GESTRA®

Monitoring Logic Unit

SRL 6-60

EN
English

Original Installation &
Operating Manual

819698-00

Contents

Contents

Content of this Manual

Product:

Monitoring logic unit SRL 6-60

First edition:

BAN 819698-00/08-2019cm

Scope of delivery/Product package

- 1 x SRL 6-60 monitoring logic in field housing for wall mounting*
- 1 x Installation & Operating Manual

* **System components of monitoring logic unit**

The SRL 6-60 monitoring logic unit features the XV102 compact unit from the Eaton company. This, together with the WAGO I/O system 750, makes up the SRL 6-60 monitoring logic unit.

How to use this Manual

This Installation & Operating Manual describes the correct use of the SRL 6-60 monitoring logic unit. It applies to all persons who integrate this equipment in control systems, install, bring into service, operate, maintain and dispose of this equipment. Anyone carrying out the above-mentioned activities must have read this Installation & Operating Manual and understood its contents.

- Read this Manual in full and follow all instructions.
- Please also read the instructions for use of any accessories.
- The Installation & Operating Manual is part of the equipment package. Keep it in an easily accessible location.

Availability of this Installation & Operating Manual

- Make sure this Installation & Operating Manual is always available to the operator.
- If you pass on or sell the equipment to a third party, please also hand over the Installation & Operating Manual.

Illustrations and symbols used

1. Action to be taken
2.

- Lists
  - ◆ Bullet points in lists

Ⓐ Keys to illustrations

Additional information

Read the relevant Installation & Operating Manual

Hazard symbols in this Manual

Danger zone/Dangerous situation

Danger of death from electric shock

Types of warning

⚠ DANGER

Warning of a dangerous situation that results in death or serious injury.

⚠ WARNING

Warning of a dangerous situation that may possibly result in death or serious injury.

⚠ CAUTION

Warning of a situation that may result in minor or moderate injury.

⚠ ATTENTION

Warning of a situation that results in damage to property or the environment.

Specialist terms/Abbreviations

Here, we explain some abbreviations, specialist terms, etc., which are used in this Manual.

CAN (Controller Area Network) bus

Data transmission standard and interface for connecting electronic equipment, sensors and control systems. Data can be sent and received.

NRG .. / URS .. / URB .. / SRL .. / NRS.. / etc.

Equipment and type designations of GESTRA AG.

SELV

Safety Extra Low Voltage

Interval time

The interval at which, depending on the operating mode (e.g. 24 h/72 h operation), the connecting pipes must be flushed.

Standby time

The purging process must be initiated within this time. The standby time begins when the interval has elapsed.

Purge time

The purging process must be initiated by valve actuation within this time. The start of the purge time is also sent to the URS 60 / URS 61 safety control unit, where it runs parallel to the purge time.

Usage for the intended purpose

The SRL 6-60 monitoring logic unit may only be used in connection with external safety level limiters for low water (LW) or high water (HW) and the URS 60 or URS 61 safety control unit for monitoring the separate purging of the connecting pipes to the level pot.

Overview of possible unit combinations

Water level limiter	Safety high level limiter	Safety control unit for limiters	Operating unit	Monitoring logic unit
NRG 16-60 NRG 17-60 NRG 19-60 NRG 111-60	NRG 16-61 NRG 17-61 NRG 19-61 NRG 111-61	URS 60 URS 61	URB 60 SPECTOR *control*	SRL 6-60

Fig. 1

Key to Fig. 1:

NRG = level electrode

URS = SPECTOR*connect* safety control unit

URB = visual display and operating unit

SRL = monitoring logic unit

To ensure the proper use of equipment during all types of use, you must also read the Installation & Operating Manuals for the system components used.

- You can find the latest Installation & Operating Manuals on our website: http://www.gestra.com/documents/brochures.html

Usage for the intended purpose

Applicable directives and standards

The SRL 6-60 monitoring logic unit has been tested and approved for use in the scope governed by the following directives and standards:

Directives:

- Directive 2014/30/EU — EMC Directive
- Directive 2014/35/EU — Low Voltage Directive

Standards:

- 61000-6-2 — Immunity for industrial environments
- 61000-6-4 — Emission standard for industrial environments

Improper use

There is a danger of death due to explosion if the equipment is used in potentially explosive atmospheres.

Do not use the equipment in potentially explosive atmospheres.

Do not bring any equipment into service that does not have its own specific name plate.

The name plate indicates the technical features of the equipment.

Basic safety notes

There is a risk of electric shock during work on electrical systems.

- Always switch off the voltage to the device before opening the field housing and working on the terminal strips.
- Check that the system is not carrying live voltage before commencing work.

Faulty equipment is a risk to system safety.

Only replace faulty equipment with identical equipment from GESTRA AG.

Required personnel qualifications

Activity	Personnel	
Integration in control system	Specialist staff	Plant designer
Installation/electrical connection/bringing into service	Specialist staff	Electrician/installer The equipment may only be installed, wired and brought into service by qualified and competent staff.
Operation	Boiler service technician	Staff trained by the plant operator
Maintenance work	Specialist staff	Electrician Maintenance and setup work may only be performed by authorised staff who have undergone specific training.
Setup work	Specialist staff	Plant construction

Fig. 2

Notes on product liability

We the manufacturer cannot accept any liability for damages resulting from improper use of the equipment.

Function

System description - Intended purpose

When LW/HW level electrodes are installed in external level pots, it is essential to monitor the periodic purging of the connecting pipes. A monitoring logic unit is required for each level pot.

For purging, the connecting pipes are individually shut off and reopened in succession, and the level pot is drained. The SRL 6-60 monitoring logic unit monitors compliance with the set times and the sequence of valve operations.

To prevent cutouts during purging, the relevant safety control unit ignores the level signals from the LW level electrode.

Components of the SRL 6-60 monitoring logic unit:

SRL 6-60

WAGO I/O system 750

Fig. 3

Function

Operating principle

Fig. 4 shows a water level limiter system with one level electrode in the boiler and the second electrode in an external level pot.

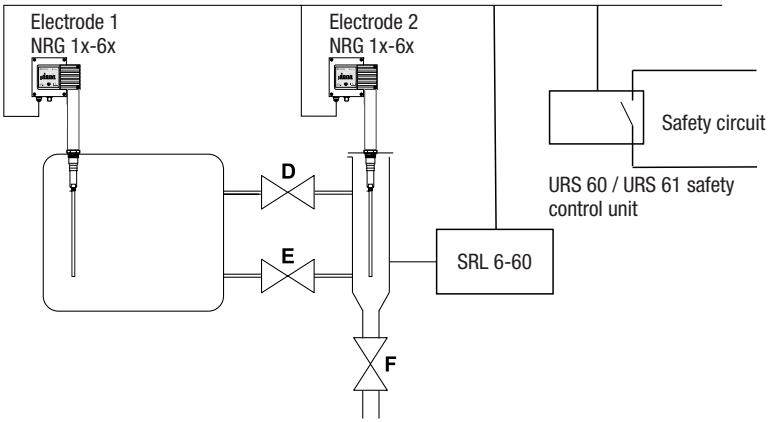


Fig. 4

The following combination is also possible, however:

- 2 x NRG 1x-6x level electrode, external
- 2 x SRL 6-60 monitoring logic unit
- 1 x URS 60 or URS 61 safety control unit

The SRL 6-60 monitoring logic unit monitors the following times:

- **Interval time**

  This is the interval at which, depending on the operating mode (e.g. 24 h/72 h operation), the connecting pipes must be flushed.

- **Standby time**

  The purging process must be initiated within this time. The standby time begins after the interval has elapsed.

- **Purge time (safety-relevant function)**

  The purging process must be initiated by valve actuation within this time. Valve actuation and exposure of the LW level electrode (electrode tip no longer submerged) are indicated by the limit switches.

  The start of the purge time was also sent to the URS 60 / URS 61 safety control unit, and runs parallel to the SRL purge time. If a signal is not received within the purge time, the safety circuit opens. As a water level limiter can only be bridged for a maximum of 5 minutes, monitoring of the purge time is relevant to safety.

Function

Functional description of the SRL 6-60

The SRL 6-60 monitoring logic unit transmits the data telegram “Alert signal SRL 6-60” to the URS 60 / URS 61 safety control unit in 1s cycles.

The SRL 6-60 monitoring logic unit generates the time base for the purging intervals and monitors compliance with these:

When the interval has elapsed, the standby time starts and the interval is reset to its initial value. The purging process must be started within the standby time.

If the standby time is exceeded, the monitoring logic unit sends the commands “Open safety circuit” and “Analyse limiter signal from LW level electrode 1 (2)” to the URS 60 / URS 61 safety control unit.

The start of the purging process is detected when valve **D** or **E** leaves the OPEN limit switch. The data telegram: “Ignore limiter signal from LW level electrode 1 (2)” is sent to the URS 60 / URS 61 safety control unit when the purging process starts, and the data telegram: “Analyse limiter signal from LW level electrode 1 (2)” is sent at the end of the purging process.

What happens if the purge time is exceeded

If the purge time (5 min.) is exceeded, the monitoring logic unit sends the commands “Open safety circuit” and “Analyse limiter signal from LW level electrode 1 (2)” to the safety control unit. The command is only cancelled when the purging process has successfully completed.

When an external safety high level limiter is being monitored, the signals from the HW level electrode are not analysed.

What happens during a purging process outside the standby time

The initiation of a purging process outside the standby time causes the interval to be reset. The interval is factory set (24h or 72h). The same applies to the standby time and purge time. These settings are shown on the display of the monitoring logic unit.

Selecting the control unit and level electrode, see page 41

A menu in the monitoring logic unit enables you to select the safety control unit with which the monitoring logic unit is to communicate, and which level electrode is to be monitored. The following points must be adhered to:

Safety control unit	ID Level electrode 1	ID SRL 6-60	ID Level electrode 2	ID SRL 6-60
URS 60	1	3 *	2	4 *
URS 61	5	7 *	6	8 *

** The ID of the SRL 6-60 monitoring logic unit is assigned automatically when the safety control unit is selected, see page 40.*

Fig. 5

Function

Configuring and operating the SRL 6-60

Configuration with password protection, see page 28

The configuration can only be changed if you log in with a password. This prevents parameters and settings from being changed by unauthorised persons.

Operation, see page 27

The SRL 6-60 is operated and configured on the device itself using the colour touchscreen display.

Technical data

Supply voltage

- 24 V DC (⎓), + 20 % / - 15 % - SELV

Power consumption

- Max. 10 W

IP rating

- Field case: IP 65

Data transmission interfaces

- 1 x interface for CAN bus to ISO 11898, CANopen, not galvanically isolated
- 1 x Ethernet (RJ 45) for remote operation (optional)

Inputs

- 1 x 4-channel digital input terminals 24 V DC
- 1 x 2-channel digital input terminals 24 V DC
  for 5 volt-free contacts from the valve limit switches

Outputs

- 1 x 2-channel relay output terminal 230 V AC, 30 V DC
- 2 x N/O contact, volt-free; switching current AC/DC, max. 2 A
  for external display of “Standby time is running” and “Stop”

Interval time

- Setting range: 2 - 255 hours (factory setting, see page 16)

Standby time

- Setting range: 15 minutes to 2 hours (factory setting, see page 16)

Purge time

- 5 minutes (factory setting)

Baud rate

- Transfer rate: 50 kBit/s (cable length up to 250 m)/(factory setting)

Indicators and controls

- Capacitive 5.7” touchscreen display with LED backlight
- Resolution: 640 x 480 pixels (WVGA)
- Brightness: 250 Cd/m^2
- Size (field of view): 110 mm x 65 mm

Technical data

Admissible ambient conditions

- Service temperature: 0 °C – 50 °C
- Storage temperature: - 20 °C – 60 °C
- Transport temperature: - 20 °C – 60 °C
- Air humidity: 10 % – 95 % relative humidity, non-condensing

Housing

- Field housing for wall mounting
- Material: Polycarbonate (pale grey)

Dimensions, see page 18

- Front panel: (W x H x D) 180 x 254 x 165 mm

Weight

- Approx. 2.1 kg

Factory settings

The SRL 6-60 monitoring logic unit is delivered ex-works with the following settings:

- Baud rate: 50 kBit/s
- ID: see table below
- Interval time: 24 hours
- Standby time: 1 hour
- Purge time: 5 minutes
- Time synchronisation: On
- Password: 3503

Device	Touch panel Node ID	Wago IO Node ID	CANopen object		
			1008	1009	100A
SRL 6-60_1	123	122	SRL 6-60_1	393158	311216-10
SRL 6-60_2	125	124	SRL 6-60_2	393259	311217-10
SRL 6-60_3	121	120	SRL 6-60_3	393260	311218-10

Fig. 6

Name plate/identification

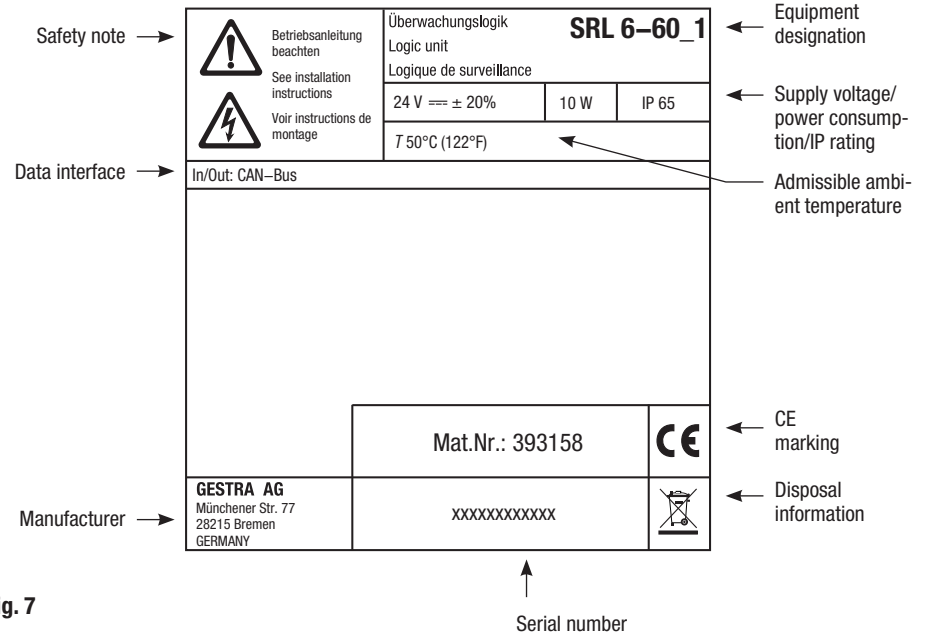


Fig. 7

Dimensions of field housing

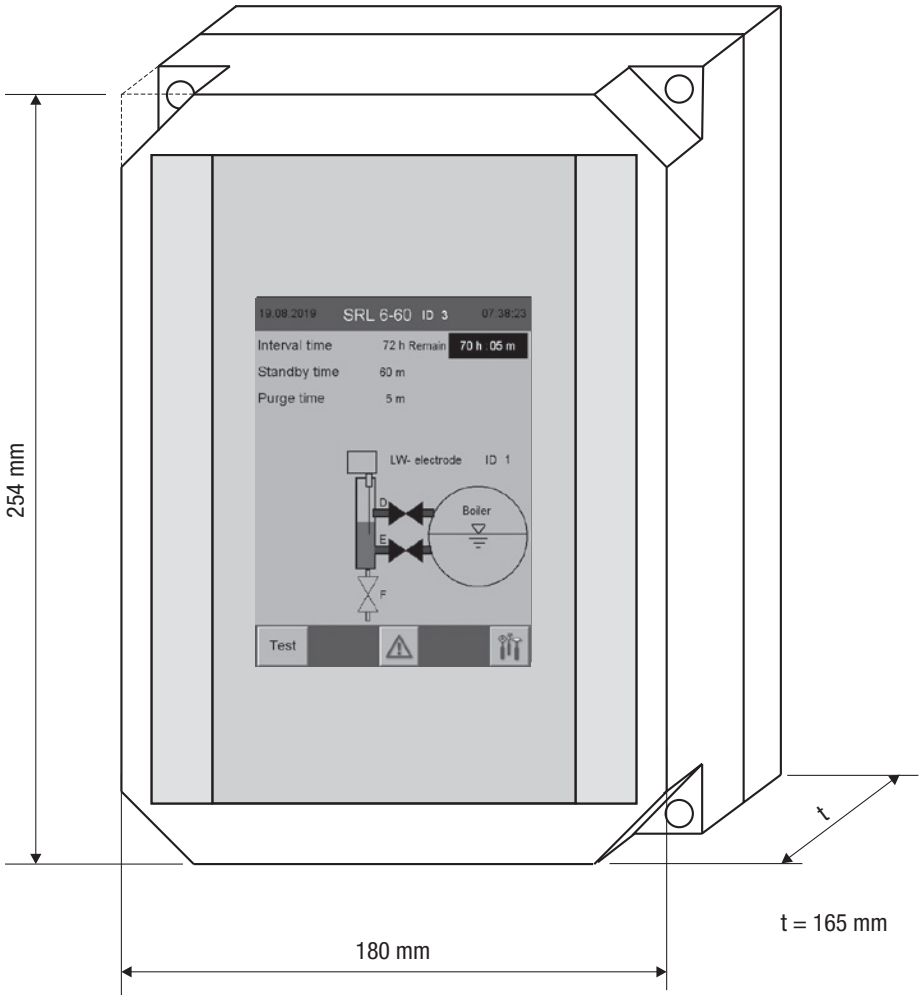


Fig. 8

Installation

Install the SRL 6-60 monitoring logic unit as close as possible to the external level pot.

The field housing of the monitoring logic unit is intended for wall mounting. The four holes can be accessed by removing the upper part of the housing.

The dimensions of the holes are stamped on the back of the housing.

Danger of death from penetrating water due to short circuits and electric shock.

Leaky housing seals and incorrect or faulty cable glands can allow water to penetrate, leading to a short circuit.

- Check and clean the housing lid seal before closing the lid.
- Only use the intended seal for the cable gland. Replace faulty seals and cable glands.

If the unit is to be installed outdoors, outside the protection of a building, environmental influences may adversely affect function.

- Pay attention to the admissible ambient conditions in the technical data, “Admissible ambient conditions” on page 16.
- Do not operate the equipment if the temperature is below freezing.
  - At temperatures below freezing, use a suitable heat source (e.g. control cabinet heater, etc.).
- Connect all system parts to a central earthing point to prevent equalisation currents.
- Use a cover to protect the equipment from direct sunlight, condensation and heavy rain.
- Use UV-resistant cable ducts for routing the connecting cable.
- Take further measures to protect the unit from lightning, insects and animals, and salty air.

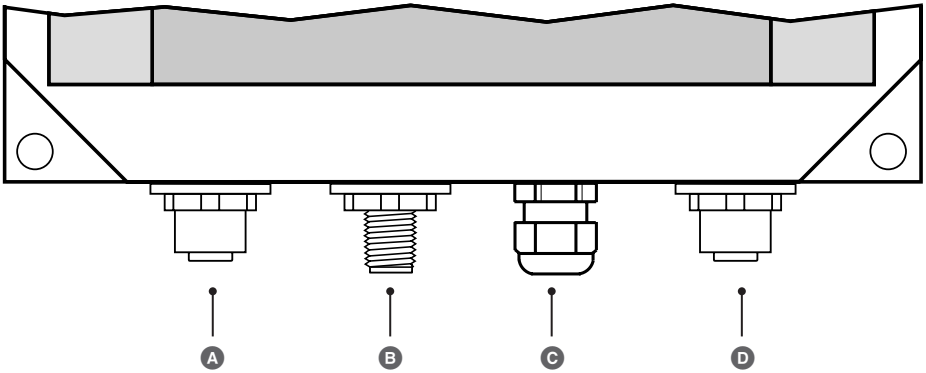
Installation

Installation steps

1. Switch off the voltage to the system and check that no voltage is present.
2. Open the housing lid using a flat blade screwdriver.
3. Determine the desired installation position and fit the field housing.
4. Safely route all necessary connecting cables to the field housing.
5. Undo the cable gland Ⓒ and pull the connecting cable for the external pilot lamps through the gland, taking care not to forget the seal.
6. Connect the external pilot lamps as shown in the wiring diagram, see page 23.
7. Tighten the cable gland Ⓒ securely to ensure it is adequately sealed.
8. Screw the housing lid firmly back on, making sure the seal is correctly seated.

Interfaces and cable entry of the SRL 6-60

The interfaces and a cable gland are located on the underside of the field housing.



Ⓐ M12 CAN bus socket, 5-pole, A-coded

Ⓑ M12 CAN bus connector, 5-pole, A-coded

Ⓒ M12 cable gland, cable entry for connecting external pilot lamps

Ⓓ M12 CAN bus socket, 8-pole, connection for valve limit switches

Fig. 9

Electrical connection safety notes

⚠ DANGER

There is a risk of electric shock during work on electrical systems.

- Always switch off the voltage to the device before opening the field housing and working on the terminal strips.
- Check that the system is not carrying live voltage before commencing work.

⚠ DANGER

Incorrectly connecting the SRL 6-60 monitoring logic unit or any associated components is a danger to system safety.

- Connect the monitoring logic unit and all associated components as shown in the wiring diagram Fig. 10 (see page 23) of this Manual.
- Do not use unused terminals as jumpers or support terminals.

Connecting the valve limit switches

Requirements for connecting valve limit switches

The level pot has three stop valves. Valves "**D**" and "**E**" are each equipped with two limit switches for the positions "OPEN" (**D 1 / E 1**) and "CLOSED" (**D 2 / E 2**). Drain valve "**F**" is only equipped with one limit switch for the "CLOSED" (**F 2**) position.

- The valve limit switches must feature floating contacts.
- To connect the limit switches, we recommend a control cable, e.g. Ölflex 110 H, 7 x 1 mm^2 and installing an intermediate distributor directly on the level pot.

Use the supplied pre-wired control cable for this purpose

A pre-wired control cable (with plug) is supplied for connecting the intermediate distributor to the SRL 6-60 monitoring logic unit.

Connecting external pilot lamps to the relay output terminal

External pilot lamps for displaying "Standby time is running" and "Stop" can be connected directly to the relay output terminal.

Guide the connecting cable through the cable gland in the field house Ⓒ, see page 21.

Wiring diagram for the SRL-6-60 monitoring logic unit

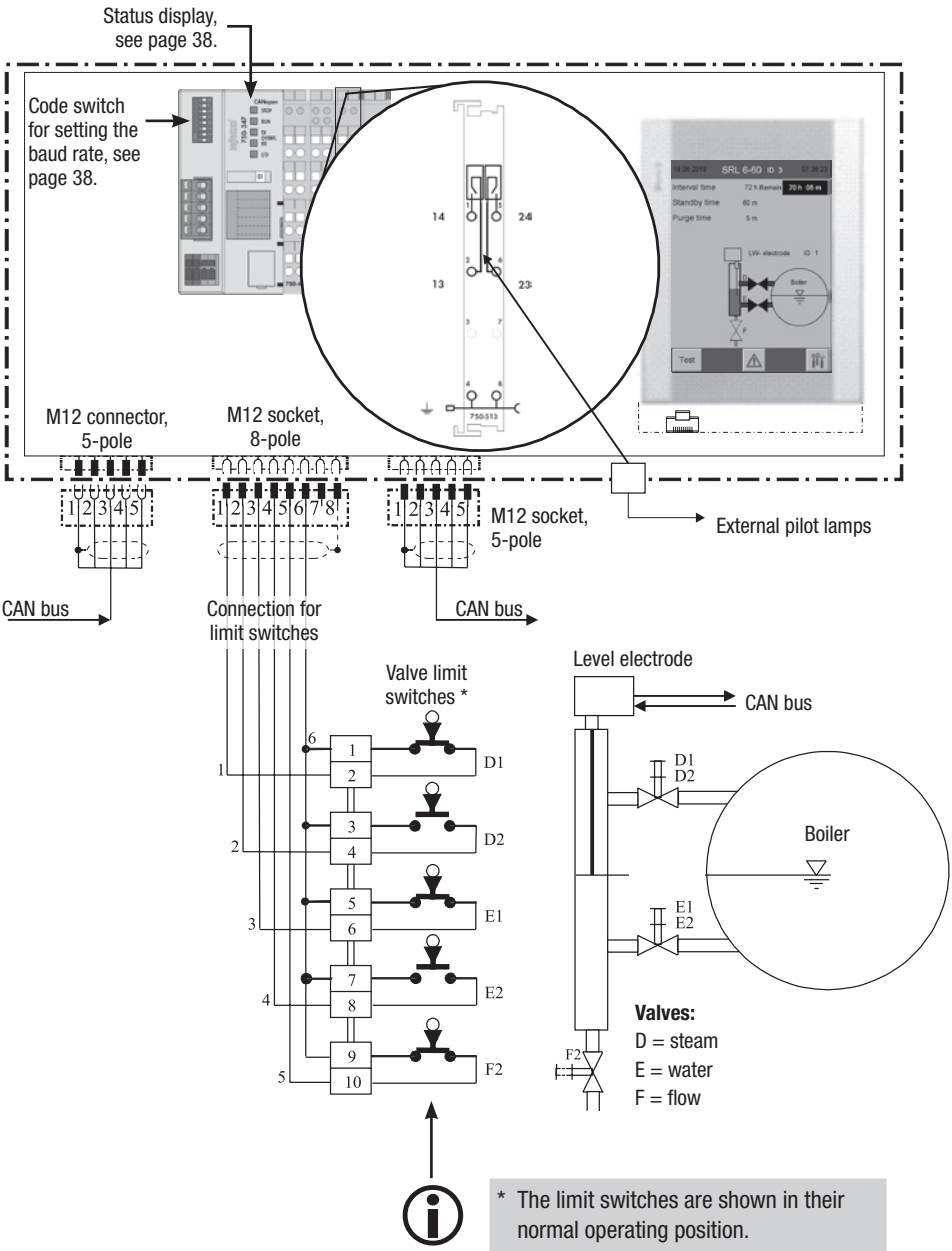


Fig. 10

Connecting the CAN bus system

Bus line, cable length and cross-section

- A shielded, multi-core, twisted-pair control cable, e.g. UNITRONIC® BUS CAN 2 x 2 x .. mm² or RE-2YCYV-fl 2 x 2 x .. mm² must be used as the bus line.
- Pre-wired control cables (with plug and coupling) are available as accessories in various lengths.
- The baud rate (transfer rate) is determined by the cable length between the bus terminal devices, and the wire cross-section is determined by the overall power input of the measuring sensors.
- 0.2 A at 24 V is required per sensor. With 5 sensors, there is therefore a voltage drop of approx. 8 V per 100 m when using cables of 0.5 mm². In this case, the system is operating at its limits.
- With 5 sensors or more and a cable length of ≥ 100 m, the wire cross-section needs to be doubled to 1.0 mm².
- At larger distances of > 100 m, the 24 V DC supply can also be connected on site.

Example

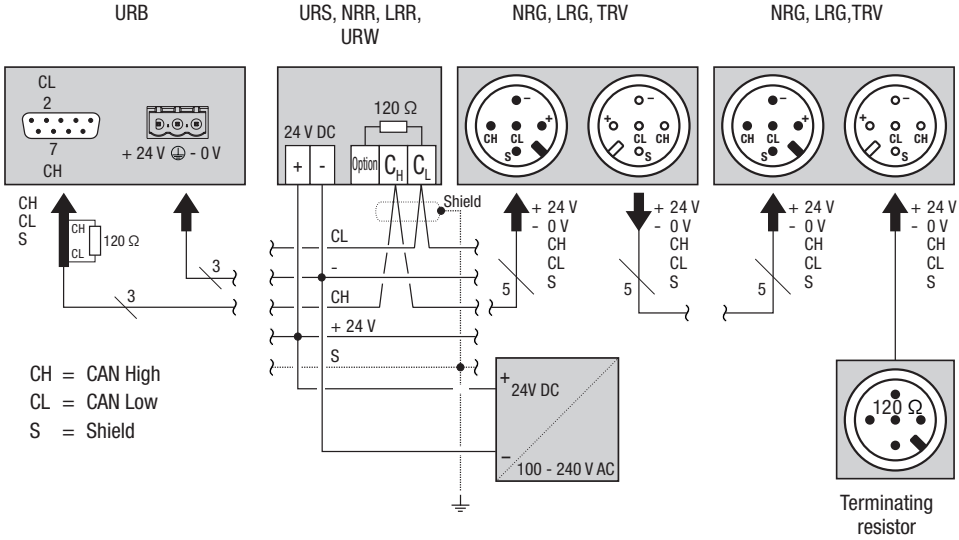


Fig. 11

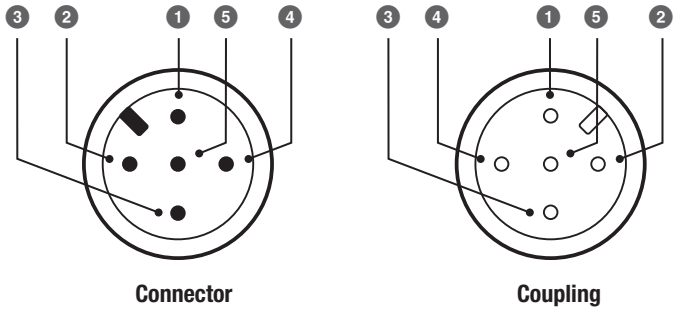
Connecting the CAN bus system

Important notes on connecting the CAN bus system

- A dedicated 24 V DC SELV power supply unit that is isolated from connected loads must be used to supply the SPECTOR*connect* system.
- Make sure wiring is in line, not in a star!
- Avoid potential differences in system parts by connection to a central earthing point.
  - ◆ Connect the bus line shields to one another all the way along, and connect them to the central earthing point (CEP).
- If two or more system components are connected in a CAN bus network, a 120 Ω terminating resistor must be connected to the **first** and **last** units between terminals C_L / C_H.
- If you are using the URB as the first or last device, connect the terminating resistor between pins 2 and 7 in the CAN bus connector.
- Only **one** URS 60 and **one** URS 61 safety control unit may be used in the CAN bus network.
- The CAN bus network must not be interrupted during operation!
  If it is, an alarm is triggered.

Pin assignment of the CAN bus connector and coupling for non pre-wired control cables

If non pre-wired control cables are used, you must wire the CAN bus connector and couplings as shown in the wiring diagram **Fig. 12**.



Connector **Coupling**

Fig. 12

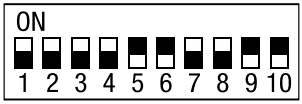
1	S	Shield
2	+ 24 V	Power supply
3	- 0 V	Power supply
4	CH	CAN High data line
5	CL	CAN Low data line

Configuring the URS 60/ URS 61 safety control units

Before bringing the SRL 6-60 monitoring logic unit into service, you must configure the required limiter functions on the URS 60 / URS 61 safety control unit.

To do this, also read the Installation & Operating Manual of the safety control unit you are using.

Code switch Ⓓ on the URS 60 / URS 61 safety control unit (sliding switch, white)



URS 60 / URS 61 safety control unit

Code switch Ⓓ								**Limiter functions 1 to 4** LW = safety low level limiter				
S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	>	**1**	**2**	**3**	**4**
ON	ON	OFF	OFF	ON	ON	OFF	OFF	>	LW 1 external		SRL 6-60	
ON	ON	ON	ON	OFF	OFF	ON	ON	>	LW1 internal	LW 2 external		SRL 6-60
ON	ON	ON	ON	ON	ON	ON	ON	>	LW 1 external	LW 2 external	SRL 6-60	SRL 6-60

Operation and navigation

The SRL 6-60 monitoring logic unit is operated using the colour touchscreen display.

User interface (showing interval as an example)

The user interface of the SRL 6-60 is divided into three areas:

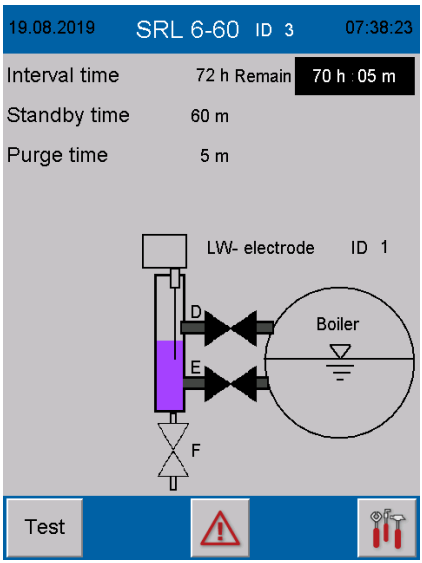
Header with date/time and device status

Display area

Shows operating states, actual values and the level electrodes used.

Some screens also contain input fields and list boxes.

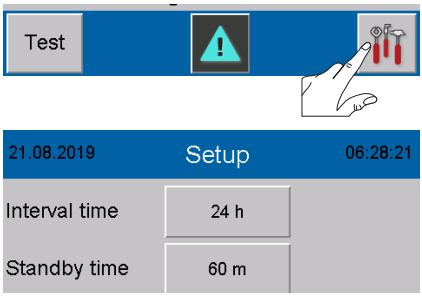
Footer with buttons



The buttons in the footer open the associated parameter screens. These icons change dynamically and are either shown or hidden, depending on the current page and configuration.

Operation

All inputs and actions, e.g. opening the setup menu and parameter screens, are initiated by tapping the buttons and input fields.



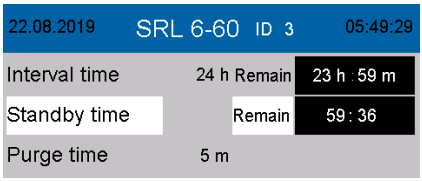
Operation and navigation

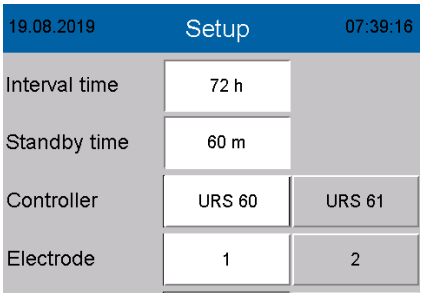
Colour coding of input and status fields

Examples:

Input fields have a box-shadow effect. They only respond if you have logged on with your password.

Active parameters have a white background.

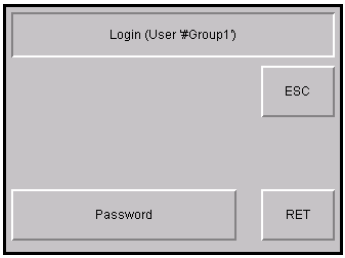




Login with a password

To enter the baud rate and configure the monitoring logic unit, you must log in with a password.

1.  Open the "*Login User*" menu.
2. **Password** Tap "*Password*"
3. Enter the password on the virtual keypad.
   Factory default = 3503
4. **RET** Confirm the password.
5. **RET** Close the "*Login User*" menu.
6. Enter the required settings.



Note the time limit

If you do not enter anything for 60 seconds, you will be logged off again.

Start, operation, alarm and test

The home screen after switching on

When the mains power is switched on, the home screen opens. This provides an overview of the system status and set times.

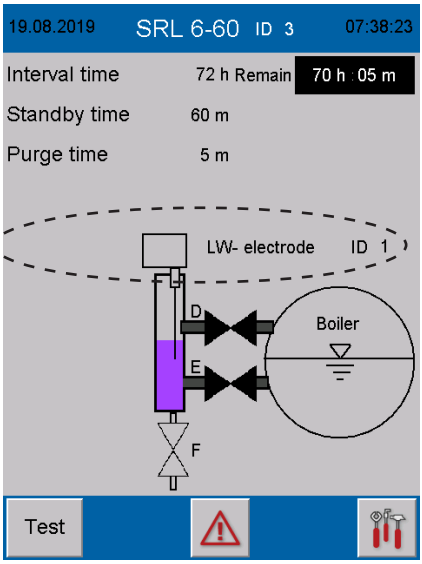
It also shows which level electrode (with ID) is being monitored.

Description of options:

Open the main menu, see page 36

Open the Messages screen, see page 43

Test - Start the purge time outside the interval, see page 34



Brief description of the interval time

- When the system is switched on, the interval runs.
- **Remainder**
  The remaining runtime is also shown.
- It can be synchronised at any time, i.e. the purge time commences and the interval is reset to its initial value (e.g. 24h) by closing a connecting valve (**E or D**).
- During operation, the standby time always starts when the interval has elapsed. The interval is immediately reset to the initial value (e.g. 24 h).

Start, operation, alarm and test

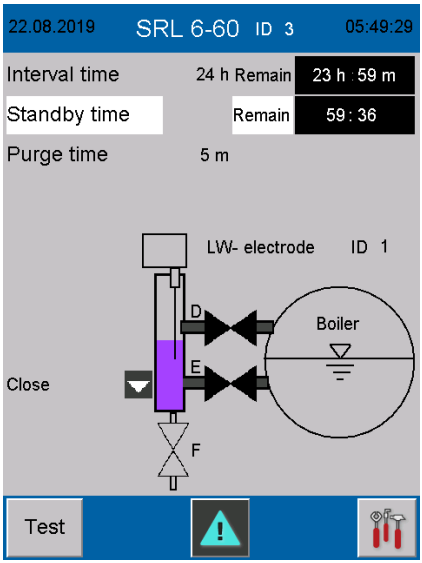
Brief description of the standby time

The standby time is indicated by the words flashing and the display of the remaining standby time.

- The purging process must be started during the standby time.
- **Close ▼ is flashing**
  When the valve icon (▼) flashes, you must close the water valve (**E**) to initiate purging.
- The purging process starts when a connecting valve (**E or D**) leaves the OPEN end position.

What happens if the purging process does not start?

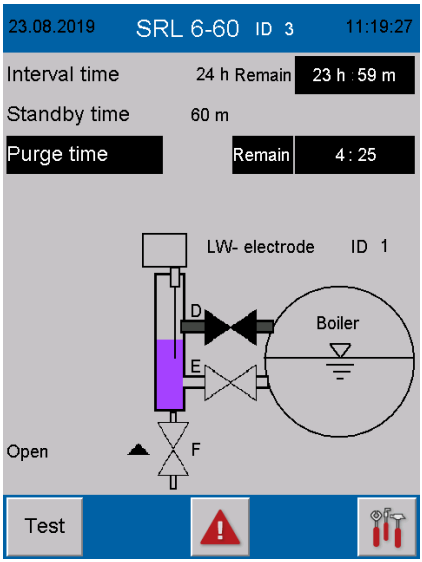
- In this case, when the standby time elapses a stop command is sent to the URS 60 / URS 61 safety control unit.
- The safety circuit is then interrupted.



Purge time

The purge time is indicated by the flashing of the words and a display of the remaining purge time.

- The monitoring logic unit notifies the URS 60 / URS 61 safety control unit that the purging process has started via the CAN bus.
- During the purge time, the URS 60 / URS 61 safety control unit ignores the signal from the level electrode.
- The purge time is limited to max. 5 minutes.
- The status of the level electrode is displayed dynamically by the graphics.



Purging

Please flush the level pot in the following sequence, depending on your type of system:

Steam boiler	Hot water boiler
Purge Valve D - OPEN Valve E - CLOSED Valve F - CLOSED	**Purge** Valve D - CLOSED Valve E - CLOSED Valve F - CLOSED
Purge Valve D - OPEN Valve E - CLOSED Valve F - OPEN	**Purge** Valve D - CLOSED Valve E - CLOSED Valve F - OPEN - Open vent valve *
Purge Wait for LW signal: ... 37 seconds	
Purge Valve D - CLOSED Valve E - CLOSED Valve F - OPEN	**Purge** Valve D - CLOSED Valve E - CLOSED Valve F - CLOSED
Purge Valve D - CLOSED Valve E - OPEN Valve F - OPEN	**Purge** Valve D - OPEN Valve E - OPEN Valve F - CLOSED - Open vent valve *
Purge Valve D - OPEN Valve E - OPEN Valve F - CLOSED	**Purge** Wait for normal filling ** Vent valve on level pot, if present*

Fig. 13

The necessary steps are shown on the monitor by messages and symbols (**open ▲ / close ▼**).

Ending the purging process

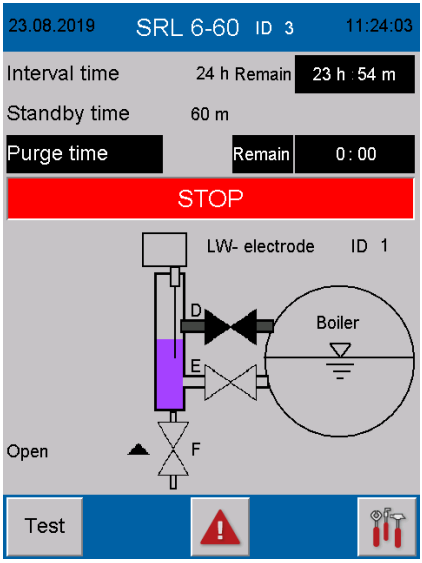
The purging process ends after all valves have signalled a return to their initial position.

Configuring the SRL 6-60 monitoring logic unit

Please set the type of system (steam boiler or hot water boiler) during the configuration of the SRL 6-60 monitoring logic unit, see page 41.

Stop

If the standby time or purge time is exceeded, the monitoring logic unit notifies the URS 60 / URS 61 safety control unit via CAN bus and the safety circuit is opened.



Display after the shut-off (opening) of the safety circuit

- **STOP - flashing**

Additional monitoring of the purge time on the URS 60 / URS 61 safety control unit

At the same time, the URS 60 / URS 61 safety control unit monitors the purge time as a safety-relevant function, and opens the safety circuit if it is exceeded.

When is the interruption of the safety circuit cancelled again?

Interruption and the STOP signal are only cancelled after the purging process has successfully taken place.

Cancelling the locking of the safety circuit

Interrupting the safety circuit shuts it off and locks it for heating. This lock therefore has to be cancelled after the purging process.

Special function

Simultaneous purging is not permitted

If a boiler has both LW level electrodes installed in external level pots, simultaneous purging is not permitted.

Behaviour of the URS 60/ URS 61 safety control unit

If the URS 60 / URS 61 safety control unit receives the message "**Start Purge**" from a second SRL 6-60 monitoring logic unit during the purge time of the first monitoring logic unit, this results in the immediate interruption of the safety circuit

Display on the URS 60 / URS 61 safety control unit

- The yellow LED 1 lights up.

The interruption of the safety circuit is only cancelled after the purging process has been successfully completed for both units.

Testing the purging process to check the event chain

Test

Start a test of the purging process.

To do this, press the Test button for at least 3 seconds.

No valves must move while the test is running, as this would cause the interval time to restart.

No test is possible during the standby time. Instead, you can test the event chain by delaying the purging process.

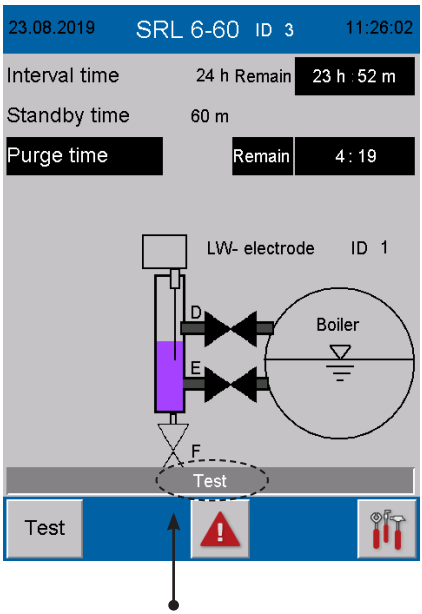
Test sequence:

1. Starting the test causes the “Purge time” to start outside the “Interval time”.

   Pay attention to the display:

   When the test starts, the messages “Test” and “Purge time” flash.

2. When the purge time has elapsed, the safety circuit is shut off and locked.
3. 10 seconds later, the safety circuit is automatically switched back on and can be unlocked.



Test is flashing

Start, operation, alarm and test

Monitoring

If the monitoring logic unit initiates Stop, data transmission to the URS 60 / URS 61 safety control unit is interrupted.

This means:

- The URS 60 / URS 61 safety control unit interrupts the safety circuit.
- If a bypass was enabled, it is cancelled.

What to do if the mains power fails/returns

In the event of power failure, data transmission to the control unit is interrupted.

This means:

- The URS 60 / URS 61 safety control unit interrupts the safety circuit.
- If a bypass was enabled, it is cancelled.

Power failure during the interval time:

- If a power failure occurs during the interval time, when the power returns a check is performed to establish whether the time of next purging has been exceeded (system time stamp).
- If the time of next purging has been exceeded, the standby time starts.
- The interval time starts again from this point.
- It must be synchronised with the desired time once more by initiating the purging process.

Power failure during the standby time:

- If a power failure occurs during the standby time, when the power returns the command "**Open safety circuit**" is sent to the URS 60 / URS 61 safety control unit.
- The purging process must be performed immediately in order for the command to be cancelled once more.

Power failure during the purge time

- If a power failure occurs during the purge time, when the power returns the command "**Open safety circuit**" is sent to the control unit.
- The purging process must be resumed and completed immediately in order for the command to be cancelled once more.

Settings

Opening the main menu

Open the “Main menu”.

Description of display:

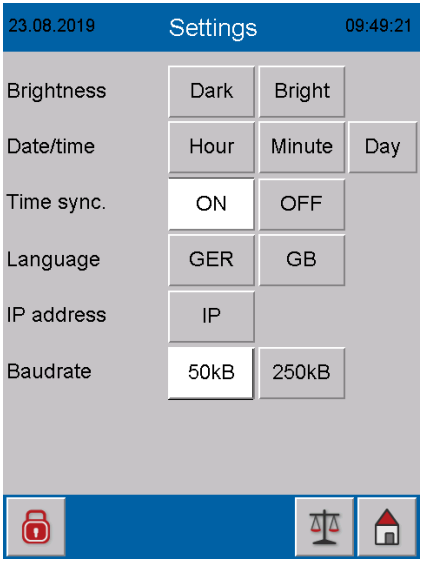
- **Brightness**
  Adjust the brightness of the screen.
  The setting “Dark” increases the service life of the backlight.
- **Date/time**
  Set the current date and system time, see page 37.
- **Time sync.**
  If you enable this function, the unit is synchronised with the system time of the URB 60.
- **Language**
  Switch the user language between English and German.
  GER = German
  GB = English
- **IP address**
  For internal use only.
- **Baud rate**
  Set the required baud rate see page 38.

Description of options:

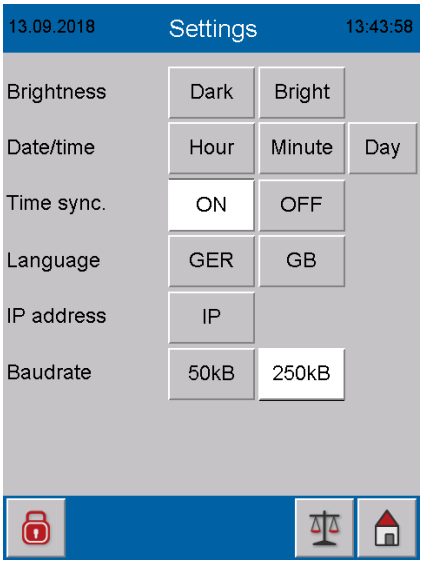
Open the Setup menu, see page 40
Configuring the SRL 6-60.

Login with password, see page 28

Return to home screen, see page 42



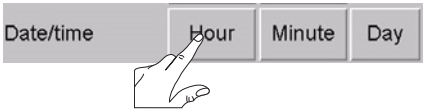
Example English main menu.



Settings

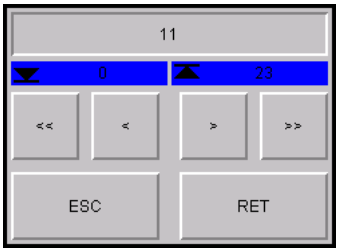
Setting the date/time

Tap the button to open the relevant input menu.



Example for hours.

The current setting is shown in the upper field.



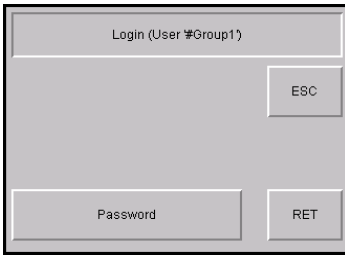
Description of the input menu:

- ▼ / ▲ Tap the buttons to increase or lower the figures
- **<< / >>** - 10 / + 10
- **< / >** - 1 / + 1
- **ESC** Cancel
- **RET** Apply setting

Settings

Setting the baud rate

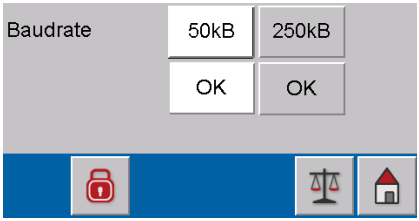
1.  Open the “Login User” menu and log in with your password,
see page 28.



2. **50 kB / 250 kB**
   Select the required baud rate.
   Factory default = 50 kBit/s

3. **OK** Confirm the baud rate.

Once you have selected the baud rate, the SRL 6-60 monitoring logic unit is automatically rebooted.



4. After the reboot, you need to reconfigure the baud rate on the WAGO CAN coupler 750-347.

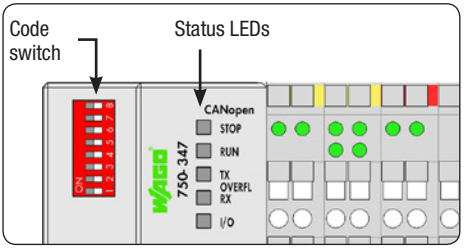
Setting the baud rate on the WAGO CAN coupler 750-347

DANGER

There is a risk of electric shock during work on electrical systems.

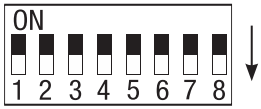
- Always switch off the voltage to the unit before opening it.
- Check that the system is not carrying live voltage before commencing work.

5. After the reboot, switch the SRL 6-60 monitoring logic unit off again.
6. Open the lid of the housing.
7. Make a note of the node ID set on the code switch.



Settings

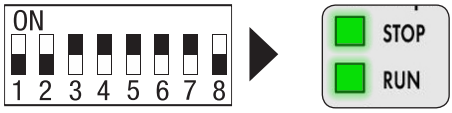
8. Next, turn **all** sliding switches to **OFF**.



9. Switch the supply voltage back on.
10. Set the baud rate as follows and pay attention to the status LEDs:

250 kB/s:	**1 + 2 = ON**
50 kB/s:	**2 + 3 = ON**
Apply baud rate	**8 = ON**

250 kB/s



light up green

50 kB/s

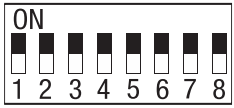
light up green

11. Switch the supply voltage off again.

12. Set the node ID that you previously made a note of.

Node IDs of WAGO CAN coupler:

- for unit 1 SRL6-60_1 = 122
- for unit 2 SRL6-60_2 = 124
- for unit 3 SRL6-60_3 = 120



Example

13. Close the housing lid and switch the supply voltage back on.

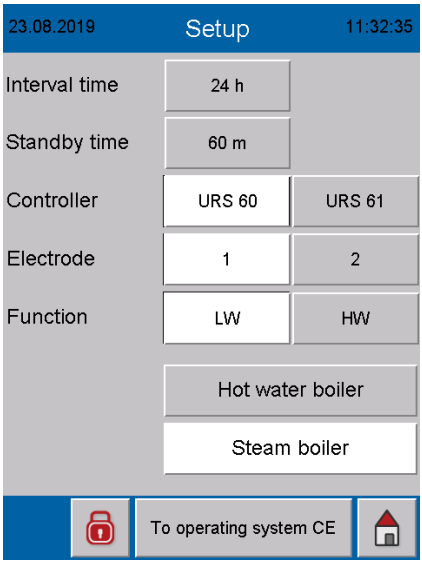
Configuring the SRL 6-60 monitoring logic unit

Opening the “Setup” menu

Open the “Setup” menu.

On this screen, the unit’s current configuration is shown in the white fields.

To change these settings, you must first log in with your password, see page 28.



Description of display/settings:

- **Interval time**
  The interval at which the connecting pipes must be flushed.
- **Standby time**
  The purging process must be initiated within this time. The standby time begins when the interval has elapsed.
- **Control unit**
  The safety control unit with which the unit is currently communicating.
- **Electrode**
  The level electrode currently being monitored.
- **Function**
  The function of the connected level electrode.
  LW = safety low level limiter
  HW = safety high level limiter
- **System type**
  The set type of system, e.g. steam boiler, is displayed below the function.

Options in the footer:

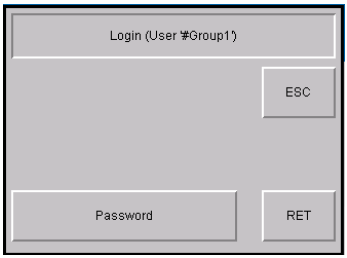
Login with password, see page 28

Return to home screen, see page 42

Configuring the SRL 6-60 monitoring logic unit

Login with a password

1. Open the “Login User” menu and log in with your password,
see page 28.



Setting the safety control unit, level electrode and the level electrode function

1. Select the safety control unit.

   URS 60 / URS 61

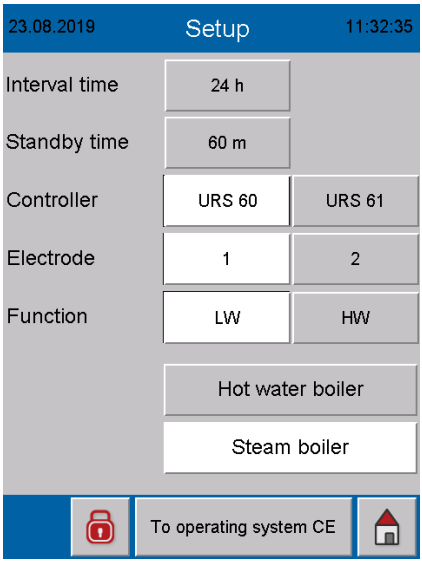
   Select the required safety control unit by tapping the appropriate button.
2. Select the level electrode that you wish the SRL 6-60 monitoring logic unit to monitor.

   To do so, tap the electrode number.
3. Select the function of the connected level electrode.

   LW = safety low level limiter

   HW = safety high level limiter
4. Set the system type.
   - Hot water boiler
   - Steam boiler

   The system types differ in their sequence control. This ensures that the different electrodes are clearly immersed or exposed.
5. Perform a reboot.



When you have selected the safety control unit and level electrode, the SRL 6-60 monitoring logic unit needs to be restarted.

Configuring the SRL 6-60 monitoring logic unit

Setting the interval and standby time

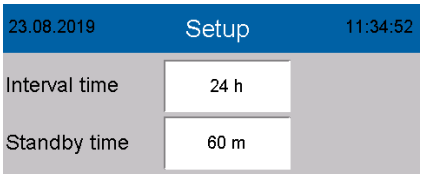
1. Tap the relevant input field to open the virtual keypad.
2. Enter the desired time.

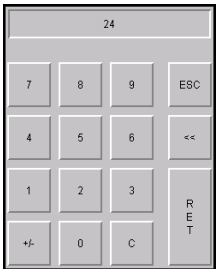
   Interval time:

   2 to 255 hours (h)

   Standby time:

   15 to 120 minutes (m)
3. **RET** Confirm each time that you have set.





Description of soft keys:

- **0 - 9** Number keys
- **<<** Delete the last digit
- **ESC** Cancel
- **RET** Save your setting

Ending configuration

Close the “Setup” menu and return to the home screen.

Viewing messages

Display of all events and system states

The SRL 6-60 monitoring logic unit records and stores all events and system states with a time stamp and displays them in the “Messages” menu.

Open the “Messages” menu from the home screen.

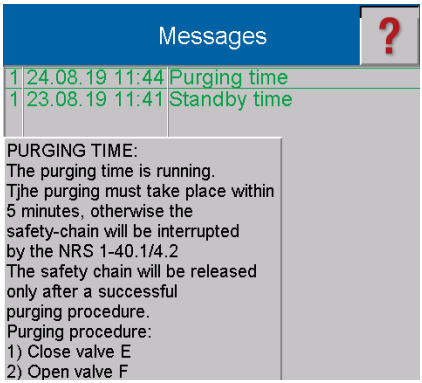
The following events and system states are recorded:

- Standby time
- Purge time
- Power return
- Valve D switch faulty
- Valve E switch faulty
- Stop SRL 6-60
- Low level alarm
- Electrode offline
- Test run of SRL 6-60

Description of options:

Scroll through the list.

Show information on the selected message.

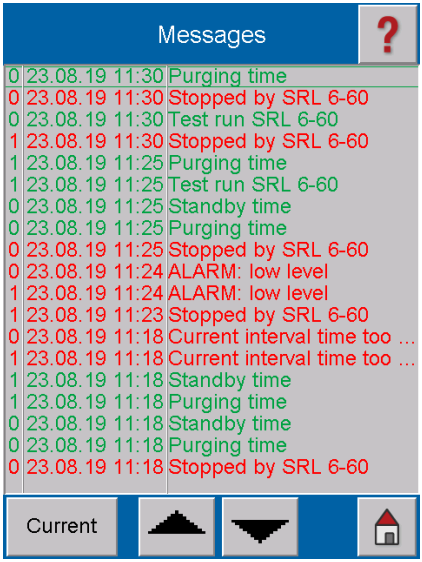


Viewing messages

Historical **View the last 512 messages.**

Current **Back to the display of current messages.**

Back to the home screen.



System malfunctions

Common faults during use

The display stays dark
The CAN bus may not be connected.
Remedy:
Check the CAN bus connections, especially the 24 V power supply.

The message “Both limit switches actuated” appears.
Remedy:
■ Check that the limit switches are correctly set. ■ Check whether the “Open/Closed” contacts are switching too rapidly in succession.

The “Purging” program sequence is stuck
There may be an open circuit in the limit switch.
Remedy:
Check the connecting cable and limit switch.

The egg timer symbol “Waiting for LW” does not disappear
A monitored HW electrode may be configured as LW.
Remedy:
Correct the wrong configuration.

What to do in the event of system malfunctions

Check installation and function

When you have remedied system malfunctions, perform a function test as follows.

- Check installation and function
- Check the settings

In the event of malfunctions or faults that cannot be remedied with the aid of this Installation & Operating Manual, please contact our service centre or authorised agent in your country.

Taking out of service/Disassembly

1. Switch off the power to the SPECTOR*connect* system.
2. Unplug the connectors of the SRL 6-60 monitoring logic unit.
3. If the SRL-6-60 monitoring logic unit was the last device in the CAN bus, you must insert a 120 Ω terminating resistor at the last device of the CAN bus.
4. Disconnect the external pilot lamps.
5. Remove the monitoring logic unit.
6. Remove the limit switches.

An alarm is triggered when the CAN bus cable is interrupted.

Disposal

Dispose of the SRL 6-60 monitoring logic unit in accordance with statutory waste disposal provisions.

Returning decontaminated devices

Products that come into contact with hazardous media must be drained and decontaminated before being returned or sent back to GESTRA AG.

The term media can refer to solid, liquid or gaseous substances or mixtures, as well as radiation.

GESTRA AG only accepts returned products with a filled-out and signed return note, along with a filled-out and signed decontamination declaration.

The return confirmation and decontamination declaration must be attached to the outside of the return package, as processing will otherwise be impossible and the products will be returned to the sender at their expense.

Please proceed as follows:

1. Inform GESTRA AG of the return package via phone or e-mail.
2. Wait until you have received the return confirmation from GESTRA.
3. Fill out the return confirmation (including decontamination declaration) and send it with the products to GESTRA AG.

EU Declaration of Conformity

We hereby declare that the SRL 6-60 monitoring logic unit conforms to the following European Directives:

- Directive 2014/30/EU EMC Directive
- Directive 2014/35/EU Low Voltage Directive

Please see our Declaration of Conformity for details on the conformity of our equipment with European Directives.

The current Declaration of Conformity can be found online at **www.gestra.com** or can be requested from us.

You can find our authorised agents around the world at:
www.gestra.com

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