

ECOLOG Data Sheets

Status May 2015



Price list on demand
Subject to alterations



ECOLOG TN2

- For 2 NTC sensors, external: -50 °C..+140 °C, internal: -35 °C..+55 °C
- Alarm output
- External start, alarm reset, InPos detection (with special connector)

Part No. 800427



ECOLOG TN3-P

- For 3 NTC sensors, external: -50 °C..+140 °C, internal: -35 °C..+55 °C
- Alarm output
- External start, alarm reset, InPos detection (with special connector)
- Automatic printout for data

Part No. 800429



ECOLOG TN4

- For 4 NTC sensors -50 °C..+140 °C
- Alarm output, 2 digital inputs
- 4 Button key pad, external start, alarm reset, measurement and alarm scroll
- Direct connection to printer for alarm protocol and status

Part No. 800433



ECOLOG TN4-L

- For 4 NTC sensors -50 °C..+140 °C with LEMO connector
- Alarm output, 2 digital inputs
- 4 Button key pad, external start, alarm reset, measurement and alarm scroll
- Direct connection to printer for alarm protocol and status

Part No. 800436



ECOLOG TH1 with standard sensor

- Connection for 1 integrated -35 °C ..+55 °C, 0 %RH..100 %RH and/or up to 2 external T/RH sensors -35 °C ..+55 °C/110 °C, 0 %RH..100 %RH or 2 NTC temperature sensors -50 °C ..+140 °C
- Calibrated, interchangeable temperature and humidity sensors (Part No. 800640, 800637, 800639)
- Alarm output, 1 digital input
- 4 Button key pad, external start, alarm reset, measurement and alarm scroll
- Direct connection to printer for alarm protocol and status

Part No. 800439

TH1 Sensor Configuration

page 5



ECOLOG TH2

- For 2 external, calibrated and interchangeable temperature and/or humidity sensors -35 °C ..+70 °C, -35 °C..+55 °C/110 °C, 0 %RH..100 %RH (Part No. 800640, 800637, 800639)
- Alarm output, 1 digital input
- 4 button key pad, External Start, Alarm Reset, Measurement and Alarm Scroll
- Direct connection to printer for data and alarm printout

Part No. 800450

TH2 Sensor Configuration T/RH Sensor 800640

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page 7



ECOLOG TP2 ECOLOG TP4-L

- TP2: For 2 Pt100 sensors -200 °C..+550 °C – 4 wire system with DB15 connector
- TP4-L: For 4 Pt100 sensors -200 °C..+550 °C – 4 wire system with LEMO connector
- Alarm output, 1 digital input
- 4 button key pad, external start, alarm reset, measurement and alarm scroll
- Direct connection to printer for alarm protocol and status

Part No. 800445
Part No. 801237

Accessories, Intrinsically safe
Mounting Fixtures
Accuracy, Traceability
Calibration
elproLOG ANALYZE

page 9
page 10
page 11 f
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ECOLOG TN2
ECOLOG TN3-P
Data Logger System
for 1-3 Temperatures

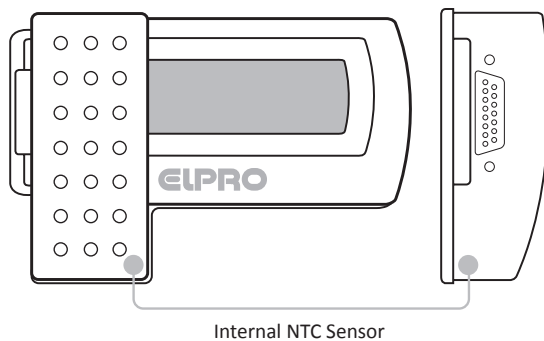
Part No. 800427

Part No. 800429

Technical Data

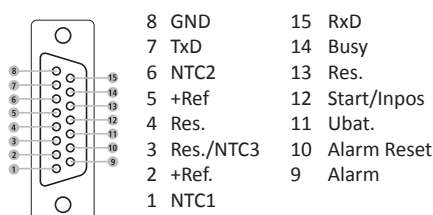
- General:** TN2: 2 channel data logger with display and alarm functions
 TN3-P: 3 channel data logger with display and alarm functions
- Case:** Thermoplastic ABS, IP54 with internal sensor and cover on DB15, suitable for foodstuff applications, 110 x 85 x 35 mm
- Display:** Large LCD display, visible down to -20 °C, with alarm indication
- Memory:** 64'000 data points
 Loop memory or start-stop mode with external start option
- Interval:** Programmable, 1 second to 3 hours
- Log Period:** Days, months, years
- Alarm:** External on DB15 and alarm display on LCD screen (programmable)
- Operating:** -35 °C..+55 °C, display readable down to -20 °C
- Measuring:** 1 built-in NTC sensor -35 °C..+55 °C and/or up to 2/3 external NTC sensors -50 °C..+140 °C
- Battery:** 1 x Lithium 3.6 V, user-replaceable, life-span approx. 2 years
 Low-battery warning
- Evaluation:** PC software elproLOG ANALYZE for all communication, reprogramming, display, statistics and printout (fast data transmission RS232 with 38'400 Baud)
- Features:** Start extern and InPos with DB15 start socket, display alarm reset with DB15 reset socket
 TN2: No print function
 TN3-P: Direct printout of short protocol (serial printer RS232 with 9'600 Baud)

DB15 connector for sensors, RS232 and Alarm

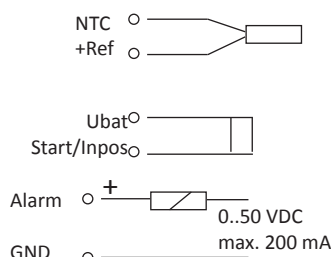


Accessories:	Part No.
Evaluation software elproLOG ANALYZE	800397
Data cable PC	800375
Simple fixation bracket	800531
Mounting bracket for DB15	800532
Bracket with terminals	800533
Seiko DPU414 protocol printer	800376
Data cable for Seiko DPU414	800356
DB15 socket for sensor etc.	800608
DB15 with screw terminals	800616
DB15 socket Start / Inpos	800612
DB15 socket Alarm reset	800611

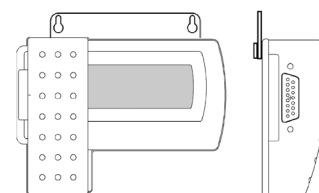
DB15 Connector



Wiring Diagramme



Simple Fixation Bracket 800531





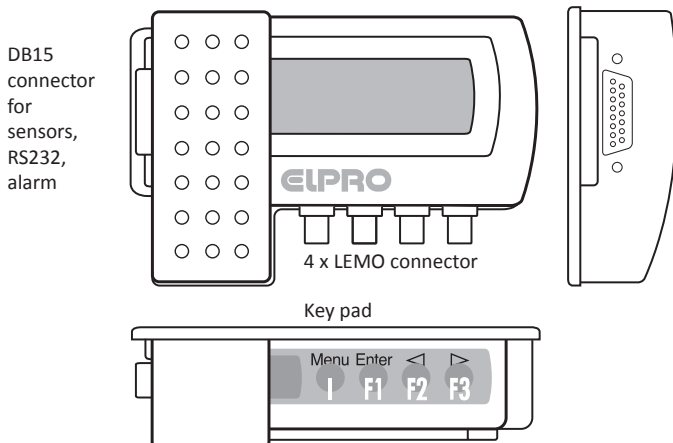
**ECOLOG TN4
ECOLOG TN4-L
Data Logger System
for 1-4 NTC Sensors**

Part No. 800433

Part No. 800436

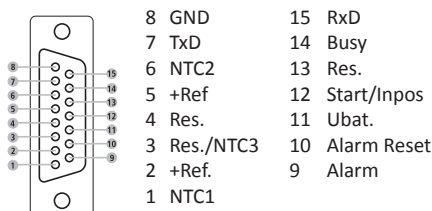
Technical Data

General:	4 Channel data logger with display and alarm functions
Case:	Thermoplastic ABS, IP52 with ext. sensor, suitable for foodstuff applications, 110 x 85 x 35 mm
Display:	Large LCD display, visible down to -20 °C, with alarm indication
Key pad:	4-keys: reset alarm, step by step data or alarm display, printout data/alarm
Memory:	64'000 data points Loop memory or start-stop mode with external start by using the key pad
Interval:	Programmable, 1 second to 3 hours
Log Period:	Days, months, years
Alarm:	External on DB15 and alarm display on LCD screen (programmable)
Operating:	-35 °C..+55 °C, display readable down to -20 °C
Measuring:	4 x NTC sensors -50 °C..+140 °C
Sensor connection:	TN4: DB15 connector TN4-L: 4 LEMO connectors 2 pin or on DB15 connector
Battery:	1 x Lithium 3.6 V, user-replaceable, life-span approx. 2 years Low-battery warning
Evaluation:	PC software elproLOG ANALYZE for all communication, reprogramming, display, statistics and printout (fast data transmission RS232 with 38 400 Baud)
Printer:	Direct printout of alarm protocol and status (serial printer RS232 with 9600 Baud)

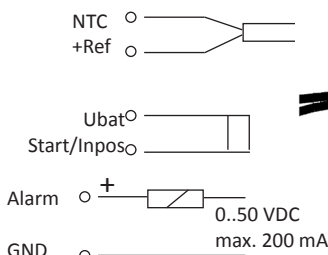


Accessories:	Part No.
Evaluation software elproLOG ANALYZE	800397
Data cable PC	800375
Simple fixation bracket	800531
Mounting bracket for DB15	800532
Bracket with terminals	800533
Seiko DPU414 protocol printer	800376
Data cable for Seiko DPU414	800356
DB15 socket for sensor etc.	800608
DB15 with screw terminals	800616
DB15 socket with built-in NTC	800609

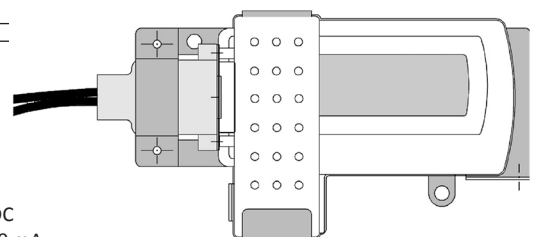
DB15 Connector



Wiring Diagramme



Bracket 800532 with Alarm Cable



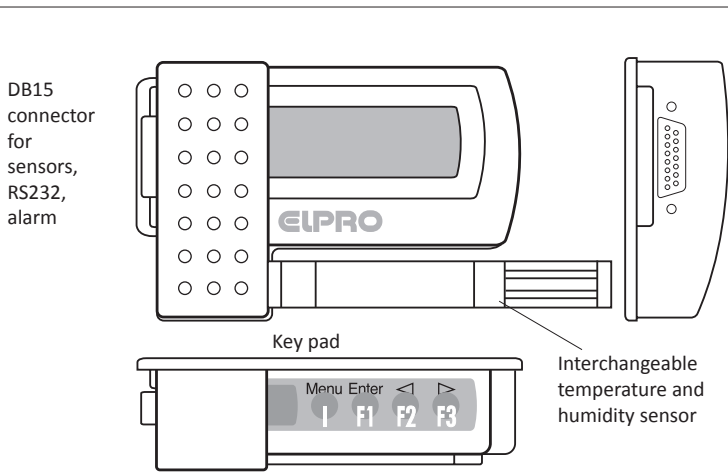


ECOLOG TH1 Data Logger System for Temperature and Humidity

Part No. 800439

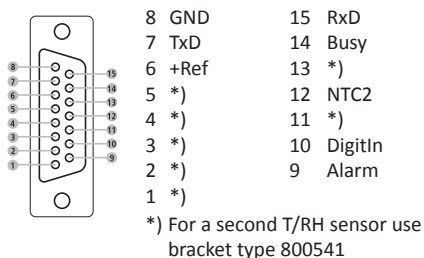
Technical Data

General:	4 Channel (2 x Temperature and 2 x Humidity) data logger with display and alarm functions
Case:	Thermoplastic ABS, IP50, suitable for foodstuff applications, 110 x 85 x 35 mm
Display:	Large LCD display, visible down to -20 °C, with alarm indication
Key pad:	4-key: reset alarm, step by step data or alarm display, printout data/alarm
Memory:	64'000 data points Loop memory or start-stop mode with external start by using the key pad
Interval:	Programmable, 1 second to 3 hours
Log Period:	Days, months, years
Alarm:	External on DB15 and alarm display on LCD screen (programmable)
Operating:	-35 °C..+55 °C, display readable down to -20 °C, 0 %RH..100 %RH, with condensation
Reaction Constant:	Temperature: 110 s, Humidity: 110 s Data logger with sensor, standard dust filter, air speed: 1 m/s
Measuring:	- 800637, 800639: - Integrated temperature and humidity sensors: T: -35 °C..+70 °C, H: 0 %RH..100 %RH - Up to 2 external temperature and humidity sensors: T: -35 °C..+55 °C, H: 0 %RH..100 %RH - 800640: - Up to 2 external temperature and humidity sensors: T: -35 °C..+110 °C, H: 0 %RH..100 %RH - Up to 2 external NTC temperature sensors: T: -50 °C..+140 °C
Battery:	1 x Lithium 3.6 V, user-replaceable, life-span approx. 1.5 years Low-battery warning
Evaluation:	PC software elproLOG ANALYZE for all communication, reprogramming display, statistics and printout (fast data transmission RS232 with 38'400 Baud)
Printer:	Direct printout of alarm protocol and status (serial printer RS232 with 9'600 Baud)

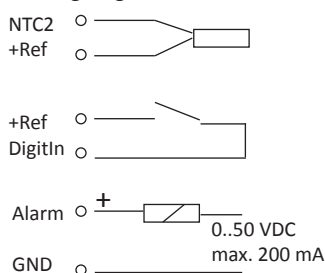


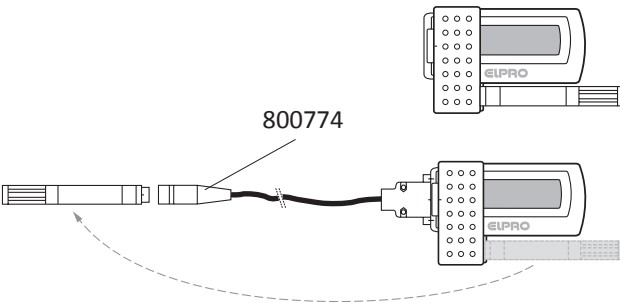
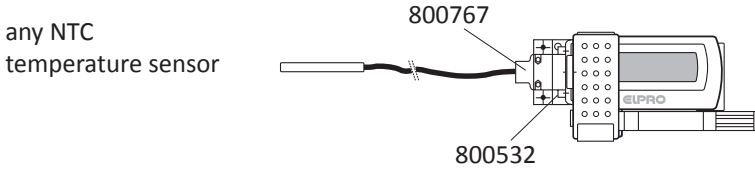
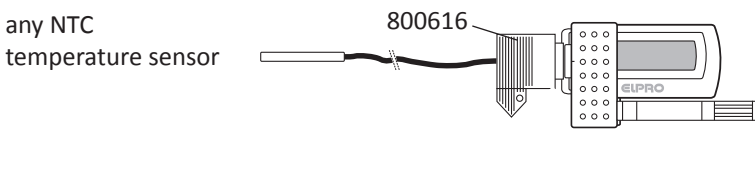
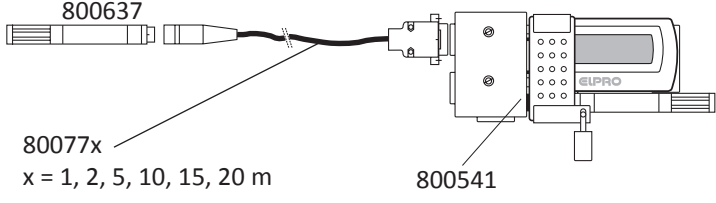
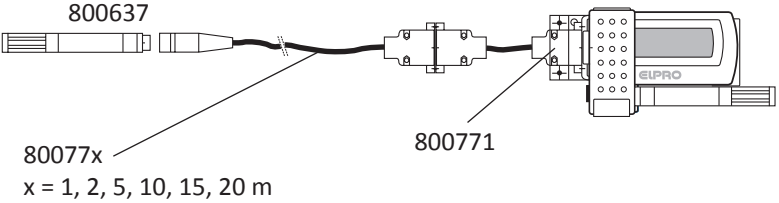
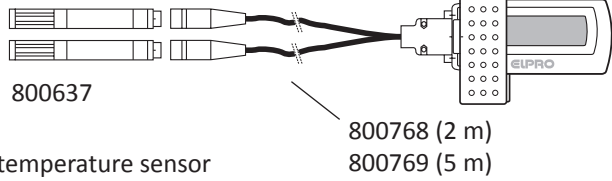
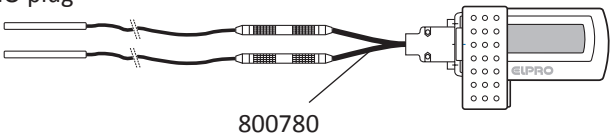
Accessories:	Part No.
Evaluation software elproLOG ANALYZE	800397
Data cable PC	800375
Simple fixation bracket	800531
Mounting bracket for 3215-Sx	800532
Bracket with 3 x DB15 sockets	800541
Seiko DPU414 protocol printer	800376
Data cable for Seiko DPU414	800356
DB15 socket for alarm etc.	800608
DB15 with screw terminals	800616
Temperature-humidity sensor	800637
Temperature-humidity sensor (replacement)	800639
Temperature-humidity sensor (high temp.)	800640
Humidity calibration set	800548
Extension cable 1, 2, 5, 10 m	80077X
Connection lead for 2 T/RH sensors 2 m	800768
Adapter sensor 1/2 to 3/4	800771
Adapter for 2 temperature sensors	800780

DB15 Connector on ECOLOG



Wiring Diagramme



	Configuration	Function
	ECOLOG TH1 with 1 internal T/RH sensor	Internal: Temperature and humidity
	ECOLOG TH1 with a second temperature sensor and bracket	Internal: Temperature and humidity External: Temperature
	ECOLOG TH1 with a second temperature sensor and connector	Internal: Temperature and humidity External: Temperature
	ECOLOG TH1 with a second T/RH sensor and bracket	Internal: Temperature and humidity External: Temperature and humidity
	ECOLOG TH1 with a second T/RH sensor and adapter	Internal: Temperature and humidity External: Temperature and humidity
	ECOLOG TH1 with 2 T/RH sensors and connection lead	External: 2 x temperature and humidity
	ECOLOG TH1 with 2 temperature sensors and adapter	External: 2 x temperature

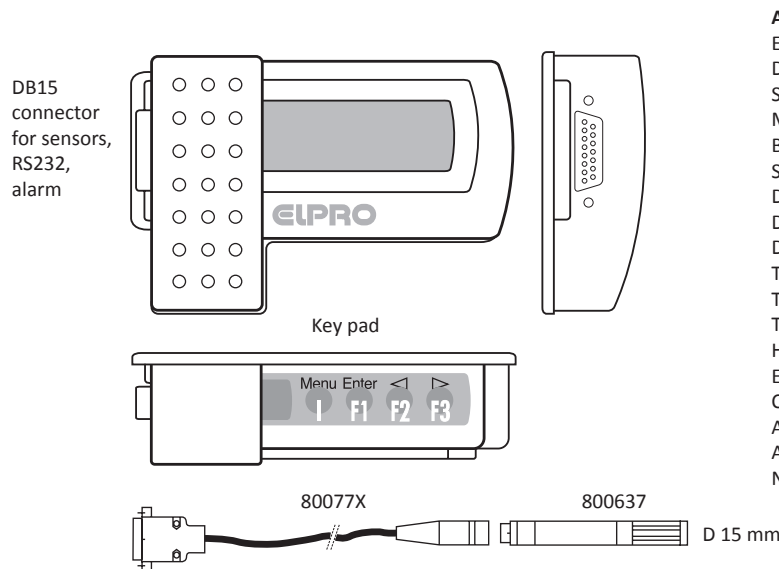


ECOLOG TH2 Data Logger System for Temperature and Humidity

Part No. 800450

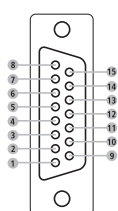
Technical Data

General: 4 Channel (2 x Temperature and 2 x Humidity) data logger with display and alarm functions
Case: Thermoplastic ABS, IP52 with ext. sensor, suitable for foodstuff applications, 110 x 85 x 35 mm
Display: Large LCD display, visible down to -20 °C, with alarm indication
Key pad: 4-key: reset alarm, step by step data or alarm display, printout data/alarm
Memory: 64'000 data points
 Loop memory or start-stop mode with external start by using the key pad
Interval: Programmable, 1 second to 3 hours
Log Period: Days, months, years
Alarm: External on DB15, and alarm display on LCD screen (programmable)
Operating: -35 °C..+55 °C, display readable down to -20 °C
 0 %RH..100 %RH, with condensation
Measuring: - 800637, 800639: 1 or 2 external temperature and humidity sensors: T: -35 °C..+70 °C , H: 0 %RH..100 %RH
 - 800640: 1 or 2 external temperature and humidity sensors: T: -35 °C..+110 °C, H: 0 %RH..100 %RH
 - Up to 2 external NTC temperature sensors: T: -50 °C..+140 °C
Battery: 1x Lithium 3.6 V, user-replaceable, life-span approx. 1.5 years
 Low-battery warning
Evaluation: PC software elproLOG ANALYZE for all communication, reprogramming, display, statistics and printout (fast data transmission RS232 with 38'400 Baud)
Printer: Direct printout of alarm protocol and status (serial printer RS232 with 9'600 Baud)



Accessories:	Part No.
Evaluation software elproLOG ANALYZE	800397
Data cable PC	800375
Simple fixation bracket	800539
Mounting bracket for 80077x	800532
Bracket with 3 x DB15 sockets	800541
Seiko DPU414 protocol printer	800376
Data cable for Seiko DPU414	800356
DB15 socket for alarm etc.	800608
DB15 with screw terminals	800616
Temperature-humidity sensor	800637
Temperature-humidity sensor (replacement)	800639
Temperature-humidity sensor (high temp.)	800640
Humidity calibration set	800548
Extension cable 1, 2, 5, 10 m	80077X
Connection lead for 2 T/RH sensors 2 m	800768
Adapter sensor 1/2 to 3/4	800771
Adapter for 2 temperature sensors	800780
NTC temperature sensors	Page 5

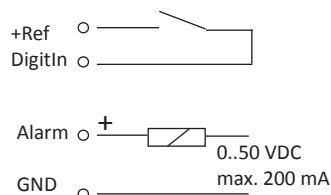
DB15 Connector



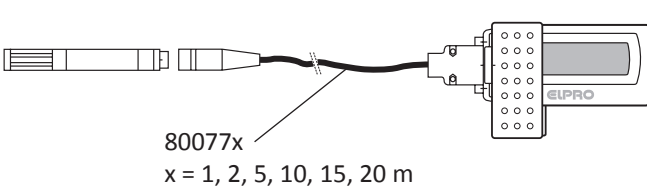
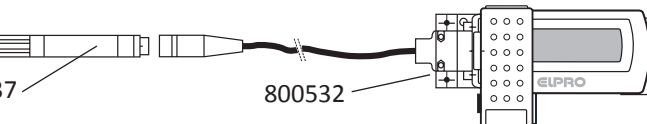
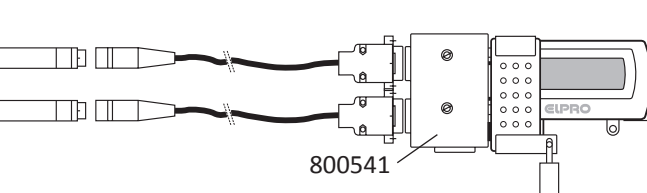
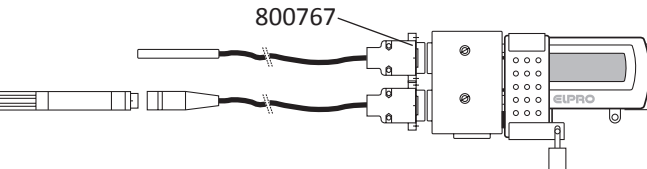
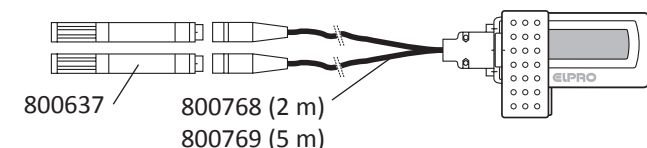
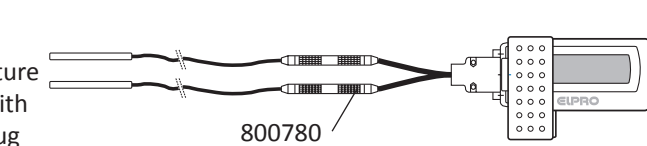
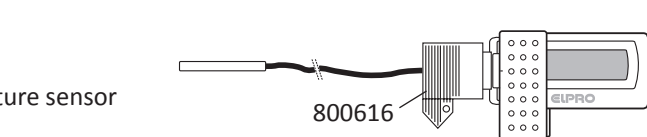
8	GND	15	RXD
7	TXD	14	Busy
6	+Ref.	13	NTC1
5	A1	12	NTC2
4	A2	11	D1
3	B1,2	10	DigitIn
2	D2	9	Alarm
1	C1,2		

For a second T/RH sensor, alarm etc. the use of bracket 800541 is recommended

Wiring Diagramme



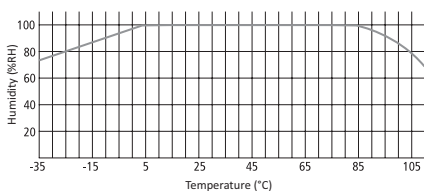
Sensor Configuration ECOLOG TH2 T/RH Sensor 800640

	Configuration	Function
 <p>80077x x = 1, 2, 5, 10, 15, 20 m</p>	ECOLOG TH2 as portable T/RH data logger	External: Temperature and humidity
 <p>800637 800532</p>	ECOLOG TH2 with 1 T/RH sensor and bracket	External: Temperature and humidity
 <p>800541</p>	ECOLOG TH2 with 2 T/RH sensors and bracket	External: Two times temperature and humidity
 <p>800767</p>	ECOLOG TH2 with a T/RH sensor, second temperature sensor and bracket	External: Temperature and humidity and second temperature
 <p>800637 800768 (2 m) 800769 (5 m)</p>	ECOLOG TH2 with 2 T/RH sensors and connection lead	External: 2 x temperature and humidity
 <p>any NTC temperature sensor with LEMO plug 800780</p>	ECOLOG TH2 with 2 temperature sensors and adapter	External: 2 x temperature
 <p>any NTC temperature sensor 800616</p>	ECOLOG TH2 with 1 temperature sensor and connector	External: Temperature

Important Note:

Max. added cable length for T/RH sensor 1 and 2 is 20 m (e.g. 1 x 800779 or 2 x 800777)

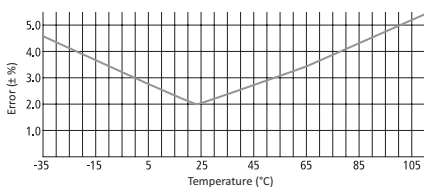
Save Operation Area of T/RH Sensor 800640, Sensor with Extended Temperature Range up to +100 °C



Save operation area of the T/RH sensor 800640 for extended temperature application corresponds to the plot shown. +110 °C for temperature peaks, permanent operation +100 °C only.

Attention:

Temperature range for the sensor cable 80077X is -35 °C..+80 °C
The cable should not be moved at such high temperatures!



Sensor 800640 temperature dependence off the measurement error at the time of shipment.

For sensor 800637 and 800639 reduced temperature range: -35 °C..+70 °C only



**ECOLOG TP2
ECOLOG TP4-L
Data Logger System
for 1-4 Pt100 Sensors**

Part No. 800445

Part No. 801237

Technical Data

General: TP2: 2 channel data logger with display and alarm functions
TP4-L: 4 channel data logger with display and alarm functions

Case: Thermoplastic ABS, IP52 with ext. sensor, suitable for foodstuff applications, 110 x 85 x 35 mm

Display: Large LCD display, visible down to -20 °C, with alarm indication

Key pad: 4-key: reset alarm, step by step data or alarm display, printout data/alarm

Memory: 64'000 data points
Loop memory or start-stop mode with external start by using the key pad

Interval: Programmable, 1 second to 3 hours, 10 months battery life at measurement interval of 1 minute

Resolution: High and low resolution selectable. Attention: Display in low resolution mode always!

Log Period: Days, months, years

Alarm: External on DB15, and alarm display on LCD screen (programmable)

Operating: -35 °C..+55 °C, display readable down to -20 °C

Measuring: 2/4 x Pt100 sensors -200 °C..+550 °C, 4 wire system

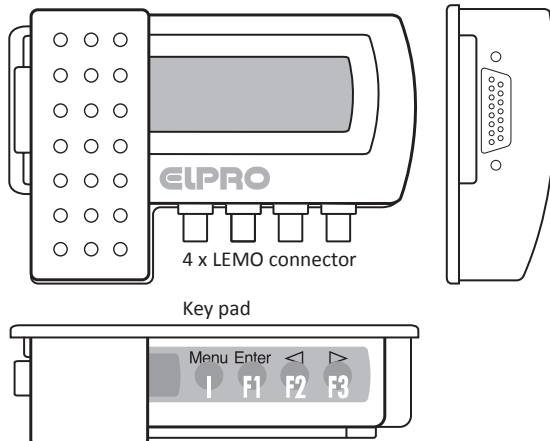
Sensor connection: TP2: DB15 connector
TP4-L: 4 LEMO connectors 4 Pin or sensor 1 and 2 on DB15 connector

Battery: 1x Lithium 3.6 V, user-replaceable, life-span up to 1.5 years, depending on measurement interval and resolution. Low-battery warning

Evaluation: PC software elproLOG ANALYZE for all communication, reprogramming, display, statistics and printout (fast data transmission RS232 with 38'400 Baud)

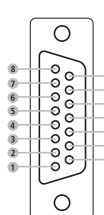
Printer: Direct printout of alarm protocol and status (serial printer RS232 with 9'600 Baud)

DB15 connector for sensors, RS232, alarm



Accessories:	Part No.
Evaluation software elproLOG ANALYZE	800397
Data cable PC	800375
Simple fixation bracket	800531
Mounting bracket for DB15	800532
Bracket with terminals	800541
Seiko DPU414 protocol printer	800376
Data cable for Seiko DPU414	800356
DB15 socket for alarm etc.	800608
DB15 with screw terminals	800616

DB15 Connector



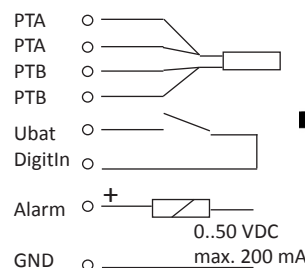
- 8 GND
- 7 TxD
- 6 Ubat
- 5 A1
- 4 A1
- 3 B1
- 2 B1
- 1 B2
- 15 RxD
- 14 Busy
- 13 A2
- 12 A2
- 11 B2
- 10 DigitIn
- 9 Alarm

LEMO Connector

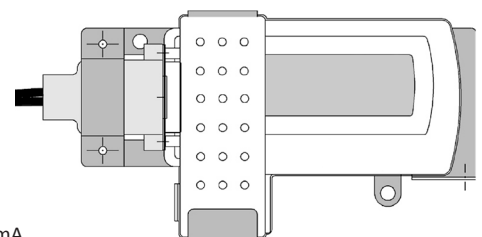


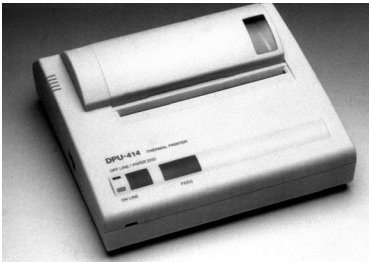
Plug soldering side seen

Wiring Diagramme



Bracket 800532 with Alarm Cable





Seiko DPU414 printer

- For 220 V and battery operation, 110 mm thermopaper
- Printer cable
- Printer paper (3 rolls)

Part No. 800376

Part No. 800356

Part No. 800357



EcoPrint

- Multivolt for operation in transporters, 10-30 VDC
- Set made of: printer, TN3-P, 1 sensor 800674 and protective housing
- Printer paper (5 rolls)

Part No. 800372



USB Data Cable

To connect any ECOLOG data loggers to a PC by using the USB port of the PC.

Part No. 800375



Replacement battery for ECOLOG data loggers

Set of 2 batteries, minimum storage time is 5 years

Part No. 800556



**DB15 Connector
Sensor with Customized Mounting**
2-3 cables can be attached
Metal housing with connector head-solder
hook terminated for sensor, alarm output, etc.

**Part No. 800608
Part No. 800610**

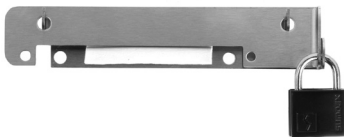
DB15 Connector with Sensor
For ECOLOG TN4 as internal sensor, analog 800608
Operating: -35 °C..+55 °C

Part No. 800609



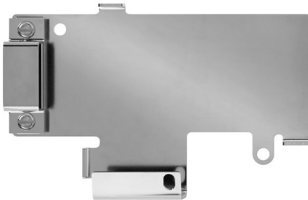
Simple Fixation Bracket
Ideal for ECOLOG TN2 and TH1
Support plate made of stainless steel
With 2 PT screws for attachment to data logger

Part No. 800531



Fixation Bracket with Padlock
Ideal for ECOLOG TN2 and TH1
Support plate made of stainless steel
The data logger can be protected and secured
with a padlock (not part of delivery)

Part No. 800536



Fixation Bracket ECOLOG for DB15
Ideal for ECOLOG TN2, TN4 and TH2
Made of stainless steel for wall-mounting
With mounting bracket to attach DB15 connector
With 2-3 cables, without DB15 connector
The data logger can be protected and secured
with a padlock (not part of delivery)

Part No. 800532



Fixation Bracket ECOLOG with Terminals
Ideal for customer applications
Made of stainless steel for wall-mounting
For simple attachment of all sensor cables, digital inputs
and alarm cables to the connecting terminals
The data logger can be protected and secured with a padlock
(not part of delivery)

Data Logger Type	Bracket Type
TNx:	800533, 800535 (with additional RS232 connector)
THx:	800541
TPx:	800528 (with additional RS232 connector)



Protective Housing ECOLOG
As accessories, ELPRO provides a protective
housing made of shockproof plastic material with IP66,
and 3 different brackets for simple fixation of data loggers.
For more information, see specific data sheets.

Part No. 800404–800409



Accuracy, Traceability Temperature, Time Norms passed

Temperature Measurement TPx

(Data logger only, at room temperature)

Operating Range	Resolution	Accuracy
-200.0 °C..-100.0 °C	0.2 °C	± 0.6 °C
-99.9 °C..+500.0 °C	0.1 °C	± 0.3 °C
+500.1 °C..+550.0 °C	0.2 °C	± 0.5 °C

Temperature Measurement TNx and THx

(Data logger with ELPRO sensor typical, data logger at room temperature)

Operating Range	Resolution	Accuracy (U95, k=2)
-50.0 °C..-25.0 °C	0.1 °C	± 0.4 °C
-24.9 °C..0.0 °C	0.1 °C	± 0.3 °C
+0.1 °C..+30.0 °C	0.1 °C	± 0.2 °C
+30.1 °C..+70.0 °C	0.1 °C	± 0.3 °C
+70.1 °C..+100.0 °C	0.1 °C	± 0.4 °C
+100.1 °C..+140.0 °C	0.1 °C	± 0.7 °C

Check/Verification of Temperature Measurement

1) New devices:

- All data loggers are factory-checked using precision resistors and subsequently receive a calibration certificate.
- NTC resistor sensors (thermal resistor) are interchangeable in terms of accuracy – see the adjacent table.
- Pt100 sensors are interchangeable with respect to their class of accuracy.

2) Periodical recalibration:

Data logger: every 1–2 years – with calibration resistor by end user or by ELPRO service center.

Sensor: every 2 years or when deviations occur – in calibration bath by end user or by ELPRO service center.

Time

The accuracy of the data logger internal clock is: ±20 minutes/year at +25 °C

If the ambient temperature is changed, the following deviations are possible:

Between -20 °C and +55 °C up to ±1 hour/year

Norms

EN12830 Temperature recording instrument for transport, storage and distribution of foodstuffs

EN13485 Thermometers for measuring the air and product temperature for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream

GZ1480 Exceptional approval for calibration GZ1480/2000 from 10. 4. 2000, BEV Austria

FDA Software validation for GLP application

CE The data loggers are conform to EN61000-6-2:2006 and EN61000-6-4:2006



Accuracy, Traceability Humidity

Relative Air Humidity ECOLOG THx

Operating Range	Resolution	Accuracy of Measurement
0 %RH..100 %RH	0.2 %RH	At ambient temperature, +23 °C: ± 1.5 %RH Hysteresis 10-90-10 %RH: < 1 %RH Temperature coefficient: see page 7

Check / Verificaton of the Relative Humidity Measurement

a) New devices
All data loggers are factory-calibrated with SCS* calibration solutions and subsequently receive a calibration certificate. The adjustment points are 0 %RH and 80 %RH (95 %RH for high levels of humidity). The humidity sensors are calibrated and interchangeable. The calibration values are read in by the data logger.

b) Periodical recalibration
With SCS calibration solutions and calibration device by the end user or by ELPRO service center. Alternatively there is the possibility to get a calibrated sensor as an interchangeable part from ELPRO. Interval: every 12 months in clean operating environment; in environment with high humidity, dust, smoke etc., every 6 months or in case of doubt.

*SCS = SWISS CALIBRATION SERVICE

Interchangeability of T/RH Sensors

a) Humidity Sensor used in T/RH Sensors
All humidity sensors are factory-calibrated with SCS calibration solutions and subsequently receive a calibration certificate. The adjustment points are 0 %RH and 80 %RH. (95 %RH for high levels of humidity)
The ECOLOG T/RH sensors are interchangeable in their pre-calibrated state. The calibration data are read in by the data logger.

b) Temperature Sensor used in T/RH Sensors
For the temperature sensor used in the T/RH sensor are the same conditions valid as for the NTC sensors used. Based on the strong relation between temperature and measurement value, in most of our cases a check at 0 °C ice water is sufficient.

c) Data Logger
For the production of our data loggers we use high quality components only. The functionality of all data loggers is checked by the use of high precision resistors for the temperature measurement and with a simulated signal for the humidity measurement. According to these checks all data loggers receive a calibration certificate.

Check / Verification of T/RH Sensors

a) Temperature measurement
According to the information about temperature measurement, see page 15.

b) Humidity measurement
With SCS calibration solutions and calibration device by the end user or by ELPRO service center. Interval: In clean operating environment every 12 month, in environments with high humidity, dust, smoke etc. every 6 month or in case of doubt.

Required for Humidity Calibration and Adjustment:

Extension cable for ECOLOG THx for calibration
Calibraton unit for humidity data logger
Calibration ampullae (set of 5)

Traceability

ELPRO uses SCS calibrated humidity standards for calibration.
The ELPRO certificate can be used for GLP applications.



Calibration Temperature

ECOLOG TNx , THx and TPx Temperature – Calibration

ECOLOG TNx and THx: Modules for Measuring Temperature with Precise NTC Sensors

Data loggers belonging to the TNx and THx series are supplied with very precise temperature sensors. Consequently, it is possible to dispense with adjustment procedures. However, we recommend that you perform an operational check on the module and its temperature sensors approx. every 12 months. If you detect a deviation from the permissible range, there is a defect at the sensor, cable or connector. The cause of this defect must be eliminated.

ECOLOG THx Humidity – Calibration

Modules for measuring relative air humidity

At delivery, each of our humidity data loggers is fitted with a precisely calibrated humidity sensor. We recommend that humidity sensors used in normal working environments are calibrated every 6–12 months. If necessary, they should also be readjusted. In particularly contaminated environments, it is necessary to clean the RH sensor very carefully using water or a solution with max. 40 % of alcohol.

Calibration procedure

- a) Return the sensor to ELPRO-BUCHS AG.
- b) Replace the sensor with a calibrated sensor.
- c) Calibration at customer-site performed by the ELPRO-BUCHS AG calibration service (Switzerland only).



Evaluation Software elproLOG ANALYZE

PC Requirements

Hardware PC with pentium/500
Software Windows NT4, 2000, XP, VISTA or Windows 7

Part No

Items Required for Evaluation

Software Full version standard
Update standard
Basic licence QLS
Follow licence QLS
Data cable Used to interconnect the data logger to the USB port

800397
800396
800392
800394
800375

Screen Shots

ON/OFF Statistics with additional information

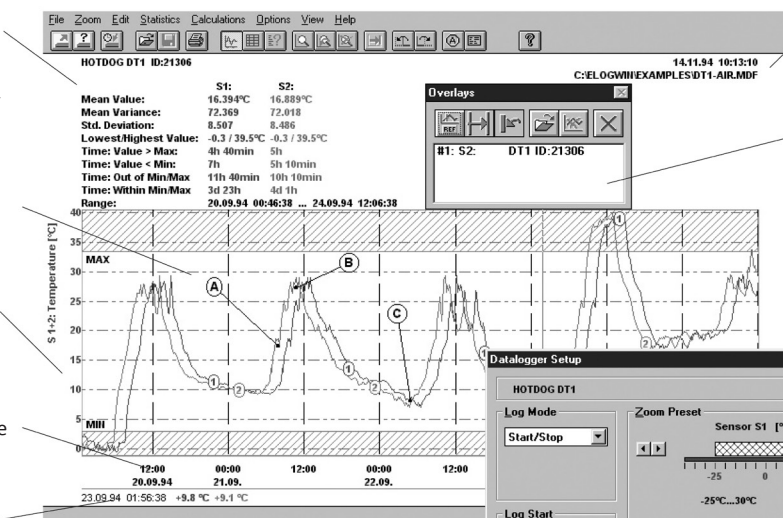
Alarm levels may be implemented in Histogram

Draw marking lines and store configurations

Automatic scaling and block time zoom

Autoscale for time and date

Info line with data at cursor



Datalogger Setup

HOTDOG DT1

Log Mode: Start/Stop

Zoom Preset: Sensor S1 [°C]

Log Start: Immediately

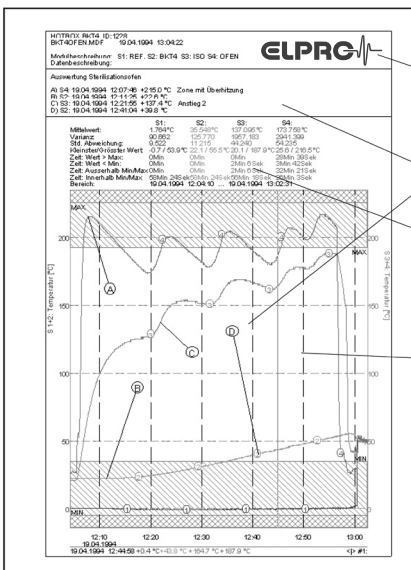
Log Interval: days weeks months years

Log Interval/Duration: 1 min / 11 d 2 h

Sensors: 1 NTC: S1

Module Tag: ROCHE Pharma AG, Basel

As easy as 123, Perfect Documents for Your Quality Assurance



Logo of customer on all printout

6 line-text editor, automatic time/date/values stamp with the use of Mark Lines

Statistics with timeperiod «value outside of Min/Max»

clear graphic printout

Status printout with all relevant information about data logger settings

Table printout with change of colour when outside Min/Max level

STATUS DES DATENLOGGERS

HOTDOG: Serie: Modul ID: 1000 02 31
Herstellernr.: 12 04 1994 07 20 19

Umspannung am: 19 04 1994 11 05 11
Modulspannung: 51 118.6 V, 52 118.3 V, S3 150 S4: OFFEN
S1: 11.8 mA
S2: 11.8 mA
S3: 11.8 mA
S4: 11.8 mA
S5: 11.8 mA
S6: 11.8 mA
S7: 11.8 mA
S8: 11.8 mA
S9: 11.8 mA
S10: 11.8 mA
S11: 11.8 mA
S12: 11.8 mA
S13: 11.8 mA
S14: 11.8 mA
S15: 11.8 mA
S16: 11.8 mA
S17: 11.8 mA
S18: 11.8 mA
S19: 11.8 mA
S20: 11.8 mA
S21: 11.8 mA
S22: 11.8 mA
S23: 11.8 mA
S24: 11.8 mA
S25: 11.8 mA
S26: 11.8 mA
S27: 11.8 mA
S28: 11.8 mA
S29: 11.8 mA
S30: 11.8 mA
S31: 11.8 mA
S32: 11.8 mA
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S34: 11.8 mA
S35: 11.8 mA
S36: 11.8 mA
S37: 11.8 mA
S38: 11.8 mA
S39: 11.8 mA
S40: 11.8 mA
S41: 11.8 mA
S42: 11.8 mA
S43: 11.8 mA
S44: 11.8 mA
S45: 11.8 mA
S46: 11.8 mA
S47: 11.8 mA
S48: 11.8 mA
S49: 11.8 mA
S50: 11.8 mA
S51: 11.8 mA
S52: 11.8 mA
S53: 11.8 mA
S54: 11.8 mA
S55: 11.8 mA
S56: 11.8 mA
S57: 11.8 mA
S58: 11.8 mA
S59: 11.8 mA
S60: 11.8 mA
S61: 11.8 mA
S62: 11.8 mA
S63: 11.8 mA
S64: 11.8 mA
S65: 11.8 mA
S66: 11.8 mA
S67: 11.8 mA
S68: 11.8 mA
S69: 11.8 mA
S70: 11.8 mA
S71: 11.8 mA
S72: 11.8 mA
S73: 11.8 mA
S74: 11.8 mA
S75: 11.8 mA
S76: 11.8 mA
S77: 11.8 mA
S78: 11.8 mA
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S91: 11.8 mA
S92: 11.8 mA
S93: 11.8 mA
S94: 11.8 mA
S95: 11.8 mA
S96: 11.8 mA
S97: 11.8 mA
S98: 11.8 mA
S99: 11.8 mA
S100: 11.8 mA

These documents comply to: EN12830, EN13485, FDA Reg. 21 CFR Part 11, 58, 820



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