracts as far as the opened position (maximum travel). When the maximum travel position is reached, the travel calibration is over. The actuator starts its control operation and the actuator stem moves to the valve position determined by the reference variable.

Important: If one signal lamp starts to blink slowly after the travel calibration button has been activated and the actuator stem has extended as far as the closed position, the potentiometer shaft (13) has been wrongly positioned and must be readjusted manually. But do not alter the potentiometer shaft until the closed position is actually reached. The closed position is indicated by the associated limit switch located on the board and activated by the tag. In order to adjust the shaft of the potentiometer (13), use a screwdriver to turn the shaft gradually clockwise or counterclockwise until the signal lamp stops blinking and remains lit. Turn the screwdriver counterclockwise in accordance with the symbols (7) if the upper signal lamp (8) blinks and turn it clockwise if the lower signal lamp (9) blinks. The travel calibration does not continue until both signal lamps are lit at the same time.

Note: If both signal lamps start to blink at the same time during the travel calibration, disconnect the memory pen from the jack and cancel the calibration by activating the travel calibration button. Then recheck the mounting position of the potentiometer gear (12) and/or the travel value indicated in the Setting folder of operating mode 3. If there is no travel movement during the calibration (due to a loose or missing potentiometer gear, for example), both signal lamps blink alternately. In this case, cancel the travel calibration by activating the travel calibration button (4), remedy the error and restart the calibration by activating the travel calibration button (4) again.

Important: The travel calibration has to be carried out only once to start up the valve.

6. Disconnect the memory pen from the jack.
7. Set the selector switch (2) to operating mode **3**.

5.2 Uploading data from positioner to SAMSON memory pen (reading)

1. Plug the SAMSON memory pen into the jack of the positioner board and wait until the signal lamp (9) stops blinking and is then lit continuously.
2. Disconnect the SAMSON memory pen from the jack (11).

The setting data of the positioner is stored in the memory pen and can be transferred to further actuators or can be downloaded to the PC.

Note: You can only transfer the setting data from the positioner to the SAMSON memory pen if you have selected one of the operating modes **1**, **2** or **3**!

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