ECOLOG-PRO

Modules
Operation Manual

ELPRO-BUCHS AG

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- The guarantee obligations of ELPRO-BUCHS AG are limited to reworking, reimbursement of the purchasing price, repair free of charge or the replacement of a faulty product that is returned within the guarantee period to ELPRO-BUCHS AG or an approved reseller of ELPRO-BUCHS AG.
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    - Brackets
    - Accessories excluding sensors and third-party products
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    - All servicing and repair work
    - Pt100 sensors
    - Humidity sensors
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    - misused
    - modified
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    - damaged as the result of an accident or operational or handling conditions that do not comply with the specifications.
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- The software products of ELPRO-BUCHS AG are subject to internal quality requirements and are validated regularly at the works. In the event of program errors, circumvention of the error is regarded as constituting its elimination.
- Software manuals do not contain either instructions on basic operation of a computer or the basic functions of the Windows® operating system. For information on the operation of the computer or the operating system please refer to the applicable computer manuals.

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- ELPRO-BUCHS AG applies the highest quality standards during production of data loggers and their accessories, and implements a certified quality management system in compliance with ISO 9001.
- For information on operation of data loggers and their accessories, please refer to the respective product documentation supplied by ELPRO-BUCHS AG.
- During the installation of data loggers, sensors, and accessories, compliance with the locally valid installation regulations is mandatory.
- When used in potentially explosive atmospheres, the zone category and the application and safety instructions of ELPRO-BUCHS AG must be complied with.
- In the event of a guarantee claim, customers receive a repair cost estimate from ELPRO-BUCHS AG to obtain the corresponding consent before starting work.
- The customer will bear the transport costs incurred for any repairs carried out by ELPRO-BUCHS AG. The DAP (value added tax) is borne by ELPRO-BUCHS AG.
- ELPRO-BUCHS AG reserves the right to invoice the customer for costs incurred for repair/part replacement..
- After repair work the product is returned to the purchaser, who will be charged with the return shipping costs (FOB shipping point).

Trademarks

All stated company and product names and their trademarks are the protected property of the respective owner.

Table of Contents

Accessories

Version History

Symbols and Description Codes Used

ℹ️	Information

⚠️	**IMPORTANT INFORMATION AND WARNINGS**

DELETE	Windows functions, for example Delete.
<xxxxxxxxx>	Syntax for placeholders. Placeholders are written in < > brackets.
⇨	Reference to related chapter or document.
〰️	Presentation only refers to part of the user interface.

elproMONITOR	Configures and monitors data loggers. ⇨ SM3031Eb
elproUSER	elproMONITOR user management. ⇨ SU6031Ea
elproEVENT	Audit trail which complies to the cGxP Environment requirements of elproMONITOR. ⇨ SV6031Eb

ℹ️	In the interests of our customers, we reserve the right to make any changes resulting from technical advances. For this reason, diagrams, descriptions, and the scope of delivery are subject to change without notice. This manual is valid as from Version 2017.

⚠️	**CHANGES OR MODIFICATIONS MADE TO THIS EQUIPMENT MAY RENDER NULL AND VOID THE ETSI / FCC AUTHORIZATION TO OPERATE THIS EQUIPMENT. THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES AND WITH RSS-210 OF INDUSTRY CANADA. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:** **(1) THE PRODUCT MAY NOT CAUSE HARMFUL INTERFERENCE.** **(2) THE PRODUCT MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.**

CE   -   This product is subject to CE marking.
-   The manufacturer guarantees that this product complies with the relevant guidelines: EN 61000-6-2 : 2001 and EN 61000-6-4 : 2001

FC   -   FCC ID: Z45-E11645398
-   IC: 9954A-E11645398

-   This product must be disposed of in accordance with WEEE (Waste Electrical and Electronic Equipment, 2002/96/EC).

1   System Description

This is a quick-start reference manual for installing the ECOLOG-PRO system. The manual also applies to the modules listed below.

ECOLOG-PRO LBR is the communication and power supply module. It has 1 Ethernet and 1 power supply unit connection. Its purpose is to communicate over the Ethernet network with remote modules with elproMONITOR, either installed on ECOLOG-PRO BASE or a server provided by the customer. Connected ECOLOG-PRO modules are powered over the system bus.

ECOLOG-PRO 4PT is the temperature measurement module. The module has 4 inputs for Pt100 temperature sensors. For operation, it is connected to a LAN bridge (LBR).

ECOLOG-PRO 4MA is the measurement module for analog signals. The module has 4 inputs for standard 4 to 20 mA signals. The monitored transmitters can be powered by the module or by an external power supply. For operation, it is connected to a LAN bridge (LBR).
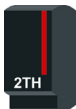
ECOLOG-PRO 2TH is the measurement module for temperature and air humidity. 2 T/RH sensors can be connected to the module. For operation, it is connected to a LAN bridge (LBR).

ECOLOG-PRO 4DI is the module with 4 contact inputs (digital inputs) for the ECOLOG-PRO system. The monitored contacts are powered by the module. For operation, it is connected to a LAN bridge (LBR).

ECOLOG-PRO 4DO is the module with 4 alarm outputs (digital outputs) for the ECOLOG-PRO system. For operation, it is connected to an external power supply and to a LAN bridge (LBR).

Installation and Operation

The minimum configuration of a ECOLOG-PRO system consists of an ECOLOG-PRO LBR, a power supply unit, and a measurement module, for example an ECOLOG-PRO 4PT.

Housing, Module Ground

ABS, DIN rail housing, 140 x 70 x 60 mm, 200 grams.

1.1 Configuration and Evaluation

Configuration, calibration, and monitoring are carried out with the elproMONITOR software.

⇨ SM3031Eb, elproMONITOR operating instructions

1.2 Application Instructions

Power supply unit

Follow the safety and application instructions of the power supply unit. Only operate the device using the delivered power supply unit. Use of an incorrect power supply unit may cause damage to the device. Always replace defective or damaged power supply units.

Cleaning

To clean the modules, use a slightly moist cloth. Never use thinner, gasoline, alcohol, or any other cleaning agents since they may damage the housing.

Environmental conditions

- Make sure the modules are at room temperature before initial startup.
- No guarantee can be given if functions exceed the specified threshold range. Environment 0 °C..40 °C, 10 %RH..90 %RH, non-condensing.
- Protection class IP20

1.3 Changes to Measurement Module Chain during Operation

After installing and configuring the channels (sensors, DI, DO), the sequence of connected measurement modules to the ECOLOG-PRO LBR Communication Module is saved in elproMONITOR. The following changes can be made during operation:

- Swap the ECOLOG-PRO LBR Communication Module.
- Swap a measurement module of the same type at the same position in the measurement module chain.
- Remove a single measurement module.
- Add a measurement module at the end of the measurement module chain.

2   ECOLOG-PRO LBR Communication Module
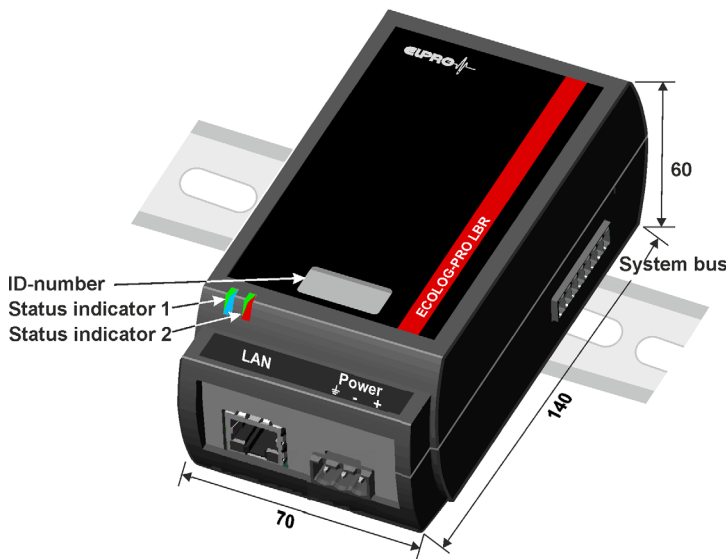
ECOLOG-PRO LBR, Part.No. 801418

Module

The communication module performs 2 functions:

- Supplies power to the measurement modules in use.

- Acts as a connecting link between the measurement modules and the configuration or evaluation software.

ID number

The ID number corresponds to the module MAC address.

Status indicator 1; module activity

- green; power supply OK

- blue; Ethernet activity

Status indicator 2; Ethernet status

- green; Ethernet connection OK

- red; no Ethernet connection (inactive)

Power supply	**24 VDC, -10 %..+20 %**
	• By an external power unit
	• Maximum connection cable length 30 m
	• Functional ground is optional.
Power supply unit	⇨ 8 *1250 mA Power Supply Unit*

⚠ **TO AVOID DATA LOSS WHEN THERE IS A POWER FAILURE FROM THE EXTERNAL POWER SUPPLY UNIT, WE RECOMMEND CONNECTING AN UNINTERRUPTIBLE POWER SUPPLY (UPS).**

Maximum number of measurement modules	The maximum number of measurement modules is defined by the specifications of the power supply unit or the limits of the ECOLOG-PRO LBR.
	• Maximum 2500 mA, system bus
	• 32 measurement modules
Network connection	1xRJ45 Ethernet 10/100 Mbps
Supported standards	• IEEE 802.3i, 10BASE-T
	• IEEE 802.3u, 100BASE-T
Scope of supply	• Communication module
	• Information leaflet
	• The power supply unit and the Ethernet connection cable are not part of the scope of supply.

2.1 Power Supply Unit Circuit Diagram
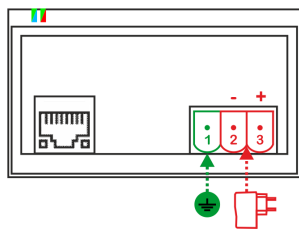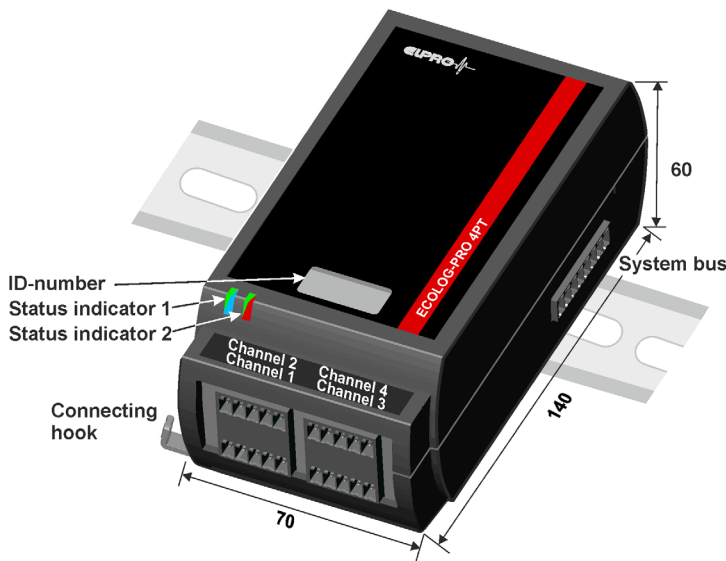

Power supply unit   ⇨ 8 *1250 mA Power Supply Unit*, *Accessories*

Functional ground   Connect the functional ground when shielded sensor cables are used.

3 ECOLOG-PRO 4PT Pt100 Measurement Module

Module

Measurement module for 4 Pt100 sensors

- Circuit: 4/3-wire connection
- Sensor class: A, recommended
- Sensor details
  - ⇨ FP2005E.

Status indicator 1

- green; power supply OK
- blue; system bus activity

Status indicator 2

⇨ 3.3 *Sensor Status*

ECOLOG-PRO 4PT, 801420

Measurement range	-200 °C..+200 °C	
Measurement accuracy of module	±0.2 °C	Sensor error and cable fault are not considered.
Measurement resolution	±0.1 °C	
Cable fault	- up to 30 m, 4x0.34 mm^2 without shield.	±0.06 °C
	- 30 m to 50 m 4x0.34 mm^2 with shield.	±0.07 °C
	- 50 m to 80 m 4x0.34 mm^2 with shield.	±0.2 °C
Logging interval	1 minute..60 minutes	Each channel is capable of logging at a separate interval.
Date and time	Internal system clock	The clock is synchronized permanently to elpro-MONITOR system time.
Module power supply	Via internal system bus	

| Data security | - Internal non-volatile memory | In case the network connection fails, measurements continue to be logged and stored in the internal memory. |
| | - 10,000 measurements | |

Content of package
- Measurement module
- Connecting hook, see module rear
- Information leaflet
- Validation certificate
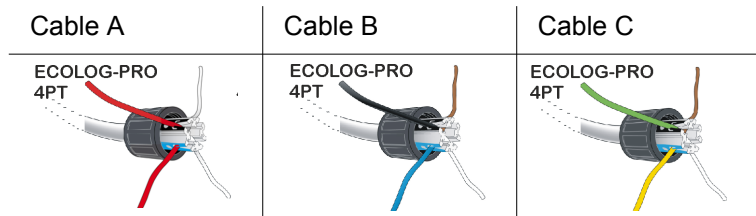- The sensor connection plugs are not part of the scope of supply.

Connecting hook

Modules are fixed using a connecting hook on the rear to ensure a reliable connection.

3.1 Sensor Connection Cable for M12 Plug

Sensors

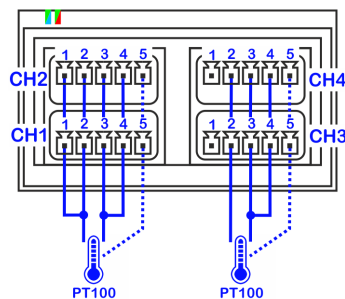| Cable A	Cable B	Cable C	
ECOLOG-PRO 4PT	ECOLOG-PRO 4PT	ECOLOG-PRO 4PT	Part. No. 800508 M12 plug to Pt100 sensor

This plug is used for sensors with M12 connection.

3.2 Circuit Diagram

CH1

Example: Pt100 4/3-wire connection

Terminal	Cable A	Cable B	Cable C
1	red	white	white
2	red	brown	brown
3	white	black	green
4	white	blue	yellow
5			shield

As of a length of 30 m, use the shielded extension cable with stranded drain wire (connect to Terminal 5), Part No. 80225.
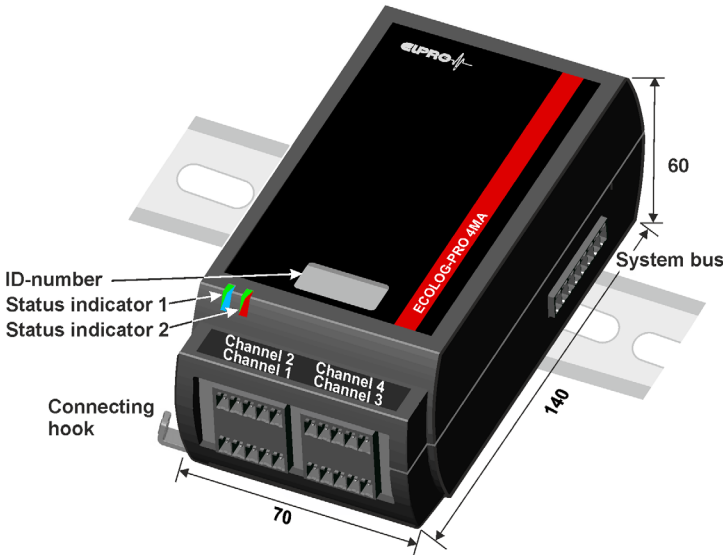
3.3 Sensor Status

Status	
dark	No channel configured
green	All configured sensors OK
red	Sensor error at one or several configured sensors
short, dark	Measurement

The sensor status display is updated in the logging interval.

4 ECOLOG-PRO 4MA 4..20 mA Measurement Module

ECOLOG-PRO 4MA, 801421

Module

Measurement module for max. four 4..20 mA transmitters

- Circuit: 2- or 3-wire connection
- Transmitter powered by measurement module or external power supply

Status indicator 1

- green; power supply OK
- blue; system bus activity

Status indicator 2

⇨ 5.2 *Sensor Status*

Measurement range	**3.6 mA..20.4 mA**	
Transmitter power supply	**24 VDC ± 20%; Pmax 3 W per module**	
Load	**50 Ohm..100 Ohm**	
Measurement accuracy of module	±0.04 mA	
Measurement resolution	±0.01 mA	
Connection cable length	max. 200 m	
Logging interval	1 minute..60 minutes	Each channel is capable of logging at a separate interval.
Date and time	Internal system clock	The clock is synchronized permanently to elpro-MONITOR system time.
Module power supply	Via internal system bus	
Data security	- Internal non-volatile memory - 10,000 measurements	In case the network connection fails, measurements continue to be logged and stored in the internal memory.

Content of package	- Measurement module
	- Connecting hook, see module rear
	- Information leaflet
	- Validation certificate
	- The sensor connection plugs are not part of the scope of supply.

Connecting hook

Modules are fixed using a connecting hook on the rear to ensure a reliable connection.

4.1 Circuit Diagram

CH1

Example: 4..20 mA transmitter powered by the measurement module.

CH3

Example: 4..20 mA transmitter with external power supply (necessary if the total power consumption of all transmitters exceeds 3 W at the module or a single transmitter requires a current strength greater than 125 mA).
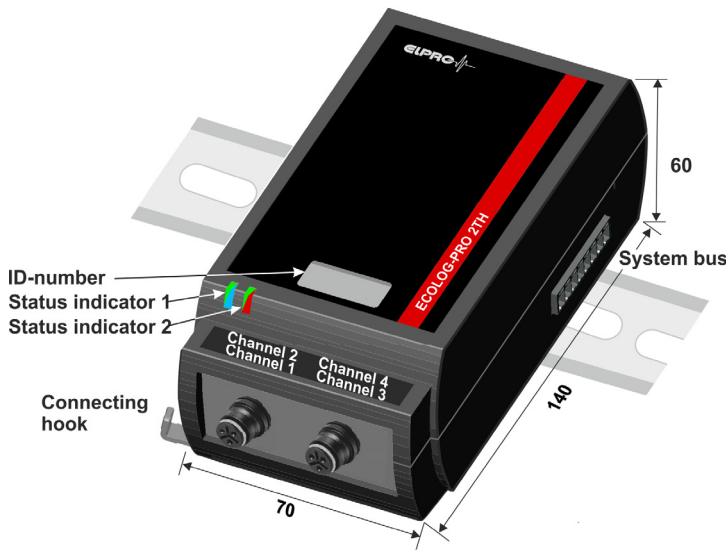

Terminal	
1	Ground
2	---
3	Signal
4	---
5	Power supply
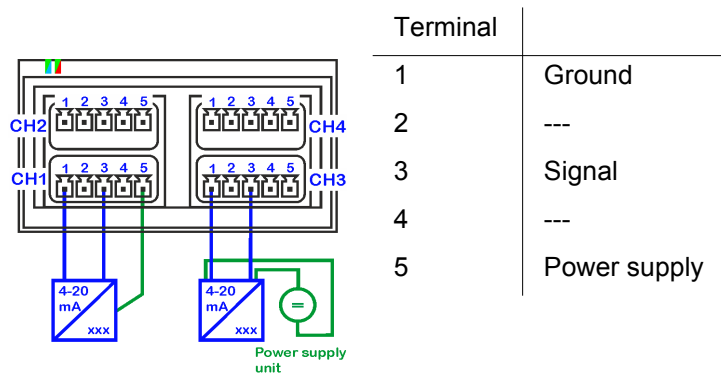
4.2 Sensor Status

Status	
dark	No channel configured
green	All configured sensors OK
red	Sensor error at one or several configured sensors
short, dark	Measurement

ℹ The sensor status display is updated in the logging interval.

5 ECOLOG-PRO 2TH T/RH Measurement Sensor

Module

Measurement module for max. 2 Pt100 sensors

Status indicator 1

- green; power supply OK
- blue; system bus activity

Status indicator 2

⇨ 5.2 *Sensor Status*

ECOLOG-PRO 2TH, 801424

Measuring ranges and accuracy	⇨ 5.3 *Sensor Data*	Depending on the application, a distinction is made between 2 sensor variants.
Connection cable lengths	5 m, 10 m, 30 m ⇨ *Accessories*	
Logging interval	1 minute..60 minutes	The two measurements of temperature and air humidity are logged synchronously for each sensor. You can select a different interval for each of the two sensors.
Date and time	Internal system clock	The clock is synchronized permanently to elproMONITOR system time.
Module power supply	Via internal system bus	
Data security	- Internal non-volatile memory - 10,000 measurements	In case the network connection fails, measurements continue to be logged and stored in the internal memory.
Content of package	- Measurement module - Connecting hook, see module rear - Information leaflet	

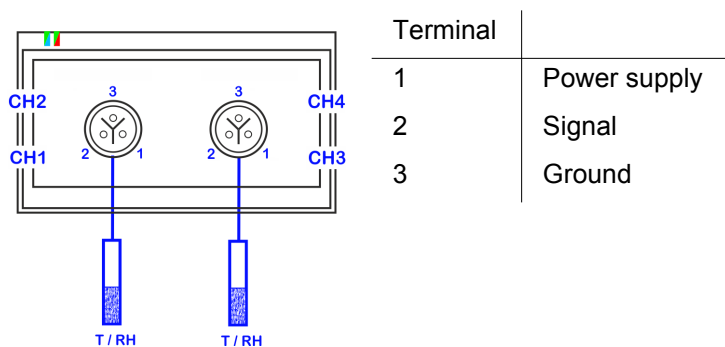**Connecting hook** Modules are fixed using a connecting hook on the rear to ensure a reliable connection.

5.1 Circuit Diagram

CH1   Temperature, Sensor 1

CH2   Humidity, Sensor 1

CH3   Temperature, Sensor 2

CH4   Humidity, Sensor 2

Terminal	
1	Power supply
2	Signal
3	Ground

5.2 Sensor Status

Status	
dark	No channel configured
green	All configured sensors OK
red	Sensor error at one or several configured sensors
short, dark	Measurement

The sensor status display is updated in the logging interval.

5.3 Sensor Data

16   13

101

Dimensional view of the two variants: temperature / humidity sensor

Part. No. 802209

Temperature / humidity sensor, capacitive

This sensor is designed to monitor store rooms, laboratories or for general room-climate monitoring.

Specifications

Measurement range	Humidity: 20 %RH..80 %RH	
	Temperature: -20 °C..80 °C	
Humidity accuracy	15.0 °C..30.0 °C	±2.0 %RH
Temperature accuracy:	65.0 °C..80.0 °C	±0.5 K
	0.0 °C..64.9 °C	±0.3 K
	-20.0 °C..-0.1 °C	±0.5 K
Humidity drift	Typically 3.0 %RH / year	

Part. No. 802071

### Temperature / humidity sensor, electrolytic

This sensor is designed for:

- Environments with aggressive gases at high temperature and air humidity (stability chambers, incubators)

- Low-temperature environments (refrigerator)

- High-precision measurements of +/- 0.5 %RH

Specifications

Measurement range	Humidity 0 %RH..100 %RH	
	Temperature: -20 °C..80 °C	
Humidity accuracy	50.0 °C..80.0 °C	±2.5 %RH
	30.0 °C..49.9 °C	±0.8 %RH
	15.0 °C..29.9 °C	±0.5 %RH
	0.0 °C..14.9 °C	±0.8 %RH
	-20.0 °C..-0.1 °C	±2.5 %RH
Temperature accuracy:	70.0 °C..80.0 °C	±0.2 K
	0.0 °C..69.9 °C	±0.1 K
	-20.0 °C..-0.1 °C	±0.2 K
Humidity drift	Typically 1.0 %RH / year	

6 Module with Contact Inputs ECOLOG-PRO 4DI
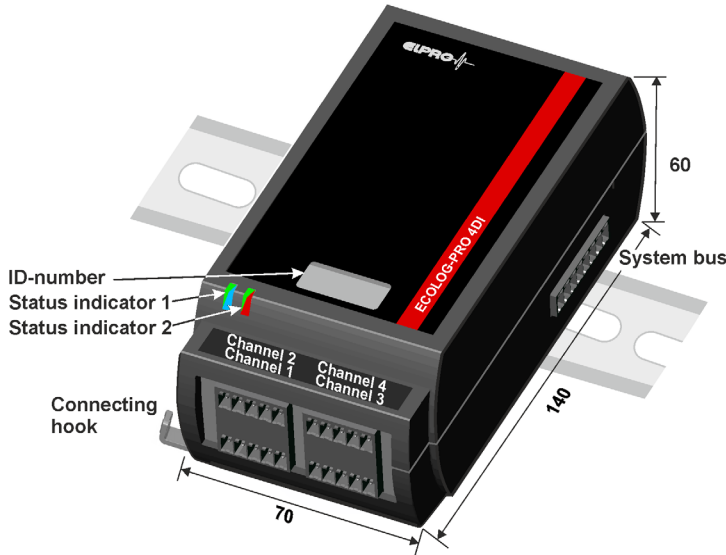
Module

Module with 4 contact inputs to log statuses. The internal power supply can power and monitor active sensors.

Status indicator 1

- green; power supply OK

- blue; system bus activity

Status indicator 2

⇨ 6.2 *Contact Status*

ECOLOG-PRO 4DI, 801423

| Contact input	• Contact input for 2- or 3-wire switches to EN 61131, Types 1, 2, 3.	
	• Switch operating voltage is 24 VDC ±20 %.	
	• Total maximum current for all 4 switches is 120 mA.	
Contact Status	0 or 1	
Connection cable length	max. 200 m	
Logging interval	1 minute..60 minutes	Each channel is capable of logging at a separate interval.
Pulse length	200 ms	Minimum time interval to detect status change.
Date and time	Internal system clock	The clock is synchronized permanently to elpro-MONITOR system time.
Module power supply	Via internal system bus	
Data security	- Internal non-volatile memory	In case the network connection fails, contact positions continue to be logged and stored in the internal memory.
	- 10,000 measurements	
Content of package	- Module	
	- Connecting hook, see module rear	
	- Information leaflet	
	- The plugs for the contact inputs are not part of the scope of supply.	

Connecting hook

Modules are fixed using a connecting hook on the rear to ensure a reliable connection.

6.1   Contact Status
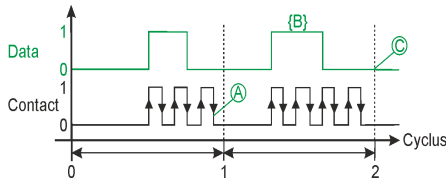
The module detects the following data in each measurement sampling period:

(A)   Number of edge changes

{B}   Total duty cycle as percentage of measurement sampling period

(C)   Present contact status

Example: Door monitoring

(A)   Number of door openings per measurement sampling period.

{B}   Period when doors were open

(C)   Present door open status during measurement sampling period

6.2   Contact Status

Status	
dark	No contact configured
green	All configured contacts OK
red	Error on minimum one configured channel (incorrect voltage or current)
short, dark	Measurement

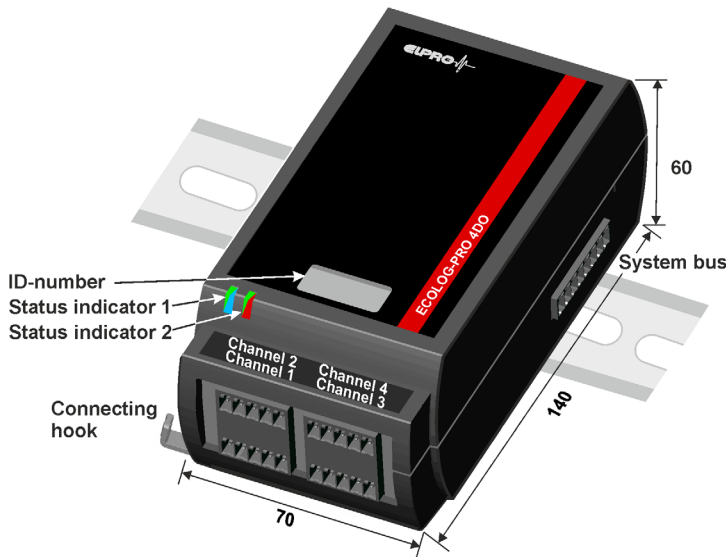> ℹ The sensor status display is updated in the logging interval.

6.3 Circuit Diagram

CH1   Example: Switch or 2-wire sensor powered by the module.

CH3   Example: 3-wire sensor powered by the module.

Terminal	
1	Ground
2	---
3	Signal, input
4	---
5	Power supply, output 24 VDC
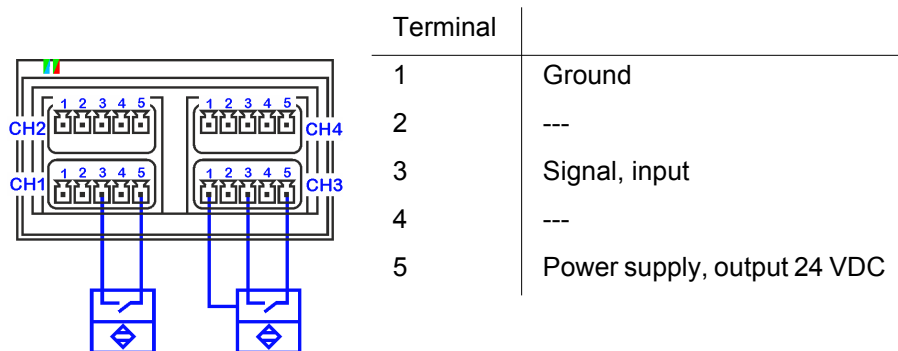
7 Module with Contact Outputs ECOLOG-PRO 4DO

ECOLOG-PRO 4DO, 801422

Module

Module with 4 contact outputs for alarm forwarding: The contact outputs are toggle switches (NO / NC).

Status indicator 1

- green; power supply OK
- blue; system bus activity

Status indicator 2

- green; contact OK
- red; failure of alarm indicator external power supply.

Contact output	• **The contact output is an electronic semiconductor contact.** • **Use only for DC voltage (DCV), see: 7.2 *Alarm Indicator Power Supply and Ground*!**
External power supply unit for alarm indicators	**12 VDC..24 VDC**
Max. switching current per contact	100 mA
Connection cable length	max. 200 m
Threshold values and time response	The contacts are parameterized (threshold values and alarm delay times) by the elproMONITOR.
Date and time for alarm delay times	Internal system clock The clock is synchronized permanently to elproMONITOR system time.
Module power supply	Via internal system bus
Security	⇨ 7.1 *Contact Status*
Content of package	- Module - Connecting hook, see module rear - Information leaflet - The plugs for the contact outputs are not part of the scope of supply.

Connecting hook

Modules are fixed using a connecting hook on the rear to ensure a reliable connection.

7.1 Contact Status

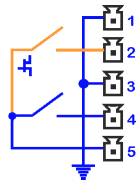⚠️ **THE POWER SUPPLY UNIT MUST BE CONNECTED TO ENABLE ALARM SIGNALS.**

Description of PIN assignment

Pin 1   GND contact

Pin 2   NC (Normally Closed) contact

Pin 3   GND contact

Pin 4   NO (Normally Open) contact

Pin 5   Contact for external power supply
Connected internally to all 4 module channels.

*1) System start
CH 1 - CH4*

*2) Module without power supply
CH 2, 3, 4*

The NC and NO contacts are open in these operating states. No alarm signals are generated.

*Normal operation - no alarm
CH 1 - CH4*
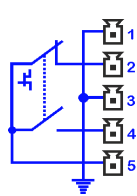
No alarm is present in this operating state.
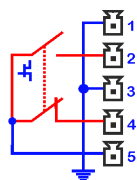
*Normal operation - alarm
CH 1 - CH4*
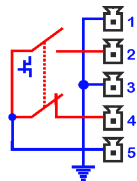
An alarm is present in this operating state.

*System alarm
- module without power supply
- Watchdog
CH 1*

Channel 1 is in alarm status when:
- the module power supply fails.
- the link to the elproMONITOR software is interrupted.
  These two monitoring functions cannot be deactivated.

- Configured as alarm contact in the elproMONITOR software.

ECOLOG-PRO 4DO Terminal assignment of Contacts 1 - 4

7.2   Alarm Indicator Power Supply and Ground

Alarm indicator power supply
Terminal 5 of all 4 contacts is connected internally.

Alarm indicator ground
Terminals 1 and 3 of all 4 contacts are connected internally.
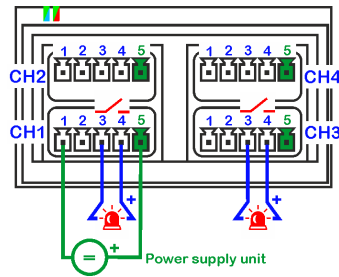
> ℹ   Alarm indicator grounds are electrically isolated from the system bus ground.

7.3   Local Alarm

Example: 2 local alarm indicators at contacts CH1 and Ch3

An alarm is triggered when the contact closes.

Terminal	
1	Ground
2	---
3	Ground
4	Closes in event of an alarm / NO
5	Alarm indicator power supply Only one power supply unit is possible for all alarm outputs.

7.4   Alarm Forwarding

Example: Contact CH1 monitored by central plant system

An alarm is triggered when the contact opens. This circuit layout allows wire break monitoring.
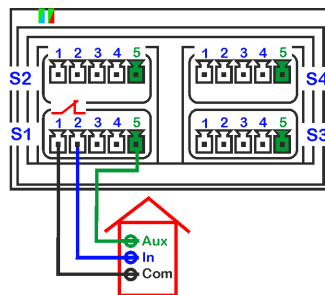
Terminal	
1	Ground
2	Opens in event of an alarm / NC Only 1 channel can be used for alarm forwarding.
3	---
4	---
5	Power supply from alarm control panel.

8   1250 mA Power Supply Unit

Main plug

Power supply unit, see Accessories for Part No.

Plug-in power supply unit

In order to power ECOLOG-PRO modules, the power supply unit is connected to the ECOLOG-PRO LBR communication module.

A plug-in power supply unit is used as the standard power supply unit. Other power supply units and uninterruptible power supply units (UPS) are available for systems comprising a large number of modules and to install modules in a control cabinet.

Depending on the design, plug-in power supply units are delivered with replaceable, country-specific plugs for AC input.

Input voltage	100 VAC..264 VAC, 50 Hz..60 Hz
Country versions	Europe, U.K., U.S.A.
Output voltage	24 VDC ±5%
Output current	max. 1250 mA
Dimensions	90 x 55 x 34 mm
Connection cable length	1830 mm
Content of package	- Power supply unit with connection cable and plug for connection to module: ECOLOG-PRO LBR.
	- AC input plug
	- Information leaflet

ℹ️ No ground connection possible, therefore a connected ECOLOG-PRO 4PT module can only be used with unshielded sensor cables up to a length of 30 m. With shielded sensor cables, the power supply unit Part No. 802155 or 802149 must be used.

8.1   Configuration Matrix

Module	Maximum power supply current at 24 VDC
ECOLOG-PRO LBR	65 mA
ECOLOG-PRO 4PT	25 mA
ECOLOG-PRO 4MA	175 mA
ECOLOG-PRO 2TH	20 mA
ECOLOG-PRO 4DI	175 mA
ECOLOG-PRO 4DO	25 mA

⚠️ **THE SUM OF ALL MODULE CURRENTS MAY NOT EXCEED THE MAXIMUM POWER SUPPLY UNIT VALUE OR 2500 MA.**

9   ECOLOG-PRO Module Configurator

The ECOLOG-PRO Module Configurator is used to assign parameters to the ECOLOG-PRO LBR. The parameters are required for operation in the network. The assignment procedure is described by the following 3 steps.

Preparing the configuration

The ECOLOG-PRO LBR module must be connected to the power supply unit and to the network.

For configuration, the ECOLOG-PRO LBR must be in the same logical network as the PC which is used for the configuration.

Start Module Configurator as administrator

Step 1

In the Module Configuration start window, left-click on the field LBR. A window opens for you to select the search function. Search for the ECOLOG-PRO LBR using one of the 3 methods below.
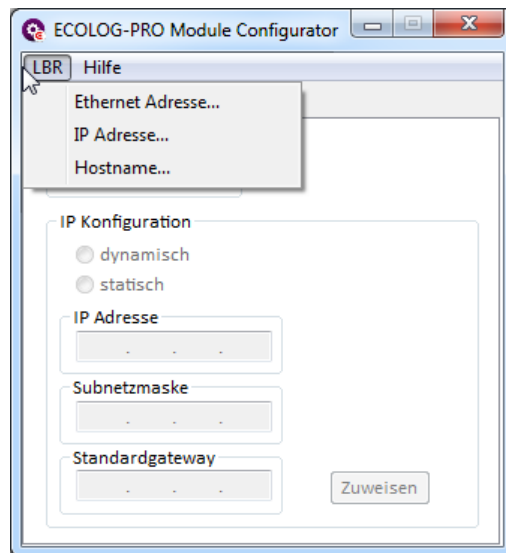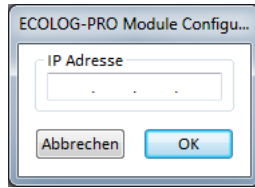

Start window

Step 2
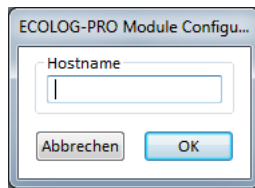
1.   *Ethernet address...*
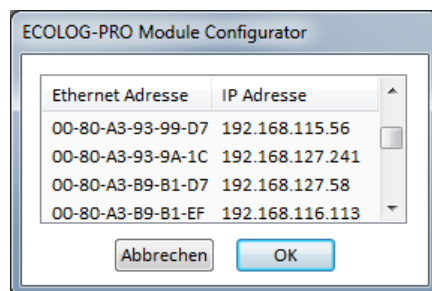
-   A list is produced of all the ECOLOG-PRO LBR devices in the network.

-   Select the ECOLOG-PRO LBR you want to configure from the list.

2. *IP address...*

Enter the IP address of the ECOLOG-PRO LBR you want to configure.
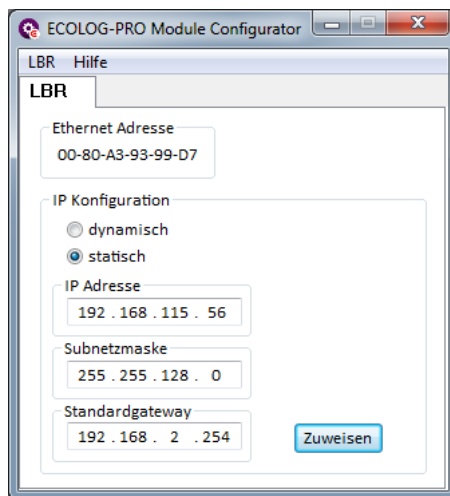
3. *Host name...*

Enter the host name of the ECOLOG-PRO LBR you want to configure.
Default: host name = serial number

Step 3

When a search is successful, the input fields are filled with the updated settings of the selected module and activated for editing.

Enter, modify, and assign the network parameters in this window.

Accessories

Part number	Designation	Description
802096	PSU_ECOLOG-PRO_EU	Power supply unit with EU plug
802097	PSU_ECOLOG-PRO_GB	Power supply unit with U.K. plug
802098	PSU_ECOLOG-PRO_US	Power supply unit with U.S. plug
802100	CTR_ECOLOG-PRO channel	Plug to connect a sensor
802101	CTR_ECOLOG-PRO LBR	Plug to connect a power supply unit
800508	CTR_M12F_IDC	M12 (F) cable coupling to connect sensor
800513	CTR_M12M_IDC	M12 (M) cable coupling to connect sensor
802071	PRO_TRH_nSens-HT-ENS	Temperature / humidity sensor, electrolytic
802209	PRO_TRH_nSens-HT-CSS	Temperature / humidity sensor, capacitive
802072	ECA_nSens-cable_05	Connection cable terminated for temperature / humidity sensor 5 m
802073	ECA_nSens-cable_10	Connection cable terminated for temperature / humidity sensor 10 m
802074	ECA_nSens-cable_30	Connection cable terminated for temperature / humidity sensor 30 m
802149	PSU_UPS_AKKUTEC 2402_24VDC_1.2Ah	DC-USV (uninterruptible power supply unit)
802155	PSU_24VDC_24W_DIN RAIL	Power supply unit for the ECOLOG-PRO DIN-rail housing
802205		Shielded extension cable with stranded drain wire

Version History

Author	Date	Version	Description
ANGUB	March 21, 2017	EP6001E	First edition
ANGUB	June 16, 2017	EP6001Ea	Power supply designation changed
ANGUB	Aug. 24, 2017	EP6001Eb	ECOLOG-PRO Module Configurator added
ANGUB	Feb. 23, 2018	EP6001Ec	ECOLOG-PRO 2TH added

ELPRO-BUCHS AG
Langäulistrasse 45
9470 Buchs
SWITZERLAND
Email: swiss@elpro.com