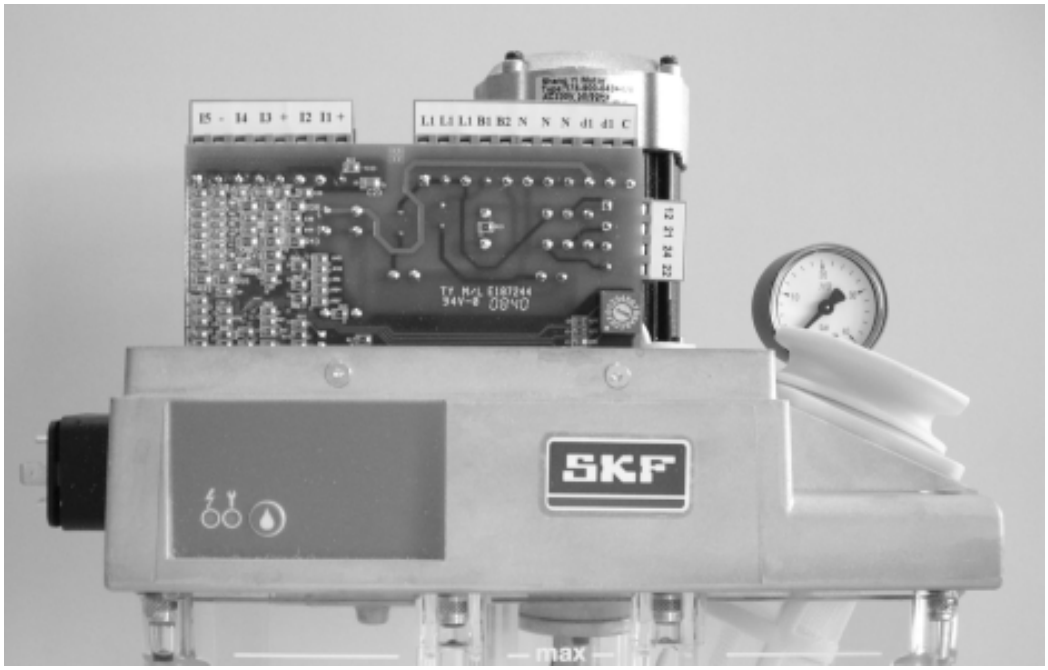
IG38-30-I; IZ38-30-I

Control unit for compact units of the product series MKx



Created on:	18.02.2022
Document no.:	951-180-191-EN
Version:	01

Read these instructions before installation or start-up of the product and keep them readily available for later consultation!

EU Declaration of Conformity in accordance with Directive 2014/35/EU, Annex IV

The manufacturer hereby declares under its sole responsibility conformity of the product described below with all relevant harmonization legislation of the European Union at the time of placing on the market.

Designation: Control unit for compact units in centralized lubrication systems
Type / item number: IG38-30-I
IZ38-30-I
Year of manufacture: See type plate

Furthermore, the following directives and standards were applied in the respective applicable areas:
2011/65/EU: RoHS II
2014/30/EU: Electromagnetic Compatibility
2014/35/EU: Low Voltage Directive

EN 60204-1:2019 EN 61000-6-1:2019 EN 61000-6-2:2019 EN 61000-6-3:2011 EN 61000-6-4:2020
EN IEC 63000:2018

Berlin, 31.05.2021

Jürgen Kreutzkämper
Manager, R&D
Germany

Richard Lindemann
Manager, SE
Berlin

Manufacturer: SKF Lubrication Systems Germany GmbH, Motzener Strasse 35/37, 12277 Berlin, Germany

UK Declaration of Conformity pursuant to the Electrical Equipment (Safety) Regulations 2016 No. 1101, Annex IV

The manufacturer hereby declares under its sole responsibility conformity of the product described below with all relevant harmonization legislation of the United Kingdom at the time of placing on the market.

Designation: Control unit for compact units in centralized lubrication systems
Type / item number: IG38-30-I
IZ38-30-I
Year of manufacture: See type plate

Furthermore, the following regulations and standards were applied in the respective applicable areas:

- Supply of Machinery (Safety) Regulations 2008 No. 1597
- Electromagnetic Compatibility Ordinance 2016 No. 1091
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 No. 3032

EN 60204-1:2019 EN 61000-6-1:2019 EN 61000-6-2:2019 EN 61000-6-3:2011 EN 61000-6-4:2020
EN IEC 63000:2018

Berlin, 31.05.2021

Jürgen Kreutzkämper
Manager, R&D
Germany

Richard Lindemann
Manager, SE
Berlin

Manufacturer: SKF Lubrication Systems Germany GmbH, Motzener Strasse 35/37, 12277 Berlin, Germany

Masthead

Manufacturer
SKF Lubrication Systems Germany GmbH
Email: Lubrication-germany@skf.com
www.skf.com/lubrication

Berlin Plant
Motzener Strasse 35/37
12277 Berlin
Germany
Tel. +49 (0)30 72002-0
Fax +49 (0)30 72002-111

Walldorf Plant
Heinrich-Hertz-Strasse 2-8
69190 Walldorf, Germany
Germany
Tel.: +49 (0) 6227 33-0
Fax: +49 (0) 6227 33-259

Authorized local distributors
- Great Britain -
SKF (U.K.) Limited,
2 Canada Close, Banbury, Oxfordshire,
OX16 2RT, GBR.

- North America -
SKF Lubrication Business Unit
Lincoln Industrial
5148 North Hanley Road, St. Louis,
MO. 63134 USA

- South America -
SKF Argentina Pte. Roca 4145,
CP 2001 Rosario, Santa Fe

- EAWU Area -
LLC SKF
121552, Russia, Moscow,
Yartsevskaya Street, 19, Block A Floor 7

Warranty
The instructions contain no statements regarding the warranty or liability for defects. That information can be found in our General Terms of Payment and Delivery.

Training
We conduct detailed training in order to enable maximum safety and efficiency. We recommend taking advantage of this training. For further information, contact your authorized SKF dealer or the manufacturer.

Table of contents

Safety alerts, visual presentation, and layout

While reading these instructions, you will encounter various symbols, illustrations, and text layouts intended to help you navigate and understand the instructions. Their meaning is explained below.

Safety alerts:
Activities that present specific hazards (to life and limb or possible damage to property) are indicated by safety alerts. Always be sure to follow the instructions given in the safety alerts.

⚠ DANGER
These safety alerts indicate an imminent danger. Ignoring them will result in death or serious injury

⚠ WARNING
These safety alerts indicate potentially imminent danger. Ignoring them could result in death or serious injury

⚠ CAUTION
These safety alerts indicate potentially imminent danger. Ignoring them could result in minor injury

NOTICE
These safety alerts indicate a potentially harmful situation. Ignoring them could result in damage to property or malfunctions

Illustrations:
The illustrations used depict a specific product. For other products, they may have the function of a diagram only. This does not alter the basic workings and operation of the product.

Text layout:
- **First-order bulleted lists:** Items on a bulleted list start with a solid black dot and an indent.
  - **Second-order bulleted lists:** If there is a further listing of subitems, the second-order bulleted list is used.

1 **Legend:** A legend explains the numbered contents of an illustration, presented as a numbered list. Items in a legend start with a number (with no dot) and an indent.
  - **Second-order legend:** In some cases, the numbered contents of an image represent more than just one object. A second-order legend is then used.

1. **Instruction steps:** These indicate a chronological sequence of instruction steps. The numbers of the steps are in bold and are followed by a period. If a new activity follows, the numbering starts again at "**1.**"
  - **Second-order instruction steps:** In some cases, it is necessary to divide up a step into a few substeps. A sequence of second-order instruction steps is then used.

1. Safety instructions

- Electrical devices must be kept in proper condition. This must be ensured by periodic inspections in accordance with the relevant applicable standards and technical rules. The type, frequency, and scope of the inspections must be determined in accordance with the risk assessment to be carried out by the operator. Work on electrical components may be performed only by qualified electricians. Connect the electrical power only in accordance with the valid terminal diagram and in observance of the relevant regulations and the local electrical supply conditions.
- Work on electrical components may be performed only in a voltage-free state and using tools suitable for electrical work. Do not touch cables or electrical components with wet or moist hands.
- Fuses must not be bridged. Always replace defective fuses with fuses of the same type.
- Ensure proper connection of the protective conductor for products with protection class I. Observe the specified enclosure rating.
- The operator must implement appropriate measures to protect vulnerable electrical devices from the effects of lightning during use. The electrical device is not furnished with a grounding system for the dissipation of the respective electric charge and does not have the voltage strength necessary to withstand the effects of lightning.

1.1 General behaviour when handling the product

- Familiarize yourself with the functions and operation of the product. The specified assembly and operating steps and their sequences must be observed.
- Keep unauthorized persons away.
- Wear personal protective equipment always.
- Precautionary operational measures and instructions for the respective work must be observed.
- In addition to these Instructions, general statutory regulations for accident prevention and environmental protection must be observed.
- Precautionary operational measures and instructions for the respective work must be observed. Uncertainty seriously endangers safety.
- Safety-related protective and safety equipment must not be removed, modified or affected otherwise in its function and is to be checked at regular intervals for completeness and function.
- If protective and safety equipment has to be dismantled, it must be reassembled immediately after finishing the work, and then checked for correct function.
- Remedy occurring faults in the frame of responsibilities. Immediately inform your superior in the case of faults beyond your competence.
- Never use parts of the centralized lubrication system or of the machine as standing or climbing aids.

1.2 Intended use

The product is intended solely for installation in the compact unit series PS-MKx
Use is only permitted within the scope of commercial or economic activity by professional users, in compliance with the specifications, technical data, and limits specified in this manual.

1.3 Persons authorized to use the product

Operator
A person who is qualified by training, knowledge and experience to carry out the functions and activities related to normal operation. This includes avoiding possible hazards that may arise during operation.

Specialist in electrics
Person with appropriate professional education, knowledge and experience to detect and avoid the hazards that may arise from electricity.

Specialist in mechanics
Person with appropriate professional education, knowledge and experience to detect and avoid the hazards that may arise during transport, installation, start-up, operation, maintenance, repair and disassembly.

1.4 Referenced documents

In addition to this manual, the following documents must be observed by the respective target group:
- Company instructions and approval rules

If applicable:
- Safety data sheet of the lubricant used
- Project planning documents
- Supplementary information regarding special designs of the pump. This you will find in the special system documentation.
- Instructions for other components for setting up the centralized lubrication system.

1.5 Prohibition of certain activities

- Alterations to the control circuit board beyond adjustment of lubrication times and interval times or replacement in case of defect

The painting of any plastic components and seals of the products described is prohibited. Completely mask or remove plastic components before painting the main machine.

1.6 Safety markings on the product

No safety markings on the product

> **NOTE**
> In accordance with the results of the workstation risk assessment, additional labels (e.g., warnings, safety signs, prohibition signs, or labels in accordance with CLP/GHS) are to be attached by the operator if necessary.

1.7 Note on the type plate

The type plate provides important data such as the type designation, order number, and sometimes regulatory characteristics. To avoid loss of this data in case the type plate becomes illegible, it should be entered in the manual.

1.8 Notes on CE marking

CE marking is effected following the requirements of the applied directives requiring a CE marking:

- 2014/35/EU Low Voltage Directive
- 2014/30/EC Electromagnetic Compatibility
- 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II)

1.9 Note on UKCA marking

The UKCA conformity marking confirms the product's conformity with the applicable legal provisions of Great Britain.

1.10 Note on China RoHS mark

The China RoHS mark confirms that there is no danger to persons or the environment from the regulated substances contained within for the intended period of use (year number shown in the circle).

1.11 Emergency shutdown

This is done by a course of action to be defined by the operator.

1.12 Assembly, maintenance, fault, repair

Prior to the start of this work, all relevant persons must be notified of it. At a minimum, the following safety measures must be taken before any work is done:

- Unauthorized persons must be kept away
- Mark and secure the work area
- Cover adjacent live parts
- Dry any wet, slippery surfaces or cover them appropriately
- Cover hot or cold surfaces appropriately

Where applicable:

- Depressurize
- Isolate, lock and tag out
- Check to ensure live voltage is no longer present
- Ground and short-circuit

The product should be protected as much as possible from humidity, dust, and vibration, and should be installed so that it is easily accessible. Ensure an adequate distance from sources of heat or cold. Any visual monitoring devices present, such as pressure gauges, min./max. markings, or oil level gauges must be clearly visible. Observe the mounting position requirements.

Drill required holes only on non-critical, non-load-bearing parts of the operator's infrastructure. Use existing holes where possible. Avoid chafe points. Immobilize any moving or detached parts during the work. Adhere to the specified torques.

If guards or safety devices need to be removed, they must be reinstalled immediately following conclusion of work and then checked for proper function.

Check new parts for compliance with the intended use before using them.

Avoid mixing up or incorrectly assembling disassembled parts. Label parts. Clean any dirty parts.

1.13 First start-up, daily start-up

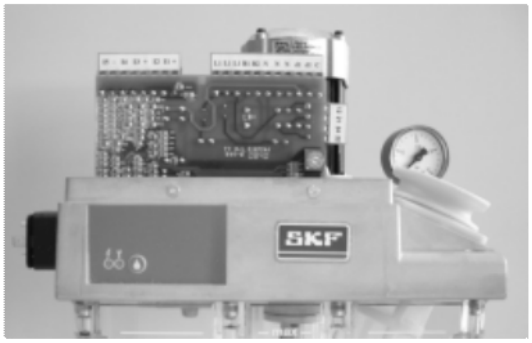
Ensure that:

- All safety devices are fully present and functional
- All connections are properly connected
- All parts are correctly installed
- All warning labels on the product are fully present, visible, and undamaged
- Illegible or missing warning labels are immediately replaced

2. Overview, functional description

2.1 Design

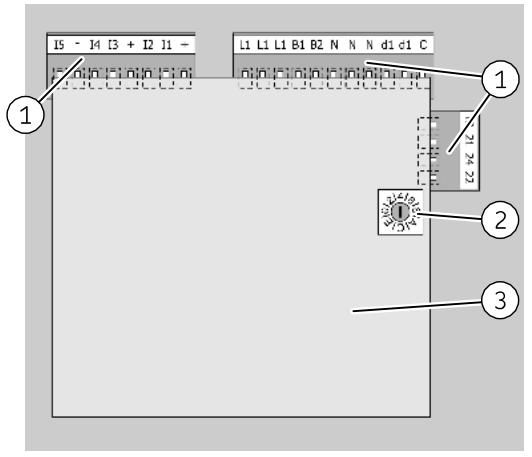
Fig. 1



Control unit for industrial lubrication systems

Figure 1 shows an SKF compact lubrication unit with a control unit installed in it

Fig. 2

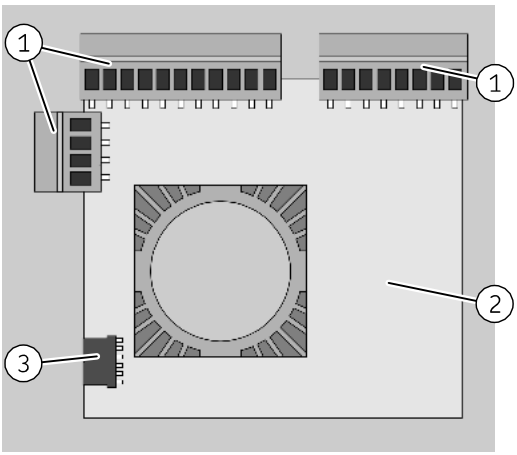


Front side

Legend to Figure 2:
1 Terminal strips
2 Rotary switch for parameter setting
3 Circuit board

Figure 2 shows the design of the control unit for centralized lubrication systems

Fig. 3



Rear side

Legend to Figure 3:
1 Terminal strips
2 Circuit board
3 Service interface

The rotary switch for setting the parameter values is located on the front side (Fig. 2/2).

The terminal strips for the electrical connections (Fig. 2/1 and 3/1) and the service interface (Fig. 3/3) are located on the front and rear sides of the control unit (Fig. 2/3) and (Fig. 3/2).

2.2 Application

The control unit described in these instructions was developed to control and monitor centralized lubrication systems in stationary industrial systems. Therefore it may only be used for the purpose specified in these instructions.

2.3 Functional description

2.3.1 General

The control unit is equipped with powerful electronics that can perform various tasks for the control of SKF centralized lubrication systems. Which functions the unit performs depends on the configured unit type. Please refer to the sections for the unit type you are using.

The settings that you can enter manually on the unit also depend on the unit type. The settings are stored in non-volatile data memory so that they are retained in the event of a power failure or disconnection from the power supply.

2.3.2 Application

The units described in this section are used for time or pulse dependent control of intermittent single-line centralized lubrication system lubrication systems with piston metering devices.

2.3.3 Overview

SKF control units available for single-line systems, and their functions

Table 1

Overview of the SKF control units for single-line systems

Designation	Short description
IG38-30-I	Pulse generator with adjustable interval time, interval time extension, pressure build-up monitoring, and fill level monitoring with NC contact (wire breakage monitoring)
IZ38-30-I	Pulse counter with adjustable interval time, pressure build-up monitoring, and fill level monitoring with NC contact (wire breakage monitoring)

2.3.4 Function

The task of the units is to trigger lubrication at specific time intervals. Additionally, the units have a range of functions necessary for controlling and monitoring the lubrication system. The scope of these functions depends on the specific type of unit.

The lubrication cycle
A lubrication cycle is made up of the operating time (lubrication process) and the interval time (TP)

The interval time
The interval time is the time between two operating times. The length of the interval can be defined in two ways, resulting in two different operating modes (BA) for the control units (pulse generator or pulse counter). The operating mode can be set manually on the unit; see also chapter 6. Operation.

Pulse generator operating mode
In this operating mode, the length of the interval is determined by the unit itself, by starting an operating time after the periods of time specified by the operator.

Pulse counter operating mode
In this operating mode, the interval time is determined by the machine, which sends pulses to the control unit while the machine is in operation. The control unit counts the pulses that are received on the machine contact (MKPV) and starts an operating time after the set number of pulses. The operator can set the number of incoming pulses to be counted.

Interval time extension
The input I3 can be used for stopping and releasing the interval time countdown in the pulse generator operating mode. The interval time countdown stays interrupted for as long as voltage is applied.

The operating time
Once the interval time is finished, the control unit initiates the lubrication procedure (also called "operating time"). The operating time is made up of the monitoring time (TU) and the pump delay time (TN).

Pressure build-up monitoring
During the operating time, first the pump motor starts and builds up the pressure required for lubrication. This process is monitored by a pressure switch (DS). The pressure in question must be reached within the monitoring time. Otherwise the pump is switched off and a fault signal is issued.

Pressure build-up monitoring can be dispensed with by bridging the terminals "+" and I2. In that case, the unit works with an operating time which is the same as the pump delay time.

Monitoring time
The monitoring time is a time slot for pressure build-up by the pump. If the required pressure is reached within the monitoring time, the time is aborted. The pump delay time is then started.

The monitoring time is permanently set and cannot be modified by the operator.

Pump delay time
The pump delay time is a period of time during which the pump continues to run after reaching the required pressure in the main lubricant line, in order to supply all lubrication points reliably with lubricant even in very large centralized lubrication systems.

Pump run time limitation
The pump run time (TL) is primarily limited by the monitoring time.

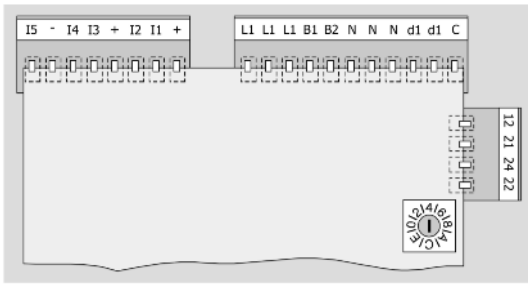
Fill level monitoring
In addition to pressure build-up, the control unit also monitors the fill level in the lubricant reservoir by means of a lubricant level switch (WS).

As soon as the level of the lubricant reservoir falls below the minimum level, the lubrication system stops operating and a fault signal is issued.

The lubricant level switch is designed as an NC contact, so the signal cables going to the level switch are simultaneously monitored for wire breakage.

2.4 Terminal assignment

Fig. 4



Terminal assignment

Table 2

Terminal assignment

Designation	Function
L1	Line voltage connection, phases
B1	Connection, link terminal 1 100..120 V AC: link B1 – L1 200..240 V AC: link B1 – B2
B2	Connection, link terminal 2 100..120 V AC: link B2 – N 200..240 V AC: link B2 – B1
N	Line voltage connection, neutral
C	Supporting terminal for motor capacitor, dry
d1	Dry NO contact, d1 relay
+	Output, +24 V electronic operating voltage
-	Reference potential of electronic operating voltage
I1 – I5	Input terminals
12	Break contact 1 of d2 relay
21	Dry changeover contact 2 of d2 relay
24	Dry make contact 2 of d2 relay
22	Dry break contact 2 of d2 relay

Figure 4 and Table 2 provide an overview of the terminal assignment of the control unit

2.4.1 24 V voltage outputs

The terminals labeled + and - carry a 24 V DC voltage which is generated in the control unit. This voltage can be used to supply the inputs I1 to I5, and also 3-wire proximity sensors where applicable.

2.4.2 24 V inputs

The inputs I1 to I5 are designed for activation with 24 V. The DC voltage generated by the unit should be used. External voltage input is not permissible.

2.4.3 Inputs

All inputs and also the 24 V supply connections are galvanically isolated from the operating voltage (L1, N) and from the outputs of the relays d1 and d2

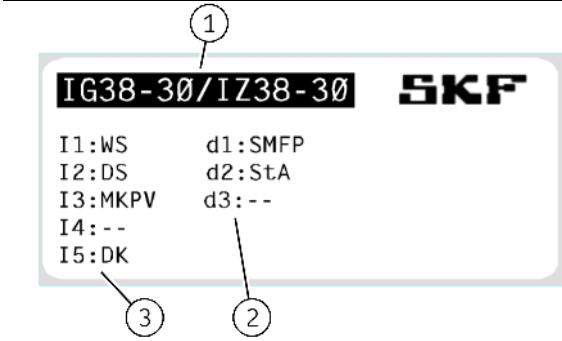
2.4.4 Outputs

All the outputs are relay contacts. They are dry contacts, galvanically isolated from the operating voltage, with the exception of terminal 12. The d2 relay has a break contact and a changeover contact. The d1 relay has an NO contact.

2.4.5 Assignment of the inputs and outputs

The assignment of the inputs and outputs varies depending on your unit's type. For the details, see the connection diagrams in the section for your particular unit's type.

Fig. 5



Sticker with information about input and output assignment

Legend to Figure 5:
1 Unit type
2 Assignment of the outputs
3 Assignment of the inputs

In addition, there is a sticker on the transformer of the control unit with information about the unit type and the assignment of the inputs and outputs. Figure 5 shows an example of one of these stickers, with explanatory notes.

Table 3

Inputs

Abbreviation	Meaning
DS	Pressure switch (pressure build-up)
DK	Manual triggering, resetting of fault signals
MKPV	Machine contact / interval time extension
-	Not assigned
SMFP	Lubricant supply (pump, valve)
StA	Fault indication
-	Not assigned

Table 3 explains the abbreviations used on the sticker.

3. Technical data

Table 4

Technical data

Designation	Value
Nominal input voltage Un	AC (100..120) V or AC (200..240) V
Rated input voltage	0.85 Un to 1.1Un (85..132 V / 170..264 V)
Nominal frequency	50..60 Hz
Rated frequency	49..61 Hz
Release value	Max. 10 % of Un
Input power	4 W
Recovery time	1 s
Max. fuse protection	6.3 A
Max. switched current	5 A AC
Max. switched voltage for relays	250 VAC
Overvoltage category per DIN EN 60664-1	III
Nominal voltage of inputs	24 VDC
Input impedance	2.4 KΩ +/- 10 %
Low input level	0 V.. +4 V
High input level	+10 V..+24 V
Coincidence factor (inputs)	Max. 0.8
Output voltage for inputs and external consumers	24 VDC +10 % / -15 %
Output nominal current ("+" outputs)	60 mA
including current for external consumers	Max. 20 mA
MK input	
Max. input frequency	30 Hz
Duty factor	1:1
Line terminal (flexible)	
with wire end ferrules	Max. 2.5 mm^2 or 2*0.75 mm^2
with twin wire end ferrules	Max. 2*1.5 mm^2
Stripping length	8 mm
Rated insulation voltage	250 AC
Pollution degree	2
Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C

4. Delivery, returns, storage

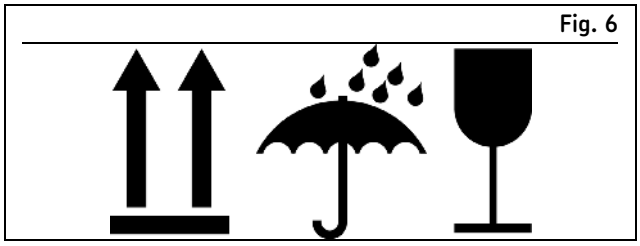
4.1 Delivery

After receipt of the shipment, it must be inspected for any shipping damage and for completeness according to the shipping documents. Immediately inform the transport carrier of any shipping damage. The packaging material must be preserved until any discrepancies are resolved.

4.2 Return shipment

Before return shipment, all contaminated parts must be cleaned. If this is not possible or practical, e.g. if it would impede fault detection in the case of complaints, the medium used must always be specified. In the case of products contaminated with hazardous substances as defined by GHS or CLP regulations, the safety data sheet (SDS) must be sent with the product and the packaging must be labelled in accordance with GHS/CLP. There are no restrictions for land, air, or sea transport. The choice of packaging should be based on the specific product and the stresses to be expected during transport (e.g., necessary anti-corrosion measures in the case of shipment by sea). In the case of wooden packaging, the applicable import regulations and the IPPC standards must be observed. Required certificates must be included in the shipping documents. The following information, as a minimum, must be marked on the packaging of return shipments.

Fig. 6



Marking of return shipments

4.3 Storage

The following conditions apply to storage:

- Dry, low-dust, vibration-free, in closed rooms
- No corrosive, aggressive substances at the storage location (e.g., UV rays, ozone)
- Protected against animals (insects, rodents)
- If possible, keep in the original product packaging
- Protected from nearby sources of heat or cold
- In the case of large temperature fluctuations or high humidity, take appropriate measures (e.g., heating) to prevent the condensation of water
- Before usage, check products for damage that may have occurred during storage. This applies in particular to parts made of plastic (due to embrittlement).

4.4 Storage temperature range

For parts not filled with lubricant, the permitted storage temperature is the same as the permitted ambient temperature range (see “Technical data”).

5. Assembly

NOTICE

Damage due to incorrect settings

Incorrect settings can lead to damage

- Settings on the unit may only be made by trained technical personnel
- The control unit must not be energized when setting the operating parameters

The control unit is supplied as part of a compact unit, so only the following connections need to be made, if necessary.

The cover of the compact unit needs to be removed in order to do this.

After the external elements are connected, the parameters are entered, and the operating voltage is applied, the functional sequence of the unit starts with prelubrication.

⚠ DANGER

Electric shock

Risk of death from live parts

- The control unit may only be connected by technical personnel who are able to identify shock hazards.
- Switch off the operating voltage before removing the cover of the compact unit

- Connection of an external fault indicator (StA)
- Connection of the contact for interval time extension (MKPV; IG38-30-I only)
- Connection of an external pushbutton (DK) for triggering intermediate lubrication and for resetting fault signals

First check that the unit is configured correctly for the intended operating voltage range. For operation in the range 100 - 120 V AC, connect the terminals L1 and B1, and B2 and N, with terminal links. For the range 200 - 240 V AC, connect the terminals B1 and B2 with a terminal link.

Connect the inputs and outputs according to the connection diagram for your particular unit's type. The connection diagrams can be found in the individual sections for your unit's type.

Use the rotary switch on the back of the circuit board to set the operating parameters, such as the interval time. When doing so, refer to the chapter Operation

Check all the connections once more and put the cover back on the compact unit. Now switch on the operating voltage.

When the operating voltage is applied, the unit starts the control process with an interval.

You can test whether the unit is working correctly by pressing the button ⦿, or an external pushbutton DK if one is connected, which triggers intermediate lubrication. In this regard, also read the following sections Operation

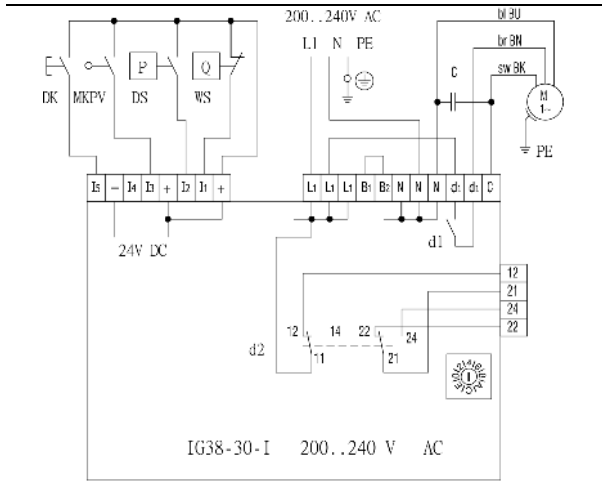
5.1 Connection diagram

5.1.1 IG38-30-I

NOTE

For connection of the 100..120V AC version; see section 2.4 Terminal assignment

Fig. 7



Connection diagram - IG38-30-I

Table 5

Legend to Figure 7:

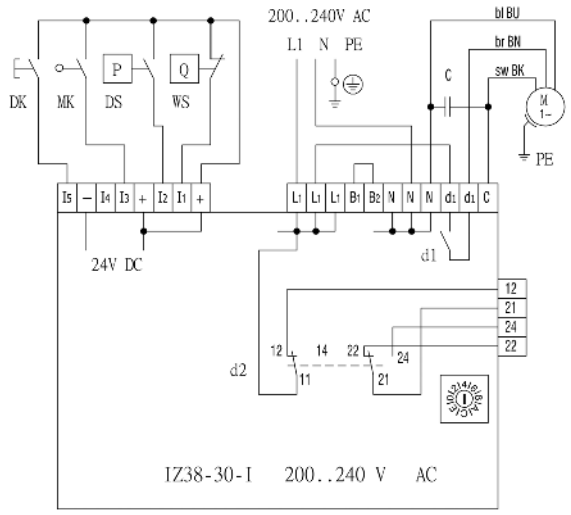
Terminal	Designation
L1/N	Operating voltage
B1/B2	Link terminals for operating voltage range (shown: 200..240 V)
WS	Lubricant level switch (shown: reservoir filled)
DS	Pressure switch (pressure build-up monitoring)
MKPV	Machine contact / interval time extension
DK	Pushbutton 1 Intermediate lubrication 2 Reset fault
+	+24V DC output
-	0V DC output
d1	Load contact for lubrication pump (SMFP)
d2	Load contact for fault indication (StA)
12	Fault
21	Voltage input
24	Operation OK
22	Fault

5.1.2 IZ38-30I

NOTE

For connection of the 100..120V AC version; see 2.4 Terminal assignment

Fig. 8



Connection diagram - IZ38-30-I

Table 6

Legend to Figure 8:

Terminal	Designation
L1/N	Operating voltage
B1/B2	Link terminals for operating voltage range (shown: 200..240 V)
WS	Lubricant level switch (shown: reservoir filled)
DS	Pressure switch (pressure build-up monitoring)
MK	Machine contact
DK	Pushbutton 1 Intermediate lubrication 2 Reset fault
+	+24V DC output
-	0V DC output
d1	Load contact for lubricant feed pump (SMFP)
d2	Load contact for fault indication (StA)
12	Fault
21	Voltage input
24	Operation OK
22	Fault

6. Operation

⚠ DANGER

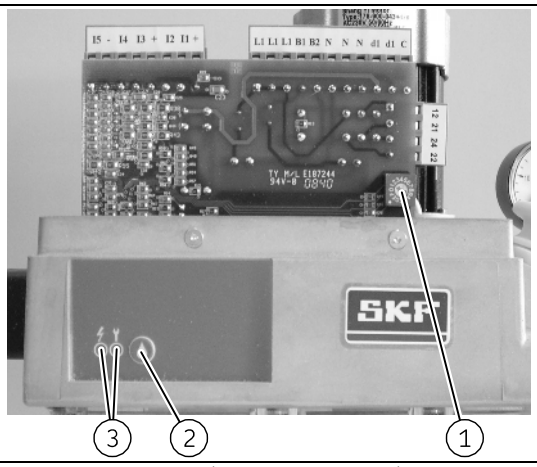
Risk of death from live parts
Electric shock

The unit must be de-energized before setting the parameters

6.1 Display and control elements

Figure 9 shows the display and control elements of the control unit. The display elements are the two LED indicators (Fig. 9/3) on the control screen. The operating elements are the pushbutton (Fig. 9/2) on the control screen and the rotary switch (Fig. 9/1) located directly on the circuit board.

Fig. 9



Display and control elements (shown without cover)

Legend to Figure 9:
1 Rotary switch
2 Pushbutton on the control screen
3 Fault LED

Table 7

Overview of the display and control elements

Image	Designation	Function
	Operating voltage LED	Lights up when operating voltage is present on the unit
	Fault LED	Lights up in the event of faults
	Pushbutton	1 Triggers intermediate lubrication 2 Resets a fault signal
	Rotary switch	For setting the operating parameters

6.1.1 LED indications

An illuminated green LED indicates that operating voltage is present on the unit.

If the red LED lights up, this indicates a fault.

6.1.2 Pushbutton

The pushbutton ⦿ can be used to trigger intermediate lubrication or to reset a fault signal. See also chapter Faults, causes, and remedies

NOTE
Do not reset a fault signal until the cause of the fault is remedied

6.1.3 Setting parameters with the rotary switch

NOTE
When setting the parameters, the type and size of the lubrication system must be taken into account

NOTE
To set the parameters, the cover of the compact unit must be removed. Make sure the unit is de-energized

A rotary switch on the front of the circuit board is used to set the operating parameters, such as the interval time. Which parameters can be set depends on the your unit's type. Explanatory notes be found in the section for your unit's type.

The rotary switch can be set to 8 different positions. Each position represents a fixed parameter value in binary increments. Table 8 shows an overview of the values that can be set.

Use a suitable tool, such as screwdriver, to set the switch to the desired position.

Table 8

Parameter values that can be set

Switch position	Value	Unit
1	1	Minutes/pulses
2	2	Minutes/pulses
3	4	Minutes/pulses
4	8	Minutes/pulses
5	16	Minutes/pulses
6	32	Minutes/pulses
7	64	Minutes/pulses
8	128	Minutes/pulses
9	256	Minutes/pulses

Table 8

Parameter values that can be set

Switch position	Value	Unit
A	512	Minutes/pulses
B	1024	Minutes/pulses
C	2048	Minutes/pulses

The positions 0, D, E, and F of the rotary switch are not assigned

6.2 Operation

6.2.1 Operating modes / functions

6.2.1.1 IG38-30-I

The IG38-30-I is used as a pulse generator and has the following functions:

- Interval time
- Interval time extension
- Pump run time limitation
- Pressure build-up monitoring
- Fill level monitoring (NC contact)

Table 9

Parameters of the IG38-30-I

Designation	Default	Setting range
Interval time	1 (minute)	1 – 2048 in binary increments (minutes)
Monitoring time	60 (seconds)	Not adjustable
Delay time	15 (seconds)	Not adjustable

6.2.1.2 IZ38-30-I

The IZ38-30-I is used as a pulse counter and has the following functions:

- Adjustable interval time
- Pump run time limitation
- Pressure build-up monitoring
- Fill level monitoring (NC contact)

Table 10

Parameters of the IZ38-30-I

Designation	Default	Setting range
Interval time	1 (pulse)	1 – 2048 in binary increments (pulses)
Monitoring time	60 (seconds)	Not adjustable
Delay time	15 (seconds)	Not adjustable

6.2.2 Switching on

The unit is switched on by switching on the operating voltage. When the operating voltage is applied correctly, the green operating voltage LED lights up.

6.2.2.1 Prelubrication

A prelubrication is triggered every time the unit is switched on. The pump motor is switched on and the d2 fault signaling relay is energized. Prelubrication runs in the same way as a normal operating time.

6.2.2.2 Interval time

When prelubrication is finished, the d1 relay is reset to its initial position, which switches off the pump motor. Then the unit reads the set value for the interval time and starts the interval. After that, the system alternates between operating time and intervals.

6.2.2.3 Operating time (lubrication)

The operating time is started after the end of the interval time. It is made up of the time until pressure build-up and the delay time. When the operating time is started, the d1 relay is switched on, which switches on the pump motor. As soon as the necessary pressure is reached, the monitoring time is aborted and the pump delay time is started. At the end of the delay time, a new interval time begins.

6.2.2.4 d2 relay in normal operation

The d2 relay is always energized as long as the operating voltage is applied and there are no faults in operation.

6.2.2.5 Intermediate lubrication

You can trigger an intermediate lubrication by briefly pressing the button ⦿ during the interval. Intermediate lubrication runs in the same way as a normal operating time.

6.2.3 Switching off

The unit is switched off by isolating it from the operating voltage

⚠ DANGER

Risk of death from live parts
Electric shock

- After switching off, the unit must remain switched off for some time in order for all the internal voltage to dissipate; see recovery time in chapter Technical data

6.2.4 Changing parameters

How to change parameters is described in the Operation chapter in the General part of the instructions.

Changes to the parameters, such as the interval time, take effect at the start of the next interval.

6.2.5 Fault indications

In the event of a fault, the red fault LED lights up on the compact unit and any connected external fault indicator is activated

Pressure not built up

The monitoring time starts at the beginning of an operating time. If the pressure switch DS is not activated within that time, the relays d1 and d2 are then de-energized, resulting in the pump motor shutting down and the fault LED lighting up.

Low fill level

If the fill level in the lubricant reservoir drops too far, the lubricant level switch WS opens, which interrupts the currently active functional sequence. The d1 and d2 relays are de-energized and the fault LED lights up.

d2 relay in the event of a fault

If a fault occurs, the d2 relay is de-energized and the functional sequence is interrupted

Resetting a fault signal

> **NOTE**
> Do not reset a fault signal until the cause of the fault is remedied

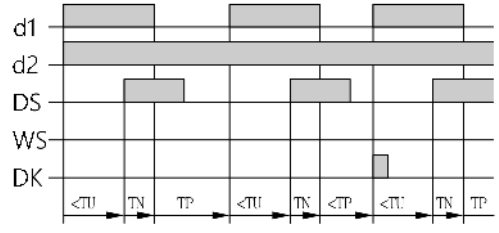
A fault signal can be reset only by pressing the button ⦿ or an external pushbutton (DK) if one is connected. This also triggers intermediate lubrication at the same time.

A fault signal from the lubricant level switch can only be reset if the lubricant has been topped up enough.

6.2.6 Pulse diagrams

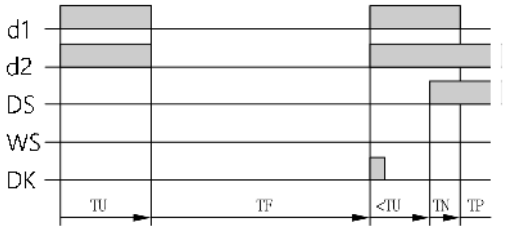
6.2.6.1 IG38-30-I

Fig. 10



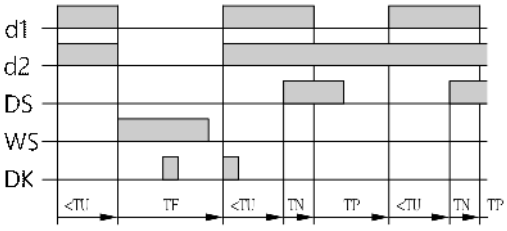
Normal sequence (time axes not to scale)

Fig. 11



Sequence with fault, pressure not built up (time axes not to scale)

Fig. 12



Sequence with fill level fault (time axes not to scale)

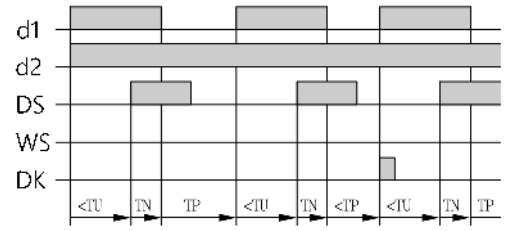
Table 11

Legend to Figures 10, 11, and 12

Abbreviation	Designation
d1	Pump motor, relay
d2	Command link, relay
DS	Pressure switch (NO contact)
WS	Lubricant level switch (NC contact)
DK	Pushbutton
TU	Monitoring time
TU	Pump delay time
TP	Interval time
TF	Functional sequence stopped

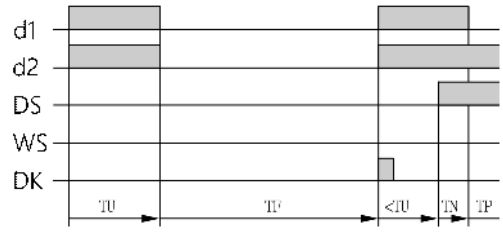
6.2.6.2 IZ38-30-I

Fig. 13



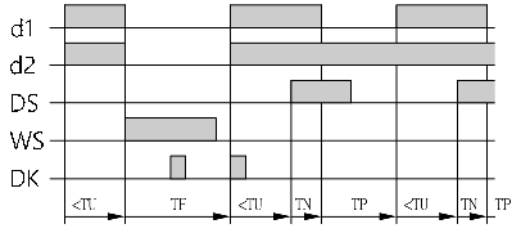
Normal sequence (time axes not to scale)

Fig. 14



Sequence with fault, pressure not built up (time axes not to scale)

Fig. 15



Sequence with fill level fault (time axes not to scale)

Table 12

Legend to Figures 13, 14, and 15

Abbreviation	Designation
d1	Pump motor, relay
d2	Command link, relay
DS	Pressure switch (NO contact)
WS	Lubricant level switch (NC contact)
DK	Pushbutton
TU	Monitoring time
TU	Pump delay time
TP	Interval time
TF	Functional sequence stopped

7. Maintenance and repair

The described products are virtually maintenance-free.

Functioning should be checked regularly by pressing the button ⦿ or an external pushbutton DK if one is connected

8. Cleaning

8.1 Basics

Cleaning should be carried out in accordance with the operator's own company rules, and cleaning agents and devices and the personal protective equipment to be used should likewise be selected in accordance with those rules. Only cleaning agents compatible with the materials may be used for cleaning. Completely remove any cleaning agent residue left on the product and rinse with clear water. Unauthorized persons must be kept away. Use signage to indicate wet areas.

8.2 Interior cleaning

The interior normally does not need to be cleaned. The interior of the product must be cleaned if incorrect or contaminated lubricant accidentally enters the product. Please contact our Service department.

8.3 Exterior cleaning

Do not allow any cleaning fluid to enter the interior of the product during cleaning.

9. Faults, causes, and remedies

9.1 Fault indications

If a fault occurs during operation of the centralized lubrication system, the control unit will indicate the fault by the red fault LED lighting up and the external fault indicator being activated, if one is connected.

Which fault it is depends on your unit's type. You can find further information on this in the relevant section for your unit's type.

When the fault is remedied, reset the fault indication by pressing the button ⦿.

NOTE

Do not reset a fault signal until the cause of the fault is remedied

9.2 Unit faults

If your control unit does not function as described in the relevant section for your unit's type, please first check all the connections you made.
The cover of the compact unit needs to be removed in order to do this.

⚠ DANGER

Risk of death from live parts
Electric shock

- Switch off the operating voltage before removing the cover of the compact unit
- The control unit's connections may only be checked by technical personnel who are able to identify shock hazards

NOTICE

Property damage due to incorrect settings
Incorrect settings on the unit can result in damage

- Settings on the unit may only be made by trained technical personnel.

Next, check for leaks on the lubricant lines.

If you cannot find the cause of the error in this way, please contact an SKF service office.

10. Repairs

The unit contains no parts which can be repaired by the user.

11. Shutdown, disposal

11.1 Temporary shutdown

Temporary shutdowns should be done by a course of action to be defined by the operator.

11.2 Permanent shutdown, disassembly

Permanent shutdown and disassembly of the product must be planned properly by the operator and conducted in compliance with all applicable laws and regulations.

11.3 Disposal

The waste producer/operator must dispose of the various types of waste in accordance with the applicable laws and regulations of the country in question.

12. Appendix

12.1 China RoHS Table

Table 13

部件名称 (Part Name)	有毒害物质或元素 (Hazardous substances)					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
用钢和黄铜加工的零件 (Components made of machining steel and brass)	X	0	0	0	0	0

本表格依据SJ/T11364的规定编制 (This table is prepared in accordance with the provisions of SJ/T 11364.)

O：表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。
(Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.)

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572标准规定的限量要求。
(Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.)

skf.com/lubrication

951-180-191-EN 18.02.2022