LANCIER Monitoring

Operating Instructions

STG 71250

Control Unit for Pressurization Systems

BA 073156.000/09.07

Contents

Important!
It is imperative to read and observe all safety instructions prior to initial operation!

Technical Data

Operating Voltage	230 V AC
Micro-fuse (5 x 20 mm)	T 0,315 A / 250 V
Operating Temperature	0 to +50 °C
Storage Temperature	-20 to +70 °C
Supply Voltage	12 V DC (Humidity Monitoring System)
Signal Output Contact:	1 x relay output as humidity contact 1 x relay output as maintenance contact 1 x relay output as running time contact **These are non-dry relay contacts!** **The contacts close according to GND!**

Dimensions (height x width x depth)	176 x 107 x 59 mm
Weight	0.620 kg

Ordering Data

Control Unit STG 71250	**Order no. 024993.000**
Accessories:	
Attachment module TX	**Order no. 071700.000**
Attachment module CAN	**Order no. 072050.000**

General Information

These operating instructions should make it easier for you to become acquainted with the product. They contain important instructions to ensure safe, appropriate and cost-effective use of the equipment, to reduce repair costs and downtimes, as well as to raise the equipment's reliability and operational lifetime.

The operating instructions endorse the directives of national regulations for the prevention of accidents and the protection of the environment.

These operating instructions should always be available at the installation site.

These operating instructions shall be read and adopted by anyone assigned to work with/on the equipment,
e.g. during

- **Operation to include setting-up, trouble-shooting in operational procedures, removal of production waste, maintenance, disposal of operating supplies.**
- **Maintenance, Inspection and Repair**

In addition to the operating instructions and the mandatory regulations for the prevention of accidents, applicable in the operator's country and at the place of use, the recognized technical regulations for safe and professional operation, shall also be observed.

Designated Use

The control unit model STG 71250 controls and monitors the Lancier RT und RTS pressurisation system.

Any non-compliant use excludes the manufacturer from liability for any damages. The operator carries the risk!

Safety Instructions

Important!
Read and observe safety instructions prior to initial operation!

- Keep the operating instructions ready to hand!

Accident prevention!
Before mounting and demounting of the instrument and opening the housing, make sure that the operating current is switched off!

- The control unit should only be operated in technically-sound condition, for its designated use, with safety and risk awareness in mind, taking into account the operating instructions.

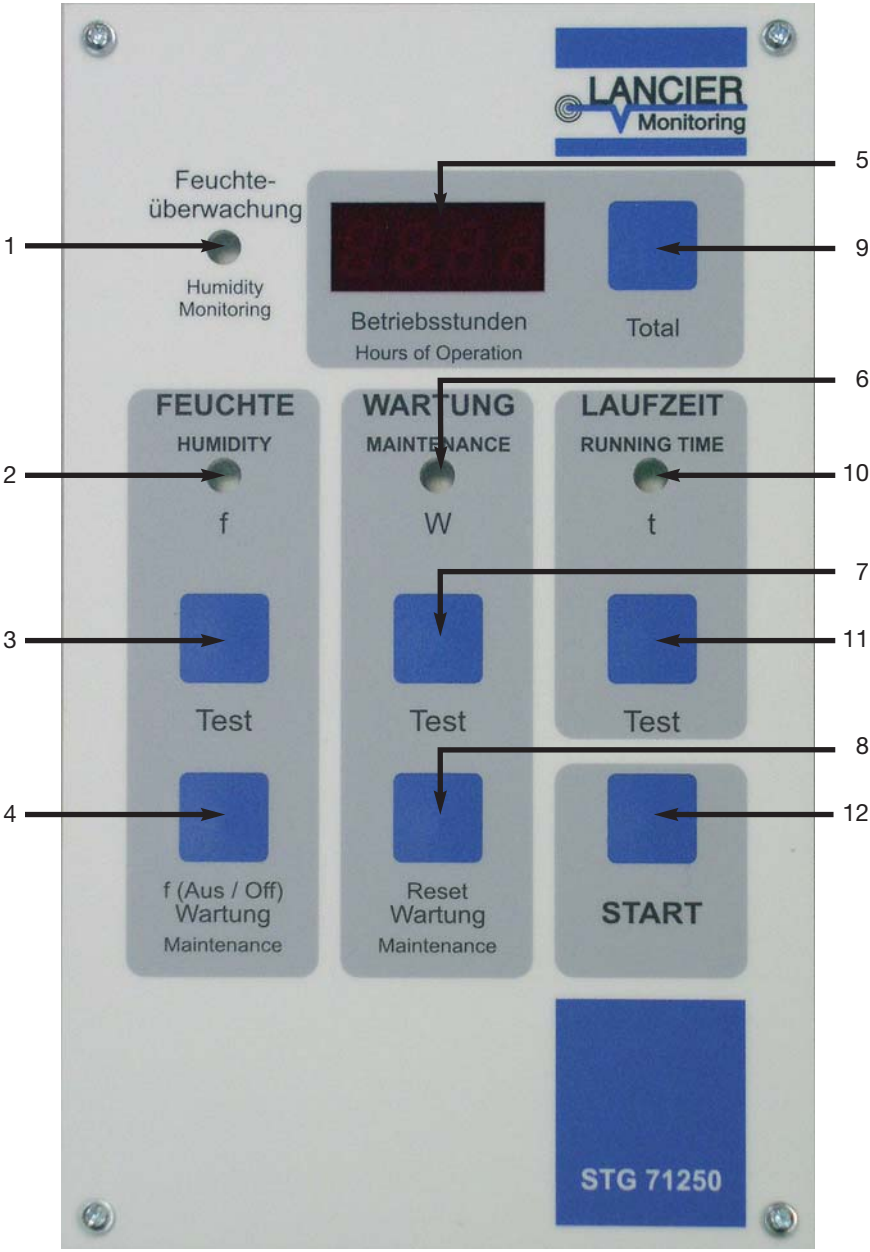
Risk of damage!
- **Make sure that the device is switched off when removing and installing supplementary modules such as the Tx or CAN module!**
- **Make sure that module polarity is correct when the module is inserted!**
- **Make sure that the spacers snap into place.**

- Do not make any modifications to the equipment!
- Maintenance and repair work should only be performed by trained personnel!
- Only use original LANCIER Monitoring replacement parts!

Important!
Obey handling instructions. Electrostatic discharge (ESD) damage.

Product Description

Control Layout



1 **Green LED „Feuchte Überwachung“** (humidity monitoring)
lights up when humidity monitoring is active.

2 **Red LED „f“** (f = feuchte = humidity)
lights up when the Humidity Monitoring System's preset humidity limit is exceeded, or the „Test f“ [3] button is pressed for 5 seconds.

3 **„Test f“ button**
switches off after activating the compressor unit for 5 seconds and simultaneously, activates the output signal „f“. This is signalled by the red LED „f“ [2].

4 **„f(aus)/ Wartung“ (f (off) /maintenance) button**
switches off humidity monitoring for approx. 2 operating hours.
The green LED for humidity monitoring goes out.
After approx. 2 operating hours, humidity monitoring is automatically re-activated.
By pressing the „Start“ button [12] (for 5 seconds), this function is immediately reset.

5 **4-digit segment display**
displays the operating hours of the first maintenance meter. By pressing the „Total“ button [9], the operating hours of the second maintenance meter are displayed. As soon as the compressor is switched on, the decimal point flashes on the right hand corner of the display.

6 **Red LED „W“** (Wartung = maintenance)
lights up permanently when the preset maintenance rate of the first maintenance meter is reached. After pressing the „Test W“ button [7], this lights up for approx. 10 seconds, then goes out automatically.

7 **„Test W“ button**
switches on the output signal „W“ and the light diode „W“ [6] for approx. 10 seconds. By pressing the button, the display „8888“ appears.

8 **„Wartung rückstellen“ (maintenance reset) button**
resets the first or second maintenance meter and the output signal „W“ simultaneously (see page 9 for resetting maintenance counter).

9 **„Total“ button**
By pressing the „Total“ button, the operating hours of the second maintenance meter appears on the four-digit display. By releasing the button, the operating hours of the first maintenance meter automatically reappear.

10 **Red LED „t“**
lights up when the maximum compressor running time is exceeded or the „Test Laufzeit“ (running time test) [11] is pressed for approx. 5 seconds.

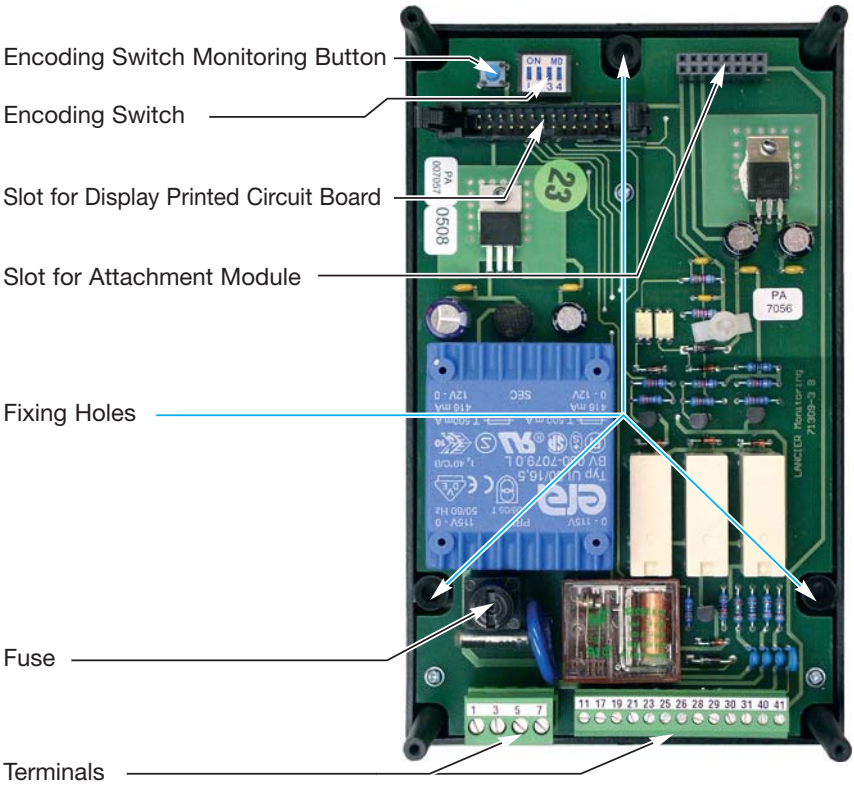
11 **„Test t“ button**
switches off after pressing the compressor unit for 5 seconds and simultaneously activates the output signal „t“. This is signalled by the red LED „t“ [10].

12 **„Start“ button**
Pressing the start button quickly, resets the signal outputs „f“ and „t“. The compressor is now ready-to-operate again. To switch on humidity monitoring, the „Start“ button [12] should be pressed for 5 seconds.

Initial Operation

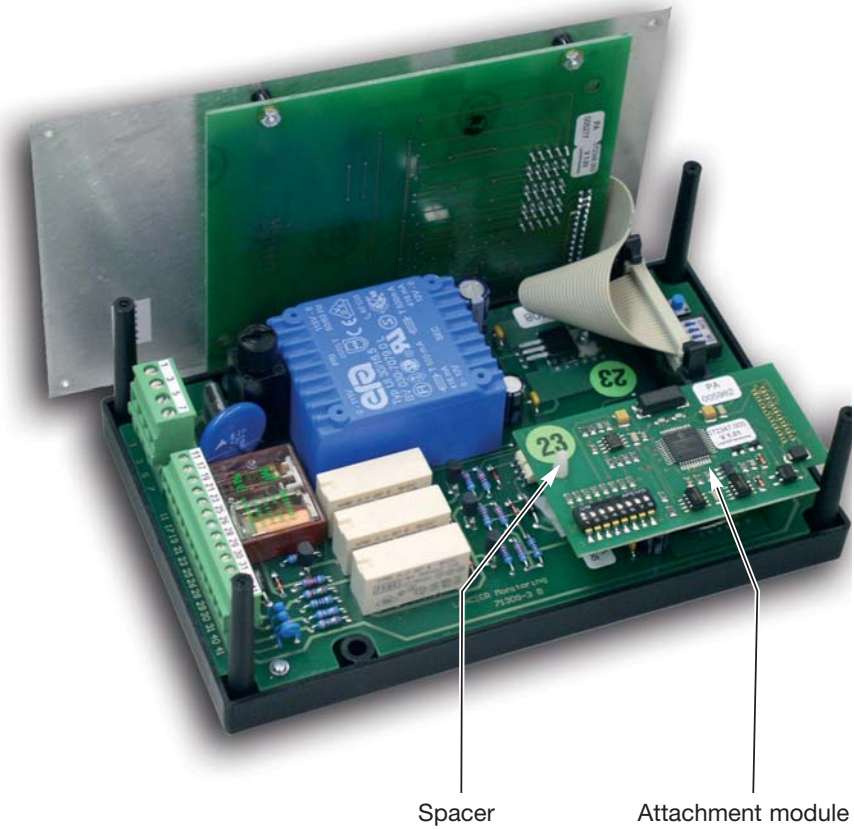
Assembly Schedule

Warning: Disconnect the power supply before working on the equipment!



Assembly

- Remove the four screws from the front control panel
- Release and remove the flat hinge connector for the display printed circuit board
- Fix the lower casing using the enclosed screw set (3 screws M4 x 20).
- Set the encoding switch S2 corresponding to the installation (see page 13 encoding tables 1 and 2)
- Connect the terminal connections according to the terminal layout (see page 14).
- Place Tx- or CAN attachment module to its slot, if required. The spacer should snap into place.
- Attach the connector for the display printed circuit board. Pay attention to interlocking!
- Re-fix the front control panel with four screws.



Measurement busses

The Lancier Tx bus

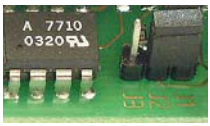
The Lancier Tx bus allows for connection of up to 127 sensors/instruments to a pair of monitoring wires. The measurement values of all sensors/instruments connected to the Tx bus are transferred at separate times.

The CAN bus

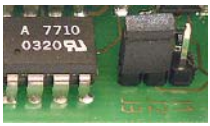
Prior to commissioning

Realize terminating impedance for the last CAN bus station from the standpoint of the monitoring station.

Last station
(120 Ω impedance activated).
Jumper on the CAN module closes contacts J1 and J2.



Station X
(120 Ω impedance deactivated).
Jumper on the CAN module closes contacts J2 and J3.



Encoding

All instruments in a measurement bus (Tx or CAN) must be addressed (encoded) prior to mounting.

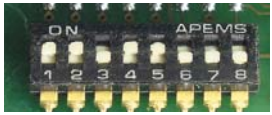
Accident prevention!
Before mounting and demounting of the instrument and opening the housing, make sure that the operating current is switched off!

- The eight-pin encoding switches are located on the attachment modules.
- To define the address, use the encoding switch and a narrow slotted screwdriver (see encoding table).
  switch = 0 = “off”, switch = 1 = “on”

The values of the switch is defined as follows:

Switch 1: value 1
Switch 2: value 2
Switch 3: value 4
Switch 4: value 8
Switch 5: value 16
Switch 6: value 32
Switch 7: value 64
Switch 8: test switch (should be set to off)

Encoding switch
set to “27”



Encoding Table

Code	64	32	16	8	4	2	1
1							▬
2						▬	
3						▬	▬
4					▬		
5					▬		▬
6					▬	▬	
7					▬	▬	▬
8				▬			
9				▬			▬
10				▬		▬	
11				▬		▬	▬
12				▬	▬		
13				▬	▬		▬
14				▬	▬	▬	
15				▬	▬	▬	▬
16			▬				
17			▬				▬
18			▬			▬	
19			▬			▬	▬
20			▬		▬		
21			▬		▬		▬
22			▬		▬	▬	
23			▬		▬	▬	▬
24			▬	▬			
25			▬	▬			▬
26			▬	▬		▬	
27			▬	▬		▬	▬
28			▬	▬	▬		
29			▬	▬	▬		▬
30			▬	▬	▬	▬	
31			▬	▬	▬	▬	▬
32		▬					

Code	64	32	16	8	4	2	1
33		▬					▬
34		▬				▬	
35		▬				▬	▬
36		▬			▬		
37		▬			▬		▬
38		▬			▬	▬	
39		▬			▬	▬	▬
40		▬		▬			
41		▬		▬			▬
42		▬		▬		▬	
43		▬		▬		▬	▬
44		▬		▬	▬		
45		▬		▬	▬		▬
46		▬		▬	▬	▬	
47		▬		▬	▬	▬	▬
48		▬	▬				
49		▬	▬				▬
50		▬	▬			▬	
51		▬	▬			▬	▬
52		▬	▬		▬		
53		▬	▬		▬		▬
54		▬	▬		▬	▬	
55		▬	▬		▬	▬	▬
56		▬	▬	▬			
57		▬	▬	▬			▬
58		▬	▬	▬		▬	
59		▬	▬	▬		▬	▬
60		▬	▬	▬	▬		
61		▬	▬	▬	▬		▬
62		▬	▬	▬	▬	▬	
63		▬	▬	▬	▬	▬	▬
64	▬						

Code	64	32	16	8	4	2	1
65	▬						▬
66	▬					▬	
67	▬					▬	▬
68	▬				▬		
69	▬				▬		▬
70	▬				▬	▬	
71	▬				▬	▬	▬
72	▬			▬			
73	▬			▬			▬
74	▬			▬		▬	
75	▬			▬		▬	▬
76	▬			▬	▬		
77	▬			▬	▬		▬
78	▬			▬	▬	▬	
79	▬			▬	▬	▬	▬
80	▬		▬				
81	▬		▬				▬
82	▬		▬			▬	
83	▬		▬			▬	▬
84	▬		▬		▬		
85	▬		▬		▬		▬
86	▬		▬		▬	▬	
87	▬		▬		▬	▬	▬
88	▬		▬	▬			
89	▬		▬	▬			▬
90	▬		▬	▬		▬	
91	▬		▬	▬		▬	▬
92	▬		▬	▬	▬		
93	▬		▬	▬	▬		▬
94	▬		▬	▬	▬	▬	
95	▬		▬	▬	▬	▬	▬
96	▬	▬					

Code	64	32	16	8	4	2	1
97	▬	▬					▬
98	▬	▬				▬	
99	▬	▬				▬	▬
100	▬	▬			▬		
101	▬	▬			▬		▬
102	▬	▬			▬	▬	
103	▬	▬			▬	▬	▬
104	▬	▬		▬			
105	▬	▬		▬			▬
106	▬	▬		▬		▬	
107	▬	▬		▬		▬	▬
108	▬	▬		▬	▬		
109	▬	▬		▬	▬		▬
110	▬	▬		▬	▬	▬	
111	▬	▬		▬	▬	▬	▬
112	▬	▬	▬				
113	▬	▬	▬				▬
114	▬	▬	▬			▬	
115	▬	▬	▬			▬	▬
116	▬	▬	▬		▬		
117	▬	▬	▬		▬		▬
118	▬	▬	▬		▬	▬	
119	▬	▬	▬		▬	▬	▬
120	▬	▬	▬	▬			
121	▬	▬	▬	▬			▬
122	▬	▬	▬	▬		▬	
123	▬	▬	▬	▬		▬	▬
124	▬	▬	▬	▬	▬		
125	▬	▬	▬	▬	▬		▬
126	▬	▬	▬	▬	▬	▬	
127	▬	▬	▬	▬	▬	▬	▬

▬ switch in position „ON“

▭ switch in position „OFF“

Function test of the Tx bus

Each transducer has to be checked with the LANCIER Testbox (Order no. 050833.000) for accurate function and encoding. The necessary steps are described in the manual of the Testbox.

Safety advisory!
Check all transducers before use, in order to avoid later malfunction!

Equipment Pre-settings

Both of the maintenance meters and the total operating time meter can be pre-set when equipment is replaced. For this, hold down the „Start“ button [12] and simultaneously switch on the 230V systems voltage. As soon as the green LED for humidity monitoring starts flashing, please release the „Start“ button.

Input mode is now open.

You now have the possibility, to preset both maintenance meters as well as the total operating hours meter. The operating hours of the first maintenance meter are displayed. The coarse adjustment takes place via the „Test f“ button [3] (for positive meter direction) or via the „f(Aus)“ [4] (for negative meter direction).

The fine adjustment takes place via the „Test“-Wartung buttons [7] (for positive meter direction) or via the „Wartung rückstellen“ button [8] (for negative meter direction).

By pressing the „Total“ button [9] and by simultaneous pressing of the buttons for course and fine adjustment, the operating hours of the second maintenance meter are adjusted.

By pressing the „Test -Laufzeit“ button [11] and by simultaneous pressing of the buttons for course and fine adjustment, the operating hours of the total operating hours meter are adjusted.

Warning:
The displays for the total operating hours meter should be multiplied by factor 10, which means, 0001 in the total operating hours meter reading is 10 hours. The maximum value for the total operating hours consequently amounts to 99990 hours.

If you are in input mode and no further button is pressed within the next 10 seconds after last pressing the button, the unit automatically reverts to operational mode, without storing the pre-entered values.

In order to store the entered values, you should quickly press the „Start“ [12] button once. The unit automatically changes into operational mode, which means, the green LED for humidity monitoring [1] transfers to a constant light.

Functions

- **Control of Humidity Monitoring System**
  When the humidity limit is exceeded, the compressor is switched off and the relay output „f“ is activated. This is signalled by the red LED „f“ [2].
- **Compressor Running Time Control**
  When the maximum compressor running time is exceeded, the compressor is switched off and the relay output „t“ is activated. This is signalled by the red LED „t“ [10]. The compressor running time is set by the encoding switch „S2“ (see encoding table 1).
- **Measurement, Display and Storage of Operating Hours**
  The four-digit display shows the operating hours of the first maintenance meter. This maintenance rate is adjusted by the encoding switch „S2“ (see encoding table 2).
  A second maintenance meter (for maintenance rates of 8000 operating hours) is added to the existing maintenance meter. By pressing the „Total“ button [9], the operating hours of the second maintenance meter are displayed. In releasing the „Total“ button, the first maintenance meter automatically reappears. The operating hours of the first maintenance counter can be cleared, by holding down the „Wartung rückstellen“ (maintenance reset) button [8] for 5 seconds.
  The operating hours of the second maintenance meter can be cleared, by simultaneously pressing the „Total“ button [9] and the „Wartung rückstellen“ (maintenance reset) button [8] for 5 seconds.
  By clearing the second maintenance meter, the first maintenance meter is automatically reset.

Encoding Table 1

Encoding switch S2	1	2
Compressor Running Time		
6 minutes	OFF	OFF
9 minutes	ON	OFF
12 minutes	OFF	ON
15 minutes	ON	ON

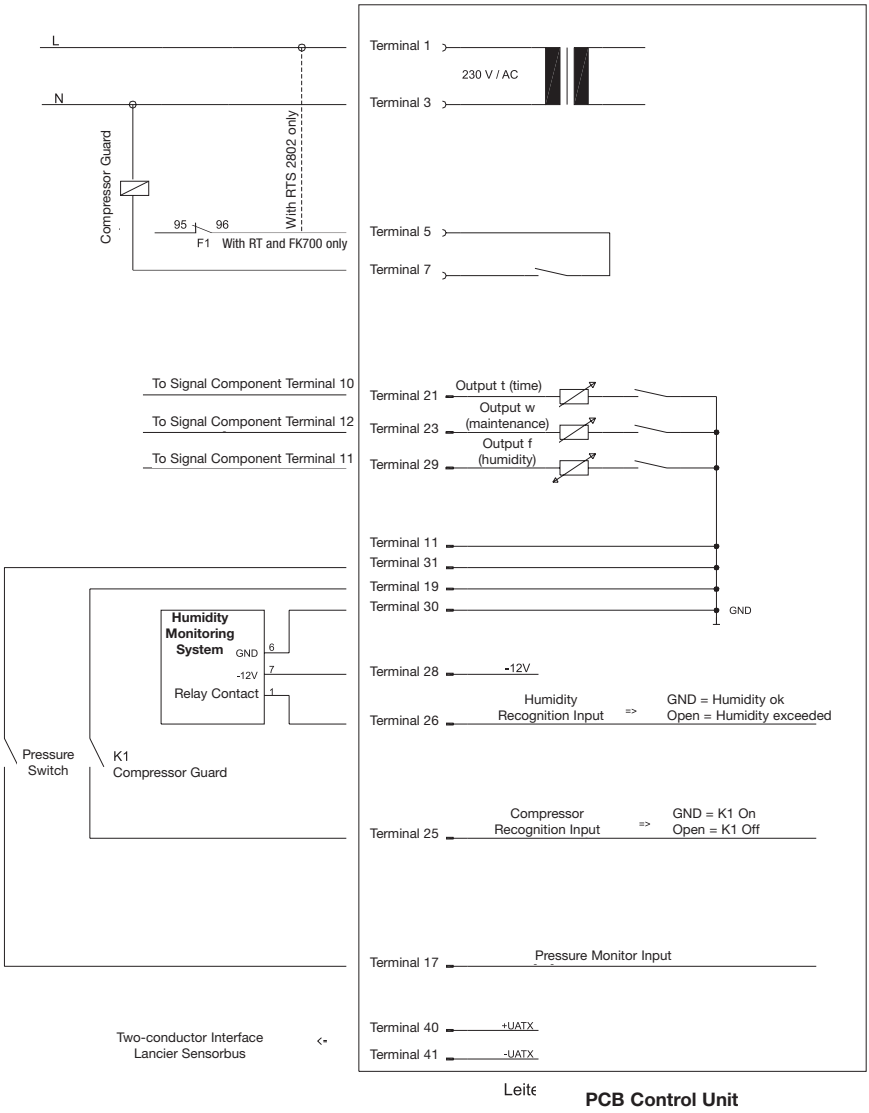
Encoding Table 2

Encoding switch S2	3	4
Maintenance Rate		
100 hours	OFF	OFF
200 hours	ON	OFF
400 hours	OFF	ON
800 hours	ON	ON

By holding down the S1 button, the preset values of the encoding switch S2 are monitored through the printed circuit board. The preset values appear alternately for the maximum compressor running time as well as the preset first maintenance rate.

- **Data Communication**
  There is the option of refitting an attachment module.
  Via terminals 40 and 41 on the control unit, in connection with a Lancier Monitoring System, the following signals can be displayed remotely: Humidity, maintenance and running time contact, maintenance meters 1 and 2, the total operating hours meter as well as the compressor running time.

Control Unit 71250 Terminal Pin Assignment



LANCIER Monitoring GmbH

Gustav-Stresemann-Weg 11
48155 Münster, Germany

Tel. +49 (0) 251 674 999-0
Fax +49 (0) 251 674 999-99

mail@lancier-monitoring.de
www.lancier-monitoring.de

CE

Declaration of Conformity

according to directive 98/37/EEC

We declare under our sole responsibility, that the product

Make:	**LANCIER Monitoring**
Type:	**Control Unit STG 71250**

to which this declaration relates corresponds to the relevant basic safety and health requirements of the directive 98/37/EEC, and to the requirements of the other relevant directives:

73/23/EEC	**Low voltage directive**
89/336/EEC	**Electromagnetic compatibility**

For the relevant implementation of the safety and health requirements mentioned in the directives, the following standard(s) and/or technical specification(s) has (have) been respected:

EN 61000-6-3/4	**Emitted interference**
EN 61000-6-1/2	**Interference resistance (fault-free operation)**

Münster, 08 February 2007

Research and Development

Managing Director

Rev. 02a