



TA 1504-0357

Technical Instruction

Automatic re-lubricating unit for Leroy Somer generators



© INNIO Jenbacher GmbH & Co OG
Achenseestr. 1-3
A-6200 Jenbach, Austria
www.innio.com

1	Area of application.....	1
2	Purpose.....	1
3	Safety information.....	2
4	Additional information.....	2
5	General view	3
6	Electrical connection.....	4
7	Distributor connections.....	5
8	Setting the parameters	6
9	In operation.....	7
10	Manual additional lubrication	8
11	Operating mode.....	9
12	Error messages.....	11
13	Revision code.....	12

The target recipients of this document are:

Customers, distribution partners, service partners, commissioning partners, subsidiaries/branches, Jenbach location

INNIO proprietary information: CONFIDENTIAL

The information contained in this document is the proprietary information of INNIO Jenbacher GmbH & Co OG and its subsidiaries and is disclosed in confidence. It is the property of INNIO and shall not be used, disclosed to others or reproduced without express written consent. This includes but is not limited to use for the creation, manufacture, development or derivation of any repairs, modifications, spare parts, designs or configuration changes, or for obtaining government or regulatory approval to do so. If consent is given for reproduction in whole or in part, this notice and the notice set forth on each page of this document shall appear in any such reproduction in whole or in part.

UNCONTROLLED WHEN PRINTED OR TRANSMITTED ELECTRONICALLY

1 Area of application

This Technical Instruction (TA) applies to the following Jenbacher Engines with Leroy Somer generators:

- Type 3 engines (J320 only)
- Type 4 engines
- Type 6 engines

2 Purpose

This Technical Instruction describes how to set and check the relevant parameters on the Lincoln QLS401 automatic re-lubricating unit (equivalent to Klübermatik MP12) during commissioning, replacement and retrofitting.

3 Safety information

WARNING



Personal injury

Failure to use personal protective equipment and comply with safety instructions or employee protection information may lead to personal injury.

- Wear the relevant personal protective equipment (PPE).
- Observe the safety instructions as per Technical Instruction 2300-0005.
- Observe the employee protection information as per Technical Instruction 2300-0001.

4 Additional information

Relevant documents:



When working on Jenbacher engines, all applicable local regulations must be observed in addition to our documentation.

See also:

- TA 1100-0111 - General Conditions - Operation and Maintenance
- TA 2300-0005 - Safety Instructions

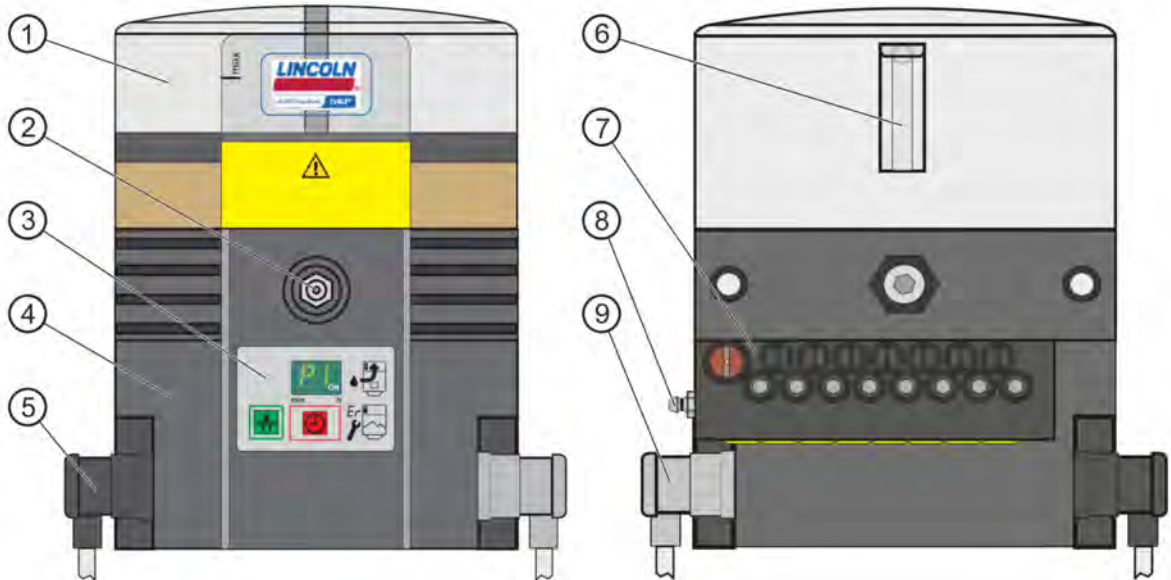


The generator manufacturer Leroy Somer™ fits its LSA52-, LSA53- and LSA 54 generators with the Lincoln QLS401 re-lubricating unit as an option. As LSA53 and LSA54 generators are fitted with the same roller bearings, the same parameters are set.

An automatic bearing re-greasing system is also available from INNIO Jenbacher GmbH & Co OG. This is technically equivalent to the Lincoln QLS401 unit. However, as the unit is supplied by Klüber Lubrications, it is designated as the Klübermatic MP12. The unit can be ordered from INNIO Jenbacher GmbH & Co OG for retrofitting.

Both re-lubricating units (Lincoln QLS401 and Klübermatic MP12) are technically equivalent and so the relevant generators must be set using the same parameters.

5 General view

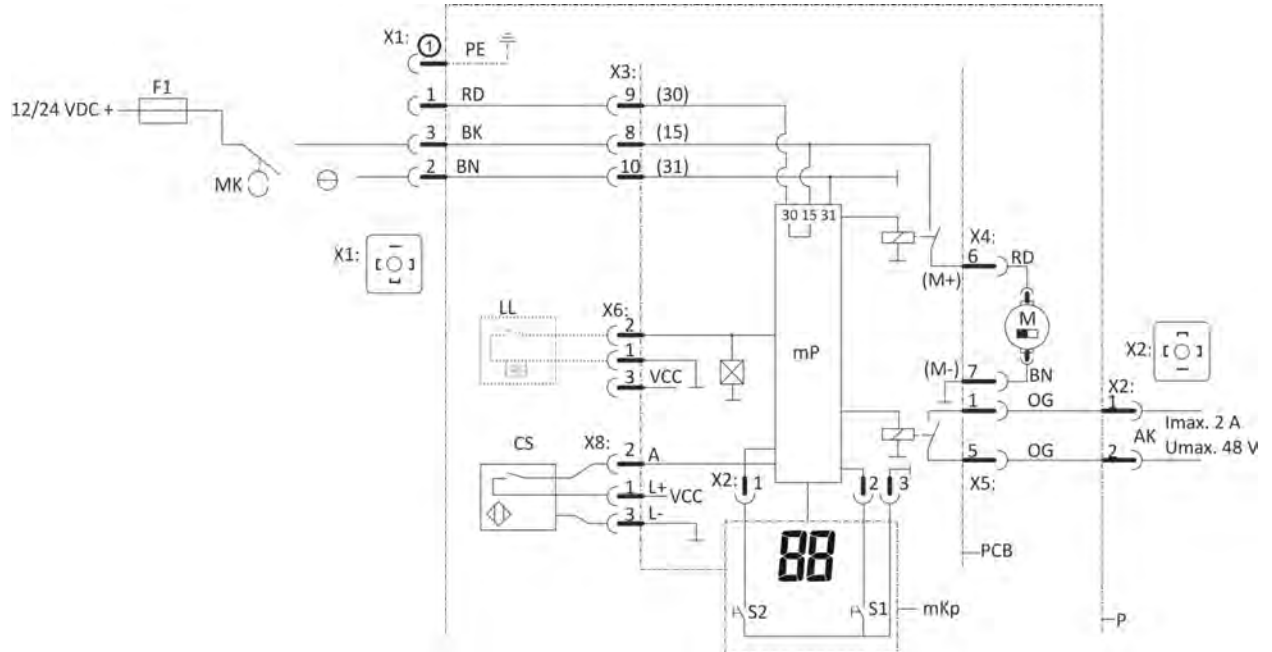


(Source: SKF Lubrication Systems Germany GmbH, July 2014)

1 Lubricant container	Depending on the pump design, there are different container versions, e.g. with a paddle for greases (QLS401).
2 Filler nipple	For filling the container with lubricant.
3 Membrane keypad	Displays operational and error messages and is used to change parameters (programming) in pumps with a control unit.
4 Pump housing	Contains the motor and, depending on the pump design, various circuit boards and different connection options (valve/bayonet connector).
5 Power supply	The pump is connected to an external power supply.
6 Container ventilation	Bleeds the container during filling with lubricant and ventilates the container during operation.
7 Distributor	Distributes and doses the lubricant and switches off the pump when the set operating cycle is reached by means of a control pin and proximity switch. Various SSV and SSVDV distributors are available for different applications.
8 Emergency grease nipple	Supplies lubricant to the connected lubrication points, e.g. if the pump is faulty.
9 Signal line	Connects the pump to an external control or signal unit.

6 Electrical connection

12/24 VDC with built-in control circuit board, valve connector and distributor

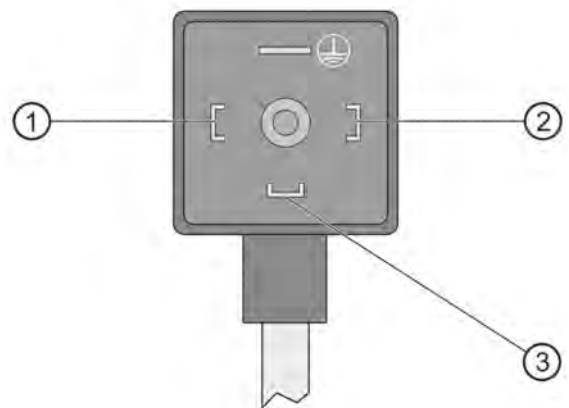


(Source: SKF Lubrication Systems Germany GmbH, July 2014)

Terminal designation

Valve connector (DIN 43650/A) X1:

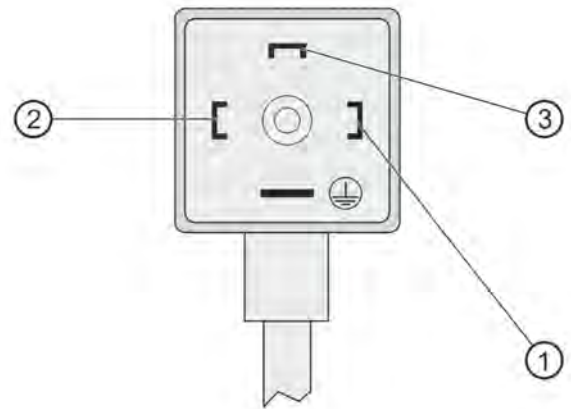
Pin ①: red
Pin ②: brown
Pin ③: black
PE: yellow/green



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

Valve connector (DIN 43650/A) X2:

Pin ①: red
 Pin ②: brown
 Pin ③: black
 PE: yellow/green



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

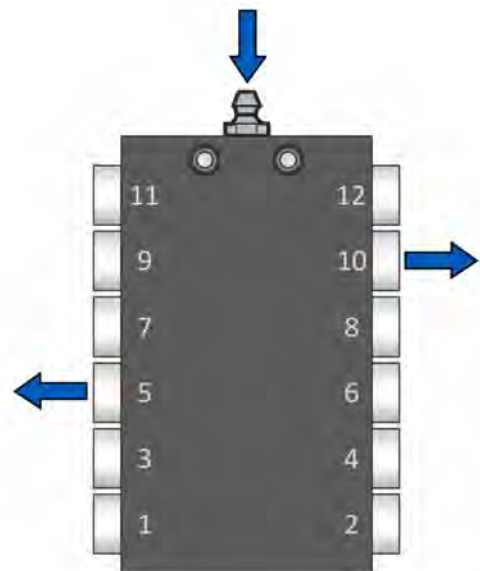
7 Distributor connections



The QLS401 automatic lubrication system is fitted with an SSV 12-fold progressive distributor. During one pump cycle, each outlet delivers 0.2 cm³ of grease on each connection. A higher delivery quantity can be achieved at individual outlets by closing individual connections.

LSA 52:

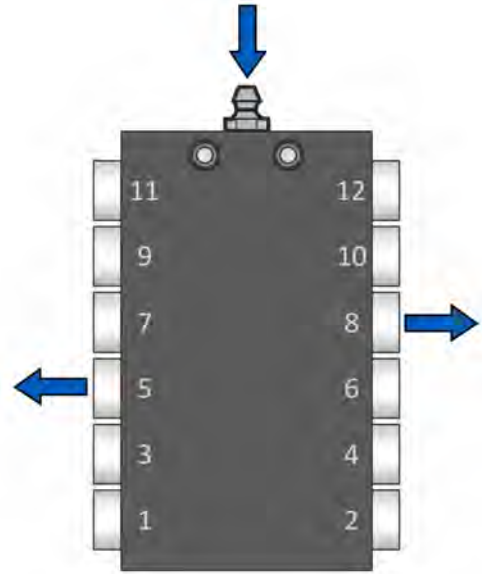
- Connection 5: flexible line to the DE (drive-end, engine-side) bearing.
- Connection 10: flexible line to the NDE (non-drive-end) bearing.
- Lubricant supplied via grease nipple.



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

LSA 53/54:

- Connection 5: flexible line to the DE (drive-end, engine-side) bearing.
- Connection 8: flexible line to the NDE (non-drive-end) bearing.
- Lubricant supplied via grease nipple.

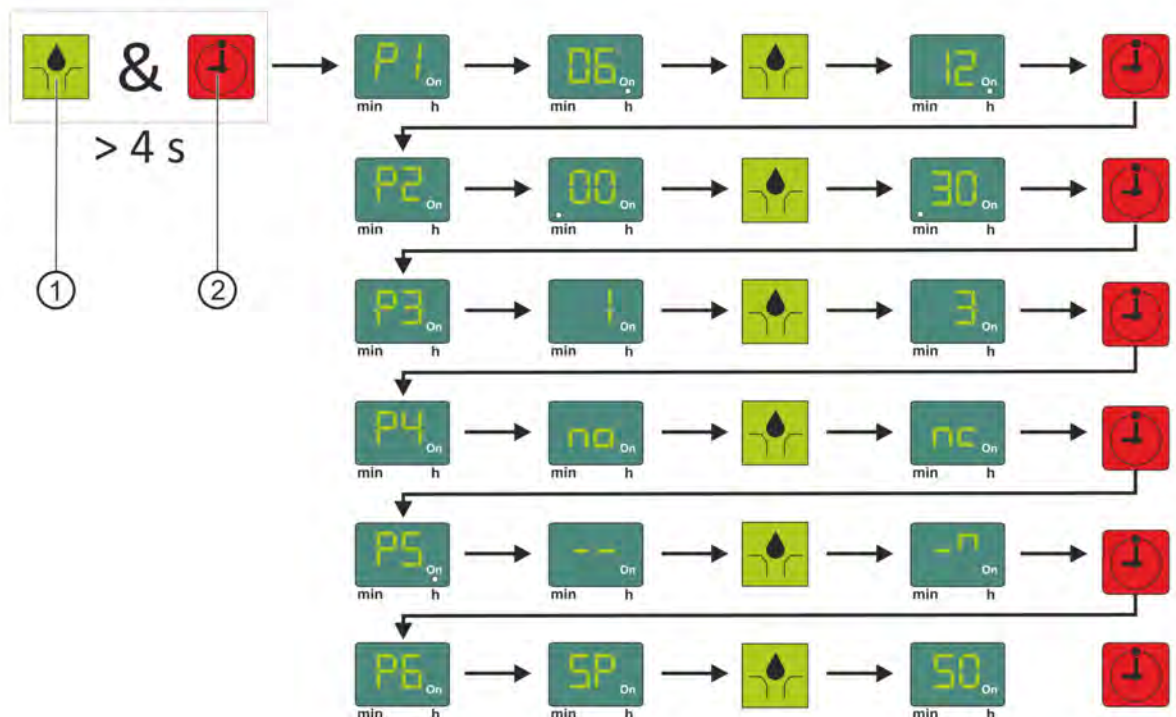


(Source: SKF Lubrication Systems Germany GmbH, July 2014)

8 Setting the parameters

Programming chart







The illustration below contains specimen values.



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

- Press and hold both keys (①, ②) at the same time for at least 4 seconds.
- The first parameter (P1) is shown on the display.
- Release the keys to display the current set value.
- The value can be changed by pressing key ①. Settings can only be adjusted in one direction (+). Keep the key pressed to scroll through quickly.
- To apply the changed value, press key ② within 30 seconds, otherwise it will be lost.
- Continue setting with parameter 2.

Set values

		LSA 52 (50 Hz)	LSA 52 (60 Hz)	LSA 53/54 (50 Hz)	LSA 53/54 (60 Hz)
	Interval period [h]	32	23	12	4
	Interval period [min]	51	27	33	46
	Distributor circulations per operating cycle	1	1	1	1
	Output signal from the relay	nc	nc	nc	nc
	Differentiation of the tripping error message	--	--	--	--
	Start phase → start with interval	SP	SP	SP	SP

9 In operation

The automatic re-lubricating unit is activated with "Ignition on".



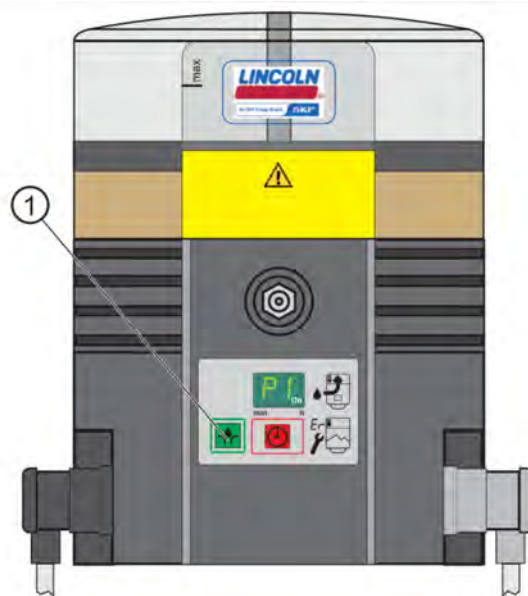
If the power supply is interrupted within one minute after activation, the interval period will start from the beginning when the unit is activated again. If the power supply is interrupted one minute after activation, the control system will start at the point at which it was interrupted after it was activated again.

10 Manual additional lubrication



The length of the additional lubrication corresponds to the set number of distributor circulations per operational cycle. See ⇒ Setting the parameters

- Press and hold key ① for at least 2 seconds.
- The pump starts to operate.
- At the same time, the already completed interval period is reset.



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

- The “Pump on” symbol appears on the display.



(Source: SKF Lubrication Systems Germany GmbH, July 2014)

11 Operating mode



You can only access operating mode during the interval period. Operation is not possible during the lubrication period (pump running time).

Requirement: the power supply is on, segment display "ON" lights up.

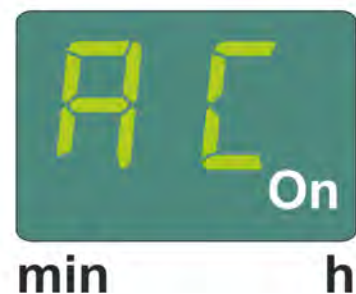
Press the red key (②) to start checking the set parameters.

The display changes every 2 seconds and the check finishes after about 40 seconds.

Readout of automatically activated operational cycles

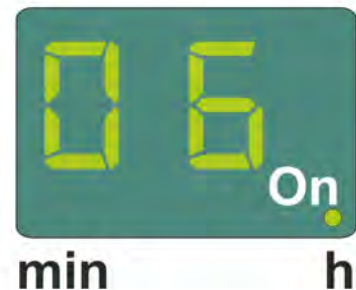
Number of automatically activated operational cycles. Count value 0-9999 (consecutive).

The display consists of 3 consecutive display readouts that change at 2-second intervals.



Display readout 2:

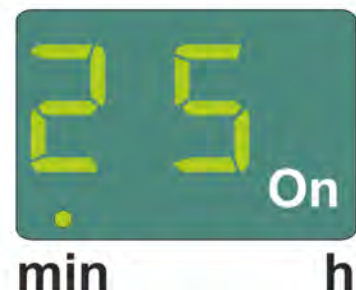
shows the values in thousands and hundreds.



Display readout 3:

shows the values in tens and units.

Example: 0625 = 625 automatically activated additional lubrications.

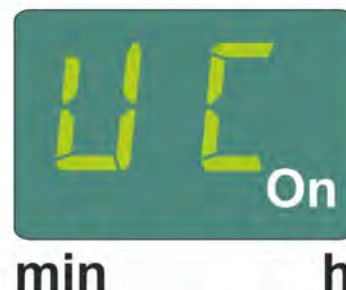


(Image source: SKF Lubrication Systems Germany GmbH, July 2014)

Readout of manual additional lubrications

Number of manually activated operational cycles.
Count value 0-9999 (consecutive).

The display consists of 3 consecutive display
readouts that change at 2-second intervals.



Display readout 2:

shows the values in thousands and hundreds.



Display readout 3:

shows the values in tens and units.

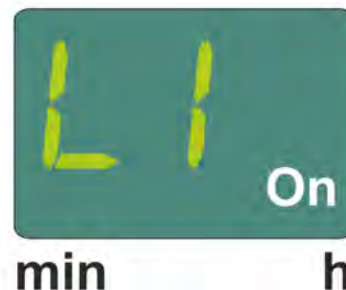
Example: 0110 = 110 manually activated additional
lubrications.



(Image source: SKF Lubrication Systems Germany GmbH, July 2014)

12 Error messages

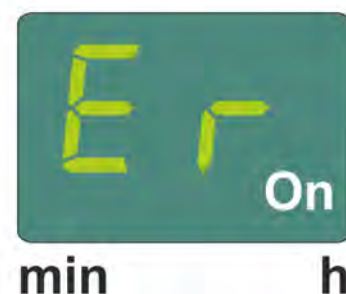
Pump is in working time. Lubricant low. The display changes with "Pump on".



No lubricant. The pump is ending the current lubrication cycle. Restart is not possible until the container is filled.



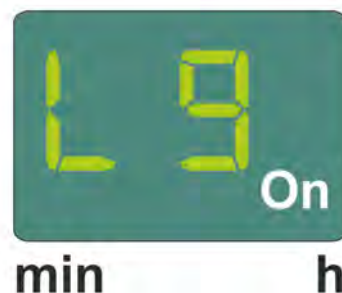
An unspecified error has occurred.



Error on the membrane keypad or the display.

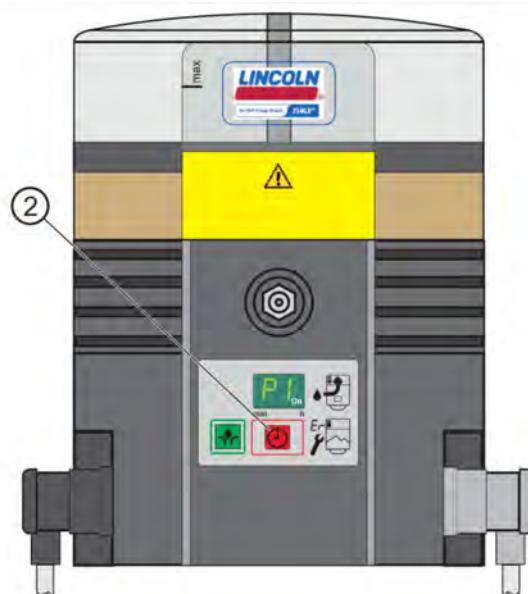


Control circuit board in the pump housing wrongly connected (blue connector).



Faults are reset by quickly pressing the red key
 ②. (<2 sec)

Error messages which have been reset while the error has not yet been rectified are displayed again after switching off and on again.



(Image source: SKF Lubrication Systems Germany GmbH, July 2014)

13 Revision code

Revision history

Index	Date	Description / Revision summary	Expert Auditor
3	30.04.2019	GE durch INNIO ersetzt / GE replaced by INNIO	Opoku Pichler R.
2	24.08.2017	Änderung Anschlüsse LSA 53/54 / revision connections LSA 53/54 Änderung Kapitel 4 / revision chapter 4	Burkhard P. Krainz G.
1	15.12.2016	Erstausgabe / First issue	Kreis C. Krainz G.