DATA SHEET

NREeco

Version 1.3

Notice:

No liability or warranty can be accepted for any errors.
We reserve the right to make technical changes at any time.

Data Sheet

NREeco

1 Contents

2 General Description

In cold rooms with temperatures below -10°C and a floor area above 10m³, an emergency call device independent of the general power supply network must be provided. Emergency call devices are life-saving equipment and require careful installation, setup and maintenance.

Executions according to VDE0100, 0800, etc. the respective national standards and may only be carried out by qualified electricians.

The emergency call central unit contains a power supply unit which supplies the electronics with low voltage and keeps the built-in rechargeable battery constantly charged. In the event of a power failure, the built-in rechargeable battery provides a visual and audible alarm lasting several hours. Make sure that the polarity of the battery is correct when inserting it.

3 Installation

When installing, make sure that the controller is installed on non-conductive surfaces or on grounded conductive surfaces. Unless the mounting surface cannot be touched.

The emergency control panel should be placed outside the rooms to be monitored in locations that are permanently occupied by people (work rooms, telephone exchanges, porters' rooms, etc.). The installation location should be chosen in such a way that the acoustic and visual alarm signals can be perceived by people at all times.

The emergency button for triggering the alarm should be installed in the immediate area of the exit and must be accessible while lying down.

In addition to the connected siren, it is possible to connect a flashing light.

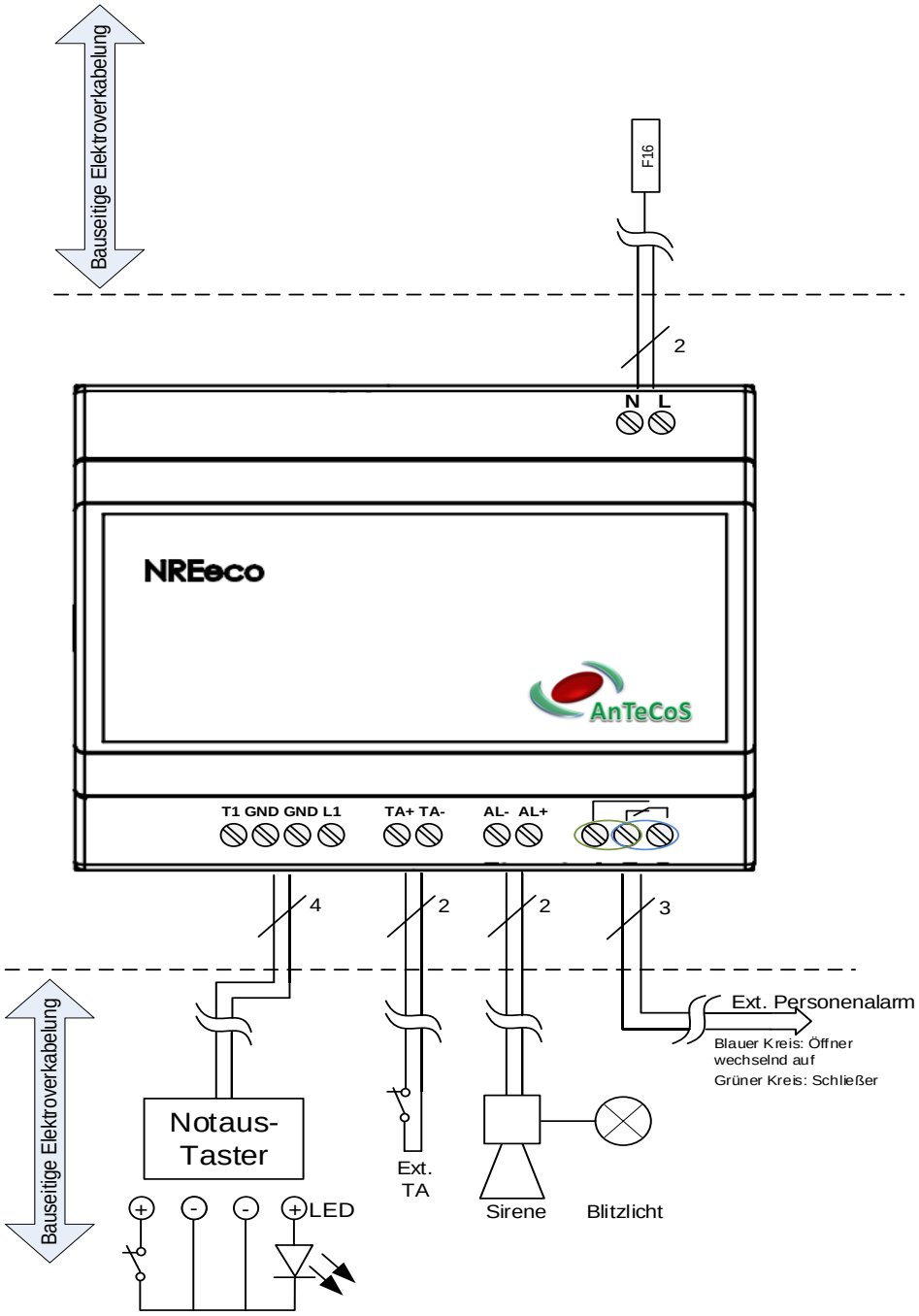
All lines should be kept as short as possible and must not be laid together with power lines. Avoid the vicinity of motors, switch cabinets, etc. If this is not possible, shielded lines must be installed.

4 Technical Data

Case (WxHxL)	IP20, 106 x 86 x 58mm, 45 mm Detail
Operating mode	Operating regulation and control unit
Pollution level	2 (normal)
Mode of operation	Type 1C
Overvoltage category	III
Rated current	1A, $\cos\varphi$1,0
Power supply	230v, 50Hz/60Hz, +5%/-10%
Battey	3.6V Li-Ion, min. 2500mAh with built-in deep discharge and overcharge protection
Input	Terminals TA+, TA- technical alarm Terminal T1, terminal GND NC contact (emergency stop, personal alarm)
Output	Terminal AL+, AL- Siren/flashlight, max. 35mA Terminal L1, terminal GND Emergency stop lighting (switch), max. 15mA Alarm relay change-over contact, load max. 1A at 24V cos φ = 1,0
Terminals	0,75 - 1,5mm²
Required space	6TE according to DIN 43880
Power consumption	3,2 W
Storage temperature	0°C bis 40°C
Storage temperature Li-ION battery 	0°C to 40°C 
Operating temperature	0°C to 40°C

(The voltage-free alarm relay contacts are not suitable for 230VAC network.)

5 Connection Diagram



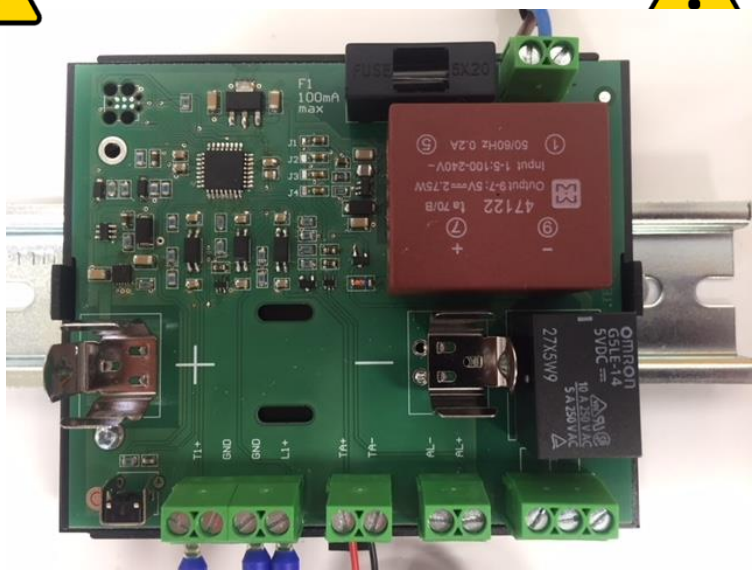
6 Start-up

1. Connect the emergency stop switch (NC contact) to the terminals T1+, GND, and the pushbutton light to L1+ and GND (see chapter 5 connection diagram).

2. Connect the technical alarm (NC contact) to TA+ and TA- terminals. If there is no external technical alarm, bridge both terminals with a short wire (see chapter 5 connection diagram).

3. Connect the signal transmitter to the AL+ and AL- terminals and, if there is an external alarm, connect it to the corresponding terminals (symbol on the housing ->). 4.

4. Before opening the casing cover and changing the battery, disconnect the line voltage.



5. It is absolutely necessary to pay attention to the correct polarity when inserting the battery, otherwise the battery and the electronics could be damaged.

Please note that removing or damaging the protection electronics (PCB) (PCB) can lead to a short circuit, fire development or explosion..

6. Apply the 230 V line voltage to the L and N terminals (switch on the 230 V line).

7. The full operational availability of the LI-ION battery of the emergency alarm device is reached only after approx. 100 hours of operation (shortened to approx. 1 hour if charged LI-ION battery is used), as the LI-ION battery requires a certain charging time to reach its full charging capacity.

7 Functional Description

The following table shows the operating states of the NREeco. The normal operation as well as the alarm operation are described.

Error message	Possible causes/suggested solutions for troubleshooting
1. Normal operation	No personal or technical alarm
 2. Alarm lamp with acoustic signal (approx. 2 sec. signal approx. 2 sec. pause)	Personal alarm Cause: Emergency stop button pressed • Trigger points in the cold rooms are actuated. • Check triggering points. The button at which the personal alarm was triggered must be reset, i.e. the trigger button must be pulled out. • If the button line is interrupted (terminals T+ and GND), check the line.
 3. Alarm lamp with acoustic signal lights up at intervals (approx. 2 sec. signal approx. 7 sec. pause)	**Technical alarm** **Cause 1: Light emitting diode defective** • Check the LEDs in the trigger buttons. If the LED does not light • LED does not light up in a triggering point, replace the LED. • ATTENTION: When installing the LED, ensure correct polarity. • Only use original Klöpper LED • If the polarity of the LED is correct, a voltage of approx. 2V is applied to the LED. • If the polarity is wrong, the voltage is much higher, up to 12V. • Check the leads to the LED between the terminals L+ and GND. **Cause 2: External technical alarm** • The normally closed contact between terminals TA+ and TA- has released. • The lines to the NC contact must be checked.

 3. Alarm lamp with acoustic signal lights up in interval (approx. 2 sec. signal approx. 7 sec. pause)	**Cause 3: Power supply failure** • Check line voltage and ensure it again **Cause 4: no battery inserted** • Open the casing and check whether the battery has been inserted correctly. • Remove battery and measure voltage. The voltage must be higher than 3V.

8 Functional Test

Normal operation

After switching on the supply voltage (and inserted battery), the alarm relay and the personal alarm are switched off..

Personal Alarm

1. Press the emergency call button. Alarm function (alarm relay and personal alarm (flashing light and / or acoustic alarm) are switched on - interval tone 2 seconds - see chapter 7). Check the alarm function. After removing the pushbutton signal (unlocking the pushbutton), the alarm is terminated.

Technical Alarm

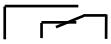
1. **TA Alarm Input**:
   Open the TA input. Alarm function (alarm -relay and personal alarm (flashing lamp / and or acoustic alarm) are switched on - interval sound - see chapter 7). Check the alarm function. After removing the TA signal, the alarm is stopped.

2. **LED Break Alarm:**
   Disconnect the LED+ input and GND. Alarm function (alarm relay and personal alarm (flashing lamp / and or acoustic alarm) are switched on - interval sound). Check the alarm function. After closing the LED+ input again, the alarm is stopped.

3. **Power Failure Alarm:**
   Switch off the supply voltage (230 V) - battery must be inserted. Alarm function (alarm relay and personal alarm (flashing lamp / and or acoustic alarm) are switched on - interval tone - see chapter 7). Check the alarm function. After switching on the mink voltage (230 V) again, the alarm is terminated.

9 Terminal Assignment

Outputs:

L1+ and GND	Lighting pushbutton max. 15 mA
AL+ and AL-	Siren connection 12V, max. 35mA
Ext.Alarm 	Connection for external alarm (Volt-free relay)

Inputs

Line voltage (N L)	230 V
T1+ and GND	Emergency switch connection (NC contact)
TA+ and TA-	Technical alarm (NC contact)

The protective conductor is not required!

The test for operational availability of min. 10h according to EN 378-1 was carried out using the following signal generators individually:

- **Siren:** FULLEON LTD: ROLP/SV/W/D,
- **Flashlight:** FULLEON LTD , SOLISTA MAXI, 811024FULL-0040
- **Optical and acoustic signal transmitter:** COMPRO, CH/100/AV/DW
- **Button -LED:** AN-TAS-LED-151308 (max. 15 mA)

Only for the devices listed above is the above-mentioned operational availability time observed.

If signal transmitters other than those specified above (be they optical or acoustic transmitters) are connected, they must be connected in accordance with the circuit diagram. The operator must ensure that they are operated within the specified operating limits (Technical data, page 5) of the NREeco..

The test for operational availability of min. 10h according to EN 378-1 was carried out using the following signal generators:

Optical and acoustic signal generator Manufacturer: Compro Product name: CH/100/AV/DW	
Optical signal generator Manufacturer: FULLEON LTD Product name: SOLISTA MAXI	
Acoustic signal generator Manufacturer: FULLEON LTD Product number: ROLP/SV/W/D	

Only for the devices listed above is the above-mentioned operational availability time observed.

10 Installation

Before installing the device on a top-hat rail, the fastening spring must be unlocked with a suitable tool.

The NREeco must be connected exclusively in accordance with the circuit diagram and operated only within the specified operating limits

Changes or modifications to the casing will invalidate the warranty and void the liability.

Changes or circuit modification of the connection (chapter 5), incorrect connection or the connection of consumers with higher power requirements than the maximum power data specified in chapter 4, will invalidate the warranty and void the liability.

When installing the controller, make sure that it is installed on non-conductive surfaces or on grounded conductive surfaces.

The installation location should be chosen so that the control indicators are clearly visible.

The installation location must be selected so that the maximum ambient temperatures, ambient humidity, vibrations or shocks are within the specified limits (Technical data, page 5).

11 Repair

Unauthorized repairs or opening of the casing (seal breakage) on the NREeco assembly will immediately invalidate any warranty or liability.

Defective devices should be sent to the manufacturer for repair after an inspection by the operator with a brief description of the fault..

Electrical equipment is relevant to safety and must only be installed / dismantled or put into operation by qualified electricians..

12 Maintenance

A functional check of the entire emergency alarm system must be performed monthly as follows:

- Switching off the line voltage (checking the line voltage monitoring (battery).

- Alarm triggering with the subsequent acknowledgement of the mounted emergency call triggering point (personal alarm).

- Alarm triggering with the subsequent acknowledgement of the possibly connected TA triggering point (technical alarm).

A functional check of the entire emergency alarm system must be carried out once every 6 months as specified.

The button LEDs must be subjected to a regular visual inspection.

Important!

The usual life of the LI-ION battery is about 2 to 3 years, but due to the safety aspects, the battery must be replaced **at least every 2 years**.

Important!

Only the protected LI-ION batteries supplied by AnTeCoS and provided with a serial number shall be used.

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No unprotected LI-ION batteries must be used!

Otherwise there is a **risk of fire*!***

If batteries other than those supplied by AnTeCoS with serial number are used, any warranty or liability for both the NREeco and the LI-Ion battery will be invalidated!

The emergency alarm device must only be connected and operated according to the circuit diagram in chapter 3 to chapter 5.

Modifications to the casing, circuit modification compared to the wiring options specified in chapter 4 to chapter 5, incorrect connection or modified devices (flash lamp, siren, button LED) will invalidate the warranty.

13 Dimensions