



Monitoring Unit

SRL 6-60

EN
English

Original Installation &
Operating Manual

819698-02

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Content of this Manual

Product:

Monitoring Unit SRL 6-60

First edition:

BAN 819698-00/08-2019cm

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Scope of delivery/Product package

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

*** System components of the monitoring unit**

The SRL 6-60 monitoring 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 unit.

How to use this Manual

This Installation & Operating Manual describes the correct use of the SRL 6-60 monitoring unit. It applies to all persons who integrate this equipment into 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 given.
- Please also read the instructions for use of any accessories.
- The Installation & Operating Manual is part of the product 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

A 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 will result 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 will result 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.

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

Flushing time

The valves must initiate the flushing process within this time. The start of the flushing time is also sent to the URS 60/URS 61 safety control unit, where it runs parallel to the flushing time.

Usage for the intended purpose

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

Possible equipment combinations

Low-level limiter	Safety high-level limiter	Safety control unit for limiters	Operating unit	Monitoring 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 <i>control</i>	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 unit



To ensure the proper use of equipment during all types of use, please 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>

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 equipment before opening the field housing and working on the terminal strips.
- Check that the plant is not carrying live voltage before commencing work.



Faulty equipment will cause the plant to become unsafe.

Only replace faulty equipment with identical equipment from GESTRA.

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 refits may only be performed by authorised staff who have undergone specific training.
Refits	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

Description, intended use

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

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

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

Components of the SRL 6-60 monitoring 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.

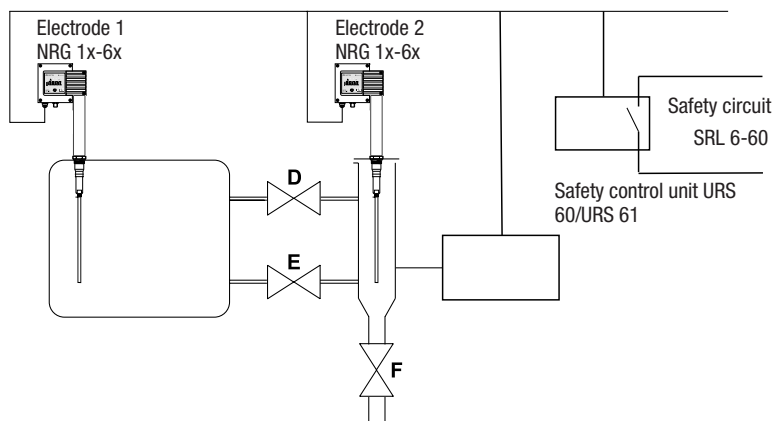


Fig. 4

The following combination is also possible, however:

- 2 x external NRG 1x-6x level electrodes
- 2 x SRL 6-60 monitoring units
- 1 x URS 60 or URS 61 safety control unit

The SRL 6-60 monitoring unit checks 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 flushing process must be initiated within this time. The standby time begins after the interval has elapsed.

■ Flushing time (safety-relevant function)

The valves must initiate the flushing process within this time. Valve actuation and replacement of the LW level electrode are indicated by the limit switches.

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

Function

Functional description of the SRL 6-60

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

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

If the standby time is exceeded, the monitoring 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 flushing 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 at the beginning of the flushing process, and the data telegram “Analyse limiter signal from LW level electrode 1 (2)” is sent at the end of the flushing process.

Behaviour if the flushing time is exceeded

If the flushing time (5 min.) is exceeded, the monitoring 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 flushing process has been successfully completed.

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

Behaviour if flushing takes place outside the standby time

The initiation of a flushing 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 flushing time. These settings are shown on the display of the monitoring unit.

Selecting the control unit and level electrode, see page 40

Via a menu in the monitoring unit, you can select the safety control unit that you wish the monitoring unit to communicate with, and the level electrode that 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 unit is assigned automatically when the safety control unit is selected, see page 39.

Fig. 5

Function

Configuring and operating the SRL 6-60

Configuration with password protection, see page 27

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 26

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

Technical data

Supply voltage

- 24V DC ($\pm 5\%$), + 20% / - 15%, SELV

Power consumption

- Max. 10 W

IP rating

- Field housing: 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 24V DC
- 1 x 2-channel digital input terminals 24V DC
for 5 volt-free contacts of the valve limit switches

Outputs

- 1 x 2-channel relay output terminal 230V AC, 30V 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 minutes (factory setting, see page 15)

Standby time

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

Flushing 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 with LED backlight
- Resolution: 640 x 480 pixels (WVGA)
- Brightness: 250 Cd/m²
- 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 (light grey)

Dimensions, see page 17

- 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 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
- Flushing time: 5 minutes
- Time synchronisation: On
- Password: 3503

Model	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

Example name plate/Identification

 Betriebsanleitung beachten!  See installation instruction!	2		3			
	4	5	6			
	15	16	7	17	8	
9						
10		18	 12345678-12345678 11			
		19				
 12		20	UK CA	EAC	CE	 14
		21				
13						

Fig. 7

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Safety note 2 Equipment function 3 Equipment designation 4 Power consumption 5 IP rating 6 Operating data
(maximum ambient temperature) 7 Power supply 8 Protection class 9 Wiring diagram 10 Component type approval 11 Material number-serial number 12 Manufacturer 13 Component type approval 14 Disposal information | <p>Optional information</p> <ul style="list-style-type: none"> 15 Measuring range in $\mu\text{S}/\text{cm}$ 16 Measuring range in ppm 17 Cutout relay 18 Information on functional safety 19 Marking for temperature limiters (STL)
or monitors (STM) 20 Field for set limit value 21 Mode of operation in accordance with
EN 60730-1 |
|--|---|



The date of production is printed on the side of the equipment.

Field housing dimensions

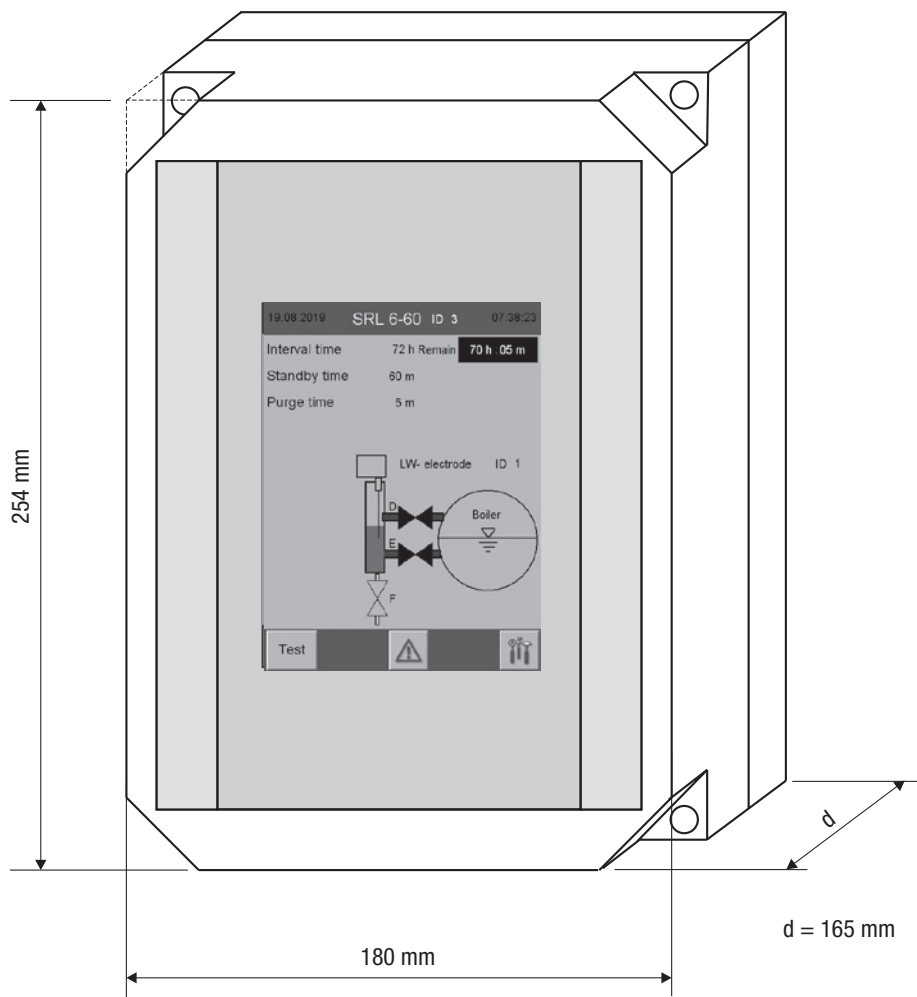


Fig. 8

Installation

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

The field housing of the monitoring 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 or defective 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 15.
 - 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 plant 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 equipment from lightning, insects and animals, and salty air.
-

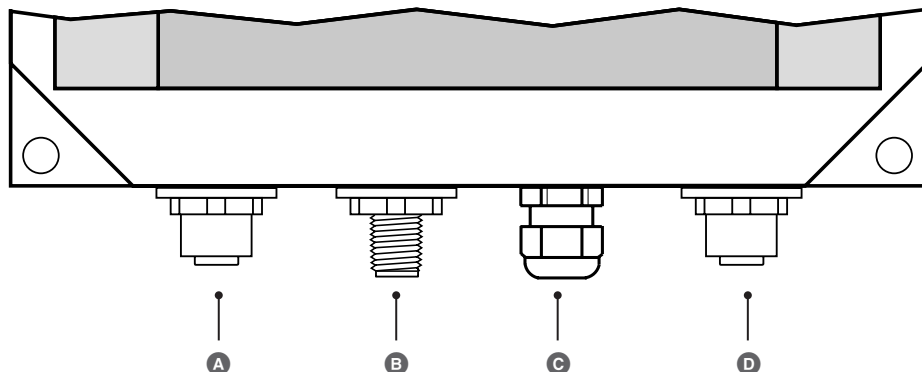
Installation

Required installation steps

1. Switch off voltage to the plant and check that the plant is not carrying live voltage.
2. Open the housing lid using a slotted 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 **C** and pull the connecting cable for the external indicator lights through the cable gland, not forgetting the seal.
6. Connect the external signalling devices as shown in the wiring diagram, see page 22.
7. Tighten the cable gland **C** securely to ensure it is adequately sealed.
8. Screw the housing lid firmly back on, making sure the seal is correctly seated.

SRL 6-60 interfaces and cable entry

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



- A** M12 CAN bus socket, 5-pole, A-coded
- B** M12 CAN bus connector, 5-pole, A-coded
- C** M12 cable gland, cable entry for connecting external indicator lights
- D** 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 equipment before opening the field housing and working on the terminal strips.
- Check that the plant is not carrying live voltage before commencing work.

DANGER



Incorrectly connecting the SRL6-60 monitoring unit and any associated components is a danger to plant safety.

- Connect the monitoring unit and all associated components as shown in the wiring diagram Fig. 10 (see page 22) in 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” (D1/E1) and “CLOSED” (D2/E2). Drain valve “F” is only equipped with one limit switch for the “CLOSED” (F2) position.

- The valve limit switches must have volt-free contacts.
- To connect the limit switches, we recommend a control cable, e.g. Ölflex 110 H, 7 x 1 mm², and the installation of 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 unit.

Connecting external indicator lights to the relay output terminal

External indicator lights for indicating “Standby time is running” and “Stop” can be connected directly to the relay output terminal.

Route the connecting cable through the cable gland in the field housing , see page 20.

Wiring diagram for the SRL-6-60 monitoring unit

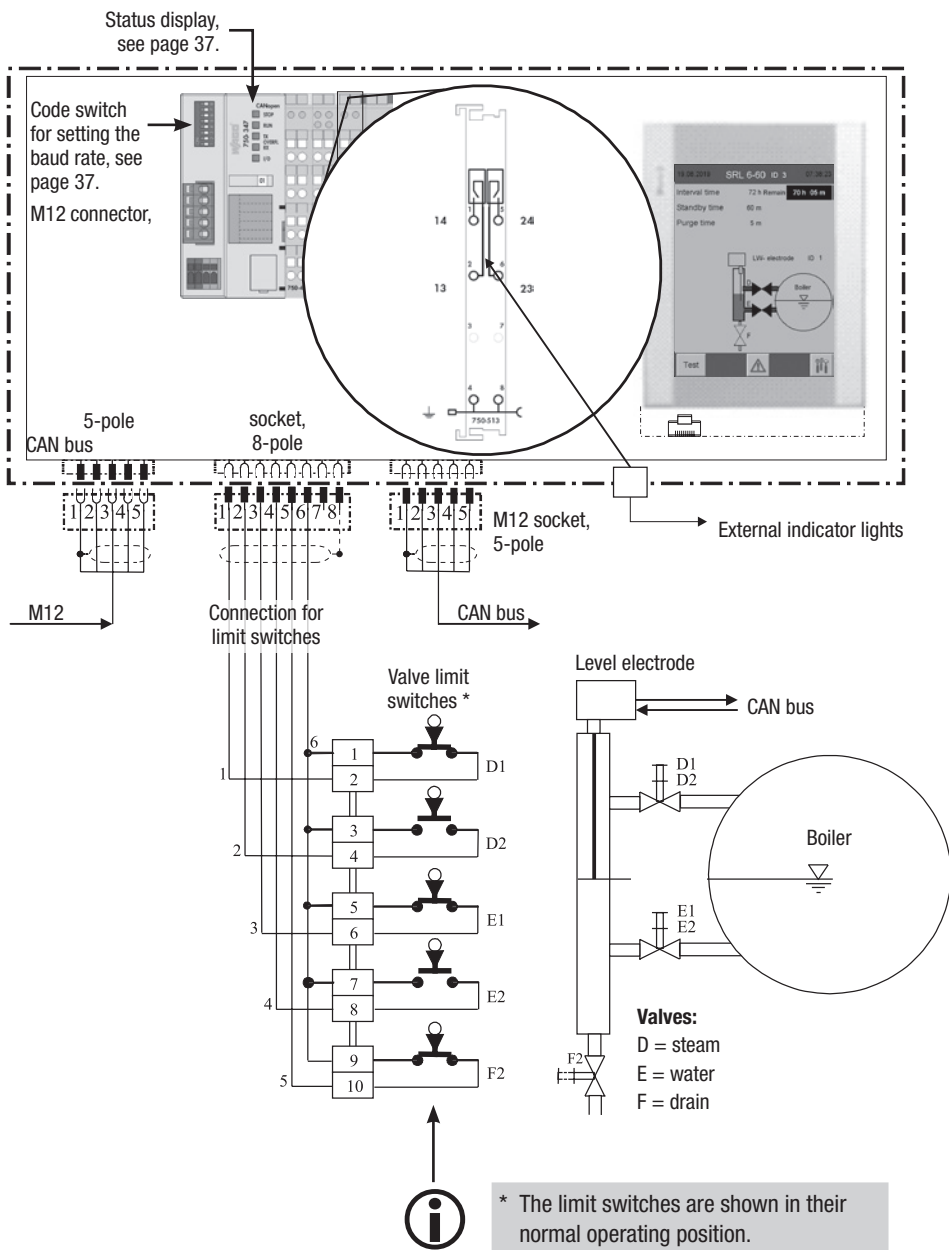


Fig. 10

Connecting the CAN bus system

Bus line, cable length and cross-section

- Use 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, 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 conductor size is determined by the overall current 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.
- If using 5 or more sensors and a cable length of ≥ 100 m, the conductor size needs to be doubled to 1.0 mm².
- At larger distances of > 100 m, the 24V DC supply can also be connected on site.

Example

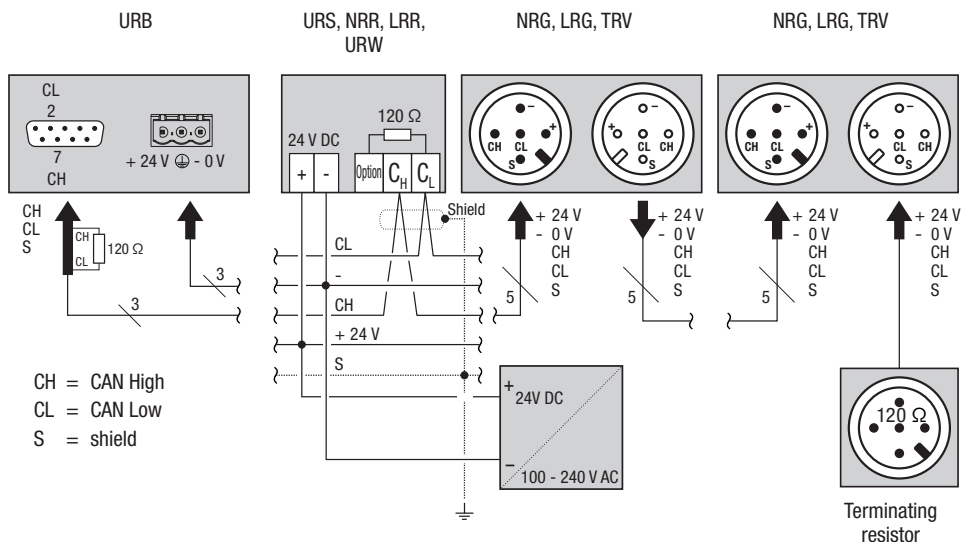


Fig. 11

Connecting the CAN bus system

Important notes on connecting the CAN bus system

- A dedicated 24V DC SELV power supply unit that is isolated from connected loads must be used to supply the SPECTORconnect system.
- Make sure wiring is in line, not in a star!
- Use a central earth to prevent differences in potential between plant parts.
 - ◆ 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** devices 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 **Fig. 12** diagram.

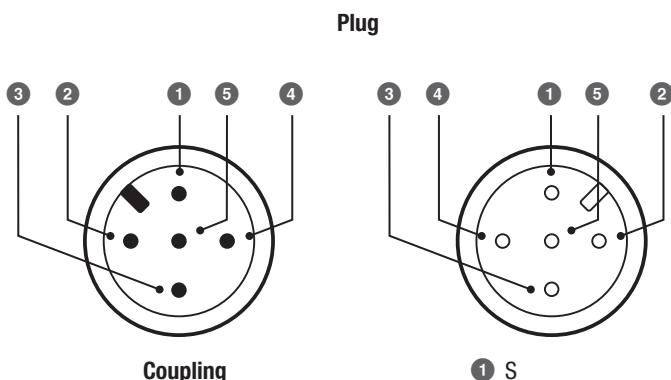


Fig. 12

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 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 your URS 60/URS 61 safety control unit (sliding switch, white)



URS 60/URS 61 safety control unit

Code switch ①								Limiter functions 1 to 4 LW = 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 unit is operated on the unit itself using the colour touchscreen.

User interface (showing interval time as an example)

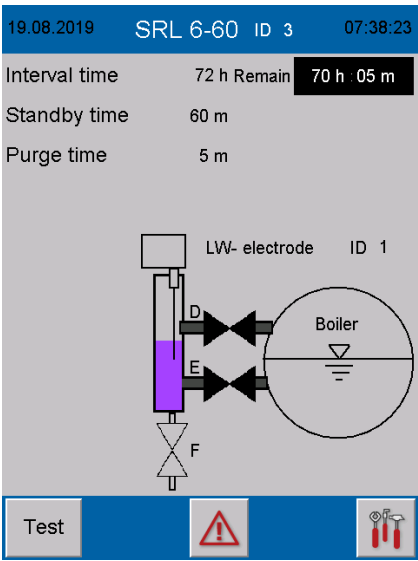
The user interface of the SRL 6-60 is divided into three areas:

Header with date/time and equipment status

Display area

Shows operating states, actual values and the level electrodes used.
Some screens also contain input fields and list boxes.

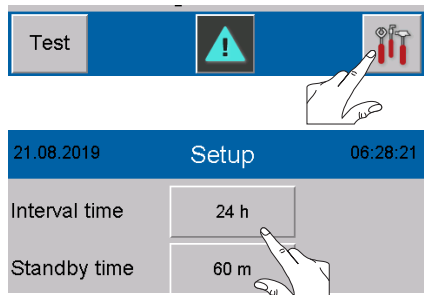
Bottom navigation bar



The buttons in the navigation bar 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, 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 react if you have logged in with your password.

Active parameters have a white background.

22.08.2019	SRL 6-60	ID 3	05:49:29
Interval time	24 h	Remain	23 h 59 m
Standby time		Remain	59 : 36
Purge time	5 m		

19.08.2019	Setup	07:39:16
Interval time	72 h	
Standby time	60 m	
Controller	URS 60	URS 61
Electrode	1	2

Login with password

To enter the baud rate and configure the monitoring 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.

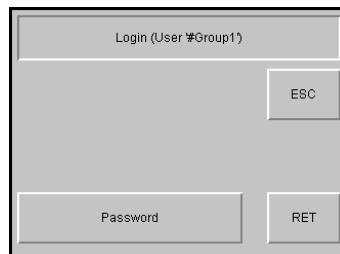
Default = 3503

4. **RET** Confirm the password.
5. **RET** Close the "Login User" menu.
6. Continue with your settings.

Pay attention to the time limit



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



Starting, operation, alarm and testing

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.

Available options:



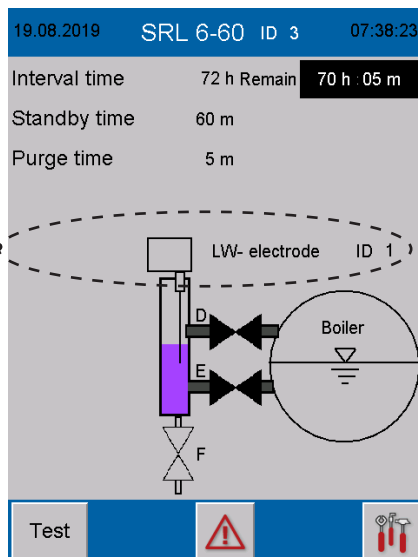
Open the main menu,
see page 35



Open the Messages screen,
see page 42



Test - Start the flushing time outside
the interval,
see page 33



Notes on the interval

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

Starting, operation, alarm and testing

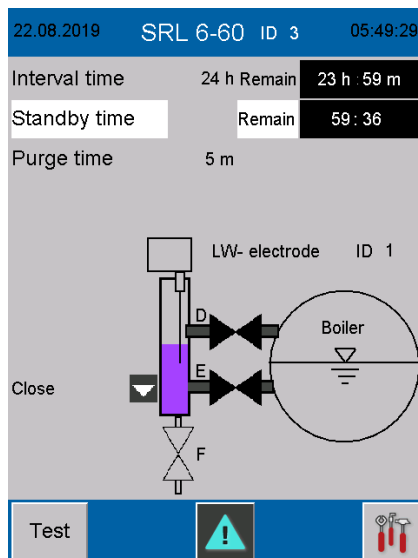
Notes on the standby time

The standby time is indicated by the message line flashing and a display of the remaining standby time.

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

What happens if the flushing process does not start?

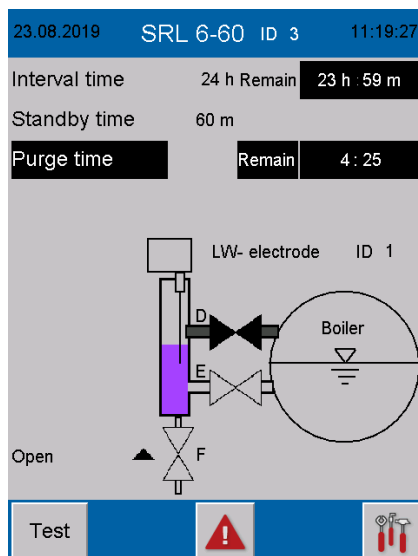
- In this case, when the standby time elapses a stop command is sent to the URS 60/URS 61 safety control unit.
- The safety circuit is then interrupted.



Flushing time

The flushing time is indicated by the message line flashing and a display of the remaining flushing time.

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



Starting, operation, alarm and testing

Flushing

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

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

Fig. 13

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

Ending the flushing process

The flushing process ends after all valves have signalled that they have returned to their initial position.

Configuring the SRL 6-60 monitoring unit

Please set the type of plant (steam boiler or hot water boiler) while configuring the SRL 6-60 monitoring unit, see page 40.

Starting, operation, alarm and testing

Stop

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

Display after the safety circuit has been shut off (opened)

■ STOP flashes

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

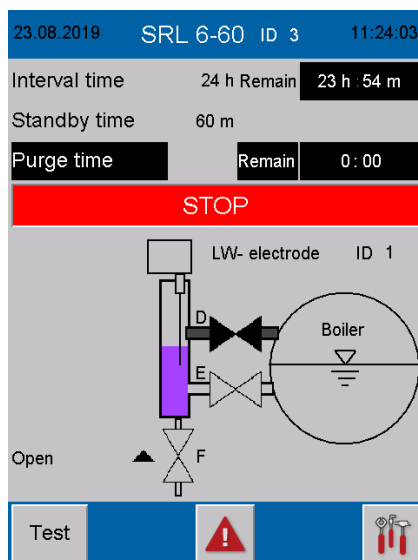
At the same time, the URS 60/URS 61 safety control unit monitors the flushing time to ensure safety, and opens the safety circuit if the time is exceeded.

When is the safety circuit interruption cancelled again?

Interruption and the STOP signal are only cancelled after a flushing process has successfully been completed.

Cancelling the safety circuit lockout

The interruption shuts off the safety circuit for the heating, and locks it. You therefore need to cancel this lockout after the flushing process.



Starting, operation, alarm and testing

Special function

Simultaneous flushing is not permitted

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

Behaviour of the URS 60/URS 61 safety control unit

If the URS 60/URS 61 safety control unit receives the signal “**Start flushing**” from a second SRL 6-60 monitoring unit while the flushing time of the first monitoring unit is still in progress, the safety circuit is interrupted immediately

Indication on the URS 60/URS 61 safety control unit

- Yellow LED 1 lights up.



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

Starting, operation, alarm and testing

Testing the flushing process to check the event chain

Test

Start a flushing test.

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 to restart.



Testing is **not** possible during the standby time. Instead, you can test the event chain by delaying the flushing process.

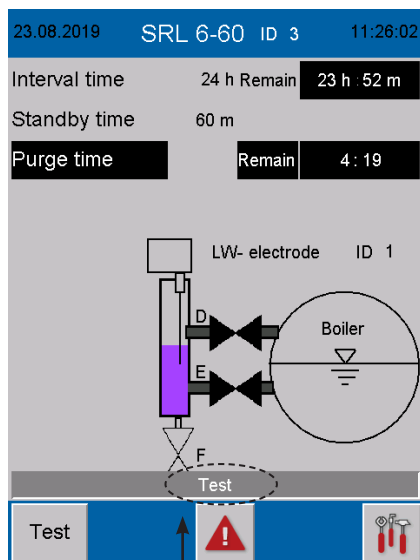
Test sequence:

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

Pay attention to the display:

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

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



Test is flashing

Starting, operation, alarm and testing

Monitoring

If the monitoring 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 on power failure/return

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 the next flush has already passed (system time stamp).
- If the time of the next flush has passed, the standby time starts.
- The interval starts again from this point.
- It must be synchronised with the desired time once more by initiating the flushing 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 flushing process must be performed immediately, and then the command will be cancelled again.

Power failure during the flushing time

- If a power failure occurs during the flushing time, when the power returns the command **“Open safety circuit”** is sent to the control unit.
- The flushing process must be resumed and completed, and then the command will be cancelled again.

Settings

Opening the main menu



Open the “Main menu”.

Description of display:

■ Brightness

Adjust the brightness of the screen.

The setting “Dark” extends the service life of the backlight.

■ Date/time

Set the current date and system time, see page 36.

■ 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

For setting the required baud rate, see page 37.

Available options:



Open the Setup menu,
see page 39

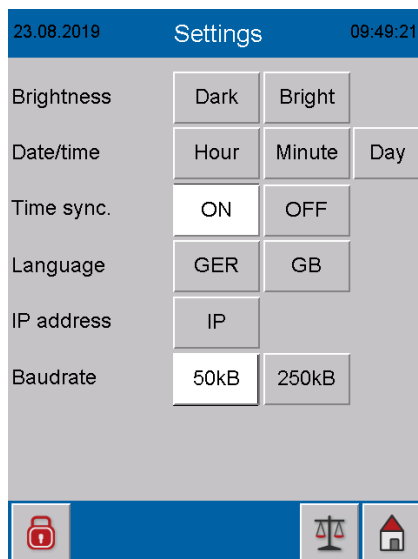
Configuring the SRL 6-60.



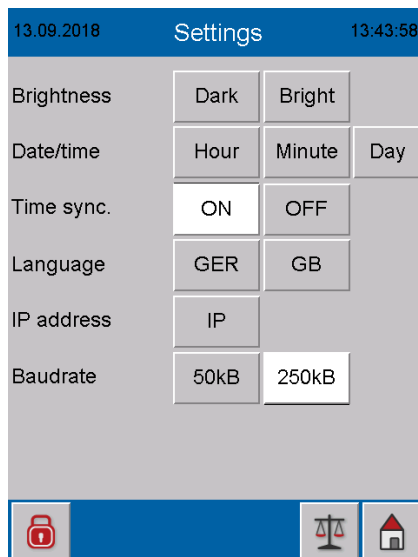
Login with password,
see page 27



Return to home screen,
see page 41



Example: main menu in English.



Settings

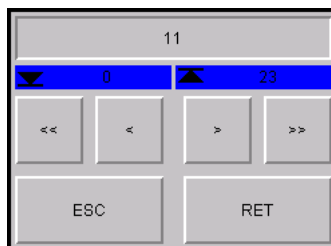
Setting the date/time

Touch the button to open the relevant input menu.



Example: hours

The current setting is shown in the upper field.



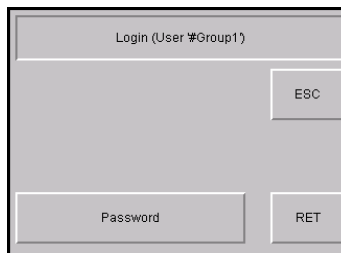
Description of the input menu:

- ▼ / ▲ Arrange digits in ascending or descending order
- << / >> - 10 / + 10
- < / > - 1 / + 1
- ESC Cancel
- RET Apply settings

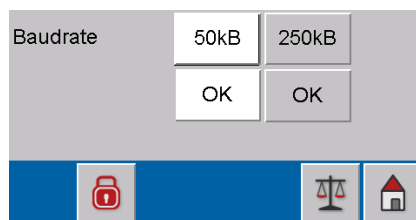
Settings

Setting the baud rate

1.  Open the “Login User” menu and log in with your password, see page 27.



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 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

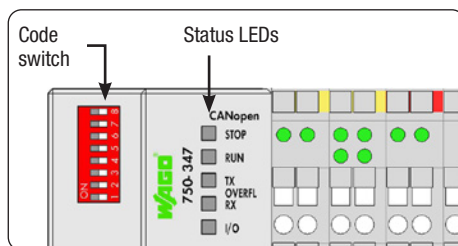
DANGER



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

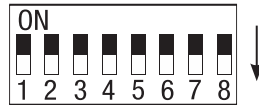
- Always switch off the voltage to the unit before opening it.
- Check that the plant is not carrying live voltage before commencing work.

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



Settings

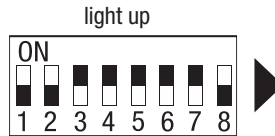
8. Next, set **all** sliding switches to **OFF**.
9. Switch the supply voltage back on.
10. Set the baud rate as follows and pay attention to the status LEDs:



250 kB/s: **1 + 2 = ON**

50 kB/s: **2 + 3 = ON**

Apply
baud rate **8 = ON**



green

250 kB/s

11. Switch the supply voltage off again.

50 kB/s



light up
green

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 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 27.

Description of display/settings:

■ Interval time

The interval during which the connecting pipes need to be flushed.

■ Standby time

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

■ Control unit

The safety control unit that the unit is currently communicating with.

■ Electrode

The level electrode currently being monitored.

■ Function

The function of the connected level electrode.

LW = low-level limiter

HW = safety high-level limiter

■ Type of plant

The set type of plant, e.g. steam boiler, is shown below the function.

23.08.2019	Setup	11:32:35
Interval time	24 h	
Standby time	60 m	
Controller	URS 60	URS 61
Electrode	1	2
Function	LW	HW
Hot water boiler		
Steam boiler		
 To operating system CE 		

Options in the bottom navigation bar:



Login with password,
see page 27

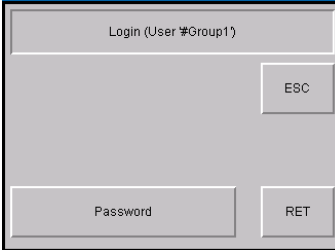


Return to home screen,
see page 41

Configuring the SRL 6-60 monitoring unit

Login with password

1.  Open the “Login User” menu and log in with your password, see page 27.



The login screen displays the title "Login (User #Group1)". It features a large "Password" input field at the bottom left, an "ESC" button at the top right, and a "RET" button at the bottom right.

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

1. Select your 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 unit to monitor.
To do so, tap the electrode number.
3. Select the function of the connected level electrode.

LW = low-level limiter

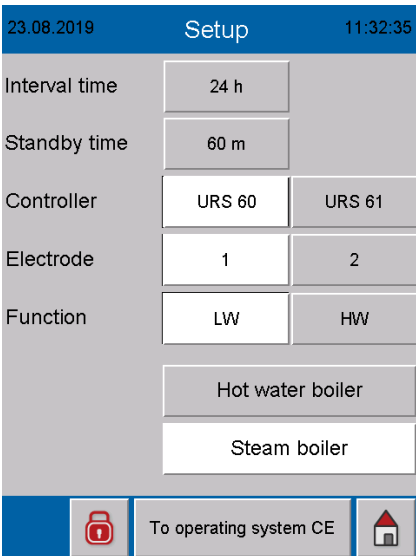
HW = safety high-level limiter

4. Set the type of plant.

- ◆ Hot water boiler
- ◆ Steam boiler

Different types of plant have different sequence control. This ensures that immersion/exposure of the different electrodes is absolutely clear.

5. Perform a reboot.



The setup screen shows the date "23.08.2019", time "11:32:35", and the title "Setup". It contains several settings:

Interval time	24 h	
Standby time	60 m	
Controller	URS 60	URS 61
Electrode	1	2
Function	LW	HW

Below these settings are two buttons: "Hot water boiler" and "Steam boiler". At the bottom, there is a navigation bar with a login icon, the text "To operating system CE", and a home icon.



When you have selected the safety control unit and level electrode, you need to reboot the SRL 6-60 monitoring unit.

Configuring the SRL 6-60 monitoring unit

Setting the interval and standby time

1. Tap an 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 settings

23.08.2019	Setup	11:34:52
Interval time	24 h	
Standby time	60 m	

24			
7	8	9	ESC
4	5	6	<<
1	2	3	RET
+/-	0	C	

Ending configuration



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

Viewing messages

Display of all events and system states

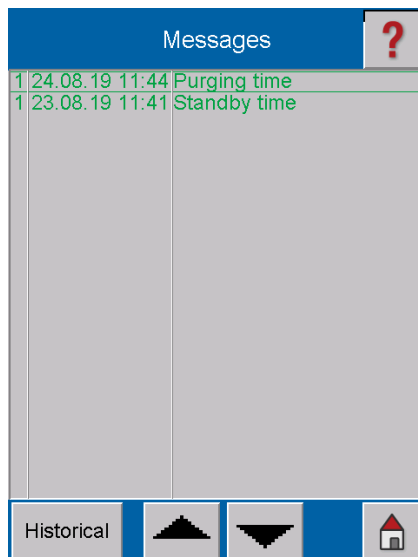
The SRL 6-60 monitoring unit records and stores all events and system states with a time stamp and displays them in the “Messages” menu.



Open the “Messages” menu from the home screen.

The following events and system states are recorded:

- Standby time
- Flushing time
- Return of power after power failure
- Valve D switch faulty
- Valve E switch faulty
- SRL 6-60 stop
- Low-level alarm
- Electrode offline
- Test run of SRL 6-60



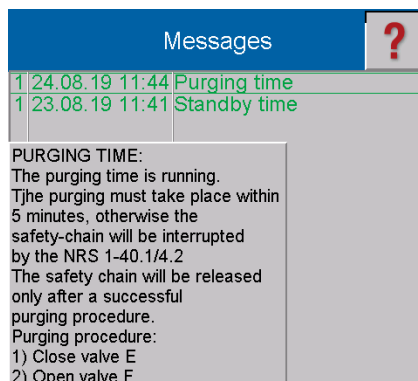
Available options:



Scroll through the list.



Show information on the selected message.



Viewing messages

- History

Show the last 512 messages.
- Current

Back to display of current messages.
- 

Back to home screen.

Messages



0 23.08.19 11:30 Purging time

0 23.08.19 11:30 Stopped by SRL 6-60

0 23.08.19 11:30 Test run SRL 6-60

1 23.08.19 11:30 Stopped by SRL 6-60

1 23.08.19 11:25 Purging time

1 23.08.19 11:25 Test run SRL 6-60

0 23.08.19 11:25 Standby time

0 23.08.19 11:25 Purging time

0 23.08.19 11:25 Stopped by SRL 6-60

0 23.08.19 11:24 ALARM: low level

1 23.08.19 11:24 ALARM: low level

1 23.08.19 11:23 Stopped by SRL 6-60

0 23.08.19 11:18 Current interval time too ...

1 23.08.19 11:18 Current interval time too ...

1 23.08.19 11:18 Standby time

1 23.08.19 11:18 Purging time

0 23.08.19 11:18 Standby time

0 23.08.19 11:18 Purging time

0 23.08.19 11:18 Stopped by SRL 6-60

Current







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 “Flushing” program sequence is stuck

Possible 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 assigned parameters.

What to do in the event of system malfunctions

Checking the installation and function

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

- Check the 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 voltage to the SPECTOR*connect* system.
2. Unplug the connectors of the SRL 6-60 monitoring unit.
3. If the SRL-6-60 monitoring unit was the last device in the CAN bus, you must insert a 120 Ω terminating resistor here.
4. Disconnect the external indicator lights.
5. Remove the monitoring unit.
6. Remove the limit switches.



If the CAN bus line is interrupted, an alarm is triggered.

Disposal

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

Returning decontaminated equipment

If products have come into contact with media that are hazardous to health, they must be drained and decontaminated before being returned to GESTRA.

Such media include solid, liquid or gaseous substances, mixtures of these, or radiation.

GESTRA can accept returned products only if accompanied by a completed and signed return note and also a completed and signed declaration of decontamination.



The return confirmation and declaration of decontamination must be attached to the returned goods and be accessible from the outside. Otherwise, the goods cannot be dealt with and will be returned, carriage unpaid.

Please proceed as follows:

1. Let GESTRA know about the return beforehand by e-mail or phone.
2. Wait until you have received the return confirmation from GESTRA.
3. Fill out the return confirmation (and declaration of decontamination) and send it with the products to GESTRA.

Declaration of Conformity Standards and Directives

You can find details on the conformity of the equipment and the applicable standards and directives in the Declaration of Conformity and associated certificates.

You can download the Declaration of Conformity from www.gestra.com and request relevant certificates by writing to the following address:

GESTRA GmbH

Münchener Straße 77

28215 Bremen

Germany

Tel. +49 421 3503 0

Fax +49 421 3503 393

e-mail info@de.gestra.com

Website www.gestra.com

Modifications to the equipment not approved by us will invalidate the Declarations of Conformity and certificates.



You can find our authorised agents around the world at:

www.gestra.com

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United Kingdom