LACBUS Gateway GATE 4G

Connect LACROIX data loggers via IEC 60870-5-104

By using the FW-5-GATE-4G telecontrol station from SAE as a gateway, up to 50 process monitors per gateway can be connected to your control station

DATA LOGGERS FROM LACROIX

The battery-powered M2M data loggers from LACROIX are characterized by their unique reliability and univeral application possibilities. They are submersible according to IP68 (2 m) and, thanks to their powerful battery, can guarantee long-term and self-sufficient data transmission via mobile communication. The data logger can also provide connected sensors with power for their measurement cycles.

SECURE CONNECTION TO CONTROL STATIONS

The LACROIX data loggers can communicate with the LACBUS Gateway from SAE, secured in a private mobile network. The LACBUS Gateway is based on the FW-5-GATE-4G, and an additional LACBUS driver ensures a secure connection according to the IEC 60870-5-104 standard.

ADVANTAGES

- Connect up to 50 data loggers per gateway.
- Comprehensive IT security features.
- Extensive diagnotics capabilities.
- Fast and simple parameterization.
- Direct and complete integration of all process data and information from the battery-powered data loggers.
- A complete solution from a single source is available.

THE MAIN FEATURES:

IEC 60870-5-104 protocol

All process data available

Comprehensive IT security

Diagnostic capabilites

Simple parameterization

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Communication and control

WATER NETWORK CONTROL

Typical values measured during the control of water and wastewater networks, such as flow rates, pressure, retention basin runoff measurements, water levels (ultrasound and radar sensors), are collected from the remote measuring sites and compiled centrally in a SCADA system (or control center).

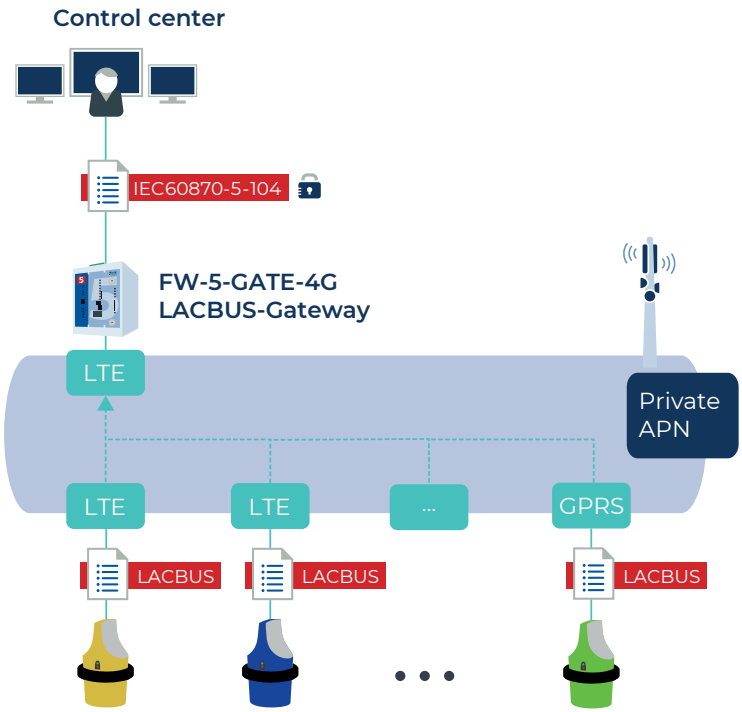
This direct exchange of data between elwater towers and the associated pump stations is essential for the control of a water network. The LACBUS-Gateway can communicate with other SAE telecontrol stations and trigger pump commands directly – without having to be sent via the control system.

Stand-alone solutions, which can perform semi-autonomous control tasks independently of a higher-level SCADA system, are easy to set up and can be parameterized as a command chain:

E.g.: LACROIX data logger | LACBUS-Gateway | FW-5 | Pumps

A connection to existing PLCs, such as in decentralized structures, is also possible thanks to various interfaces, such as Profibus, Modbus or MPI.

COMMUNICATION CHANNELS



Up to 50 SOFREL data loggers possible for each FW-5-GATE-4G (e.g. LS series, LT series, ATEX data loggers)

LACROIX data loggers communicated securely with the LACBUS Gateway from SAE in a private mobile communication network. The LACBUS Gateway is based on the FW-5-GATE-4G and ensures a secure connection according to the IEC 60870-5-104 standard thanks to an additional LACBUS driver.

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Parameterization

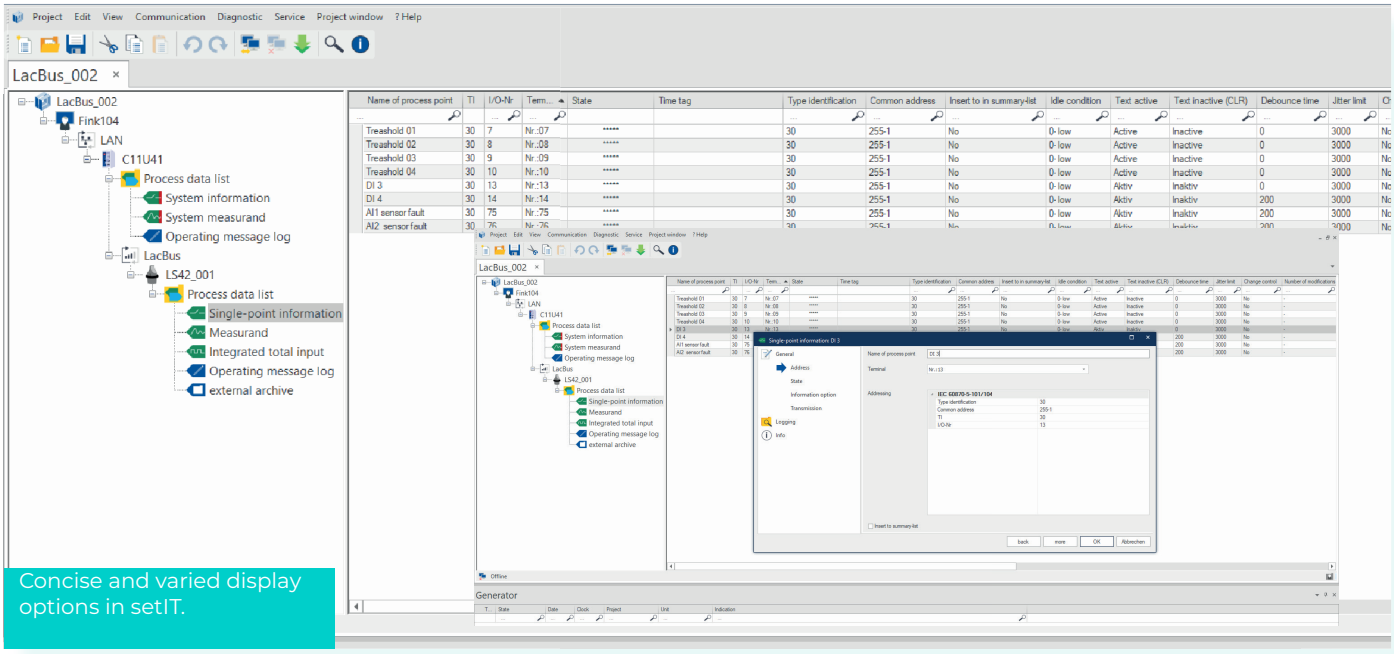
CONFIGURATION

The data logger series LS and LT, as well as the ATEX data loggers from LACROIX are completely preconfigured and can be easily connected to the corresponding parameterization software, setIT.

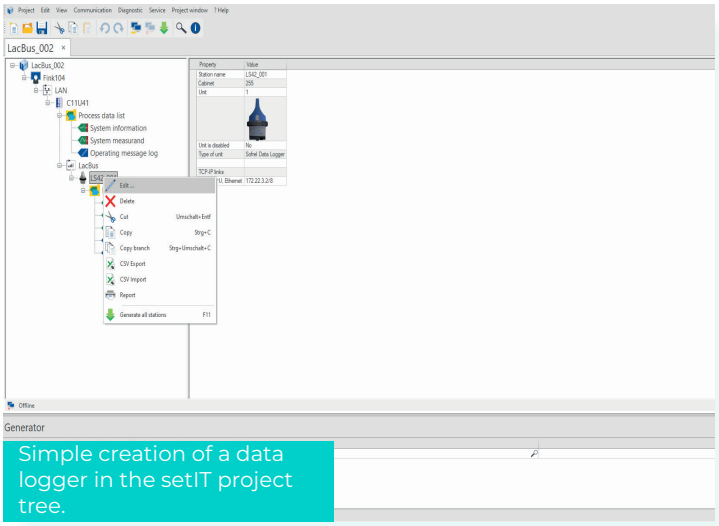
By collecting all data points, all recorded measurements, calibrated values, diagnostic data and fault messages can be transferred to and displayed in the SCADA system according to the IEC 60870-5-104 protocol.

The parameterization software setIT ensures rapid commissioning and high compatibility of telecontrol systems. In the case of the FW-5-GATE-4G, the integration and adaption of an external modem, which in some cases can be very time-consuming, is not necessary due to the complete parameterization of all components of the device in setIT. Additionally, all available information from the mobilie communication module can be used in the setIT diagnostics functions.

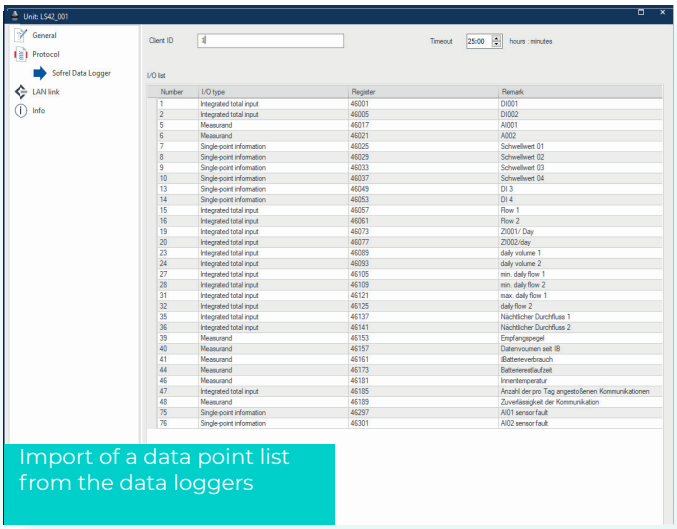
set IT



Concise and varied display options in setIT.



Simple creation of a data logger in the setIT project tree.



Import of a data point list from the data loggers

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TECHNICAL DATA

Main features	Details
Construction	Substation/bay control, telecontrol and automation system in plastic housing, expandable with I/O and communication modules for DIN rail mounting
Communication	LTE modem 4G, fall-back 3G/2G, MIMO, optional DUAL-SIM 2 Ethernet LAN TCP/IP, 10/100BaseTx, auto-MDIX, auto-negotiation 1 RS-485 interface, galvanically isolated 1 RS-485 meter interface or CL/S0 interface, galvanically isolated 1 RS-232/V.24 interface Private APN with fixed IP required
Inputs/outputs	Optionally up to 12 expansion modules
Protocols	LACBUS IEC 61850 · IED and protective equipment IEC 60870-5-101 · telecontrol technology, station control technology IEC 60870-5-103 · protective equipment IEC 60870-5-104 · TCP/IP link to control center DNP3 Master/Outstation IEC 62056-21 · smart meter link (IEC 1107) SML · smart meter link via Ethernet DSfG · digital interface for natural gas equipment Modbus RTU/TCP · master/slave, Profibus-DP slave, MPI/3964R/RK512 · field bus SNMPv3 · network management NTP/SNTP/DCF clock synchronization VPN-Tunnel · IPsec (IKEv1/IKEv2), OpenVPN Syslog-ng Server, LDAP and RADIUS server
CPU series5e	RISC processor Cortex-A8, 1200MIPS@800 MHz, FPU, watchdog, real-time clock 1 GB memory (512 MB SDRAM, 512 MB SLC Flash)
Memory expansion	1 GB microSD-Card
Real-time clock	Deviation max. ±10 ppm during operation, maintenance-free buffer ±20 ppm 60 days @ 25 °C, daylight saving time switch, leap year correction
Status displays	Process status of the PLC, LED in front panel for system, communication, VPN and mobile communication status; diagnostics via integrated web server, visIT plant visualization optional
Service interface	Ethernet LAN 10/100BaseTx, auto-MDIX, USB 2.0 device 480 MBit/s, USB 2.0 host 480 MBit/s (configuration/archive synchronization via stick)
Fault signal output	To be configured to relay output, configurable sys-LED
Power supply	24 V DC (-15%/+20%), no galvanic isolation Power failure management with mains failure bypass **With additional power supply module PS-60:** 24 to 60 V DC (-15%/+ 20%), insulation 1500 V
Dielectric strength	5 kV surge supply & process I/O to PE, according to class VW3 2.5 kV surge, supply to EIA/RS-232, USB
Standards	EMC: IEC 61000-6-2, IEC 61000-6-3, Device class B, ETSI EN 301 489-1 , 7, 24 Mobile communication: ETSI EN 301 511, ETSI 301 908-1, 2, 13 Security: DIN EN 62368-1, EN 62311, EN 50383 Insulation: IEC 60870-2-1, IEC 60255-5
Housing	Polyamide V0, IP20, weight 310 g, Dimensions: 68×105×115 mm (W×H×D) Expansion modules: 22.5×105×115 mm (W×H×D)
Installation	DIN rail mounting, DIN-EN 60715 TH35
Terminals	MSTB removable screw type or spring terminal Combicon, 0.2 bis 2.5 mm^2
Ambience	-25 to +70 °C, Ø24h max. 55 °C, max. 3,000 m above sea level relative humidity <95 %, without condensation

SAE IT-SYSTEMS

SAE IT-systems GmbH & Co. KG
Im Gewerbegebiet Pesch 14
50767 Cologne, Germany

Tel.: +49(0)221/59 808-0
info@sae-it.de
www.sae-it.com