Operating instructions

EcoPlus PDRX (UK Version)

Dispenser for solid rinse aid products

EcoPlus PDRX
MAN0542656 Ver. 01-06.2024
13.06.2024

ENGLISH

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1 General

1.1 About the Operating Instructions

CAUTION!

Read the instructions!

Prior to commencing any works and/or operating, appliances or machinery, these instructions must be read and understood as a strict necessity. In addition, always heed all the instructions relating to the product that are included with the product!

All instructions are also available for download if you have mislaid the original. Furthermore, you will always have the opportunity to get the latest version of the manuals. The German-language manual is the **original operating manual,** which is legally relevant. **All other languages are translations.**

Particular attention should be paid to the following:

- Personnel must have carefully read and understood all instructions belonging to the product before starting any work. The basic premise for safe operation is observing all safety instructions and work instructions in this manual.
- Figures in this manual are provided for basic understanding and may deviate from the actual product.
- All manuals and guides must be placed at the disposal of the operating and maintenance personnel at all times. Therefore, please store all manuals and guides as a reference for operation and service.
- If the system is resold, this manual must always be supplied with it.
- The relevant sections of this operating manual must be read, understood and noted before installing the system, using it for the first time, and before carrying out any maintenance or repair work.

Available instructions

The latest and complete operating instructions are available online.

To download the instructions on a PC, tablet or smartphone, use the link below or scan the QR code.
Download the operating instructions for *'Ecoplus PDRX'* (MAN054265):
https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN054265_EcoPlus_PDRX_UK.pdf

The control board of the *'EcoPlus PDRX'* is described in a separate manual. To download the instructions on a PC, tablet or smartphone, use the link below or scan the QR code.
Download operating instructions for *WWC PCB* (MAN049685):
https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685_WWC-PCB.pdf

Always call up the latest operating instructions

If any *'operating instructions'* are changed, the document will immediately be posted *'online'*. All operating instructions are provided in PDF format.
To open and display the operating instructions, we recommend that you use Adobe PDF Viewer(*https://acrobat.adobe.com*).

Accessing operating instructions using the website of Ecolab Engineering GmbH

You can search for and select the required instructions on the manufacturer's website (*https://www.ecolab-engineering.de*) under *[Media Centre]* / *[Operating Instructions]*.

Accessing operating instructions using the *'DocuAPP'* for Windows®

You can use the *'DocuApp'* for Windows® (as of Version 10) to download, read and print all published operating instructions, catalogues, certificates and CE declarations of conformity on a Windows® PC.

To install this program, open the 'Microsoft Store' and enter " ***DocuAPP*** *" in the search field. https://www.microsoft.com/store/productId/9N7SHKNHC8CK .*
Follow the installation instructions.

Accessing operating instructions using a smartphone/tablet

You can use the Ecolab *'DocuApp'* to access all operating manuals, catalogues, certificates and CE declarations of conformity published by Ecolab Engineering using a smartphone or tablet (Android & iOS). The published documents are always up to date and new versions are displayed immediately.

'Ecolab DocuApp' guide for download

For more information about ***'DocuApp'***, refer to the dedicated software description (art. no. MAN047590).
Download: *https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/dosiertechnik/Dosierpumpen/417102298_DocuAPP.pdf*

Installing *'DocuApp'* for Android

On Android based smartphones, the ***'DocuApp'*** can be installed from the "Google Play Store".

1. Call up the"Google Play Store" with your Smartphone / Tablet.
2. Enter the name "**Ecolab DocuAPP**" in the search field.
3. Select the **Ecolab DocuAPP**.
4. Choose *[Install]*.
   ⇨ The ***' DocuApp'*** is installed.

Installing the *'DocuApp'* for iOS (Apple)

On iOS based smartphones, the ***'DocuApp'*** can be installed from "App Store".

1. Call up the "App Store" on your iPhone/iPad.
2. Go to the search function.
3. Enter the name "**Ecolab DocuAPP**" in the search field.
4. Enter the search term **Ecolab DocuApp** to search for the app.
5. Choose *[Install]*.
   ⇨ The ***' DocuApp'*** is installed.

Symbols, highlights and bulleted lists

Safety instructions in this manual are identified by symbols and introduced by signal words expressing the extent of the hazard.

DANGER!
Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.

WARNING!
Indicates a potentially imminent danger that can lead to serious injuries or even death.

CAUTION!
Indicates a potentially hazardous situation which may result in minor or slight injury.

NOTICE!
Indicates a potentially dangerous situation that may result in property damage.

Tips and recommendations
This symbol highlights useful tips, recommendations and information for an efficient and trouble-free operation.

ENVIRONMENT!
Indicates potential hazards to the environment and identifies environmental protection measures.

Safety instructions in the operating instructions

Safety instructions can refer to specific, individual operating instructions. These safety instructions are embedded in the operating instructions, so they do not interrupt the reading flow when executing the action. The signal words described above are used.

Example:

1. Loosen screw.
2. **CAUTION!**
   Risk of trapping on the cover!
   Close the cover carefully.
3. Tighten screw.

Tips and recommendations
This symbol highlights useful tips, recommendations and information for an efficient and trouble-free operation.

Other markings

The following markings are used in these instructions to provide emphasis:

1., 2., 3. ...	Step-by-step operating instructions
⇨	Results of the operating steps
	References to sections of these instructions and related documents
■	Lists in no set order
[Button]	Controls (e.g. button, switch), indicators (e.g. signal lights)
'Display'	Screen elements (e.g. buttons, assignment of function keys)

Item numbers and EBS numbers

Both item numbers and EBS numbers are shown in these operating instructions. EBS numbers are Ecolab-internal item numbers and are used within our corporate group.

Copyright

1.2 Transportation

The unit is supplied in cardboard packaging. Please refer to the technical data for the packaging dimensions and packaging weight.

Improper transportation

NOTICE!

Material damage due to improper transport

Transport units can fall or tip over if improperly transported. This can cause considerable damage.

- Observe symbols and instructions on the packaging
- Unload and transport the transport items carefully
- Only use intended attachment points
- Transport items to the place of use using a suitable means of transport or lifting equipment.
- Use only approved means of transport
- Do not remove packaging until immediately before installation

DANGER!

Risks when commissioning equipment which has been damaged during transportation.

Installation or start-up must not take place if any transport damage is detected when unpacking the system.

Installing/starting up a damaged pump may result in uncontrollable errors, which may lead to irreparable damage to personnel and/or of the equipment when using aggressive dosing agents.

Transport inspection

NOTICE!

Check the delivery for completeness and any transport damage.

In case of visible transport damage, proceed as follows:

- Do not accept the delivery or accept it only on a provisional basis.
- Note down the extent of damage on the transport documents or on the carrier's delivery slip.
- Lodge a complaint.

Claim for any damage as soon as you notice it!

Damage claims can be filed only within the applicable period for complaints.

1.3 Packaging

The individual packages are bundled to suit the expected transport conditions.
Only environmentally-friendly materials have been used in the packaging.
The packaging is designed to protect the individual components against shipping damage, corrosion and other damage before assembly.
Do not destroy the packaging and only remove it just before assembly.

There may be instructions on how to handle the packages (e.g. this way up, fragile, keep dry). These must be adhered to accordingly.

ENVIRONMENT!

Risk of environmental damage from incorrect disposal!

Packaging materials are valuable raw materials and can, in many cases, be used again or be usefully processed and recycled.

Incorrect disposal of packaging materials can be a threat to the environment.

– Observe the local disposal regulations!
– Environmentally-friendly disposal of packaging materials.
– If necessary, hire a specialist to carry out disposal.

1.4 Storage

In certain cases, storage instructions may be specified on the packages that go beyond the requirements specified here.
These must be observed accordingly.

- Do not store outdoors.
- Store in a dry and dust-free place.
- Do not expose to aggressive media.
- Keep away from direct sunlight.
- Avoid mechanical vibrations.
- If stored for longer than three months, regularly check the condition of all parts and packaging. If necessary, refresh or renew the packaging.
- Storage must be frost-proof.
- Further information can be found in the chapter *10 Technical data*

NOTICE!
Intermediate storage

– The packaging is designed for a storage period of three months.
– If the Maschine is not operational for a period of longer than one week: fully empty and rinse tank with water.

CAUTION!
Risk of damage to the Maschine.
Ingress of dirt and water can damage the Maschine . Never clean the electrical equipment or the parts of the equipment with a steam cleaner or by spraying them with water.

1.5 Equipment marking – identification plate

Information on equipment marking and information on the rating plate can be found in Chapter 10 'Technical data' on page 77 .
It is important to provide the correct specification of the name and type in all queries. This is the only way of ensuring fast and accurate processing of your enquiry.

1.6 Warranty

The manufacturer provides a warranty for operational safety, reliability and performance under the following conditions only:

- Assembly, connection, adjustment, maintenance and repairs must be carried out by qualified and authorised specialist personnel in compliance with all documents supplied.
- Please follow the instructions for use in the User Manual.
- Only original equipment spare parts are to be used for repairs.
- If metering media have been named for use in this manual, we explicitly exclude warranty / liability if other products are used!

Our products are built, tested and certified in accordance with current standards/guidelines. They left the factory in a safe, faultless condition.

To maintain this condition and to ensure a trouble-free operation, the user must observe all instructions, warnings, maintenance regulations, etc. that are contained in all the corresponding manuals and that may be attached to the product.

The manufacturer's general warranty and service conditions apply.

1.7 Repairs/returns to Ecolab Engineering GmbH

DANGER!

Conditions for returns

Before being returned, all parts must be completely free of all chemicals! We would point out that only clean, rinsed parts that are free of all chemicals can be accepted by our service!

This is the only way of excluding the possibility of the risk of injury to our staff due to residues of chemical products. The goods sent in must, where possible, also be packed in a suitable bag preventing any leakage of liquid residues into the surrounding packaging. Enclose a copy of the product data sheet for the chemical used so that our Service staff can be prepared to use the necessary personal protective equipment (PPE).

The return must be requested online

https://www.ecolab-engineering.de/de/kontakt/ruecksendungen/

Fill in all details and follow the further navigation.

You will receive the completed return form by email.

Packaging and shipping

If possible, use the original box to return the device.

Ecolab assumes no liability for transport damage.

1. Print and sign the return form.
2. Pack the product to be returned without any accessories, unless they may be related to the error.

   Make sure that the original serial number label is present on all products that are returned.

3. Enclose the following documents with the consignment:
   - Signed return form
   - Copy of the order confirmation or delivery note
   - In the case of a warranty claim: Invoice copy with date of purchase
   - Safety data sheet for hazardous chemicals

   *The return form must be affixed in a clearly visible position **on the outside** of the package using a delivery note bag.*

4. Copy the return address with return number to the shipping label.

1.8 Contact

Manufacturer

Ecolab Engineering GmbH
Raiffeisenstrasse 7
D-83313 Siegsdorf
Telephone (+49) 86 62 / 61 0
Fax (+49) 86 62 / 61 166
engineering-mailbox@ecolab.com
http://www.ecolab-engineering.com

Before contacting the manufacturer, we always recommend that you contact your sales partner in the first instance.

2 Safety

2.1 General safety advice

DANGER!
If you believe that the unit can no longer be operated safely, you must decommission it immediately and secure it so that it cannot be used inadvertently.

This applies:

– if the unit shows visible signs of damage,
– if the unit no longer appears to be operational,
– after prolonged periods of storage under unfavourable conditions.

The following instructions must always be observed:

– Prior to carrying out any work on electric parts, switch off the power supply and secure the system against being switched back on again.
– Safety regulations and prescribed protective clothing when handling chemicals should be followed.
– Attention must be paid to the information included on the product data sheet of the metering medium used.
– The unit must only be operated with the supply and control voltage specified in the Technical Data section.

2.2 Intended use

The EcoPlus PDRX dispenser is used for dosing compressed Ecolab detergent (SMARTPOWER ™) and solid/liquid rinse aid products.

The following points are included under intended use:

- Only the pressed detergent cleanser approved for the product may be dosed.
- Use is restricted to commercial applications; private use is excluded.
- All operating instructions and operating instructions prescribed by Ecolab and all maintenance and servicing conditions must be complied with.
- The metering unit must be operated only within the operating conditions permitted in accordance with *Chapter 10 'Technical data' on page 77*.

Any other or additional use is considered improper. Ecolab shall not be liable for any resulting damage to property or for personal injury.

Reasonably foreseeable incorrect use

According to the hazard analysis, the following points can lead to misuse:

- Operation with an open cover or without a cover.
- Using the metering unit as a storage location for objects or tools.
- Operation using incorrect voltage supplies.
- Incompatible accessory parts.
- Line cross-sections that are too small.
- Incorrect ambient temperatures or media temperatures.
- Operation in potentially explosive areas.
- Use of unsuitable metering media.

Unauthorised modifications and spare parts

CAUTION!

Changes or modifications are not permitted without prior, written permission from Ecolab Engineering GmbH and shall result in the forfeiting of any and all warranty entitlements. Original spare parts and accessories approved by the manufacturer are designed to increase safety.
The use of other parts excludes the warranty for the resulting consequences.
Note that CE conformity expires if subsequent modifications are made.

2.3 Service life

If maintenance is conducted properly (visual inspection, functional testing, replacement of parts, etc.), the life span of the Komponente is approximately 10 years.

Afterwards, a revision or a general overhaul may need to be done the manufacturer.
↳ *'Manufacturer' on page 11*

2.4 Safety measures taken by the operator

NOTICE!

It is expressly up to the operator to train, monitor and instruct its operating and maintenance personnel so that they comply with all of the necessary safety measures.
The frequency of inspections and controls must be complied with and documented.

WARNING!

Danger due to improperly installed system components

Improperly installed system components can result in personal injury and damage to the system.

– Check that the system components provided (pipe joints, flanges) have been installed correctly.
– If assembly has not been performed by Customer Service or another authorised party, check that all system components are made of the correct materials and meet the requirements.

Obligations of the operator

Valid guidelines

In the EEA (European Economic Area), national implementation of the Directive (89/391/EEC) and corresponding individual directives, in particular the Directive (2009/104/EC) concerning the minimum safety and health requirements for the use of work equipment by workers at work, as amended, are to be observed and adhered to. If you are outside the EEA, the local regulations always apply. However, it is important to make sure that the EEA rules do not apply to your area, due to special agreements. ***The operator is responsible for checking the terms and conditions that affect you.***

The operator must adhere to the local legal provisions for:

- The safety of personnel (within the Federal Republic of Germany, in particular the federal law and accident prevention regulations, workplace guidelines, e.g. operating instructions, also according to Section 20 Hazardous Substances Ordinance (GefStoffV), personal protective equipment (PPE), preventive investigations)
- The safety of work materials and tools (protective equipment, work instructions, procedural risks and maintenance)
- Product procurement (safety datasheets, list of hazardous substances)
- Disposal of products (Waste Act)
- Disposal of materials (decommissioning, Waste Act)
- Cleaning (detergents and disposal)
- and observe current environment protection regulations.

The owner is also required to:

- Provide personal protective equipment (PPE)
- Incorporate the measures into operating instructions and to instruct personnel accordingly
- For operating sites (from 1m above ground) To provide safe access
- The operator must provide lighting in workplaces in accordance with DIN EN 12464-1 (within the Federal Republic of Germany). Observe the local applicable regulations!
- To ensure that local regulations are complied with during installation and commissioning, if these procedures are conducted by the operator

2.5 Personnel requirements

Qualifications

DANGER!

Risk of injury if personnel are inadequately qualified!

If unqualified personnel carry out work or are in the danger area, dangers may arise which can lead to serious injuries and considerable damage to property.

All the activities may only be performed by personnel that is qualified and suitably trained for this purpose.

Keep unqualified personnel away from hazard areas.

NOTICE!

Incorrect operation by unreliable personnel

Material damage due to incorrect operation.

Only persons who can be expected to carry out their work reliably can be approved as personnel. Individuals whose reactions are impaired, e.g. by drugs, alcohol, medicines, are not authorised.

– When selecting personnel, observe the valid age and occupation-specific regulations.
– Unauthorised persons must be kept away from the Komponente.

Obligations on the part of personnel

The personnel must:

- follow the applicable national laws and regulations, as well as the operator's regulations on occupational safety
- read and follow the instructions in this document before starting work
- not enter areas secured using protective measures or access restrictions without due authorisation
- in the event of faults that could jeopardise the safety of personnel or components, immediately switch off the Plant and report the fault to the responsible department or person
- wear the personal protective equipment (PPE) prescribed by the operator
- observe the applicable safety regulations and the manufacturer's safety data sheet when handling chemicals

Mechanic
The mechanic is trained for the particular range of tasks in which s/he operates and knows the relevant standards and regulations. S/he can perform work on pneumatic and hydraulic systems because of his/her specialized training and experience and can independently recognise and avoid potential dangers.

Operator
The operator has been instructed about the tasks assigned to him and possible dangers in case of improper behaviour. He may only carry out tasks that go beyond operation during normal operation if this is specified in these instructions or the owner has expressly authorised the operator to do so.

Qualified electrician
Qualified electricians are able to carry out the work on electrical systems because of their technical training, knowledge and experience, as well as awareness of the relevant standards and regulations; qualified electricians are capable of independently identifying and preventing potential risks. He is specially trained and knows the relevant standards and regulations.

Qualified employee
A person with appropriate training, appropriate education and experience who is able to identify risks and avoid hazards.

Service personnel
Certain work may only be carried out by service personnel of the manufacturer or by service personnel authorised or specially trained by the manufacturer. If you have any questions, please contact *Manufacturer* .

Specialist
A person with appropriate training, schooling and experience enabling him or her to identify risks and avert danger.

Trained personnel
Someone who has been instructed by a professional in their designated task and informed of the possible dangers of improper behaviour and, if applicable, has been informed of the necessary protective devices and measures.

DANGER!

Auxiliary personnel without special qualifications

Auxiliary personnel without special qualifications or without special training who do not meet the requirements described here are unaware of the dangers in the work area.

Therefore, there is a risk of injury to auxiliary personnel.

It is imperative that auxiliary personnel without specialist knowledge are familiarised with the use of personal protective equipment (PPE) for the activities to be performed, or are appropriately trained, and that these measures are monitored. These personnel may then only be deployed on activities for which intensive training has been given beforehand.

DANGER!

Unauthorised personnel

Unauthorised persons who do not meet the requirements described here are not familiar with the risks in the operating area.

Therefore unauthorised persons are at risk of injury.

Working with unauthorised persons:

- All work must be suspended for as long as unauthorised persons are present in hazardous or working areas.
- If in doubt as to whether a person is authorised to be in hazardous and operating area, approach said person and lead them out of this area.
- General information: Keep unauthorised persons away!

2.6 Personal protection equipment (PPE)

DANGER!

Personal protective equipment, hereinafter referred to as PPE, is used to protect personnel. It is imperative to pay attention to the PPE described in the product data sheet (safety data sheet) for the metered medium.

Chemical resistant protective gloves
Chemical-resistant protective gloves are used to protect the hands against aggressive chemicals.

Protective eyewear
Protective eyewear protects the eyes against flying parts and liquid splashes.

Protective gloves
Protective gloves are used to protect the hands against friction, abrasions, cuts or deeper injuries as well as when touching hot surfaces.

Safety shoes
Safety shoes protect feet against crushing, falling parts, sliding on slippery surfaces and against aggressive chemicals.

2.7 Indications of risks

Unauthorised access

DANGER!
Unauthorised access
The owner must ensure that unauthorised personnel are prevented from accessing the operating area.

Hazard arising from automatic start-up

DANGER!
Automatic start-up poses a hazard in areas marked with the symbol opposite. An automatic start-up can be initiated as soon as the power supply is connected with no need to press a switch/button beforehand.

Risk of slipping

DANGER!
Risks of slipping are to be identified using the adjacent symbol.
Spilled chemicals are a slipping hazard in wet conditions.

WARNING!
Risk of slipping due to fluid in the operation and provisioning area!
– Wear non-slip, chemically resistant shoes when working.
– Place product containers in a tank to prevent a slipping hazard caused by leaking fluids.

ENVIRONMENT!
Leaked, spilled metering media must be cleaned and disposed of correctly, according to the instructions on the safety data sheet. It is essential to ensure that the required personal protective equipment (PPE) is used.

Risk of fire

DANGER!

Risk of fire

If there is a risk of fire, it is imperative to use the designated extinguishing agent and to implement suitable safety measures to tackle the fire.
It is also imperative here to comply with the safety data sheet for the chemicals you use to tackle the fire!

Dangers caused by electrical energy

WARNING!

The protective earth connection is marked by this symbol at the connection points.

DANGER!

Risk of fatal injury from electric current!

Dangers due to electrical current are indicated by the symbol opposite.

Work on those places may only be carried out by skilled personnel who are duly trained and authorised.

Contact with live parts represents immediate danger to life due to electrocution. Damage to the insulation or individual components can be life-threatening.

- Before starting work, create a de-energised state and ensure this state is maintained for the duration of the work.
- If you discover any damage to the installation, switch off the power supply and organise repairs.
- Never bridge or decommission fuses.
- When replacing fuses, comply with the rating.
- Do not expose live parts to moisture as this may cause short-circuits.

Chemical hazards (metering medium/active substance)

WARNING!

Burns caused by harmful chemicals

Leaks on the Komponente can allow corrosive chemicals to escape and cause serious injury.

- Read the enclosed safety data sheet carefully before using chemicals.
- The safety regulations and the required protective clothing for working with chemicals must be complied with.
- Safety devices such as showers and eye flushing must be accessible and checked regularly to ensure that they are fully functional.
- Ensure adequate ventilation and extraction.
- Avoid skin and eye contact.
- Check the Komponente regularly for tightness.
- Do not put the Komponente into operation if leaks occur.
- If leaks are identified, trigger the emergency stop function immediately.
- Do not operate the Komponente again until the leaks have been repaired.

DANGER!

Spilled chemicals can pose a biological hazard.

Be careful not to spill chemicals or allow them to leak; otherwise, a biological hazard cannot be ruled out. Make sure that suitable binding agents are provided at the filling point according to the safety data sheet for the metering chemicals.

DANGER!

Risk of injury to the skin and eyes caused by the chemical used (metering medium).

- Read the enclosed safety data sheet carefully before using the metering medium.
- The safety regulations and the required protective clothing when working with chemicals must be complied with.
- Attention must be paid to the information included on the product data sheet for the metering medium used.

DANGER!

Hands must be washed before breaks and at the end of the working day. Information about the usual precautions when handling chemicals and about the use of PPE can be found on the relevant safety data sheet for the chemical being used and must be complied with.

ENVIRONMENT!

Metering medium that leaks or spills may be harmful to the environment.

Leaks or spills of a metering medium must be cleaned up and disposed of correctly in accordance with the instructions on the safety data sheet.
It is imperative to use the prescribed PPE.

Preventive action:
Place product containers in a tray to collect leaking fluids without harming the environment.

2.8 Metering media

CAUTION!

Use of metering media:

- The Komponente may be used only with products validated by Ecolab. **We dont accept liability if products that havent been validated are used.**
- The metering media are procured by the operator.
- The owner will bear sole responsibility for correct handling and the associated risks.
- The hazard warnings and disposal instructions are provided by the operator.
- Wear suitable protective clothing (see safety data sheet).
- All safety regulations must be followed and the information contained in the safety data sheet/product data sheet must be observed.

WARNING!

Injuries from uncontrolled chemical spills

Uncontrolled chemical spills can cause serious injuries.
Use the personal protective equipment (PPE) specified in the safety data sheet for the chemical products.

Safety when handling chemicals

NOTICE!

Risk of accident and environmental damage when chemical residues are mixed together

There is a risk of burns if residual stocks are mixed together and environmental damage if chemicals are leaking. For operational reasons, residues remain in the chemical supply containers. These are completely normal and designed to be kept to a minimum.

To avoid accidents caused by burns to operating personnel and damage to the environment caused by leaking chemicals, no residual stocks may be mixed together.

CAUTION!

Danger due to mixing of different chemicals

Different chemicals may never be mixed with each other, unless this is exactly the purpose of the Komponente! In this case, it must be checked first which chemicals may be mixed in which ratio.
Mixing may only be carried out by trained specialist personnel.

When changing containers, it is essential to ensure that only the same chemicals are exchanged.

Safety data sheets

The safety data sheet is intended to be consulted by users and enables them to take any steps necessary to safeguard their health and safety at work.

DANGER!

Safety data sheets are always provided together with the supplied chemicals. Before using the chemicals, the safety data sheets must be read and understood, and all requirements must be implemented on site. Ideally, they should be displayed close to the workplace or to the supply containers so that the appropriate measures can be taken quickly in the event of an accident. The operator must provide the necessary protective equipment (PPE), as well as the described emergency equipment (eye bottle, etc.). Persons entrusted with operating the equipment must be instructed accordingly and trained.

Download of safety data sheets

The latest safety data sheets are available online.
To download them, go to the following link or scan the QR code.
Than you can enter your required product and download the associated safety data sheet.
https://www.ecolab.com/sds-search

2.9 Installation, maintenance and repair work

NOTICE!

Material damage by using incorrect tools!

Material damage may arise by using incorrect tools. **Use the correct tools.**

DANGER!

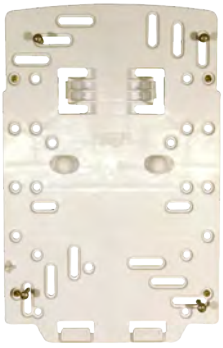
Damage and injuries may occur if installation, maintenance or repair work is carried out incorrectly.

All installation, maintenance and repair work must only be performed by authorised and trained specialist personnel in accordance with the applicable local regulations. Safety regulations and prescribed protective clothing when handling chemicals should be followed. Attention must be paid to the information included on the product data sheet for the metering medium used. Prior to all work the feeding of the metering medium should be disconnected and the system cleaned.

NOTICE!

Only original equipment spare parts may be used for maintenance and repairs.

3 Delivery

Part	Part name	Part no.	EBS no.
	**EcoPlus PDRX** Voltage 24 V, DC	10240068	10240068
	1 x WWC mains isolator module 230V, common N	272060	10017489
	1 x power supply, 30 W 240 VAC / 24 VDC	418931025	10009950
	1 x extension cable 6m V/VT	E99000128	10177432
	1 x extension cable 5m, 4-pin, RSMV RKMV	32357301	10200721
	1 x conductivity transducers ind. 0.2 m int. temp.	287409	10177424
	1 x quick-mounting plate	37200120	10007507
	1 x replacement hose 1 CC, for peristaltic pump	223795	10200194
	1 x overflow hose Ø 16 1.5 (DK)	272096	On request
	1 x information sheet "Changing products"	10240431	10240431

Part	Part name	Part no.	EBS no.
	1 x barrel connection, NWS 45 DEGR. G 3/4, Ø 19	272073	10200169
	1 x 45° product outlet, G1i-D19 PP (SP)	272070	10200142
	1 x straight product outlet	272071	10200141
	Air Gap Ecoplus S UK	272135	On request

4 Function/design

Function

EcoPlus P (Pressed Chemical Blocks) **D** (Display) **R** (Rinse Pump) **X** (Printer Interface) is an automatic dispenser for Ecolab pressed detergents as well as solid and liquid rinse aid products.

The EcoPlus PDRX consists of a housing, electronics with microcontroller, a solenoid valve, a double check valve and a spray nozzle.

Once the hood and funnel are removed, all parts are freely accessible for assembly, maintenance and repair.

As soon as the OK signal comes from the commercial dishwasher, the detergent concentration is measured continuously throughout the entire cleaning process by an inductive conductivity measuring cell in the dishwasher's main tank.

The control unit monitors the detergent concentration. As soon as the concentration drops below the set value, the top-up is activated.

The cleaner capsule is sprayed from below with cold or hot water.

The solution is dispensed into the dishwasher and the detergent concentration in the tank is measured.
Dispensing stops when the target concentration is reached.

In appliances with an integrated rinse aid pump, this is controlled either proportionally or timed.

Legal requirements for the United Kingdom of Great Britain and Northern Ireland

The EcoPlus PDRX may be operated only if the supplied air gap is installed between the product outlet and the product inlet line to the dishwasher.

Design EcoPlus PDRX

Fig. 1: Design

1. Lid assembly with sensor
2. Lid seals
3. Funnel
4. Dispensing pump connection from rinse aid to peristaltic pump
5. Electronics module display
6. Key field
7. Dishwasher connection
8. Water connection
9. Funnel lock

Key functions

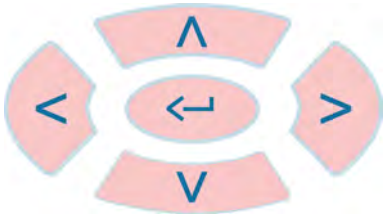


Fig. 2: Keypad

< + >	■ Select sub-menus and functions
∧ + ∨	■ Select setting values
↵	■ Call the selected function ■ Open the selected sub-menu ■ Confirm the selected value

When the *'Default'* screen is displayed, the control buttons have the following functions:

↵	■ Interrupt dosing for 30 sec. ■ Navigate to parameterisation / entry of TM code (> 2 sec.) ■ Activation from standby
∨	■ View operating data (capsule consumption, times)
∧ **+ 5 sec**	■ Activate booster
∧ **+ 1 sec**	■ Deactivate booster
< + > **(simultaneously for > 5 sec.)**	■ Put the device in standby mode **Note:** Press ↵ to switch the unit back on again.

5 Assembly and connection

CAUTION!

- Assembly must always be carried out by authorised personnel using these operating instructions.
- Wear appropriate protective clothing during the assembly and handling of this system. All valid safety regulations on handling chemicals must be observed.
- Electrical work must only be carried out by qualified electricians. Opening covers or removing parts may expose other parts carrying an electrical current. Connection points may also be live.
- Always use approved installation parts and accessories; refer to the accessories and installation list.
- Make absolutely sure that all line connections are firmly mounted and leakproof.
- Improper assembly may lead to injury due to chemical leaks.
- Legal regulations and the applicable product data sheets (*'Safety data sheets' on page 21*) must be taken into account for all chemicals.
- Wear personal protective equipment.

NOTICE!

Risk of incorrect measurements and error messages

The measuring method of the inductive conductivity measurement is susceptible to electromagnetic fields and influences. These can lead to faulty measurements and error messages:

- Do not install the device, the measuring cell and the measuring cell cable in the vicinity of frequency-controlled motors, mobile radio antennas or WLAN antennas.
- Do not install the measuring cell cable together with high-energy cables in a cable duct.

5.1 Wall mounting

NOTICE!

The assembly and installation descriptions that follow are the recommended methods for installation. In practice, however, the actual assembly and installation processes are determined by various conditions and physical situations.

Units must be installed in line with current regulations.

- **The EcoPlus PDRX is designed for wall mounting.**
- The appliance must be arranged so that all display messages are clearly visible.
- The unit must be fixed in such a way that the cleaning solution can enter the tank of the dishwasher unhindered
  (see section *'Wall-mounting' on page 29*).
- Leave a sufficiently large space above the unit to enable product capsules to be loaded or exchanged without obstruction.

Wall-mounting

The EcoPlus PDRX is supplied for wall mounting and for this purpose has a mounting plate, which on the one hand allows the EcoPlus PDRX to be quickly installed and, on the other, can be uninstalled again for maintenance work.

Personnel:
- Service personnel
- Mechanic
- Specialist

Protective equipment:
- Protective eyewear
- Protective gloves
- Safety shoes

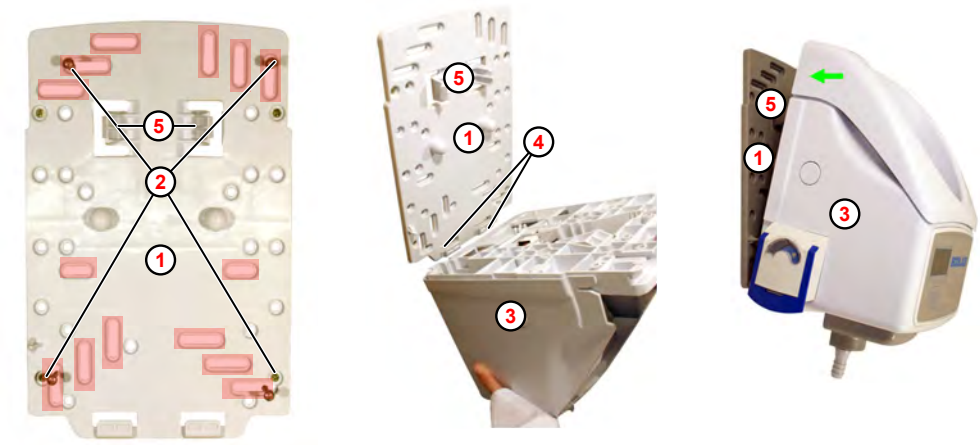


Fig. 3: Wall mounting (example with EcoPlus S)

1. Wall bracket
2. Drill holes
3. EcoPlus PDRX
4. Hooks
5. Retaining clip

1. Mark the desired drill holes
at the mounting position using the wall bracket Fig. 3 (1 ,) 2 .
2. Drill holes.
3. Fix the wall bracket 1 to the wall using suitable attachment parts.
4. EcoPlus PDRX 3 Put the into the hooks 4 of the wall bracket 1 from above.
5. EcoPlus PDRX 3 Pivot the onto the wall bracket 1 and push it back until it audibly engages.

5.2 Hydraulic installation

Domestic water supply

CAUTION!
- Always observe the max. permissible water pressures and temperatures (see the *section 10 „Specifications" on page 77*). If necessary, install a pressure reducer and/or a mixing valve.
- The connection for the water supply line must be located behind a shut-off valve (angle valve).

Personnel:
- Service personnel
- Qualified employee

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

Material:
- Plastic tube with 3/8-inch outer diameter
- Shut-off valve T-piece 15mm x 15mm x 3/8-inch pipe
- Adapter 3/8-thread x 3/8-inch tube

Connect the appliance to the hot or cold water supply as described below.

Requirements
- The unit is mounted in accordance with the regulations.
- The water supply line is shut off.

CAUTION!
Damage to the unit if the permissible water pressure is exceeded
- Always observe the max. permissible water pressures and temperatures (see *Section Technical data on page 77*).
  If necessary, fit a pressure reducer and/or mixing valve upstream.
- The connection for the water supply (feed line) must be located behind a shut-off cock (angle valve).

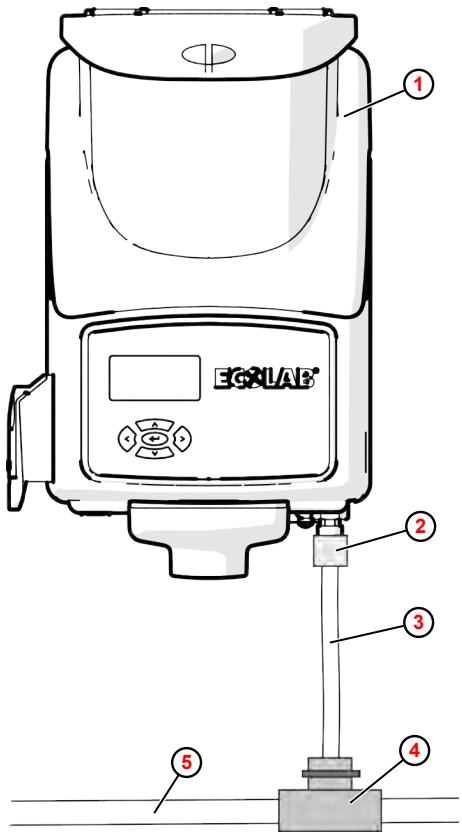


Fig. 4: Domestic water supply connection

1. Connect an adapter of 3/8-thread x 3/8-inch pipe ② to the water supply connection of the EcoPlus PDRX ① .
2. Disconnect the water supply line ⑤ and install a compatible shut-off valve T-piece ④ .
3. Guide the water connection pipe ③ to the EcoPlus PDRX and connect to the adapter.

The components ② - ④ are not included with the unit and must be sourced locally.

Product inlet line to the dishwasher

CAUTION!
Always follow these rules to prevent the feed line from getting blocked by product sedimentation:

- The feed line should be kept as short as possible.
  The incline of the feed line must be at least 5° throughout. Do not lay the inlet pipe so it is sagging (= siphon) or loose.
- The tank connection must be above the max. water level of the wash tank.

Legal requirements for the United Kingdom of Great Britain and Northern Ireland
The EcoPlus PDRX may be operated only if the supplied air gap is installed between the product outlet and the product inlet line to the dishwasher.

Personnel:
- Service personnel
- Qualified employee

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

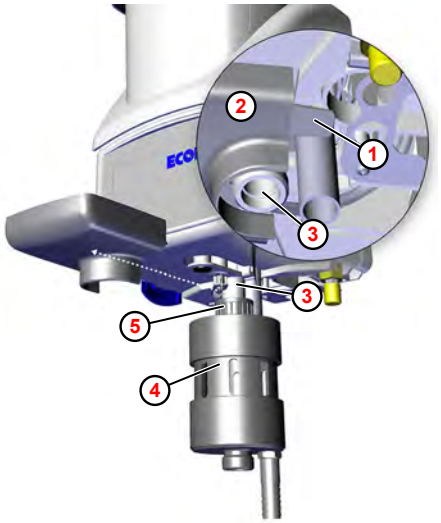


Fig. 5: Connect the Air Gap

1. Mark the water level when the wash tank is full.
2. Shut off the main water supply to the dishwasher.
3. Drain the water from the dishwasher.
4. Make a hole for the tank connection approx. 5 cm above max. fill level of the dishwasher.
5. Install the tank connection.
6. Hold down the release tab ① of the funnel lock ② .
7. Push the funnel lock ② up and off.
8. Connect the Air Gap ④ to the funnel outlet ③ and tighten the union nut ⑤ clockwise.

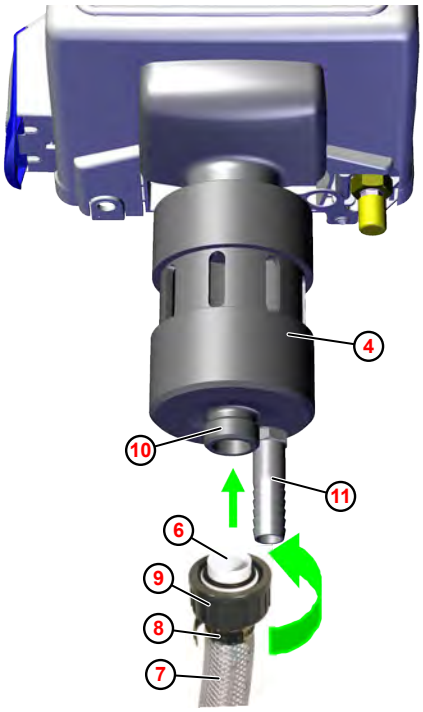


Fig. 6: Product inlet line to the dishwasher

9. Slide the union nut (9) over the connection nipple (6) .
10. Slide the hose clamp (8) over the product inlet line (7) .
11. Slide the product inlet line (7) onto the connecting nipple (6) .
12. Tighten the hose clamp (8) .
13. Connect the product inlet line to the Air Gap outlet (10) and tighten the union nut (9) clockwise.
14. Connect the product inlet line to the tank connection.
15. If necessary, connect an overflow hose to the hose connection (11) and lead it into a collection container or to the wastewater system.

Safety overflow hose

CAUTION!
The safety overflow hose (PVC - hose clear; included in delivery) must be installed. The hose must only be used for the overflow line.

Personnel:
- Service personnel
- Qualified employee

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

1. Shorten the PVC hose to the required length.
2. Connect the hose to a collection container or direct it to the sewage system.

Measuring cell

NOTICE!

The installation location must be selected in such a way that sufficient mixing is ensured in the area of the measuring cell and that this is clearly below the minimum level of the cleaning solution even when the circulation is running:

- The measuring point must always be located downstream of the dosing point in the direction of flow.
- The transverse drilling of the measuring cell must be aligned vertically, or up to an angle of max. 45°, in order to avoid residues and air bubbles in the drilling.
- **The distance between the measuring cell and the device must not exceed 20 m.**

The following distances must be observed:

Construction element	Spacing
Tank corners	Min. 50 mm
Heating elements	As large as possible

Mounting the measuring cell:

Personnel:
- Service personnel
- Qualified employee

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

1. Fabricate a sufficiently large hole at the desired location in the tank wall.
2. Fit the measuring cell to the tank wall of the dishwasher.

Rinse aid connection

Concerns appliances with integrated rinse aid metering pump (PDRX).

Personnel:
- Service personnel
- Qualified employee

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

1. Lay the dosing line from the peristaltic squeeze pump to the rinse aid supply on the dishwasher and connect it.

On the metering side, a pressure control valve must be installed in the rinse-aid feed of the dishwasher.

CAUTION!

Always use approved installation parts and accessories; refer to the list of accessories and installation list.

5.3 Electrical installation

Personnel:
- Qualified electrician

Protective equipment:
- Protective gloves
- Safety shoes
- Protective eyewear

Dangers caused by electrical energy

WARNING!
The protective earth connection is marked by this symbol at the connection points.

DANGER!
Risk of fatal injury from electric current!

Dangers due to electrical current are indicated by the symbol opposite.

Work on those places may only be carried out by skilled personnel who are duly trained and authorised.

Contact with live parts represents immediate danger to life due to electrocution. Damage to the insulation or individual components can be life-threatening.

– Before starting work, create a de-energised state and ensure this state is maintained for the duration of the work.
– If you discover any damage to the installation, switch off the power supply and organise repairs.
– Never bridge or decommission fuses.
– When replacing fuses, comply with the rating.
– Do not expose live parts to moisture as this may cause short-circuits.

CAUTION!
The EcoPlus PDRX does not have its own on/off switch!
The device must be connected via the main switch of the dishwasher, or a separate main switch must be installed (provided on site) to prevent the risk of automatic start-up.
Make sure that the device is protected by a suitable fuse (see *chapter 10 „Technical data" on page 77*).

WARNING!
The main switch of the dishwasher must be switched off before any work is carried out on electrical parts.

All current international, national and regional safety regulations must be observed in relation to the electrical connection of the unit.

The maximum permissible voltage must not be exceeded.

Installation preparations:

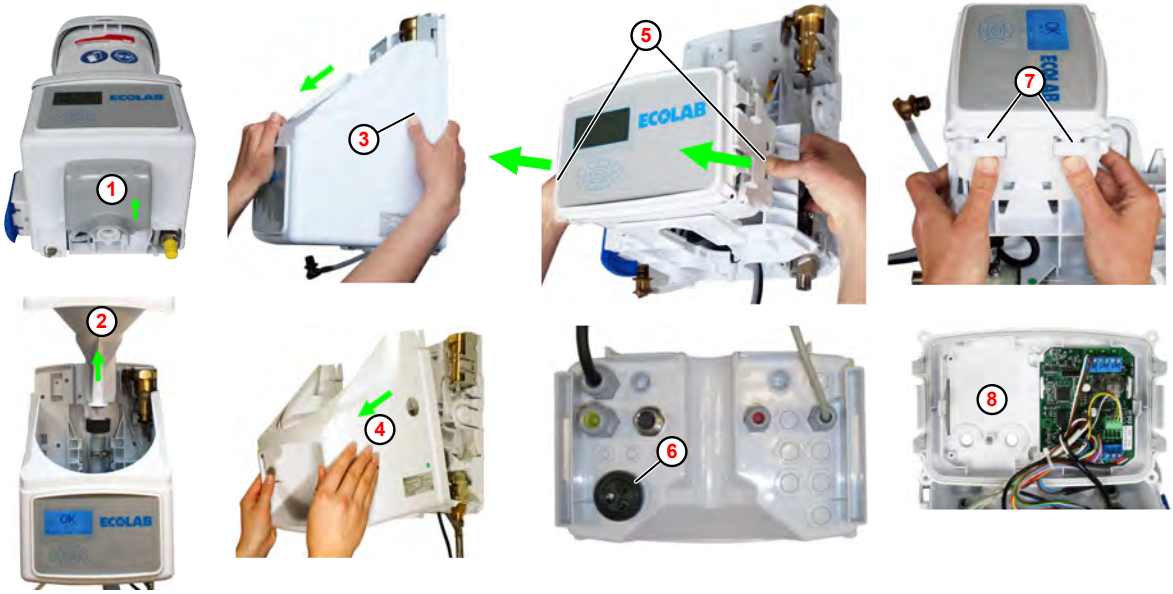


Fig. 7: Removal of the electronic unit

①	Funnel lock	⑤	Tab
②	Funnel	⑥	Buzzer
③	Release button	⑦	Tab
④	Housing	⑧	Housing cover

1. Hold down the release tab of the funnel lock.
2. Push the funnel lock (Fig. 7 , ①) upwards and remove it.
   ⇨ The funnel is now unlocked.
3. Remove the funnel ② upwards.
4. Press both buttons ③ on the housing (right and left).
   ⇨ The housing is unlocked.
5. Remove the housing ④ forwards.
   ⇨ The electronics housing is exposed.
6. Press both tabs ⑤ on the electronics housing (right and left).
   ⇨ The electronics housing is unlocked and can be removed completely.
   ⇨ The buzzer volume (alarm) can be set here ⑥ .
   ↯ *'Set alarm volume' on page 37*
7. Press all four tabs ⑦ of the electronics housing cover (right and left).
   ⇨ The electronics housing cover ⑧ is unlocked and can be removed.
8. The PCB is now exposed and the electrical installation can begin.

Set alarm volume

Fig. 8: Set alarm volume

① Tab	④ Open
② Electronics housing	⑤ Closed
③ Buzzer	

1. Press both tabs (Fig. 8 , ①) on the electronics housing ② .
   ⇨ The electronics housing is unlocked and can be removed completely.
2. Turn over the electronics housing. The unit has a buzzer ③ in order to issue an acoustic alarm.
3. Adjust the volume by turning the inner disc by hand.
   Open ④ = max. volume, closed ⑤ = min. volume

Power supply

Requirements:

- The included mains unit is installed in a suitable place inside the dishwasher.
- The unit is connected via a main switch, which is designed as a disconnector and switches off at all poles.

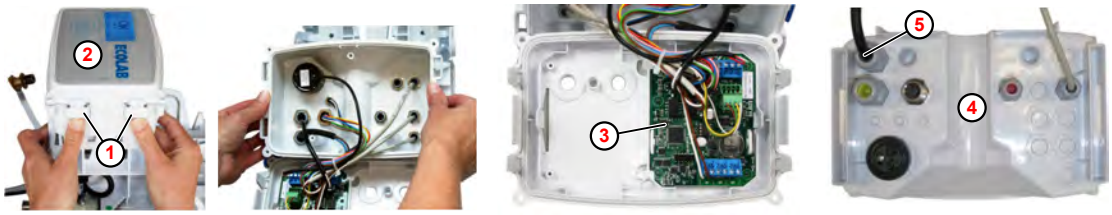


Fig. 9: Power supply

1. Tab
2. Electronics module
3. WWC board
4. Electronics module (bottom)
5. Cable union, threaded

1. Press the catch (Fig. 9 , 1) on one side and pull the electronics module 2 out of the fastening device.

2. Then press the catch on the other side and disengage the electronic module on this side as well.
- ⇨ The electronics housing is unlocked and can be removed completely.
- ⇨ The WWC board 3 with the power supply and electronic cables is located in the cover.

3. Turn over the electronics housing 4 .
- ⇨ The cable unions 5 are now freely accessible.

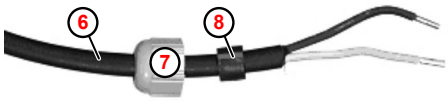


Fig. 10: Transformer cable

4. Feed the transformer cable (Fig. 10 , 6) through the threaded cable union 7 .

5. Check the seal 8 for the correct fit.

6. Connect the transformer cable.

7. Tighten the screwed cable connection until hand-tight.

WARNING!
Leave enough clearance on the connecting lines to enable the electronics module to hang free and with no tensile loading. At the same time, always take care to ensure that no cable loops form!

Terminal connection diagram EcoPlus PDRX

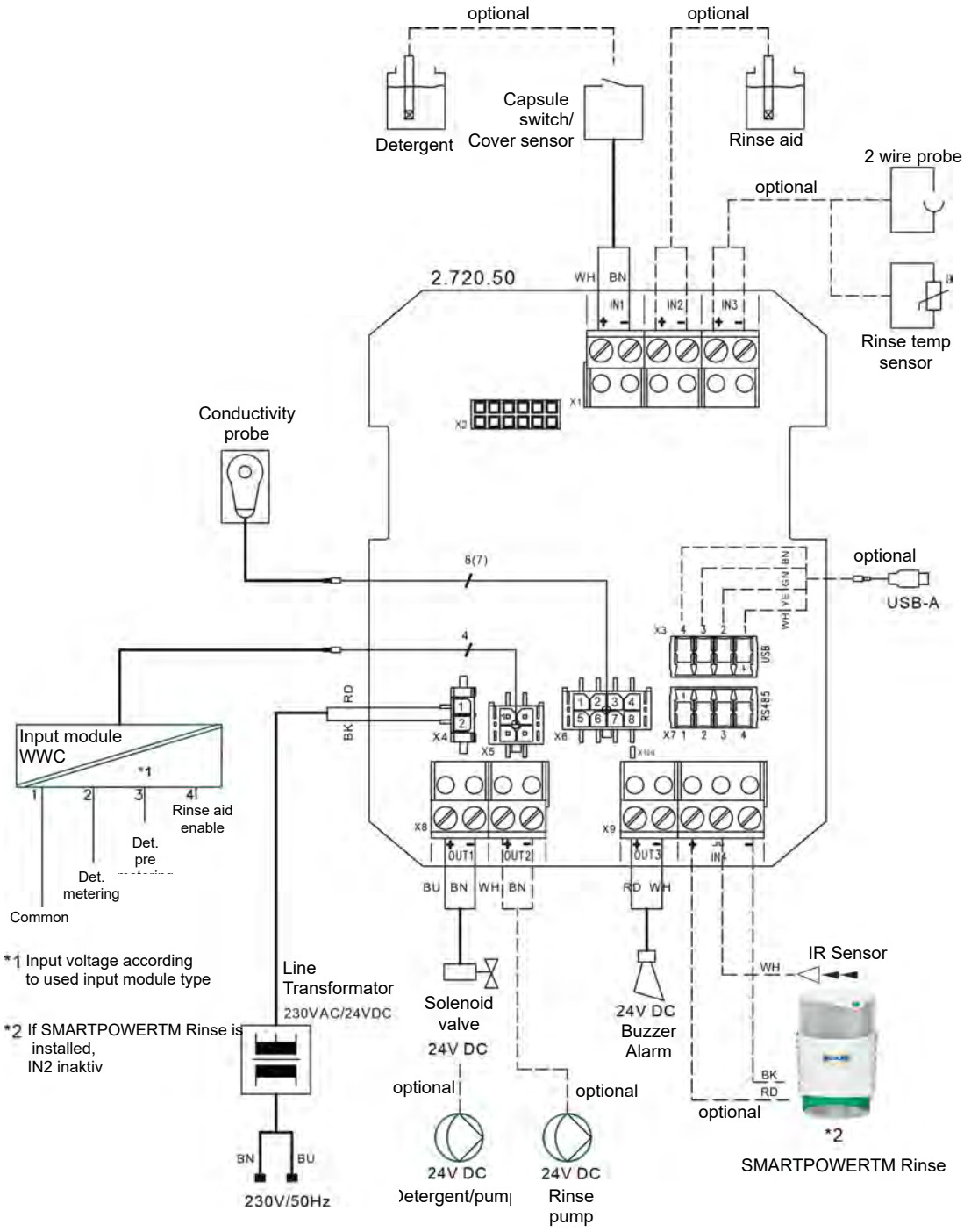


Fig. 11: Terminal connection diagram EcoPlus PDRX

‘’

6 Startup / Operation

Personnel:
- Operator
- Specialist

Protective equipment:
- Protective gloves
- Protective eyewear
- Safety shoes

6.1 Software description of control PCB

The startup, adjustment and operation of the control PCB are described in separate instructions. To download the instructions on a PC, tablet or smartphone, use the link below or scan the QR code.

Complete operating instructions available to download

To download the manual *WWC PCB* (part no. MAN049685), go to:
https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685_WWC-PCB.pdf

Pictograms

Pictogram	Meaning	Pictogram	Meaning	Pictogram	Meaning
	"System working"		Solid product		Pre-dosing
	Alarm (general)		Detergent block (SMARTPOWER™)		Washing
	Access code		Rinse aid block (SMARTPOWER™)		Rinse
	Visualisation		Liquid product		Single tank GSM
	Manual operation		Powder product		Multiple tank GSM
	Settings		Solenoid valve		Module release
SETUP	Configuration		Peristaltic pump		Memory
	Inductive conductivity measuring cell		Pump (general)		Conductivity
	Conductive conductivity measuring cell		Booster		Volume
	Time Controlled / Date, Time / Period		Buzzer		Activated
	Delay time		Save		Not active
	Dosing time		Increase value		Decrease value
	Max. temperature		Automatic summer/winter switching		Exit/Quit
	Min. temperature		TurboSmart pump 20 l/h		TurboSmart pump 1.4 l/h
	Box / box counter		Operating data		Reset to factory settings
	Change tank water		Washing phases		Import/export Import/export data

Program structure

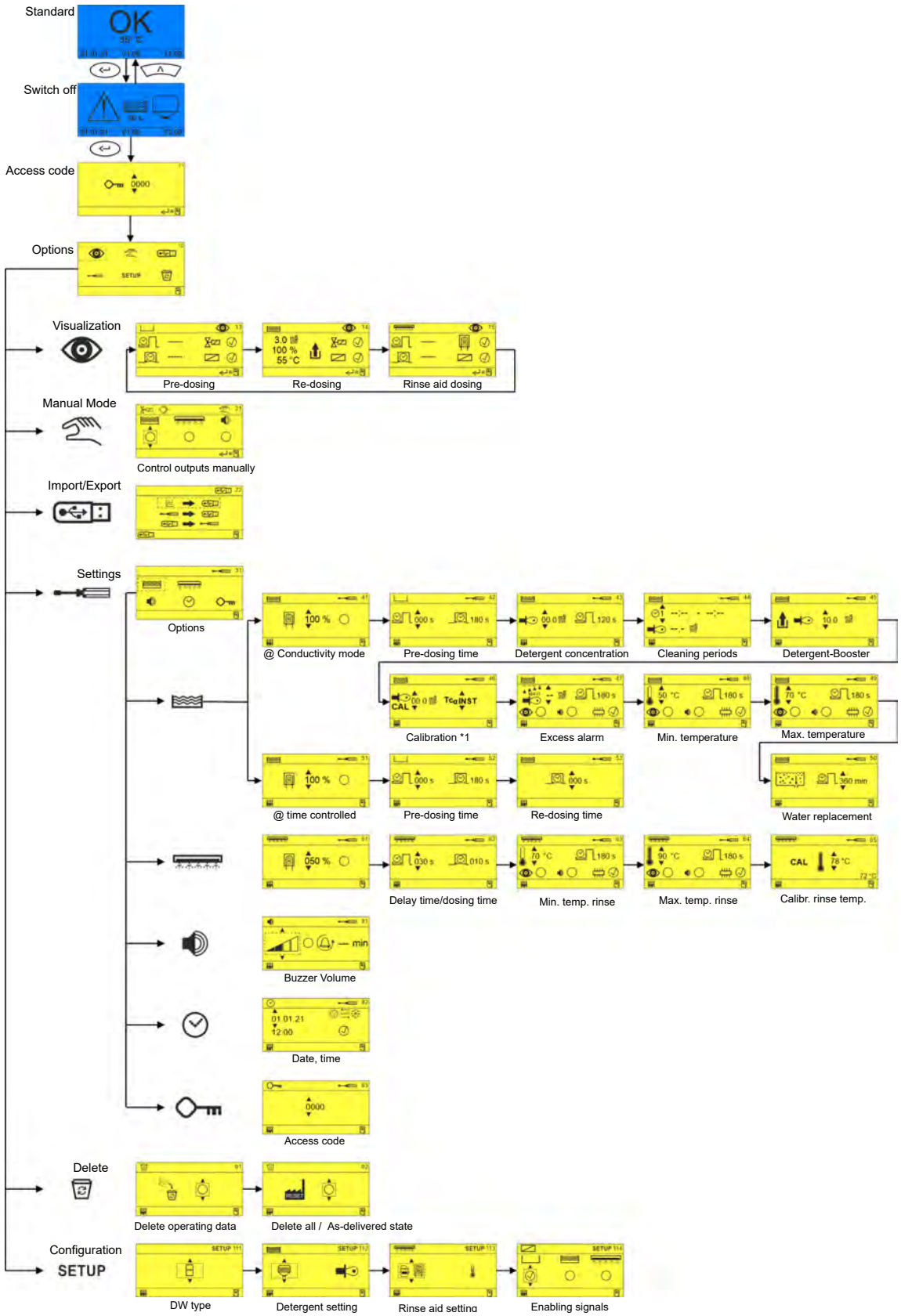


Fig. 12: Programme structure

6.2 Initial start-up

In the following cases, the control PCB of the EcoPlus PDRX starts with the *'No Setup'* alarm screen:

- When first starting up the EcoPlus PDRX
- After installing a new control PCB
- After resetting to factory settings
- After replacing the CMOS battery

Carry out initial commissioning

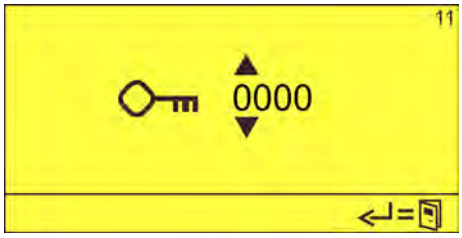
Requirements:

- The EcoPlus PDRX is correctly mounted and installed. ↬ *Chapter 5 'Assembly and connection' on page 28*

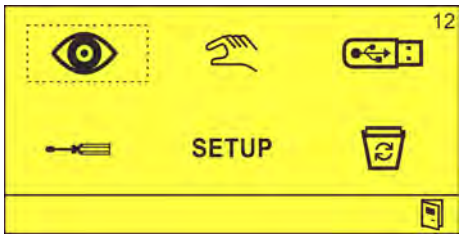
1. Switch on the dishwasher.

⇨ The *'No Setup'* screen appears.

2. Press to operate the unit.



3. Enter the access code using and press to confirm.



⇨ The *'Options'* screen (12) appears.

4. Perform setup. ↬ *Chapter 6.3 'Set-up' on page 44*

5. Fill the wash tank with clean water.

6. If necessary, perform the zero calibration.

7. Set the concentration to approx. 3.5 mS/cm (opening value).

8. Make all other parameter settings.

Refer to the description of the control PCB. ↳ Chapter 6.1 'Software description of control PCB' on page 40

9. If necessary, reset the operating data memory unit.
10. Open shut-off valve on water supply pipe.
11. Check that all hoses, connections and components are properly sealed and check that the cover switch functions properly.
12. Insert a SMARTPOWER ™ rinse aid capsule and start the dishwasher's rinse program.
13. After 2-3 program runs, check the concentration by means of titration. If necessary, correct the required conductivity figure.

NOTICE!
Before titration, the preparation value must have reached about 100% of the nominal value.

6.3 Set-up

You use the *'Set-Up'* menu to set up the unit operated using the control PCB.

Basic settings such as dishwasher type, detergent and rinse aid products used (solid, liquid), and the use of release signals are set in this process.

When installing a complete unit, the system is already preset.
Only the dishwasher type and release signals still need to be configured.

You can configure the following:

- Dishwasher model ↳ *'Dishwasher type - SETUP 111' on page 44*
- Detergent setup ↳ *' Detergent - SETUP 112' on page 45*
- Rinse aid set-up ↳ *' Rinse aid - SETUP 113' on page 45*
- Enable signal setup ↳ *' Release signals - SETUP 114' on page 45*

Dishwasher type - SETUP 111

The *'Dishwasher Model Setup'* screen (111) is used to determine the type of dishwasher. This specifies whether the EcoPlus PDRX is used on a single-tank or multi-tank dishwasher.

- Single-tank dishwasher
- Multi-tank dishwasher

Changing the dishwasher type resets the rinsing delay time.

Detergent - SETUP 112

The *'Detergent Setup'* screen (112) is used to configure the detergent used and the dosing mode.

The following detergent must be configured for the use of the EcoPlus PDRX:

- Capsule

Depending on the conductivity probe used, the following dosing modes can be configured:

- Conductivity with inductive measuring cell
- Conductivity with washing phases
- Conductivity with conductive measuring cell
- Time-controlled

Rinse aid - SETUP 113

If a rinse aid is used in the dishwasher, the *'Rinse Aid Setup'* screen (113) can be used to configure and set whether rinsing occurs at rinsing temperature or without heating.

Depending on the rinse aid used, the following settings can be made for the EcoPlus PDRX:

- Liquid product via peristaltic pump (versions **SDR-ST** and **SDRX**)
- Capsule

You can also set the following:

- The boiler temperature is measured and displayed
- -- - No temperature sensor configured to show boiler temperature

Release signals - SETUP 114

The *'Enable Signals Set-Up'* screen (114) is used to configure enable signals that are sent from dishwasher modules to the controller PCB.

If enable signals are configured, the EcoPlus PDRX waits until the corresponding enable signal is present to deliver the metered quantity.

You can configure the following sharing signals:

- Pre-dose
- Wash
- Rinse

If no input is activated, the corresponding dosage starts as soon as the voltage is applied.

6.4 Operation

Personnel:
- Operator
- Specialist

Protective equipment:
- Protective gloves
- Protective eyewear
- Safety shoes

6.4.1 Switching on the unit

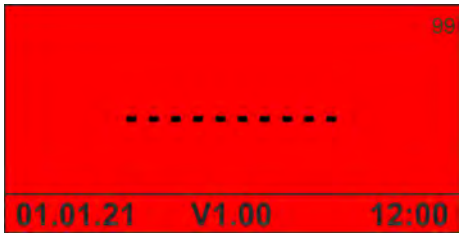
The EcoPlus PDRX is powered directly from the dishwasher and switched on together with it.

1. Switch on the dishwasher.
   ⇨ The EcoPlus PDRX starts up.
   ⇨ The home screen is displayed.

6.4.2 Temporarily taking the unit out of operation

Starting point: Default ‘ *screen’*

1. < + > Press simultaneously for 5 seconds.
   ⇨ The device stops and goes into standby mode.



2. If necessary, interrupt the water supply.

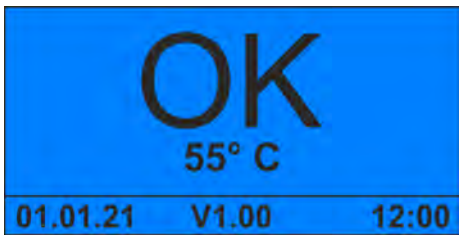
↵ *Press to resume operation.*

6.4.3 Booster activation

Prerequisite:

- The unit is switched on and in operation

Starting point: Default *‘ screen’*



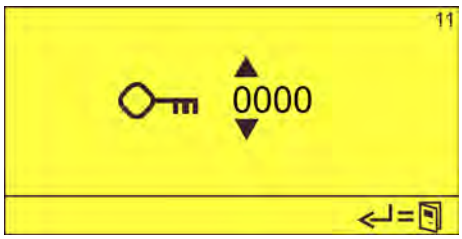
1. Press for 5 seconds.
⇨ The booster is active for one hour.

Press for one second to manually disable the booster.

6.4.4 Entering the access code

Starting point: Default *‘ screen’*

1. ↵ key combination pressed while the pump is currently in operation.



2. Enter the access code with ∧ > and confirm with ↵.
⇨ The *‘Options’* screen (12) appears.

6.4.5 Dosing functions

Abbreviations used:

Abbreviation	Meaning
EN	External enable
EN-VD	External enable, pre-dosing
EN-ND	External enable, post-dosing
EN-KS	External enable, rinse aid dosing
LF	Conductivity

6.4.5.1 Detergent dosing

Pre-dosing

	Description	Setting in
Prerequisite:	External enable ("EN-VD") configured	Setup [114]
Enable:	EN-VD = 1 and simultaneously LF < 0.5mS/cm (tank empty) Special features: ■ Process once only per washing cycle ■ Changes EN-VD to 0 ➜ VD stops ■ New enable possible, either: – By metering unit = OFF or – - No EN active - Conductivity < 50% of nominal value for > 5 minutes	
Process:	■ Delay time expires ■ Dosing time expires	Parameters [42] or [52]
End:	■ Pre-dosing time expired **Note:** If post-dosing is active (EN-ND = 1) and the conductivity is > 80% of the setpoint value, pre-dosing ends.	
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times continue to run	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see *'Program structure' on page 42*

Post-dosing

	Description	Setting in
Dishwasher type		Setup [111]
Metering modes	Time-controlled or conductivity controlled	Setup [112]
Enable	■ For external enable: Status EN-ND = 1 ■ For internal enable: Metering unit = ON	Setup [114]
Dosing process	For "time-controlled": ■ Expiry of dosing time ■ Then stop **Comment:** EN-ND stops dosing and resets the dosing time	Parameter [53]
	For "Conductivity controlled": ■ Depending on concentration (with self-learning function)	Parameters [43], [44], [45]
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times reset ■ New process after new enable	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New re-dosing possible	

Comment: "[xx]" indicates the corresponding display, see *'Program structure' on page 42*

6.4.5.2 Rinse aid dosing

Single tank dishwasher / small dishwasher

	Description	Setting in
Dishwasher type		Setup [111]
Dosing mode	Time controlled or continuous: ■ Delay time ■ Dosing time	Parameter [62] Parameter [62]
Enable	■ For external enable: Edge change EN-KS 0->1 ■ For internal enable: Metering unit OFF->ON	Setup [114]
Dosing process	■ Delay time expiry ■ Expiry of dosing time	
Behaviour in the event of an alarm	■ Dosing interrupted ■ Times reset ■ New process after new enable	
Behaviour in parameter setting/ configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see *'Program structure' on page 42*

Multiple tank dishwasher

	Description	Setting in
Dishwasher type		Setup [111]
Dosing mode	■ Continuous (= "ON") ■ (Optionally also time-controlled)	Parameter [62]
Enable	■ For external enable: Status EN-KS=1 ■ For internal enable: Metering unit ON	Setup [114]
Dosing process	Dosing if enable is present	
Behaviour in the event of an alarm	■ Dosing interrupted ■ New process as soon as enable present	
Behaviour in parameter setting/ Configuration	■ Times reset ■ New pre-dosing possible	

Comment: "[xx]" indicates the corresponding display, see *'Program structure' on page 42*

6.4.5.3 Calibrating the conductivity measurement

	Description	Setting in
Manual (Standard, recommended)	■ Measuring the conductivity of the GGSM filling water ■ Manual entry of this value (max. 15.0 MS/cm) **Note:** This value is always deducted from the currently measured conductivity reading.	Parameter [46]
AUTO (not recommended, only select when the quality of the water changes!)	Precondition: ■ EN-VD activated ■ EN-ND activated	SETUP [114]
	Settings: ■ "AUTO"	Parameter [46]
	■ The water value is measured at the end of the pre-dosing delay. ■ This value is always deducted from the currently measured conductivity reading.	Parameter [42], (min. 120 s)

Comment: "[xx]" indicates the corresponding display, see *'Program structure' on page 42*

7 Servicing and maintenance

Protective equipment:
- Protective eyewear
- Protective gloves
- Safety shoes

NOTICE!

Material damage by using incorrect tools!

Material damage may arise by using incorrect tools. **Use the correct tools.**

DANGER!

If you believe that the unit can no longer be operated safely, you must decommission it immediately and secure it so that it cannot be used inadvertently.

<u>This applies</u>:

– if the unit shows visible signs of damage,
– if the unit no longer appears to be operational,
– after prolonged periods of storage under unfavourable conditions.

<u>The following instructions must always be observed</u>:

– Prior to carrying out any work on electric parts, switch off the power supply and secure the system against being switched back on again.
– Safety regulations and prescribed protective clothing when handling chemicals should be followed.
– Attention must be paid to the information included on the product data sheet of the metering medium used.
– The unit must only be operated with the supply and control voltage specified in the Technical Data section.

CAUTION!

Changes or modifications are not permitted without prior, written permission from Ecolab Engineering GmbH and result in the forfeiting of any and all warranty entitlements. Original spare parts and accessories approved by the manufacturer heighten the degree of safety.
The use of other parts results in an exclusion of the warranty for any ensuing consequences.
Please consider that the CE conformity expires in case of subsequent conversions

DANGER!

Damage and injuries may occur if installation, maintenance or repair work is carried out incorrectly.

All installation, maintenance and repair work must only be performed by authorised and trained specialist personnel in accordance with the applicable local regulations. Safety regulations and prescribed protective clothing when handling chemicals should be followed. Attention must be paid to the information included on the product data sheet for the metering medium used. Prior to all work the feeding of the metering medium should be disconnected and the system cleaned.

NOTICE!

Only original equipment spare parts may be used for maintenance and repairs.

CAUTION!

Before conducting maintenance work, the power to the system must be switched off and the water supply must be interrupted. Always observe the safety guidelines. ↳ *Chapter 2 'Safety' on page 12*

The maintenance interval is a max. 1 year; we recommend every 6 months.

7.1 Maintenance intervals

Interval	Maintenance work	Personnel
Daily	**General status:** External dirt: Check the unit is clean and clean if necessary. Damage: Check the unit damage and notify Ecolab Customer Service if necessary.	Specialist
Every six months	**Water inlet pipe and water-bearing components in the unit:** Tightness: As necessary. Replace seals or replace defective components. Dirt: If necessary, clean the sieve of the solenoid valve.	Specialist Service personnel
	Squeeze tube (depending on model): Damage, wear: Replace squeeze tube at least annually, or every six months if overworked (see *Chapter 7.2.10 'Removing and installing the peristaltic hose' on page 67*).	Specialist Service personnel
	Feed line to dishwasher: Blockage, leak tightness: Replace hose if necessary.	Specialist Service personnel
	Overflow line: Blockage / watertightness: Where necessary, replace hose.	Specialist Service personnel
	Concentration in dishwasher: Correct concentration: If necessary, clean the LF measuring cell, readjust the concentration (see I/O Ecodos PCB or WWC PCB).	Specialist Service personnel
	Lid sensor: Correct function: Clean funnel if necessary, replace components.	Specialist Service personnel
	Spray nozzle: Dirt: Replace if necessary.	Specialist Service personnel

7.2 Maintenance and service work

7.2.1 Clean the appliance

Personnel:
- Operator
- Trained personnel

Protective equipment:
- Protective eyewear
- Chemical resistant protective gloves

1. Wipe down the unit using a damp cloth.
2. Check the unit for secure attachment and external damage.
3. If applicable, check the display for damage and pixel errors.
4. Check the connector lines and cables for damage, secure fit and correct routing.

7.2.2 Inserting/removing the funnel lock

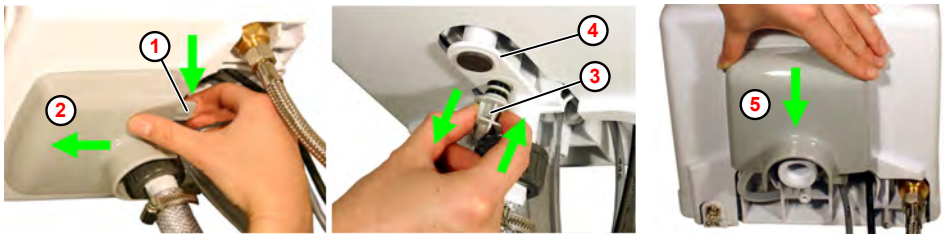


Fig. 13: Funnel lock

1. Safety latch
2. Funnel lock
3. Connection adapter
4. Retainer
5. Funnel lock

Removal:

1. Pull the safety latch (Fig. 13 , 1) downwards.
2. Slide the funnel lock 2 forwards/remove.

WARNING!
Risk of breakage!
Hold the connection adapter 3 only by the side ribs.
Do not pull on the hose or bend the hose.

3. Pull the connection adapter 3 downwards.

Assembly:

1. Insert the connection adapter 3 as far as it will go until it is flush with the funnel housing.
2. Push the funnel lock 5 onto the retainer 4 until it engages with a distinct noise.

7.2.3 Disassembling and cleaning the funnel and outlet hose

Fig. 14: Removing the funnel

1. Funnel
2. Pull out the funnel
3. Housing
4. Outlet hose
5. O-ring
6. Funnel shaft
7. Insert funnel

Requirements:

- Funnel lock removed ↪ *Chapter 7.2.2 'Inserting/removing the funnel lock' on page 56*

1. Pull funnel (Fig. 14 , 1) upwards and out 2 .
2. Pull the funnel together with the outlet hose 4 upwards out of the housing.
3. Clean the funnel on the outside and inside (e.g. in the dishwasher at max. 55°C).
4. Clean the O-ring 5 by hand.
5. Lubricate the O-ring with silicone grease.
6. Keep all connecting lines in the housing away from the funnel shaft 6 .
7. Push the funnel back into the housing 3 from above 7 .
8. Screw the drain hose 4 back onto the funnel until hand-tight.

CAUTION!
Make sure that the O-ring 5 is inserted in the hose to achieve the necessary leak tightness.

7.2.4 Cleaning and installing the connection adapter

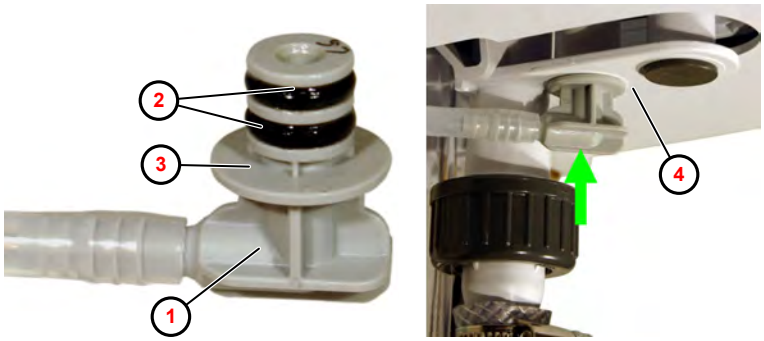


Fig. 15: Removing the connection adapter

① Connection adapter
② O-rings
③ O-ring seat
④ Funnel housing

Requirements:

- Funnel lock removed *Chapter 7.2.2 'Inserting/removing the funnel lock' on page 56*

WARNING!
Do not use any tools!

1. Remove O-rings (Fig. 15 , ②) from the connection adapter ① .
2. Clean the O-ring ③ seat by hand.
3. Clean O-rings and relubricate with silicone grease.
4. Push the O-rings back onto the connection adapter and re-grease.
5. Insert the connection adapter as far as it will go until it is flush with the funnel housing ④ .

WARNING!
Risk of breakage!
Hold the connector adapter ① only by the side ribs.
Do not pull on the hose or bend the hose.

7.2.5 Removing/installing the hood

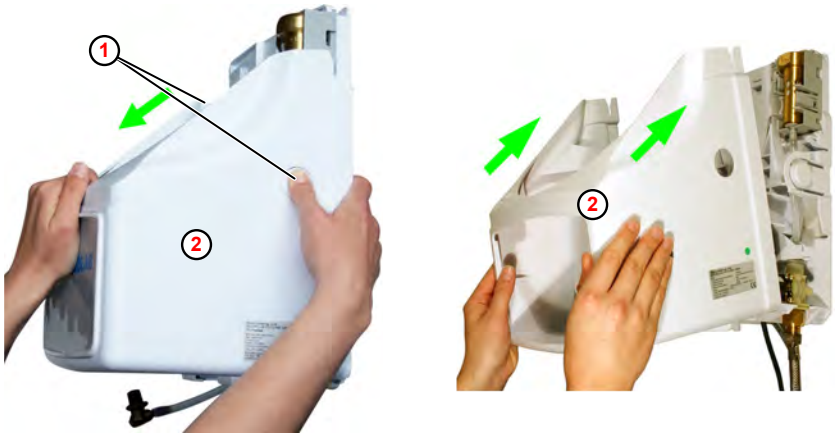


Fig. 16: Removing/installing the hood (example with EcoPlus S)

① Release button

② Housing

Disassembly

1. Press both buttons (Fig. 16 , ①) on the housing (right and left).
2. Remove the housing ② forwards.

Installation

1. Place the housing ② onto the rear panel from the front.
2. Slide the housing backwards until you hear both release buttons ① click into place.

7.2.6 Disassembling/assembling the double check valve

Disassembling

Requirements:

- Angle valve for water supply closed.
- Hinged cover is open.
- Funnel dismantled. ↳ *Chapter 7.2.3 'Disassembling and cleaning the funnel and outlet hose' on page 57*
- Hood dismantled. ↳ *Chapter 7.2.5 'Removing/installing the hood' on page 59*

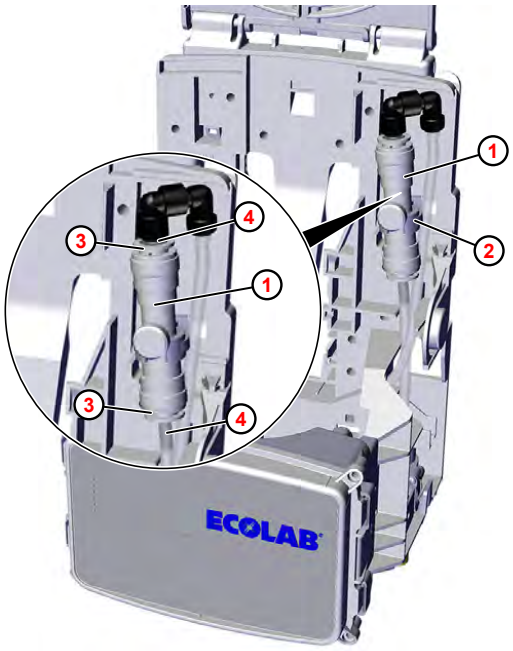


Fig. 17: Disassembly/installation of double check valve

1. Unclip the double check valve ① from its holder ② .
2. Press in the retaining rings on the plug-in couplings ③ of the double check valve and remove the connecting brackets ④ , with any connecting parts.
3. Remove the double check valve ① from the unit.

Assembly

When installing the double check valve, observe the flow direction (from bottom to top)!

1. Insert the connecting brackets ④ into the double check valve ① as far as they will go.
2. Push the double check valve into the holder until it clicks into place ② .

7.2.7 Removing/installing the solenoid valve

Fig. 18: Solenoid valve disassembly

1. Inlet hose
2. Connection adapter
3. Union nut
4. Precision O-rings
5. Valve body
6. Fastening element
7. Electrical (magnetic) coil

Disassembly

Requirements:

- Power supply is disconnected.

- Water supply has been stopped.

WARNING!
Lubricate O-rings before assembly, otherwise damage and wear may occur. Never press directly on the connection nipple or solenoid coil – there is a risk of breakage.

When screwing the inlet hose, counter using a second open-end spanner on the connection adapter.

1. Unscrew the inlet hose (Fig. 18 , ①).
2. Screw on the union nut ③ and carefully pull the connection adapter ② out of the valve body ⑤ .
3. Pull the valve body out of the housing sideways.
4. Push the electrical (magnetic) coil (bayonet clutch) ⑦ against the valve body while turning it anticlockwise (to the left - approximately 30°) until the electrical (magnetic) coil is released from the lock.
5. Remove the electrical (magnetic) coil.

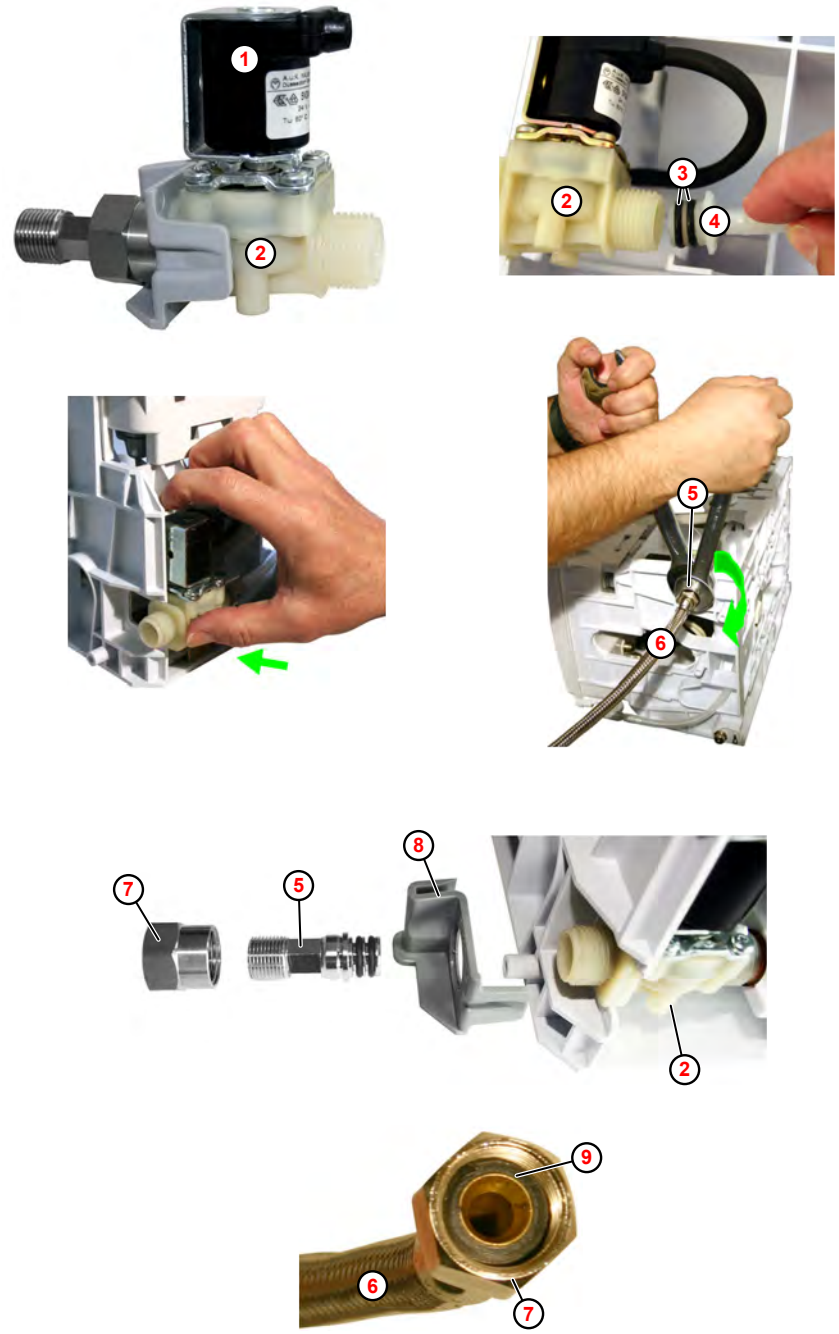


Fig. 19: Solenoid valve assembly

1. Spule
2. Valve body
3. O-rings
4. Connection nipple
5. Connection adapter
6. Inlet hose
7. Union nut
8. Fastening element
9. Seal

Installation

Requirements:

- Power supply is disconnected.
- Water supply has been stopped.

WARNING!
Lubricate O-rings before assembly, otherwise damage and wear may occur. Never press directly on the connection nipple – there is a risk of breakage.

CAUTION!
When connecting the inlet hose ⑥ , ensure that the seal ⑨ is correctly positioned in the union nut ⑦ .

1. Press the coil (Fig. 19 , ①) against the valve body ② while turning it approx. 30° clockwise (to the right) until the coil audibly clicks into place.
2. Clean both O-rings ③ on their connecting nipples ④ using a lint-free cloth.
3. Guide the connecting nipple ④ into the valve ② until it is flush with the valve housing.
4. Slide the solenoid valve into the rear wall (tight).
5. Attach the fastening element ⑧ to the valve body and housing.
6. Carefully insert the connection adapter ⑤ into the valve body (tight).
7. Screw the union nut ⑦ onto the valve body.
8. Screw the inlet hose ⑥ onto the connection adapter.
9. Use a second open-ended spanner on the connection adapter to counter the force applied.

7.2.8 Removing the unit from the holder

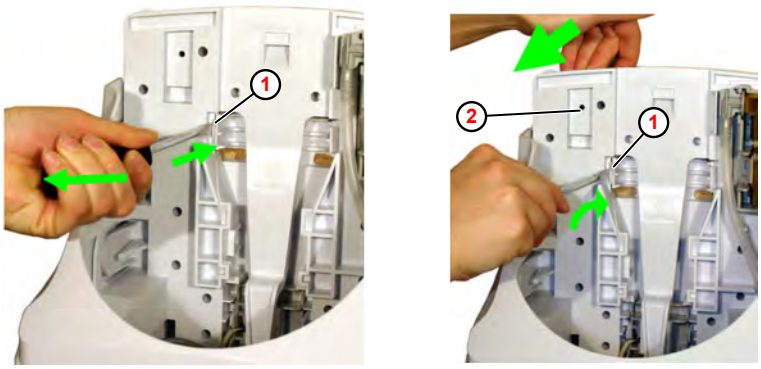


Fig. 20: Removal from the holder (shown with EcoPlus S)

① Screwdriver

② Unit

Requirements:

- Funnel is removed.

WARNING!
It is only possible to unlock the catch by turning it with a broad, flat blade.
Do not use the screwdriver as a lifting tool.

1. Insert a large flat-headed screwdriver(Fig. 20 , ①) (broad blade) between the catch and the rear wall of the unit.
2. Turn the screwdriver until the catch opens and, at the same time, pull the unit ② forwards with the other hand.

7.2.9 Disassembling/assembling the nozzle line

WARNING!
Never bend the nozzle line or use force.
Connection nipples must not be rotated in the pipe. Do not degrease, soil or damage o-rings.

Requirements:

- Angle valve for water supply closed.
- Funnel dismantled. *Chapter 7.2.3 'Disassembling and cleaning the funnel and outlet hose' on page 57*
- Hood dismantled. *Chapter 7.2.5 'Removing/installing the hood' on page 59*

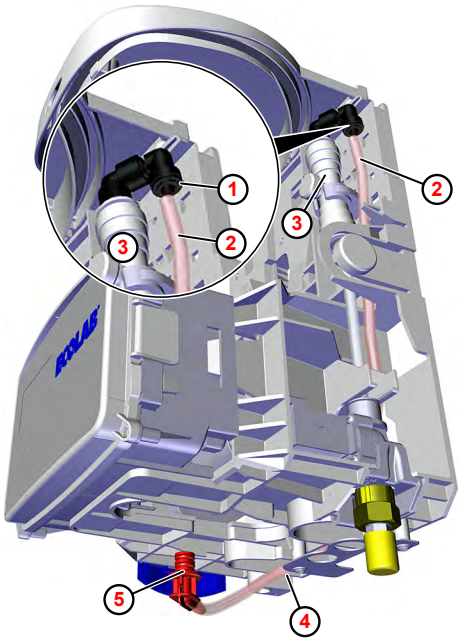


Fig. 21: Disassembling/assembling the nozzle line

1. Press in the retaining ring on the plug-in coupling ① and pull the nozzle line ② out of the plug-in coupling.
2. Unthread the nozzle line downwards from the unit.
3. Insert the nozzle line ② from below through the opening ④ in the back of the housing.
4. Pull out the nozzle line up and sideways through the shaft above the solenoid valve.
5. By turning and threading at the same time, bring the nozzle line into the correct installation position to the double check valve ③ .
6. Remove the protective packaging of the connection adapter ⑤ .
7. Click the nozzle line ② all the way into the plug-in coupling ① .

7.2.10 Removing and installing the peristaltic hose

Fig. 22: Replacing the peristaltic hose

1. Bracket
2. Peristaltic pump
3. Housing cover
4. Pull out the hose
5. Replacement hose
6. Insert hose
7. Connector lines

Disassembly

1. Lift up the bracket (Fig. 22 , 1) on the peristaltic pump 2 .
2. Use the bracket to pull the housing cover 3 away from the housing of the peristaltic pump.
3. Pull the hose upwards out of the peristaltic pump 2 .

Replacement/assembly

1. The scope of the equipment (see *Chapter 3 'Delivery' on page 23*) includes a replacement hose 5 . Insert this into the peristaltic pump 6 .
2. Place the housing cover 3 with bracket back on the housing and push it downwards.
3. Flip the bracket 1 of the peristaltic pump back down.
4. Reconnect the connection lines 7 (inlet and outlet) to the peristaltic pump.

8 Operational faults and troubleshooting

8.1 General troubleshooting and fault rectification

Fault description	Cause	Remedy
No display	GGSM not switched on	Turn on GGSM
	Connection transformer defective	Replace the connection transformer
	Control PCB defective	Replace WWC PCB
Date/time is not saved	Defective or empty CMOS battery	Replace WWC PCB

8.2 Fault messages

The acoustic alarm can be switched off by pressing any button on the front of the unit. The alarm message on the display remains visible until the error has been reset.

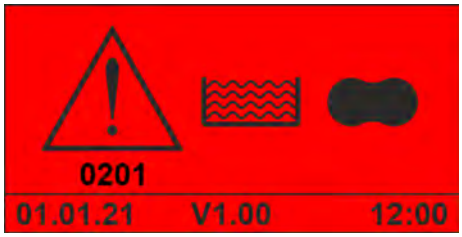


Fig. 23: Error code 201

No.	Fault description	Cause	Remedy
201	Display: Error code 201	Detergent block empty signal	Insert new detergent product
		Incorrect product used	■ Rinse unit and product lines with water ■ Use a suitable detergent block
		Measuring cell defective	Replace measuring cell
		PCB defective	Change PCB

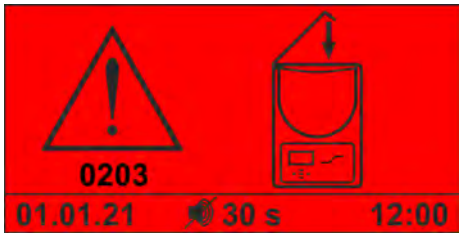


Fig. 24: Error code 203

No.	Fault description	Cause	Remedy
203	Display: Error code 203	Cover open	Close cover
		Ceiling electronics defective	Check cover wiring replace cover if necessary
		Circuit board defective	Change circuit board

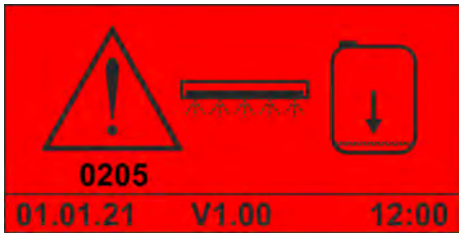


Fig. 25: Error code 205 (liquid rinse aid)

No.	Fault description	Cause	Remedy
205	Display: Error code 205	Liquid rinse air empty signal	Change rinse aid
		Suction pipe defective	Check function, replace if necessary
		PCB defective	Change PCB

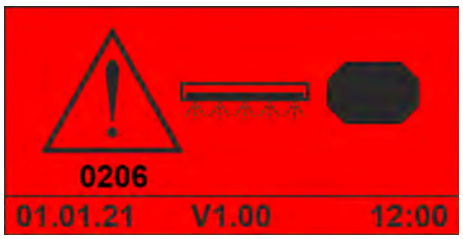


Fig. 26: Error code 206 (SMARTPOWER™ rinse aid)

No.	Fault description	Cause	Remedy
206	Display: Error code 206	Empty message for rinse aid block (SMARTPOWER™)	Insert new rinse aid block
		SMARTPOWER™ Detergent Dispenser faulty	Check that dispenser is functioning correctly; replace if necessary
		PCB defective	Change board

Fig. 27: Error code 251

This alarm is displayed as soon as the tank temperature falls below the permitted minimum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
251	Display: Error code 251	Parameter limit value set too low	■ Adjust value [Display 46] Note: Where applicable, the choice of position of the measuring cell is unsuitable, the temperature display does not match the GGSM. ■ GGSM defective
		Measuring cell defective	Check measuring cell function, replace if necessary

Fig. 28: Error code 252

This alarm is displayed as soon as the tank temperature rises above the permitted maximum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
252	Display: Error code 252	Parameter limit value set too high	■ Adjust parameters [Display 47]. Note: Where applicable, the choice of position of the measuring cell is unsuitable, the temperature display does not match the GGSM. ■ GGSM defective.
		Measuring cell defective	Check measuring cell function, replace if necessary

Error code 253

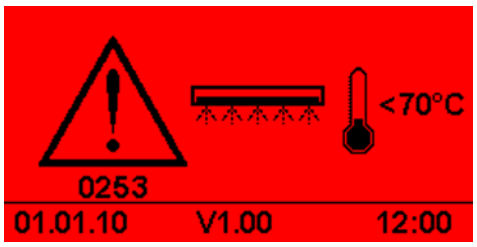


Fig. 29: Error code 253

This alarm is displayed as soon as the rinse aid temperature falls below the permitted minimum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
253	Display: Error code 253	Parameter limit value set too low.	■ Adjust parameters [display 63] Comment: The selected measuring cell position may be unfavourable; the temperature display does not correspond to the GGSM display. ■ GGSM defective.
		Defective temperature sensor	Check function, replace if necessary

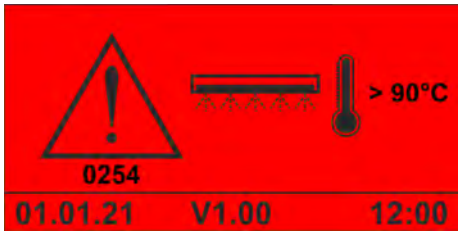


Fig. 30: Error code 254

This alarm is displayed as soon as the rinse aid temperature rises above the permitted maximum value and the alarm delay time has expired.

No.	Fault description	Cause	Remedy
254	Display: Error code 254	Parameter limit value set too high	■ Adjust parameters [display 64] Note: Where applicable, the choice of position of the sensor is unsuitable, the temperature display does not match the GGSM. ■ GGSM defective
		Defective temperature sensor	Check function, replace if necessary

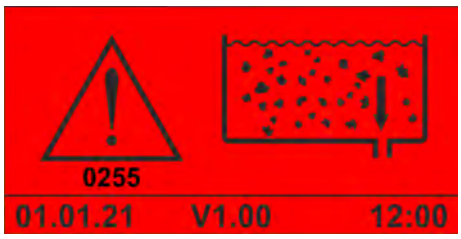


Fig. 31: Error code 255

No.	Fault description	Cause	Remedy
255	Display: Error code 255	Water change interval has been exceeded	■ Empty and clean commercial dishwasher or ■ Adjust parameters as required [display 50]

Fig. 32: Illustration 'measuring cell error'

No.	Fault description	Cause	Remedy
210	Screen: Error code 0210	No measuring cell connected	Connect measuring cell
		Temperature < 0° C	Temperature must be > 0°C
		Measuring cell defective, (NTC sensor breakage)	Check measuring cell, change if necessary
		Cable breakage	Check wiring, change if necessary
211	Screen: Error code 0211	Measuring cell defective, (NTC short-circuit)	Check measuring cell, change if necessary
		Temperature > 100°C	Temperature must be < 100°C
		Cable short circuit	Check wiring, change if necessary
212	Screen: Error code 0212	Measuring cell leaking, (conductivity short-circuit)	Check measuring cell, change if necessary
		Cable short circuit	Check wiring, change if necessary
		Electromagnetic interference	Install the measuring cell and its cable away from possible sources of electromagnetic interference: ■ Lay the measuring cell cable as far away from the dishwasher pump motor as possible. ■ Do not lay measuring cell cables together with high-voltage cables in a cable duct. ■ Do not install the measuring cell and its cable near frequency-controlled motors, mobile phone antennas or WLAN antennas.

Fig. 33: Illustration 'detergent SQP error'

No.	Fault description	Cause	Remedy
213	Display: Error code 0213	Detergent SQP (short-circuit)	Where applicable, pump back-pressure too high: Check hydraulic lines, where applicable rinse. Check connecting cable. Motor defective, change
214	Display: Error code 0214	Detergent SQP (cable breakage)	Where applicable, pump back-pressure too high: Check hydraulic lines, where applicable, rinse. Check connecting cable. Motor defective, change.

Fig. 34: Error code 1234

No.	Fault description	Cause	Remedy
2xxx	Display: Error code 2xxx	EEPROM U2	■ Check whether the EEPROM is correctly plugged into the 8-pin socket ■ Where applicable, change PCB
3xxx	Display: Error code 3xxx	FRAM U3	Change PCB
4xxx	Display: Error code 4xxx	Flash U4	Change PCB
1001	Display: Error code 1001	RTCC	Change PCB

Please note for alarms 250 to 299: Do NOT stop the dosing!

9 Consumables, spare parts and accessories

Wear and spare parts

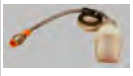
Diagram	Description	Part no.	EBS no.	Piece
	WWC-PCB spare part PKD WWC-PCB	272053 V15	10018067 V15	1
	Ecorinse pump head complete (blue), 1/8 CC	223755	10096007	1
	Ecorinse pump head complete (blue), 1/2 CC	223756	10009451	1
	Peristaltic pump head	123742	10001563	1
	Retaining lever, blue	32374203	10002606	1
	Rotor for peristaltic pump head, complete	223743	10001839	1
	Peristaltic pump replacement hose 1/8 CC	223792	10200192	1
	Peristaltic pump replacement hose 1/4 CC	223793	10200166	1
	Peristaltic pump replacement hose 1/2 CC	223794	10200193	1
	Signal transmitter 6-28 V AC/DC	418271009	10007020	1
	Gear motor 24 V DC, 36 rpm	274281	10200449	1
	Moulded mains unit, 30 W , 240 VAC / 24 VDC	418931025	10009950	1
	WWC mains isolator module, 230V, common N	272060	10017489	1
	Extension cable 5 m, 4-pin , RSMV	32357301	10200721	1
	Conductivity transducers ind. 0.2 m int. temp.	287409	10177424	1
	Conductivity transducers ind. (6 m) inside temp.	287408	10001206	1
	Extension cable for conductance transducer, 6 m	E99000128	10000377	1
	Extension cable for measuring cell 3 m, 7-pin	418463277	10000380	1

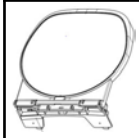
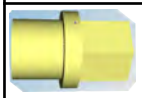
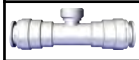
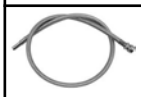
Diagram	Description	Part no.	EBS no.	Piece
	ECOPLUS USB-PC cable	272065	10017495	1
	WWC PCB rinse aid temperature sensor	272153	10018162	1
	Nozzle line complete, PEEK	On request	On request	1
	In-cable, complete, PEEK	On request	On request	1
	Ecoplus Future folding switch assembly	272054	10009482	1
	Quick-mounting plate	37200120	10007507	1
	A-Prefalcon lid module PDRX	10240186	10240186	1
	Nozzle cap 8W GFPP 120DEG	E85312387	10002237	10
	Nozzle holder for capsule	37210110	On request	1
	Pre Falcon insert	37212001	On request	1
	Funnel lock	37200110	10009610	1
	Double check valve AD 15	415503553	On request	1
	2/2-way solenoid valve G1/2, DN10, 24 V DC	417704153	10009979	1
	Ecoplus Future valve bracket	37200142	On request	1
	Safety overflow hose, ø 16, 1.5 m	272096	On request	1
	P-SMARTPOWER wall chart product change	10240431	10240431	1

Diagram	Description	Part no.	EBS no.	Piece
	Hex nut, 1/2", DIN431	415203824	10000568	10
	Tank connection 45 G G1/2-D19	272073	10200169	1
	Product outlet 45° G1i-D19 PP (SP)	272070	10200142	1
	Product outlet straight G1i-D19 PP (SP)	272071	10200141	1
	Flex hose, D10 x D10, 2.5 m	417400763	10200242	1
	Flex hose, iG3/8-iG3/8, 2.5 m	417400764	10200268	1
	Flex hose, iG3/8-D10, 1 m	417400769	10200178	1
	Flat washer, 17.5 X 24 X 1	417000124	10000208	10
	2-way ball valve, I/A 3/8", MS nickel-plated	415502017	10001389	1
	Check valve	P92180538	10006755	10
	Angle output, GFPP, 1/8	P92188044	10007088	10
	Pipe nut, 1/8, with grommet, PP	P92008002	10007262	10

Accessories (optional)

Part	Part name	Part no.	EBS no.
	**Thermal Mixer ½" TM50 HW** with CK-VALVETHERMAL MIXER TM50	415502443	100110984

Please request this item if required (Chapter 1.8 ‘Contact’ on page 11).

10 Technical data

In this chapter you will find the technical data of the EcoPlus PDRX.

Data	Value	Unit
Supply voltage (tolerance +/- 10 %) (via external transformer)	AC 230 (50/60)	V (Hz)
Control voltage (-10%, unregulated)	DC 24 (max. 30)	V
Power consumption (max.)	30	W
Protection class	II	
Equipment classification (degree of contamination)	PD2	
Pre-fuse (max.)	16	A
Water flow rate	3	l/min
Water pressure, dynamic (min.)	2,7 (0,27)	bar (MPa)
Water pressure, static (max.)	6 (0,6)	bar (MPa)
Water temperature (max.)	60	°C
Water quality: Potable water (min.)	3	°d
Water inlet connection:	G 1/2, G 3/8	
Product line ∅ internal (appliance - dishwasher) PVC fabric hose	19	mm
Dimensions with SQP (W x D x H)	395 x 280 x 470	mm
Weight (approx.)	9,3	kg
Permissible ambient temperature	10 - 40	°C
Humidity (max.)	80	%
Max. operating altitude (above sea level)	2.000	m
Approved area of application	Wet surroundings	

Installation is permitted only in enclosed, frost-protected rooms.

Control PCB

The technical data for the control PCB is described in a separate manual. To download the instructions to a PC, tablet or smartphone, use the link below or scan the QR code provided.

Complete operating instructions for download

Download of operating instructions *WWC PCB* (article no. MAN049685):
https://www.ecolab-engineering.de/fileadmin/download/bedienungsanleitungen/institutional/Ware-Washing/MAN049685_WWC-PCB.pdf

Nameplate

The nameplate contains the key technical information about the EcoPlus PDRX.

You will need the information on the nameplate whenever you contact Ecolab Customer Services.

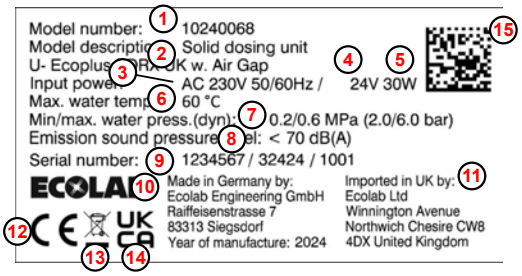


Fig. 35: Nameplate EcoPlus PDRX

1. Part number
2. Unit name
3. Voltage [V] / power frequency [Hz]
4. Control voltage
5. Power consumption [W]
6. Max. water temperature
7. Min/max. Water pressure
8. Noise pressure level
9. Production code consisting of
   production order number (six digits) /
   production code with weekday (single digit, Monday = 1, Friday = 5), calendar week (two-digit), production year (two-digit) /
   number of pieces per production order (consecutive number starting with 1001)
10. Manufacturer address
11. Importer in UK
12. Note on CE conformity
13. Disposal regulation
14. Protection class Marking Type 2
15. Data matrix code containing the following:
    part number,
    production code

11 Decommissioning, removal and disposal

NOTICE!
The following disassembly description is the recommended method.
However, different local conditions and physical factors will determine the most appropriate method for disassembly in practice.

CAUTION!
When working on parts that come into contact with dangerous products, the prescribed protective clothing (safety goggles, protective gloves, apron if necessary) must be used because of the risk of burns.
When working on the electrical connection of the EcoPlus PDRX, all applicable international, national and local safety regulations must be observed.
For work on the power connection, isolate it first (i.e. shut down power).

Recommended procedure

1. Electrically isolate the unit (i.e. shut it down).
2. Remove the detergent capsule.
3. Remove chemical residue from the funnel, e.g. by cleaning in a commercial dishwasher.
4. Install empty chemical capsules, reconnect the unit to the power source and operate for a few minutes with clean water.
5. Close the water inlet (using angle valve or similar) and remove the connection.
6. Disconnect the device from its power source.
7. Drain the unit completely and clear all the chemical residue from inside the unit.
8. Either dispose of the unit in accordance with applicable national directives or package safely (cardboard box with padding material) and return to the Ecolab-authorised company for recycling.

11.1 Disposal and environmental protection

All components are to be disposed of in accordance with prevailing local environmental regulations. Dispose of them accordingly, depending on the condition, existing regulations and with due regard for current provisions and criteria.

Recycle the dismantled components:

- Scrap all metals.
- Electrical waste and electronic components must be recycled.
- Recycle all plastic parts.
- Dispose of all other components in line with their material characteristics.
- Hand in batteries at communal collection points or dispose of them through a specialist.

ENVIRONMENT!

Risk of environmental damage from incorrect disposal!

Incorrect disposal can be a threat to the environment.

– Electrical scrap, electronic components, lubricants and other operating fluids must be disposed of by approved waste disposal service providers
– If in doubt, contact your local authority, or an approved waste disposal service provider, for information on correct disposal.

Prior to disposal, all parts which are in contact with media must be decontaminated. Oils, solvents, detergents and contaminated cleaning tools (brushes, cloths, etc.) must be disposed of in compliance with local requirements, in accordance with the prevailing waste code and with due attention to the notes contained in the manufacturers' safety data sheets.

ENVIRONMENT!

Reduction or avoidance of waste from reusable raw materials

Do not dispose of any components in the domestic waste.
Take them instead to the appropriate collection points for recycling.

Please follow the Directive on Waste Electrical and Electronic Equipment 2012/19/EU, the aim and purpose of which is the reduction or prevention of waste from recyclable raw materials. This directive requires member states of the EU to increase the collection rate of electronic waste so that it can be recycled.

12 Certificates

EC Declaration of Conformity

D GB F

Konformitätserklärung / Declaration of Conformity / Déclaration de Conformité

ECOLAB

gemäß EG Richtlinie 2006/42/EG, Anhang II 1A
referring to EC Directive 2006/42/EC, Annex II 1A
référant à la EC directive 2006/42/EC, Annexe II 1A

ECOLAB Engineering GmbH
Postfach 1164
D-83309 Siegsdorf

Wir erklären hiermit, dass das folgende Produkt
We herewith declare that the following product
Nous déclarons que le produit suivant

Beschreibung / description / description	Feststoffdosiergerät dosing unit for solid products Unité de dosage pour solides
Modell / model / modèle	Ecoplus S-series, Ecoplus P-series with integrated P-Pump
Typ / part no / type	1721ff
Gültig ab / valid from / valable dès:	2020-03-12

auf das sich diese Erklärung bezieht, der / den folgenden Norm(en) oder normativen Dokument(en) entspricht:
to which this declaration relates is in conformity with the following standard(s) or other normative document(s):
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s)

ISO 12100:2010
EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019
EN IEC 61000-6-2:2019
EN 61000-6-3:2007 + A1:2011
EN IEC 63000:2018
EN 1717:2000

gemäß den Bestimmungen der Richtlinie(n):
following the provisions of directive(s):
conformément aux dispositions de(s) directive(s):

2006/42/EC
2014/30/EU
2011/65/EU

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:
Authorised person for compiling the technical file:
Personne autorisée pour constituer le dossier technique:

Ecolab Engineering GmbH
Postfach 1164
D-83308 Siegsdorf

Ort und Datum der Ausstellung
Place and date of issue
Lieu et date

83313 Siegsdorf, 2020-03-12

M. Niederbichler
Geschäftsführer
Company Manager
Directeur

i.V. A. Ruppert
Entwicklung und Konstruktion
Research & Development
Développement et la Construction

Fig. 36: CE Declaration for series EcoPlus-S and EcoPlus-P

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Erstelldatum: date of issue:	17.10.2024
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