MOUNTING AND
OPERATING INSTRUCTIONS

EB 9511-2 EN

Translation of original instructions

TROVIS®
Electronics from SAMSON

SAM Connect Gateway (Type 5007-2)

Configuration with TROVIS-VIEW 4

Firmware version 1.03.11

Edition January 2021

Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices. The images shown in these instructions are for illustration purposes only. The actual product may vary.

➔ For the safe and proper use of these instructions, read them carefully and keep them for later reference.

➔ If you have any questions about these instructions, contact SAMSON's After-sales Service (aftersalesservice@samsongroup.com).

Documents relating to the device, such as the mounting and operating instructions, are available on our website at ***www.samsongroup.com > Service & Support > Downloads > Documentation***.

Definition of signal words

⚠ DANGER

Hazardous situations which, if not avoided, will result in death or serious injury

⚠ WARNING

Hazardous situations which, if not avoided, could result in death or serious injury

NOTICE

Property damage message or malfunction

Note

Additional information

Tip

Recommended action

1 TROVIS-VIEW 4 software

These instructions describe the operation and setting the SAM Connect Gateway using the TROVIS-VIEW 4 user interface.

➔ Refer to Mounting and Operating Instructions ▶ **EB 9511** for a description of the **SAM Connect Gateway**.

➔ Refer to the Operating Instructions ▶ **EB 6661** on how to use the TROVIS-VIEW 4 software.

The TROVIS-VIEW 4 software allows users to configure and parameterize smart SAMSON devices over a common user interface. It consists of the user interface, communication server and the device-specific module. The menu language can be changed (also while the software is running). Working in TROVIS-VIEW is similar to working in Windows Explorer.

In addition to configuration and operation, the TROVIS-VIEW 4 software includes other features, such as documentation of the SAM Connect Gateway, editing plant texts, saving and printing configuration data.

The TROVIS-VIEW 4 software allows operation in offline mode (device not connected to a computer) or in online mode (device connected to a computer). This allows data to be changed in the gateway immediately, or after they are saved on the computer and downloaded to the gateway on site.

1.1 General

TROVIS-VIEW 4 and the SAM Connect Gateway are supplied with default data, in cases where no specifications have been given by the customer.

Newly created data can be saved to a file, which can be opened at anytime. A stored TROVIS-VIEW file (*.tro) contains the configuration data and parameters of one single device and can be transferred to the SAM Connect Gateway after it has been connected to the computer.

To download configuration data from the software to the SAMSON memory pen or to upload data from the memory pen, a SAMSON modular adapter must be inserted into the serial interface of the computer to connect the memory pen.

When the SAM Connect Gateway is not connected, the default settings are shown in TROVIS-VIEW. A TROVIS-VIEW file (*.tro) can be loaded and edited by selecting Open in the File menu.

1.2 Communication with SAM Connect Gateway

Proper start-up is necessary for communication between TROVIS-VIEW 4 and the SAM Connect Gateway. Refer to Mounting and Operating Instructions ▶ EB 9510.

1.2.1 Establishing communication

1. Connect the SSP interface of the SAM Connect Gateway to the USB interface adapter (order no. 1400-9740).
2. Connect the USB interface adapter using a USB cable to the USB port of the computer.
3. Start TROVIS-VIEW 4.

1.3 Operation of TROVIS-VIEW 4

The basic operation, navigation and editing of parameters in TROVIS-VIEW 4 is described in the Operating Instructions ▶ **EB 6661**.

1.4 Terms and abbreviations

WE	Default settings

2 Folder tree

SAM Connect Gateway	
Start-up	See section 3.1.
Device settings	See section 3.2.
General	See section 3.2.1.
Option modules	See section 3.2.2.
Slot 1	See section 3.2.2.1.
Slot 2	See section 3.2.2.1.
Slot 3	See section 3.2.2.1.
Slot 4	See section 3.2.2.1.
Identification	See section 3.2.3.
Process data	See section 3.3.
Diagnostics	See section 3.4.
Status messages	See section 3.4.1.
Reset functions	See section 3.4.2.
Diagnostic data	See section 3.4.3.
Temperature events	See section 3.4.4.

3 Settings

3.1 Start-up

- **Start-up**

Parameters	Description
Language	Select the menu and display language ▪ English (default), Deutsch, Français, Italiano, Espanol, Türk, Русский
Password protection	Activate/deactivate write protection in the gateway by entering a four-digit code. When write protection is active, the 'Specialist' user level cannot be accessed to change parameter settings. ▪ Active, Not active (default)
Password	Enter a four-digit code for password protection ▪ 0 to 9999 (default: 1234)
Write protection (data transmission module)	Activate/deactivate remote write protection to protect the gateway against unauthorized remote access. ▪ Active, Not active (default)
Start-up wizard	Activate/deactivate the start-up wizard upon restarting the device. When 'Start-up wizard' is set to ON, the start-up wizard guides users through the setting of key parameters after the device is restarted. ▪ ON, OFF (default)
Power line frequency	Local power line frequency to filter out any disturbances which are transmitted over ground wires or external power supply units. ▪ 50 Hz (default), 60 Hz

- **Offline configuration**

Parameters	Description
Voltage supply	Voltage supply of the gateway; see article code ▶ EB 9511 ▪ 24 V DC (default), 230 V AC

3.2 Device settings

3.2.1 General

• **General**

Parameters	Description
Identifier	Enter a freely selectable name for the device (max. 15 characters) ▪ Enter characters as required (default: CONNECT GATEWAY)

• **Reading**

Parameters	Description
LCD backlight	Activate/deactivate LCD backlight ▪ ON, OFF (default)
LCD deactivation time	Activate/deactivate the deactivation time for the LCD backlight. ▪ ON, OFF (default)
Deactivation time	Enter the time after which the LCD is to be automatically switched off. ▪ 1 to 10 min (default: 10 min) Parameter only shown when 'LCD deactivation time' = ON.
LCD heating control	Activate/deactivate the heating of the display at low outdoor temperatures: Upper switching temperature (deactivate): –12.5 °C Lower switching temperature (activate): –17.5 °C The power consumption of the device increases by ***510 mA*** when the heating is activated. ▪ ON (default), OFF
User level timeout	Time setting after which the on-site operation is to be locked if no settings are entered (user level at the device returns from 'Specialist' to 'Maintenance staff'). ▪ 0 to 60 min (default: 15 min)
Option 1 display	Setting for the value reading on the start screen for option module 1 ▪ Bar graph (default), Numerical
Option 2 display	Setting for the value reading on the start screen for option module 2 ▪ Bar graph (default), Numerical

Parameters	Description
Option 3 display	Setting for the value reading on the start screen for option module 3 ▪ Bar graph (default), Numerical
Option 4 display	Setting for the value reading on the start screen for option module 4 ▪ Bar graph (default), Numerical

3.2.2 Option modules

The available parameters of inserted options modules are listed in the folder of the corresponding slot depending on the optional additional function. TROVIS-VIEW automatically detects the option module and lists its parameters.

3.2.2.1 Slot 1 to slot 4

Analog input (AI) and Analog input active (AIA) option modules

- **Slot X**

Parameters	Description
Option module identification	Reading to indicate that an optional additional function has been detected.
Option module status	Reading of the current status of the option module ▪ No module inserted, Module not permissible in this setup, Module unknown, Module active
Name	Enter a name (max. 15 characters) to identify the medium. ▪ Enter characters as required (default: OPTION)
Signal source	Enter the signal source on which the 4 to 20 mA signal is based ▪ Unknown (default), liquid level, pressure, temperature
Measured value	Reading of the current measured value in the selected unit
Unit	Unit in which the measured value is to be indicated. ▪ % (default), kg, Nm^3, L, ft^3, lbs, mbar, bar, kPa, psi, mmH2O, cmH2O, mH2O, inH2O, °C, °F, K
Lower measuring range value	Determine the lower limit of the measuring range at 4 mA ▪ Enter value as required (depending on the selected unit)
Upper measuring range value	Determine the upper limit of the measuring range at 20 mA ▪ Enter value as required (depending on the selected unit)

Parameters	Description
Event: Broken cable	Activates/deactivates the event for a detected cable breakage at the input of the AI option module. The event is activated when the signal falls below the switching threshold of 0.2 mA. ▪ ON (default), OFF
Event: Residual current	Activates or deactivates the event for a detected residual current violation at the input of the AI option module. The event is activated when the signal falls below the switching threshold of 3.6 mA or exceeds 21.0 mA. ▪ ON (default), OFF
Limit 1	Activate/deactivate the limit 1 ▪ ON (default), OFF
Mode	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 1. ▪ Max. contact (default), Min. contact
Limit	Setting of limit 1 ▪ 0 to 100 % (default: 90 %)
Limit 2	Activate/deactivate the limit 2 ▪ ON (default), OFF
Mode	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 2. ▪ Max. contact, Min. contact (default)
Limit	Setting of limit 2 ▪ 0 to 100 % (default: 30.0 %)
Limit 3	Activate/deactivate the limit 3 ▪ ON (default), OFF
Mode	An upper limit can be determined with 'Max. contact' and a lower limit with 'Min. contact' for limit 3. ▪ Max. contact, Min. contact (default)
Limit	Setting of limit 3 ▪ 0 to 100 % (default: 15.0 %)
4 to 20 mA measured value	Reading of the current (in mA) at the option module
Relative measured value	Reading of the current (in %) at the option module

Parameters	Description
Start test	Executable function to test the signal reading in the device and over the web portal. The input signal of the option module is replaced by an internal test signal and issued by the GSM module.
Test mode	Test mode reading: 'Active' while the test is in progress (test duration: 30 s). ▪ Not active (default), Active
Test signal of analog output	Test signal (depending on the selected unit) based on the 4 to 20 mA signal range. ▪ –214748364.7 to 214748364.7 (default: 0)
Zero shift	Zero shift reading in %
Span offset	Span offset reading in %

3.2.3 Identification

- **Identification**

Parameters	Reading/description
Firmware version	Read the current firmware version of the SAM Connect Gateway
Serial number of the entire device	Read the serial number of the SAM Connect Gateway
ProductInstanceUri	Unique device identification according to DIN SPEC 91406 (implementation pending)
Serial number of option 1	Reading of the serial number of the option module in slot 1
Serial number of option 2	Reading of the serial number of the option module in slot 2
Serial number of option 3	Reading of the serial number of the option module in slot 3
Serial number of option 4	Reading of the serial number of the option module in slot 4
HW version/supply voltage	Reading of the hardware version of the voltage supply
Explosion protection certification	Indicates whether the SAM Connect Gateway has explosion protection approval ▪ No (the SAM Connect Gateway does not have any explosion protection certificates).

3.3 Process data

- **Process data**

Parameters	Reading/description
Temperature inside device	Read the current device temperature in °C
Heating	Indicates the state of the heating (on/off)
Battery voltage	Battery voltage reading in V

3.4 Diagnostics

3.4.1 Status messages

Status messages provide an overview on the current states of individual functions or options of the SAM Connect Gateway. A corresponding status icon is assigned to failures and error messages. The meaning of the icons and their order of priority are listed in Table 1.

Table 1: *Status icons and their meanings*

Status icon	Priority	Meaning
	1	**Failure:** the SAM Connect Gateway cannot perform its task due to a malfunction.
	2	**Out of specification:** the SAM Connect Gateway is running outside the specified operating conditions..
	3	**Maintenance required:** the SAM Connect Gateway still performs its task (with restrictions). A maintenance demand has been determined.
	4	**No message:** the SAM Connect Gateway perform its task without any impairment.

Parameters	Description
Details	The ON setting causes the 'Counter reading' and 'Last time stamp' to be displayed in addition to the status messages. ▪ ON, OFF (default)
Condensed state	Indicates the status with the highest priority of the subordinate condensed state.
Condensed state (E1)	Indicates the status with the highest priority of the assigned status messages 103, 104, 105 and 107.

Parameters	Description
103: Memory error (calibration)	Indicates whether a status message exists (⊗) or does not exist (✓).
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
104: Memory error (data)	Indicates whether a status message exists (⊗) or does not exist (✓).
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
105: No factory calibration	Indicates whether a status message exists (⊗) or does not exist (✓).
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
107: Internal data processing error	Indicates whether a status message exists (⊗) or does not exist (✓).
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
Condensed state (E2)	Indicates the status with the highest priority of the assigned status messages 205 and 206.
205: Temperature inside device below min. limit	Indicates whether a status message exists (⚠) or does not exist (✓).
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
206: Temperature inside device above max. limit	Indicates whether a status message exists (⚠) or does not exist (✓).

Parameters	Description
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
Condensed state (E3)	Indicates the status with the highest priority of the assigned status messages 301 and 302.
301: Power supply unit not recognized	Indicates whether a status message exists () or does not exist ().
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)
302: Option not recognized	Indicates whether a status message exists () or does not exist ().
Counter reading	Number of status messages since the operating time started.
Last time stamp	Shows time of the last status message (dd:hh:mm:ss format, based on the operating time)

3.4.2 Reset functions

Parameters	Description
Restart	Directly executable function: the device restarts.
Default settings	Directly executable function: all parameters in the device are reset to their default settings.

3.4.3 Diagnostic data

Parameters	Description
Operation duration	Reading of the entire operating time of the device (dd:hh:mm:ss)

3.4.4 Temperature events

Parameters	Description
Max. temperature inside device	Activate/deactivate the temperature monitoring with limit for max. temperature inside the device ▪ ON, OFF (default)
Limit	Set an upper temperature limit within the specified range: if the current device temperature is above the adjusted limit, an error message is generated and displayed. The status changes to 'Out of specification'. ▪ 10 to 70 °C (default: 60 °C)
Min. temperature inside device	Activate/deactivate the temperature monitoring with limit for min. temperature inside the device ▪ ON, OFF (default)
Limit	Set a lower temperature limit within the specified range: if the current device temperature is below the adjusted limit, an error message is generated and displayed. The status changes to 'Out of specification'. ▪ −40 to +10 °C (default: −15 °C)

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