



Application

The modular gateway for the input of signals issued by external transmitters
Connection to the SAM TANK MANAGEMENT web portal

The modular SAM Connect Gateway allows the input of signals (4 to 20 mA), for example issued by external transmitters. For this purpose, four slots exist in the device for option modules that can optionally be used for analog input and/or analog input active option modules.

Furthermore, the integrated GSM module allows remote data transmission and connection to the SAM TANK MANAGEMENT web portal.

Special features

- Modular design: easy to install or exchange optional additional functions by inserting option modules (four slots in the device)
- Integrated GSM module for remote data transmission
- Modular power supply unit with standby power supply (SPS)
- 4" backlit graphics display
- Configuration and programming using the TROVIS-VIEW software
- Capacitive keys facilitate operation
- Start-up wizard

Versions

- SAM Connect Gateway · Type 5007-2-0001...
Gateway with 18 to 36 V power supply unit and four slots to hold AI (analog input) and/or AIA (analog input active) option modules
- SAM Connect Gateway · Type 5007-2-0002...
Gateway with 100 to 230 V power supply unit and four slots to hold AI (analog input) and/or AIA (analog input active) option modules



Fig. 1: SAM Connect Gateway

Design and principle of operation

The modular SAM Connect Gateway allows the input of signals (4 to 20 mA), for example issued by external transmitters. For this purpose, four slots exist in the device to hold option modules that can optionally be used for the AI (analog input) and/or AIA (analog input active) option modules.

Furthermore, the integrated GSM module allows remote data transmission and connection to the SAM TANK MANAGEMENT web portal.

Operation

Four capacitive keys are used to operate the SAM Connect Gateway and allow the user to navigate within the menu on the display.

Power supply unit with standby power supply (SPS)

The power supply unit includes a battery compartment for a 1.5 V battery which provides standby power supply upon power failure.

Configuration using the TROVIS-VIEW software

The SAM Connect Gateway can be configured with SAMSON's TROVIS-VIEW Software (version 4). For this purpose, the device has a serial interface (SSP) to allow the USB port of a computer to be connected to it using an adapter cable (order. no. 1400-9740).

The TROVIS-VIEW software enables the user to easily configure the SAM Connect Gateway as well as view process parameters online.

TROVIS-VIEW can be downloaded free of charge from our website at www.samsongroup.com > Service & Support > Downloads > TROVIS-VIEW.

Application

The SAM Connect Gateway can accept up to four 4 to 20 mA signals and transfer the data over the integrated GSM module. As a result, transmitters installed in a plant (e.g. Media 5, Media 6 and/or other transmitters by other manufacturers) can be connected to the SAM TANK MANAGEMENT web interface. This allows the filling levels of up to four tanks (Fig. 3, top) or the filling level and pressure of two tanks (Fig. 3, bottom) to be logged and managed on the SAM TANK MANAGEMENT interface.

Accessories

- Mounting kit for pipe mounting (item no. 1402-1910)

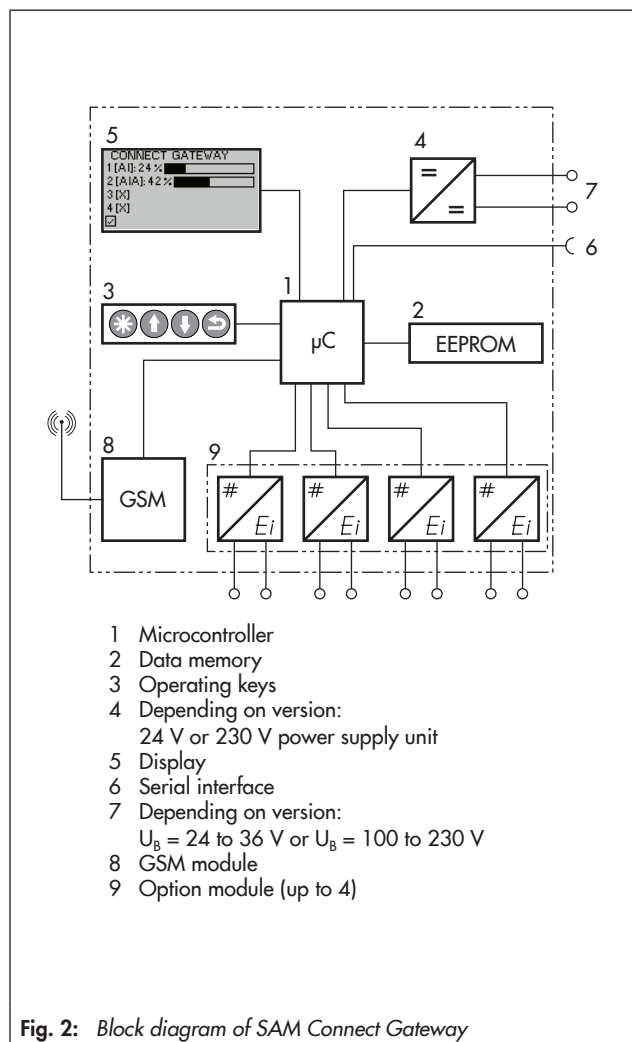
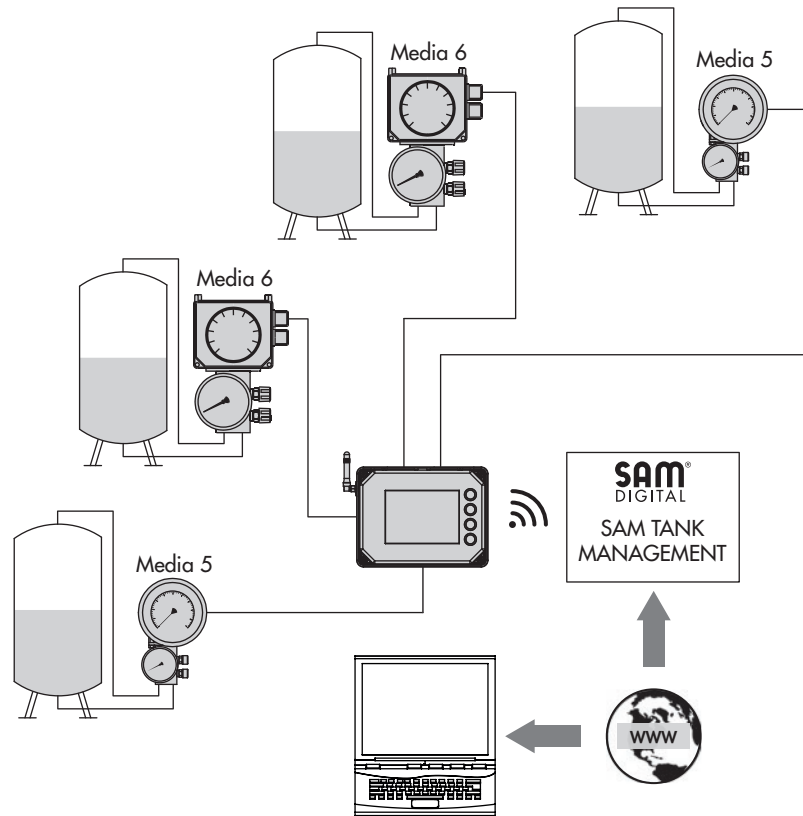


Fig. 2: Block diagram of SAM Connect Gateway

Example 1: filling levels of four tanks are transferred to the gateway.



Example 2: filling levels and absolute pressures of two tanks are transferred to the gateway.

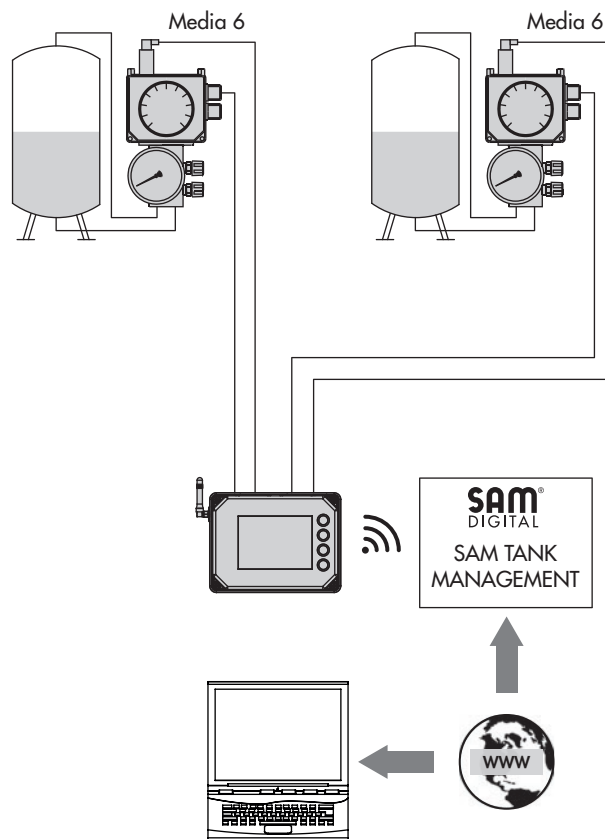


Fig. 3: Sample applications of the SAM Connect Gateway

Technical data

Table 1: General technical data

SAM Connect Gateway	
Mounting orientation	Upright with display facing sideways
Display	
Display	LCD 128 x 64 (90 x 40 mm)
Storage temperature	-40 to approx. +80 °C
Operating temperature	24 V version: -40 to +70 °C 230 V version: -20 to +70 °C ¹⁾
Environmental influences	
Storage according to EN 60721-3-1 (long-term storage)	1K5 (air temperature -40 to +80 °C); 1M3 (The following restriction applies to GSM module: air temperatures -30 to +75 °C)
Transportation acc. to EN 60721-3-2	2K4 (air temperature -40 to +40 °C in ventilated enclosures, up to +70 °C in unventilated enclosures), 2M1 (the restriction applies to GSM module for low air temperatures down to -30 °C)
Operation according to EN 60721-3-4 (stationary use at non-weather-protected locations)	4K4 (with restrictions: air temperature -40 to +55 °C, temperature inside the housing must not exceed +70°C when exposed to direct sunlight); 4M4 The display and GSM module are heated at low air temperatures.
Mechanical vibration	
Vibrations (sinusoidal) according to IEC 60068-2-6	2 to 9 Hz; 3.5 mm amplitude 9 to 200 Hz; 10 m/s ² acceleration 200 to 500 Hz; 15 m/s ² acceleration
Random and guidance vibration according to IEC 60068-2-64	1.0 m ² /s ³ ; 10 to 200 Hz 0.3 m ² /s ³ ; 200 to 2000 Hz
Shocks according to IEC 60068-2-27	Acceleration 100 m/s ² ; duration 11 ms
Requirements	
EMC	Devices with a CE marking fulfill the requirements of the Directive 2004/30/EU; Complying with EN 61000-6-2, EN 61000-6-3, EN 61326-1 and NAMUR Recommendation NE 21
Degree of protection	IP 67 according to IEC 60529 (VDE 470 Part 1, 2014-09)
Electrical connections	
Cable glands	M16 x 1.5 (max. 5)
Terminals	0.2 to 2.5 mm ² wire cross-section
Spring-cage terminals (option modules)	0.13 to 1.5 mm ² wire cross-section
Communication	
Local	SAMSON SSP interface and serial interface adapter, TROVIS-VIEW
Remote data transmission	GSM module
Weight	
Device (with 4 option modules)	Approx. 1400 g

¹⁾ Impaired operation and readability may arise outside the temperature range. Measurement is not influenced in the range between -40 and +70 °C.

Table 2: Power supply

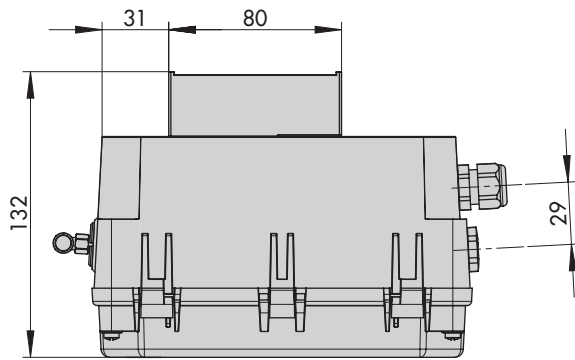
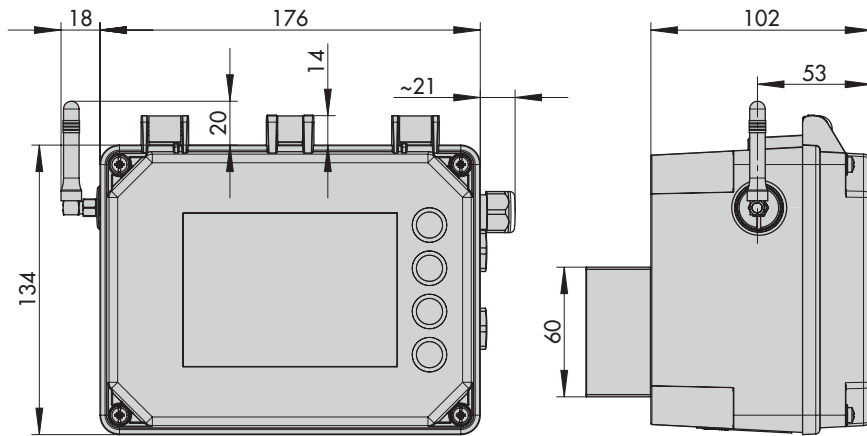
24 V version	
Input voltage	24 to 36 V DC
Output voltage	12 V DC
Power	24 W
Version	Reverse polarity protection
230 V version	
Input voltage	100 to 230 V/50 Hz · 100 to 110 V/60 Hz
Output voltage	14 V DC
Power	max. 10 W

Table 3: Optional additional functions

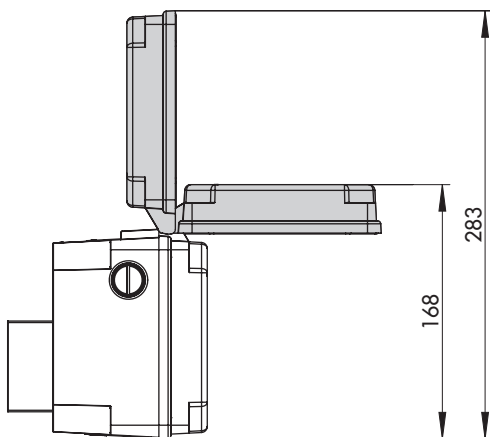
AI: Analog input	
Version	4 to 20 mA current input, externally powered, galvanically isolated, reverse polarity protection
Load impedance	≤5.0 V external (corresponding to ≤200 Ω at 20 mA)
Measuring range	0.1 to 21.6 mA
Accuracy	≤1.0 %
Resolution	20 μA
Effect of temperature	0.3 %/10 K
Static destruction limit	38 V DC · 30 V AC
AIA: Analog input active	
Version	4 to 20 mA current input, internally powered, reverse polarity protection
Load impedance	≤1 V internal (corresponds to ≤50 Ω at 20 mA)
Output voltage at the terminal	≥12 VDC to power external two-wire devices
Measuring range	0.1 to 21.6 mA
Accuracy	≤1.0 %
Resolution	20 μA
Effect of temperature	0.3 %/10 K
Static destruction limit	38 V DC · 30 V AC
GSM module for remote data transmission	
GSM frequency	E-GSM 850/900/1800/1900 MHz
Power output	Class 4 (2 W) with 850/900 MHz; Class 1 (1 W) with 1800/1900 MHz
Antenna connection	SMA connector in housing wall
Right-angle antenna	Type 2J010: SMA R/A male
Color	Black
Capacity	25 W
Impedance	50 Ω
Polarization	Vertical
Frequency	GSM (900 MHz), AMPS (824-894 MHz), ISM (868 MHz), DCS (1800 MHz), PCS (1900 MHz), 3G (UMTS 2.1 GHz)
SIM card	M2M Industrial Plug in High Temperature, operating temperature: -40 to +105 °C; Provider: Telefonica Germany GmbH
Operating temperature	-40 to +70 °C (with active heating control)
Storage temperature	-30 to +75 °C
Web interface	SAM TANK MANAGEMENT

Table 4: Materials

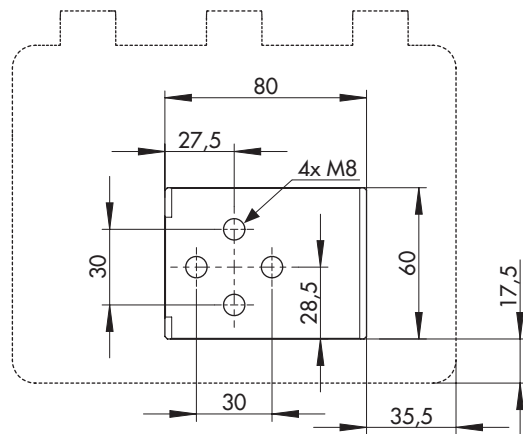
Housing	UV-stabilized polycarbonate
Screws (housing)	Corrosion-resistant steel
Cover (transparent)	UV-stabilized polycarbonate
Screw fastenings (cover)	Corrosion-resistant steel
Cable glands	Polyamide with NBR seal



Dimensions with opened cover:



Drill pattern for mounting:



Article code

SAM Connect Gateway	5007-2-	0	0	0	x	x	x	x	x	x	0	x	0	0	0	x	x	x	x	x	x
Power supply																					
Power supply unit, 18 to 36 V DC	1																				
Power supply unit, 100 to 230 V AC	2																				
Option module slot 1																					
AI: Analog input	4																				
AIA: Analog input active	6																				
Option module slot 2																					
Without		0																			
AI: Analog input		4																			
AIA: Analog input active		6																			
Option module slot 3																					
Without			0																		
AI: Analog input			4																		
AIA: Analog input active			6																		
Option module slot 4																					
Without				0																	
AI: Analog input				4																	
AIA: Analog input active				6																	
GSM module																					
GSM module with antenna (including SIM card)								2													
Housing material																					
Plastic												0									
Version																					
Standard																0	0				
Hardware version																					
Index: 00																				9	9

