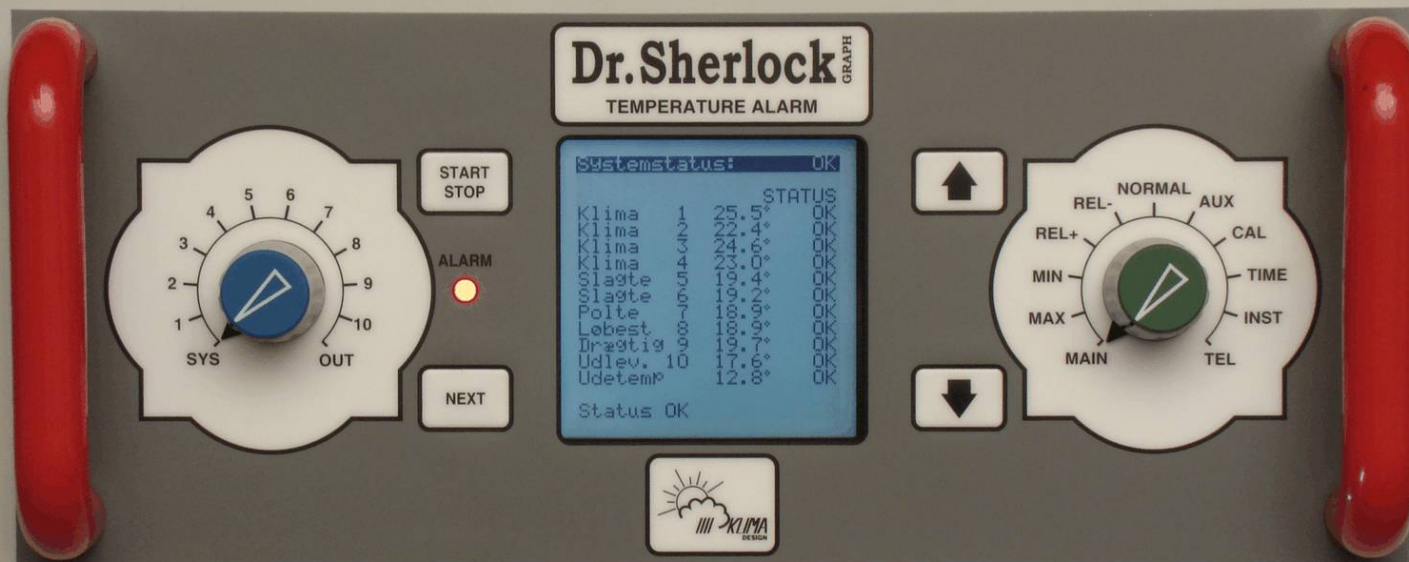


Dr.Sherlock^{GRAPH} 2007

TEMPERATURE - ALARM



USER - GUIDE and Wiring Installation Guide

Ver. 1.38

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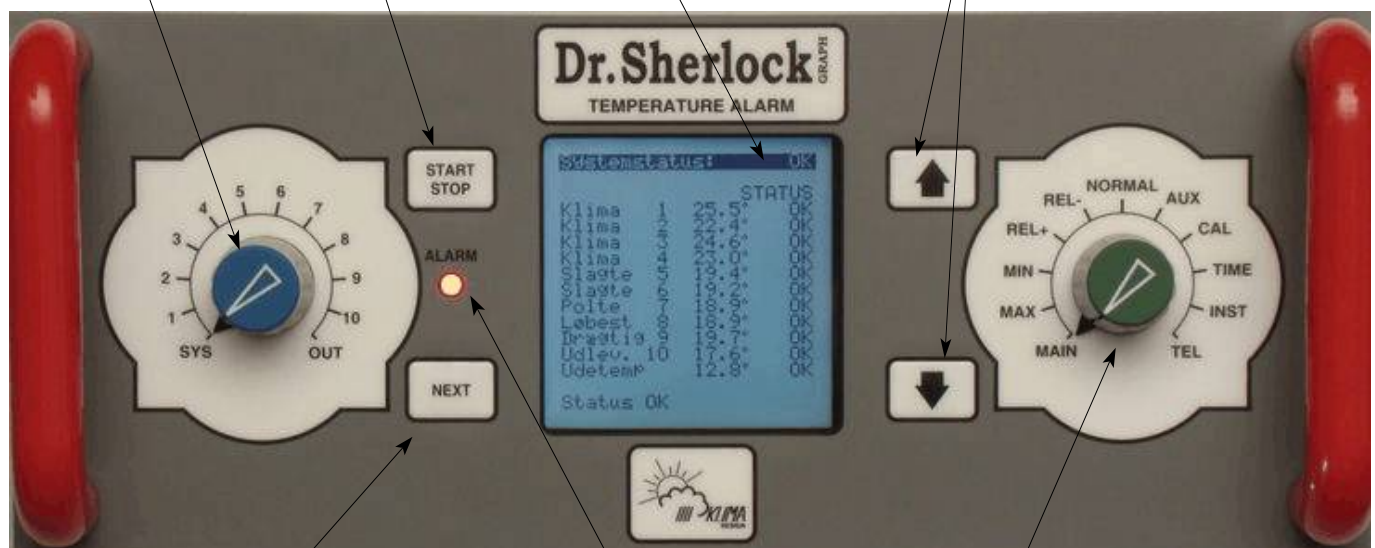
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Controls, Knobs and Push Buttons

1. Alarm reset, acknowledgment
2. Stop supervision of input
3. Activate and deactivate functions

Blue knob for controlling the **Line Cursor**

Arrow keys: Changing values



- next page in the menu
- next number at telephone numbers
- next character at user word

Green knob for selecting menu

ALARM light:
Off: Supervision deactivated
On: Supervision activated, State OK
Flashing: Alarm condition present

2.2 Survey of the menus

Use green knob to choose among the menus.

Use NEXT push button to go to next page. Only relevant to the 3 last menus, **TIME, INST, TEL.**

MAIN	Main menu shows current temperatures and state for each input and the system			
MAX	Maximum - high - temperature limits for each input			
MIN	Minimum - low - temperature limits for each input			
REL+	Maximum - high - relative temperature limits - compared with the NORMAL value			
REL-	Minimum - low - relative temperature limits - compared with the NORMAL value			
NORMAL	Normal temperature, derived from one hour sampling from 6 to 7 o'clock. This is to estimate the set temperature of the ventilation controller.			
AUX	Outside temperature to raise the alarm limits of the maximum - high - relative temperature at hot weather conditions			
CAL	Calibration values for each sensor to be keyed in. So that the measuring will be more accurate. Calibration values are found on a label on the cable at the sensor.			
TIME	Time, date and year Test PAGE 1	Timing, periods Display settings PAGE 2	Key sounds Test functions PAGE 3	Tecnicl info GSM info PAGE 4
INST	Alarm activating modes (siren+call, soft alarm, siren only, etc.) PAGE 1	Type of the input: Temperature or "ON/OFF" PAGE 2	Station number PAGE 3	Naming and numbering of the inputs. User words PAGE 4,5,6
TEL	Service break, Telephone numbers, Scanning PAGE 1	Set up which telephone numbers may receive SMS text messages PAGE 2	Calling mode options PAGE 3	Reduce speech telephone line settings PAGE 4

The Menues

3.1 MAIN menu

- In the main menu, state and current values for all ten inputs as well as outside temperature are displayed.
- All monitoring may be put on halt by pressing **START STOP** for 2 sec The line cursor must be on the top line.
- Monitoring of an input may be deactivated. Select the input and press **START STOP**
- If you are not using all inputs, you may eliminate the remaining inputs by pressing **START STOP** for 2 sec. The line disappears. If you later want to engage the input again, press **START STOP** for 2 sec
- The bottom line shows the state of the input, marked by the line cursor.

3.2 MAX, maximum temperature

- Maximum - high - temperature limits for each input

3.3 MIN, minimum temperature

- Minimum - low - temperature limits for each input

3.4 REL+, maximum relative temperature

- Maximum - high - relative temperature limits - compared with the **NORMAL** value.
- On the top line you may activate or deactivate the Summer Rise function, see **AUX**

3.5 REL-, minimum relative temperature

- Minimum - low - relative temperature limits - compared with the **NORMAL** value.

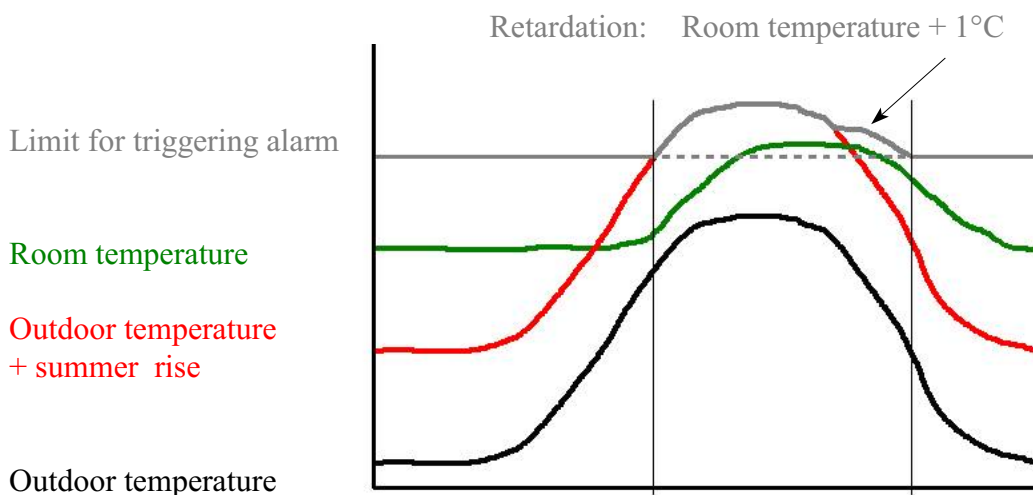
3.6 NORMAL, set temperature estimate

Shows "Normal" temperature, derived from one hour sampling from 6 to 7 o'clock. This is to estimate the set temperature of the ventilation controller. **REL+** and **REL-** uses this "Normal" temperature to calculate at what value the relative temperature limits should trigger an alarm.

- You may want to change this "Normal" value when major changes are made on the ventilation controller set temperature. e.g. when you start up a room. Otherwise you will get an **REL+** or **REL-** alarm
- On the top line you may activate or deactivate the **NORMAL** -function and in that way toggling the function of creation the **REL+** and **REL-** alarm situations

3.7 AUX, Summer Rise

- Making the outside temperature to raise the alarm limits of the maximum - high - relative temperature at hot weather conditions.
- Only active when outside temperature (**OUT + MAIN**) is activated.
- The summer rise value (1-5°C) may vary from one input to the other, according to the way the room is constructed and situated. When outside temperature is 25° and summer rise is 3°C the alarm will trigger at **28°C**. (**Without this function:** If **NORMAL** is 20°C and **REL+** is 5°C would cause the alarm to be triggered at **25°C**.)
- An extra algorithm has been introduced to improve this function to avoid an alarm condition to be triggered, when the outside temperature quickly drops following a hot day. The limit for triggering alarm will not drop as quick, but will be hold back to 1°C over the inside room temperature until it meets with the REL+ curve again. If the ventilation system breaks down in this situation the alarm will trigger at 1°C rise in the inside temperature.



- It is prescribed to inspect the facilities continuously during hot weather conditions.

3.8 CAL, kalibrering

Calibration values for each sensor should be entered, so that the measuring will be more accurate. Calibration values are found on a label on the cable at the sensor. The resulting values are shown in the column in the middle.

3.9 TIME, Page 1, Time, Date and Year

Power supply	Voltage measured by the system. Should be between 13.5 and 13.7 V
Time	
Date	Time, Date and Year are used for data logging. Extension units are automatically updated from this unit, when you make a change, and during battery test, if active.
Year	
Horn test	Push START STOP to test horn/siren.
Perform test call	See 3.19
Weekly test	Remaining days, to the automatic Weekly test, see 6.8 .
Test System	Remaining days, to the automatic Test system, see 6.8 .

- The remaining days counters may be decreased but not increased.
- The test initiates when remaining days reaches "0" at 8:10, or the time specified by "Time for test", see **3.11**)

3.10 TIME, Page 2, Timing Parameters

Sampling period Normal temp. at	Time for starting sampling of the NORMAL temperature, default at 6:00 Sampling period is always one hour.
Soft night/start Soft night/stop	Defining the time for "Night time" where certain alarm situations should stay "soft" until "day time". Default at 22:00 and 8:00
Acknowledge time	Period "wait and see" before an alarm situation is acknowledged. In that way avoiding triggering alarm situations unnecessarily. Default 30 sec.
Horn duration	The duration of the acoustic alarm, siren or horn. Default 3 minutes. May be set from 1 to 10 minutes, or "Cont." - Continuously.
Contrast	Display contrast may be adjusted from 0-25
Light/P.Consumpt	Power of the light source in the display. May be set from 0 to 20. Power consumption will increase at high values.
Light duration	Sleep mode may be set from 10-240 sec, default 180 sec. Power of the light source will go down to reduce power consumption.

3.11 TIME, Page 3, Keyboard and Test

Keyboard lock	Push START STOP to toggle keyboard locking function. The function locks the keyboard after 10 minutes idle. Unlock by setting knobs on SYS + TIME and push both arrow keys at the same time.
Cursor sound	The sound of the cursor movement may be altered. Choose between OFF, click and CLICK. Use arrow keys.
Key sound	The key sound may be altered. Choose between OFF, click, CLICK, beep, BEEP. Use arrow keys
Redial	The Redial function repeats alarm calls that have not yet been acknowledged by pushing START STOP at the panel. Choose between 15 and 30 minutes or "-" = OFF.
Time for test	Set the time of day for initiating the test., see also 6.8 , explaining the tests.
Weekly test	The test system makes it much easier to do the test procedure correctly and in the proper intervals. Use arrow keys to change settings:
Test System	TEL Siren and phone calls Soft No siren and phone calls, but flashing ALARM light, and beeping. - Function OFF
Time, test system	Set the time between doing the "Test system" Default 8 weeks

See also **6.8**, explaining the tests.

3.12 TIME, Page 4, Technical info

Dip switch	Dip switch setting. The dip switch is situated on the back side of the panel.
------------	---

Applies only to the GSM-model:

GSM signal	Signal strength. Lowest value is -113 dbm meaning that there are no signal. Signal strength should be between -49 dbm (very good) -90 dbm (acceptable)
Base stations	The number of base stations that might be connected to. There should be at least 2 to secure safety.

Also shown: The company roaming according to your SIM-card. State of the GSM module and the model (MC55)

3.13 INST, Page 1, Alarm Activation Mode

- Use arrow keys to choose how an alarm situation should be handled at each input.

Display test	ACTION
Horn+dialup	Siren /horn will sound. GSM model only: At the same time SMS text messages will be send. After normally 5 minutes dial up sequence will be initiated
Soft(beep)	Soft alarm means: No siren and phone calls, but only flashing ALARM light, and beeping.
Soft/night	Using this setting, the alarm will be treated as "Soft" in the night time (so you won't be called while you're asleep). Night time is defined in the menu TIME , page 2. In the day time an alarm will be handled as Horn+dialup
Horn only	This setting only sounds the siren /horn and the flashing ALARM light, and beeping.

3.14 INST, Page 2, Input Type

- 3 types of input set up are available: **Temperature**, **ON/OFF** or **Ω ON/OFF**. The last option is used to make it possible to monitor the cables. OK= 20k Ω and short circuited cable will be detected. By **ON/OFF** short circuited cable will be = OK ! By **Ω ON/OFF** a 20k Ω resistance must be placed in circuit at the outermost end of the cable.

3.15 INST, Page 3, Station Number

- Station number for the System is default **100** and suitable for one unit in use. The inputs are automatically numbered 1-10
- If more than 1 unit are installed the System Station number should be **100 101 102** and so on. The inputs will automatically be numbered 1-10, 11-20, 21-30 and so on.
- The station numbers are used to determine which inputs to be monitored, in that way trigger an alarm if a station do not answer (faulty hardware).

3.16 INST, Page 4, Input Name Label

- For each input may be selected an input name label. Use arrow keys
- To save, push **START STOP** or move line cursor. Selecting another menu = undo.

Names available:

The display shows in some cases only the abbreviation (**bold**)

Cooling	Inlet	Room
Con_env (Controlled environment unit)	Input	Vent. (ventilation rate)
Gestati (Gestation unit)	Level	Water
Exchang (Exchanger)	Mating (Mating House)	Weaner (Weaner Unit)
Farrow (Farrowing House)	Outlet	W.T.F. (Weaner to Finishing House)
Feed (Feeding System)	Porker (Porker House)	Yon Fem (Young Female Unit)
Heat (Heating)	Pow.cut (Power Failure)	User words # 73-79
Heat sy (Heating System)	Pre fin (Pre Finishing)	
House	Pump	

3.17 INST, Page 5, Input Number Label

- For each input may be selected an input name label. Use arrow keys. It may be blank also.
- To save, push **START STOP** or move line cursor. Selecting another menu = undo.
- In situations using remote control by phone or SMS you'll have to use the station number which default is the same as input number label.

3.18 INST, Page 6, Input User Name

- You may create your own input user name. Use arrow keys to change letter. Use **NEXT**-key to go to the next character. You may enter up to 7 characters. Word 73 -79 refer to command 73-79 you use to record these user words. Make these recordings before assigning them to the inputs, refer to **5.3**
- When you have created the words and made the matching recording, your are ready to assign these words according to **3.16**.

3.19 TEL, Page 1, Phone Numbers

Service break 60 min

Push **START STOP** to suspend all monitoring for 60 minutes. After the time has passed, monitoring will automatically restart. You may restart any time by pushing **START STOP** again.

Phone numbers

1: 40123456

2: +4586123456

3:

4:

5:

Phone numbers may be entered one digit at a time using arrow keys. Use **NEXT**- key to go to next digit. Number of digits may be up to 18. Use + in front of numbers to foreign countries.

Perform station scan **Stations must be scanned/registered before monitoring can be made active!**

Place the line cursor at line 7 and push **START STOP** for 2 sec.

Perform test call

Push **START STOP** for 2 sec to initiate a telephone call to the 1st phone number. Like a real alarm call, there will be 2 additional calls before continuing to the 2nd phone number and so on. To end this session push # on the phone. Or, push **START STOP**, the knobs pointing at **SYS** and **MAIN**

! It is possible to indicate which number to be called as the 1st - it might be the 3rd (see **3.22**)

Only fixed line network:

Activate local phone

Push **START STOP**. Speaker says "Please, enter command". You may now enter phone numbers, record user words and much more, see **5.0** to **5.8**

3.20 TEL, Page 2, Short Message Setup

Short Message Setup

This page is only relevant to GSM-model !

1: SMS

2: -

3: SMS

4: SMS

5: -

Activate SMS function to all the phone numbers that you want to receive short text messages. Use **START STOP** or arrow keys. Only GSM mobile phones should be set up to SMS

Time betw. SMS 0m

Default "0" minutes: Once an alarm situation has been triggered there will be send a SMS to all of SMS phones. You may enter 0-5 minutes leap time between sending to the GSM phones.

3.21 Short Message Service, SMS functions

Alarm Situations:

- Sending SMS text messages is additional to the normal voice alarm calls via telephone.
- SMS text message is a text copy of the speech you hear in the speaker/phone, e.g. "Alarm from Name*). Temperature too high, controlled environment unit 2"
- Acknowledge the alarm by returning "1."
- Only phone numbers saved in the phone number list, see **3.19** are valid
- When acknowledged, all phones - with SMS active - will now receive a SMS to verify this: "Acknowledged. 1st telephone number. Temperature too high, controlled environment Unit 2"

Remote Control:

- Only phone numbers saved in the phone number list, see **3.19** are able to be used for remote control
- Same commands as described in **5.4** to **5.8**

Examples:

- Enter the 1st phone number to 4012 3456: ***140123456#**
- Get the temperature in room 5: **5*1#** See other register numbers : **5.8**
Change the max. temperature limit in room 5 to 28.0°C: **5*3*280#**

Set-up:

- *)Name is default = "Speech Processor" but you may rename it by sending a SMS with the command ***72Name #** Name should be the name of the place or the owner. Remember to record the Name , see **5.3**

Tip! • You may use space and "." (dot) instead of * and # or which two different characters you would like.

3.22 TEL, Page 3, Telephone settings

Dial-up delay	The time delay from an alarm is triggered until the call sequence starts.
Do not apply to the GSM model:	
Auto answer	Specify the number of rings before the Speech Processor answers, 1-9 rings, or, 0 to switch the function off. If you use the phone for normal calls, you may set the number of rings to e.g. "7" so you have time to answer the call yourself.
Dial same no.	The number of calls made to the phone numbers before continuing to the next in sequence. Default 3. The first person is usually the most important to reach, but he might be temporarily unavailable, so it make sense to try 2 more times.
Alarm word no.	When an alarm situation is triggered, the cause of alarm is said in the speaker. You may optionally specify a word number (which might be a sound, see glossary) to sound additionally. Default is -1 = off, 112="alarm", 201=Siren
Start dial no.	Who is on watch ? Pick one of the 5 phone numbers to be the first to call. If you choose phone no. 3 the next in line will be no.4 . The order will not change.

3.23 TEL, Page 4, Speech Processor Settings

Optional ! Normally use default settings. If you want to cut down on the speech flow it may be shortened by removing register name and the unit, e.g. "Temperature 24,5 degrees" may be shortened to "24,5"

To change between and use arrow keys or **START STOP**

Register speech

Register name may be muted

Unit speech

Unit name may be muted.

Alarm speech

The cause of the alarm situation to be announced in the speaker once every minute. This function might be muted.

Line monitoring

Line voltage to be monitored. Normally voltage is 48 V DC. If voltage drops below 5 V. The alarm situation "Faulty Telephone Line" will be triggered. This function might be deactivated by pushing **START STOP** or arrow keys. On the GSM-model this switches off the monitoring of the connection to the base station.

Do not switch this function off unless consulting authorized personnel.

Do not apply to the GSM model:

Dial tone test

Dial tone test is default not engaged. If activated, it will check if dial tone is present every second hour. If no dial tone is present, then the test will be carried out every 10 minutes for 2 hours. If no dial tone is detected, it will trigger an alarm.

Data Logging

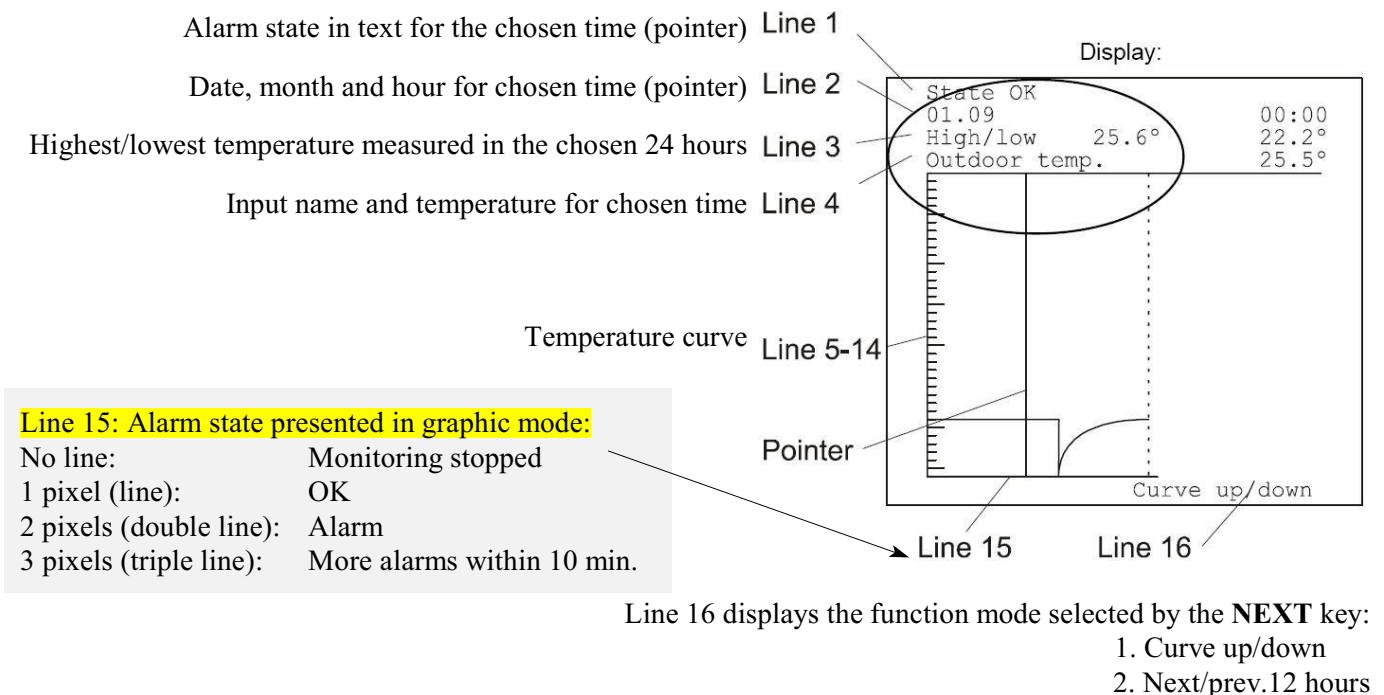
- Every 10 minutes Dr.Sherlock saves the measured values at the ten temperature inputs plus outdoor temperature together with a time stamp.
- By alarm situation and when it changes back to OK, it saves on a 1 minute time basis.

4.1 Line Chart displays the temperature fluctuations

To display the line charts turn green knob to the **MAIN** menu and push the down arrow.

4.2 How to navigate in graphic mode

Blue knob	Like in normal mode the blue knob is used to choose the input no.
Green knob	Controls the vertical cursor - the pointer - which is used to pinpoint a specific time
NEXT key	Select function mode: 1. Curve up/down (use arrow keys) 2. Next/prev.12 hours (use arrow keys)
START STOP	Leaves graphic mode and returns to normal mode. If idle, it will return anyway after 5 minutes



4.3 Alarm state data logging - shows up to 200 events

To access the Alarm State Data Logging pages, turn the knobs to **SYS + MAIN** and press **NEXT**

- Place the line cursor (Blue knob) on the event entries to see additional information about the alarm state in the bottom line
- Go to next page using the arrow keys
- Return to **MAIN** menu again by using **NEXT** key (knobs on **SYS + MAIN**), push **START STOP**, or change menu.
- If idle, it will return anyway after 5 minutes.

ALARM LOG			
23:54	Porker	2	CALL
23:55	Porker	2	ACK.L
----	22/05-2009	----	
10:51	Porker	2	+REL
10:56	Porker	2	Call
10:57	Porker	2	ACK.1
15:31	Porker	2	MAX
15:33	Porker	2	ACK.L
----	23/05-2006	----	
09:22	House	10	MAX
09:27	House	10	CALL
22/05-2009			
Acknowledged locally			

← Date Stamping

12 lines for alarm events

← Line Cursor on line #10. ACK.L is amplified on the bottom line.

← Date Stamping

← Most recent entry at the bottom

← Date, active line

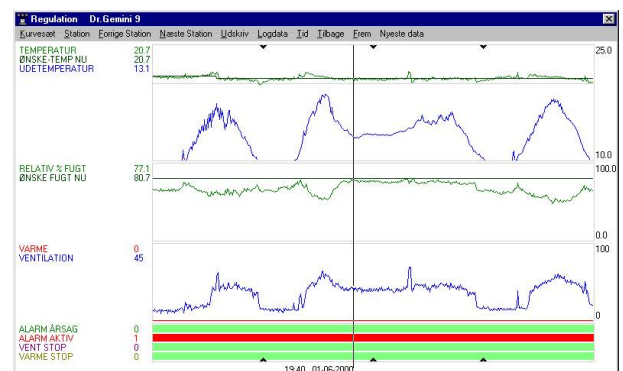
← State of the active line is amplified on the bottom line.

4.4 Data communication via the GSM network

A personal computer may be connected to Dr.Sherlock through an optional RS485 / RS232 converter. Or through the GSM network.

Use software PROFESSOR PARTYLINE for WINDOWS® to browse the data and show line charts of the temperature measuring on each input.

Settings may be entered, controlled and compared with different settings scenarios.



SPEECH PROCESSOR

The Speech Processor, Dr. Bell, is a separate device situated on the main connecting board in the back of the housing. The Speech Processor monitors every input and the overall System. More panels can be monitored from one Speech Processor. **Stations (inputs) must be scanned/registered before monitoring can be made active!** In the menu **TEL**: Place the line cursor at **OUT** and push **START STOP** for 2 sec. see **3.19**

Also, the Speech Processor handles all communication with the telephone network and it holds all the words and sentences, and the handling of what to say in all possible situations. The SMS Short Message Service is also handled by the Speech Processor

It is possible to make all the set-up, which has been described earlier, by using commands on a telephone. Usually you will make the settings on the panel, but it may be convenient to do it by remote control. Also you may get the temperatures, spoken in your mobile phone or by SMS.

5.1 Local Telephone Connected to main board

Only relevant to FIXED LINE NETWORK:

- In the menu **TEL**: Place the line cursor at **OUT** and push **START STOP**
- When you hear: "please enter command" the connection has been established and may enter any of the commands described in **5.3** to **5.8** . Connection is ended after 40 sec at idle, or, you may end it by entering **000 #**

5.2 Connect From Remote Telephone

- Call the number of your installation. The Speech Processor says "Welcome to Name, please enter code and press #"
- Enter the code, default "1" and "#"
- When you hear: "please enter command" the connection has been established and may enter any of the commands described in **5.3** to **5.8** . Connection is ended after 40 sec at idle, or, you may end it by entering **000 #**

5.3 Recording of Name and user words

Recording of Name Replaces default "Speech Processor" Important!	*72 0 Name # start recording end recording
Recording of Welcome Replaces default "Welcome to" This recording is not necessary !	*71 0 Welcome # start recording end recording
Recording of the user words to compliment the glossary.	*73 0 Word # Up to 7 words may be recorded, command 73 to 79

General notes on recordings:

- Memory holds 12 sec total for all recordings. One recording may last up to 8 sec.
- Start recording by pressing **0** and end with **#**. Try to make it as short as possible. Silence uses the memory as well !
- Recording of Welcome may be omitted

5.4 Entering Phone Numbers From a Phone

Normally phone numbers are entered in the menu **TEL**

Entering phone numbers from a phone:

			Checking	Erasing
First,	1 st	*1 Phone number #	*1 #	*1 *#
Second,	2 nd	*2 Phone number #	*2 #	*2 *#
Third,	3 rd	*3 Phone number #	*3 #	*3 *#
Fourth,	4 th	*4 Phone number #	*4 #	*4 *#
Fifth,	5 th	*5 Phone number #	*5 #	*5 *#

To activate SMS, Short Message Service fo a phone number, ad a ***** before **#**:

Ex.: First, 1st ***1 Phone number * #**

- Phone numbers may be up to 18 digits

5.5 Setting Other Parameters From a Phone

Normally settings are entered in the menu **TEL** , page 2, 3, 4

Refer to chapter **3.22** and **3.23** for details concerning these functions.

Same commands works with **SMS, Short Message Service**

Function	Enter	Range	Default
Dial-up delay	*62 delay #	0-20 minutes	5 minutes
Input Name Label 1 - 3 words	*86 station number* word no.*word no.* word no. # Consult the Glossary 5.10 or 3.16		"Station"
Auto-answer	*92 number of rings #	0-9	3
Dial same number	*95 number of calls #	1-9	3
Alarm word No.	*96 word no.# Ex. siren=201. User words.73-79		-1 = OFF
Start dial no.	*97 1-5 # Ex: * 97 3 # begins call sequence by 3 rd phone number	1-5	1
Alarm speech	*98 1 # Activated *98 * # Deactivated	√ / -	1

5.6 Access Code

When you call your installation, you will be asked for a code. This is also used when you acknowledge an alarm situation by SMS

Access Code	*91 Access Code #	1- 4 digits, default.= 1
-------------	--------------------------	--------------------------

5.7 Remote monitoring and control

Same commands works with **SMS, Short Message Service**

FUNCTION	COMMAND
Request register value	<p>station no. * register no. # E.g.: 1 * 1 # requests current temperature from station 1</p> <p>Tip ! Active station/register: stations no. * *# Station no. may be set constant so many registers can be asked easily by only entering: register no.# * * register no.# Register no. may be set constant so many stations can be asked easily by only entering: station no.#</p>
Remote setting	<p>station no. * register no. * value # E.g.: 1* 3 * 320 # Changes maximum temperature for station 1 to 32,0°C</p> <p>Note that decimal digit must be entered, since a telephone don't have a decimal point on the keypad. In case a negative value is needed, enter a 0 as the first digit. E.g.: 1* 22 * 050 # Changes minimum relative temperature for station 1 to -5,0°C</p>
Requesting alarm-status	<p>station no * # E.g.: 1 * # request alarm status from station 1</p>
Requesting the total no. of active alarms	<p>99 * # no. of active alarms followed by alarm cause and station name are announced. Note, alarms that are not acknowledged at this point will be acknowledged! 98 * # same as 99*# but station number is announced instead of the name.</p>
Historical, browsing alarm events	<p>99 * * # Enters historical state ! Dr.Bell responds with "<i>Alarm memory mode, press #</i>". Enter # to listen to the most recent alarm and time passed since it was triggered. Enter # to get previous alarm events. * # Restores Dr.Bell to "normal" state. 000 # Exit / Hang up</p>
Start/stop alarm	<p>station no. * 0 # E.g.: 1* 0 # Starts alarm supervision for station 1 if it was stopped, or else stops supervision if it was started, hence this command operates as a toggle function.</p> <p>Please note, that station no. 100 involves alarm supervision of all 10 inputs + power failure + system alarms. Station 1-10 on the other hand only involves the specific input.</p>

5.8 Register numbers

Register No.for the 10 inputs	Name of register	Register No. for SYSTEM (100)	Name of register
1	Temperature	1	Outdoor temperature
2	Minimum - low - temperature limit	2	Minimum - low - limit for outdoor temperature
3	Maximum - high - temperature limit	3	Maximum - high - limit for outdoor temperature
4	Summer rise	12	Power Supply Voltage, OK between 13.0-13.8 V
6	Offset (sensor adjustment)	14	Offset (outdoor sensor adjustment)
21	Normal temperature To estimate the set temperature	29	Time
22	Minimum - low - relative temperature limit	30	Date
23	Maximum - high - relative temperature limit	31	Year

Same commands works with **SMS, Short Message Service**

5.10 Error messages from speaker

Speaker says	Meaning
"Missing stations"	Stations must be scanned/registered before monitoring can be made active! In menu TEL : Place the line cursor at line 7 and push START STOP for 2 sec.
"Faulty telephone line"	1. Line voltage to low. Normally voltage is 48 V DC. If voltage drops below 5 V the alarm situation "Faulty Telephone Line" will be triggered. This function might be deactivated by pushing START STOP or arrow keys. On the GSM-model this switches off the monitoring of the connection to the base station. Do not switch this function off unless consulting authorized personnel. 2. (not relevant to GSM model) As an alternative dial-tone test may be activated. If activated, it will check if dial tone is present every second hour. If no dial tone is present, then the test will be carried out every 10 minutes for 2 hours. If no dial tone is detected, it will trigger this alarm.
"Dial-tone is missing"	1. When dial-tone is missing, and an alarm call sequence is being initiated. Testing will continue: every 10 sec, 5 times. Then paused in 144 sec. Then every 10 sec, 5 times. Until dial-tone is detected. 2. If dial-tone test is activated and dial-tone is missing.
"Station x register y do not answer"	Requesting station/register that don't exist or don't answer. (x * y # has been entered)
"Out of memory, please erase word and try again"	RAM(Random Access Memory) - can't hold any further recordings. At least one recording must be erased before a new one can be recorded. *73 * # deletes word no. 73

Applies to GSM model:

Speaker says	Meaning
"No communication with telephone unit" or "Communication with telephone unit not valid"	Defective hardware or GSM module. Defects may be caused by lacking connection of shield to terminal 16/GND.
"Please, enter 1 2 3 4 on the SIM card"	SIM card PIN code should be switched off or, 1234
"SIM card is missing"	SIM card is missing or not working
"The SIM card is not active. Please, enter the PUK code and 1 2 3 4 on the SIM card"	Check PUK code and PIN code (Take out the SIM card and place it in a mobile phone)
"Faulty telephone line"	No connection to the GSM network, base stations

5.11 Glossary for Changing Names of Inputs

Figures		accepted. 127	hours.. . . . 39	reset. 149
0	0	acknowledged. . . 150	house. 410	room. 43
1	1	activated. 166		
2	2	active. 148	in. 51	second. 122
3	3	after. 64	inlet. 157	sensor. 44
4	4	alarm. 112	input. 48	service break. . . . 161
5	5	altering. 118	is. 58	set. 105
6	6	and. 113		short circuit. 27
7	7	and (in	level. 194	soft. 256
8	8	numbers). 117	line. 142	speech. 62
9	9	answer. 93	local. 145	square. 138
10	10	are. 199	low. 21	start. 86
11	11			state. 250
12	12	battery. 162	main. 160	station. 41
13	13	broken cable. . . . 28	mating. 404	stations. 110
14	14	busy. 130	maximum. 82	stop. 87
15	15	by. 55	memory. 136	summer rise. 153
16	16	bye. 141	minimum. 81	supervision. 146
17	17		minus. 114	supply. 151
18	18	call. 98	minutes. 38	suspended. 147
19	19	code. 66	missing. 84	switched off. 29
20	20	command. 67	mode. 120	system. 249
30	30	communication. . . . 85		
40	40	controlled	name. 134	telephone. 68
50	50		net. 184	temperature. 101
60	60	date. 243	new. 164	third. 123
70	70	days. 35	no. 92	time of day. 176
80	80	degrees. 31	not. 94	time span. 173
90	90	delay. 181	number. 69	to. 53
100	100	dial tone. 188	number. 111	too. 56
220	220	do. 63		try again. 128
1000	1000		of. 259	type. 175
		end. 139	off. 262	
twenty. 302		enter. 65	ok. 116	unit. 411
thirty. 303		entry. 131	on. 52	
forty—. 304		environment. 405	on. 261	valid. 96
fifty—. 305		erase. 140	one. 99	ventilation. 103
sixty. 306		error. 97	out of. 260	version. 197
seventy. 307		exchanger. 179	outdoor. 251	volt. 33
eighty—. 308			outlet. 159	voltage. 34
ninety. 309		failure. 258	over. 168	
		fan. 158		wait weight. 235
		farrowing. 401	percent. 32	water. 193
User Recordings:		faulty. 257	period. 244	weaner. 408
		feeding. 281	ph. 37	welcome. 61
Welcome	71	fifth. 125	please. 126	with. 57
Name of Site	72	first. 121	point. 115	word. 133
Word	73	for. 119	porker. 402	
Word	74	fourth. 124	power. 143	young female. 407
Word	75	from. 54	prefinishing. 406	
Word	76		press. 89	beep (sound). 200
Word	77	gestation. 403	processor. 198	harp up(sound). . . . 202
Word	78		pump. 195	harp down(sound). . . 202
Word	79	has been. 107		pop (sound). 207
		heating. 104	register. 42	siren (sound). 201
		heat wave. 83	relative. 24	
		high. 22	remote. 144	

Handling of Alarm Situations

6.1 Acknowledge the Alarm Situation by the Panel

1. Push **START STOP**: Siren will stop, and the alarm situation will be acknowledged. Also the alarm call sequence will terminate.
2. Turn the green knob to **MAIN** to read the cause of the alarm situation.
3. Correct the cause of the alarm, or wait for help doing what you can to minimize damage.
4. When the cause of the alarm has been removed, turn the knobs on **SYS** and **MAIN** and push **START STOP** to reset. Top line will show : **System State: OK**

6.2 Receiving an Alarm Call

1. Press the # button on the phone to acknowledge the alarm. You will now hear the cause of the alarm.
2. You may now try to correct the cause of the alarm by remote control, see **5.7**. If this is not possible, you must go to the site. See **6.1** 3.
3. See **6.1** 3.

6.3 Acknowledge the Alarm Situation by Telephone

If you have been informed that an alarm situation is present, you may use a phone to acknowledge.

1. Call the number of your installation. The Speech Processor says "Welcome to "Name", please enter code and press #"
2. Enter the code, default "1" and "#"
3. Then you will hear: "Alarm acknowledged" . The alarm situation has been acknowledged and you may now try to correct the cause of the alarm by remote control, see **5.7**. If this is not possible, you must go to the site.
4. See **6.1** 3.

6.4 Acknowledge the Alarm Situation by Sending SMS

1. Send a SMS with the text <code>#, default **1#**, or just **1**. (one with a dot after.)
2. You will receive a SMS: "Alarm acknowledged. first telephone number. <Alarm cause>".
You may now try to correct the cause of the alarm situation by remote control, see **5.7**. If this is not possible, you must go to the site.
3. See **6.1** 3.

6.5 Redial, Compulsory Acknowledgment on the Panel

The function **Redial** = "Compulsory acknowledge on the panel" is default OFF . It is activated in the menu **TIME** , page 3 line 6 at either 15 minutes (Poultry) or 30 minutes (Pig farms). When you get the alarm call, and **Redial** is set on 15 or 30, you are able to stop siren and alarm call sequence for 15 or 30 minutes. Then normal alarm situation will start all over again, e.g. siren and alarm call sequence. To acknowledge properly you will have to push **START STOP** on the panel to stop more redial sequences.

6.6 Switch Off the Monitoring Completely

To Switch off the monitoring completely you may push **START STOP** for 2 sec. This should only be done, when it is absolutely necessary (repair). By doing this you take over the responsibility and should warn all personnel relevant.

Tip ! More safe: You might settle for the 60 minutes of "Service Break", see **3.19**

Testing the alarm system

6.7 Self-monitoring

Dr.Sherlock is self monitoring the following:

- Temperature sensors and the wiring.
- The wiring for contact terminals concerning the input set up "**Ω on/off**"
- Wiring for the power monitoring relais
- Power supply voltage . Battery voltage/capacity once a day
- Fixed Line Network voltage
- GSM connection to Base Stations

6.8 Automatic Testing and Test Procedure Reminding

It is not possible to self-monitor everything, but the user may have to check something too. For that reason dr.Sherlock provides a reminding service: A weekly test and a more thorough one, usually every second month.

How will you be reminded ?

Siren will sound 5 times 1 sec, SMS will be send and alarm call sequence will start and continue until you acknowledge the alarm.

Acknowledgment

Push # on the phone, send a SMS with "1#" or push START STOP on the panel.

What to check :

Weekly test Check:

- Telephone functions OK, Did you get the call ? Did you receive an SMS ?
- Siren and flash light OK, did you hear the siren and did you see the flash light ?
- Inputs: Are all the inputs in use active and OK ?
- Are the phone numbers OK ?

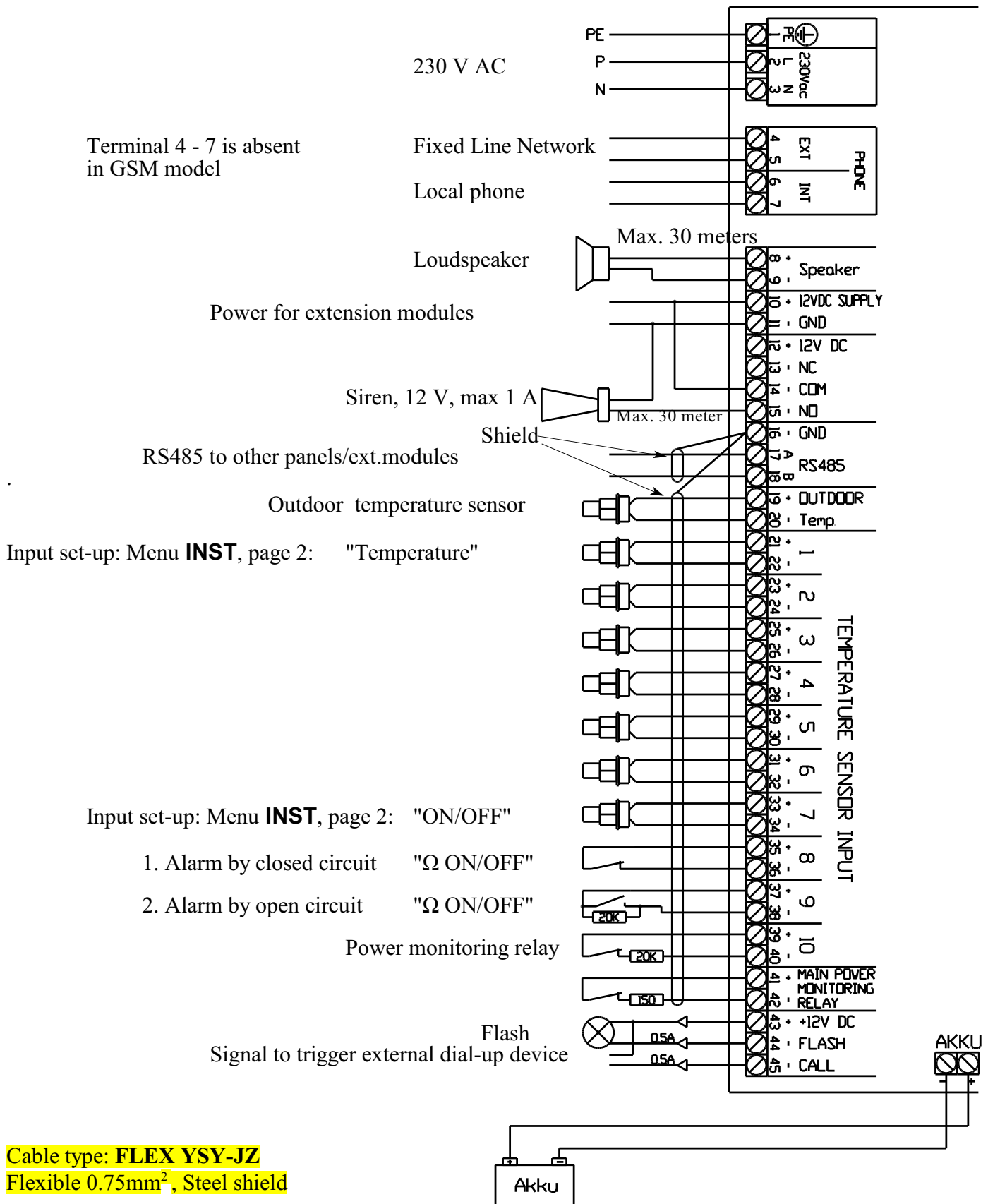
Test system Check:

- The items listed on the weekly test
- The sensors visually: are the undamaged ?
- That the systems for emergency opening works.
- That the standby power systems works.

Always make a test after you have had a thunderstorm !

INSTALLATION, wiring

8.0 Wiring



1. Terminal 10 and 11 is used to feed more panels with 12 V DC. **Connect considering correct polarisation !**
2. Relay for siren, terminal 14 and 15 has a max. allowable load of 1 Amp/12 V
3. RS485 network connects to terminal 16(shield), 17 and 18 (A and B). Use shielded wiring.
4. Power monitoring relay connects to terminal 41 and 42. Place a resistance 150 Ω in circuit in the far end of the wire at the relay. The relay must break the circuit at alarm condition. Use shielded wiring.
5. Terminal 43, 44, 45 has a max. allowable load of 0.5 Amp/12 V. The terminals are hot ! Terminal 43 are constantly 12 V + (plus), and terminal 44 and 45 connect to ground when active. Constant flashing by alarm condition: connect to terminal 43 and 44. Active at the same conditions as the red flashing light on the panel. Signal provided for external telephone dialer: connect to terminal 43 and 45

8.1 Dip Switch on the Back of the Front Panel

Nr.	OFF (=OPEN)	ON (contact pushed down at battery side)
1	Default	Outdoor temperature will be broadcasted, through the communication network, to other panels that do not have their own outside temperature sensor.
2	-	-
3	-	-
4	Beep by alarm situation	No beep by alarm situation
5		Monitoring of Speech Processor
6	Units without battery	Units with battery connected. Once a day, at 8:00 mains will be disconnected for 10 minutes to check if battery capacity is OK.
7	-	-
8	Default Must be OFF at normal operation	1. At start-up, the memory will be erased and the factory settings reintroduced. 2. When you shift the rocker switch after start-up the temperature will be shown without average calculation, to check if cables are picking up noise.

8.2 Daily Test of the Battery

The mains, 230 V power supply keeps the battery charged for use in case of power failure. Each day at 8 am, the mains, 230 V supply is switched off and the battery connects to a load. The test lasts for 10 minutes, or until an alarm situation gets triggered. If the voltage drops below 11.5 V, an alarm will be triggered. Dip switch 6 must be set to ON (default) to activate the daily test of the battery.

8.3 Station Numbers, Installation with More Panels

The station numbers are used to determine which inputs to be monitored, in that way trigger an alarm if a station do not answer (power failure or faulty hardware).

Station numbers should be considered if the installation consist of more panels or controllers on the same network.

Default setting **100** is OK for one panel.

If more than 1 unit are installed, the System Station number should be **100 101 102** and so on. Settings are done in the menu **INST**, page 3, top line.

The inputs each have a station number too, but they are automatically numbered 1-10, 11-20, 21-30 and so on, which are linked to the System station number, see table:

SYSTEM Station number	Inputs will automatically be numbered	
Main or single unit 100	1-10 (fabriksindstilling)	
2 nd unit 101	11-20	
3 rd unit 102	21-30	
.and so on 103	31-40	
104	41-50	
105	51-60	
106	61-70	
107	71-80	
108	81-90	
200	101-110	(installation where 1-10 has already been engaged by controllers on the same network)
201	111-120	
202	121-130	
203	131-140	
204	141-150	
205	151-160	
206	161-170	
207	171-180	
208	181-190	

8.4 Share the Outdoor Temperature

Outdoor temperature may be shared with more Dr. Sherlock alarm panels or even other controllers. Outdoor temperature sensor connects to one of the panels. On this panel only, the dip switch No. 1 is switched to the position "ON". Once every minute the outdoor value will be put on the RS485 network to be available to the other units.

8.5 Error diagnosis on the RS485 network

1. Check that different panels has different values in the menu **SYS + INST**, page 3, System station number.
2. Check that the RS485 connection is mounted so A is connected to A, B to B and the screen of the cable is connected to GND in all the units.
3. Detach the wire to RS485 A and measure the voltage between GND and the loose wire: Measure the voltage between GND and the RS485 A connection of the circuit board.
4. The voltage should exceed 2V dc. Mount the wire again.
5. Detach the wire to RS485 B and measure the voltage between GND and the loose wire:
6. Measure the voltage between GND and the RS485 B connection of the circuit board. The voltage should exceed 1 V DC. Mount the wire again.
7. RS485 A must be at least 0.2 V DC higher than RS485 B.

9.0 Set up

FIXED LINE NETWORK model: go to point 2.

1. GSM model: Place the SIM card - for the alarm equipment in your mobile phone and enter the PUK code. Switch off the PIN-code or set it to 1234. Place the SIM card in the SIM card holder in the top corner to the right) Pre-paid mobile service card may not be used.
2. Enter the telephone numbers 1-5 in the menu **TEL** Activate SMS if possible in **TEL**, page 2
3. In the menu **TEL** :**Perform station scan** Place the line cursor at line 7 and push **START STOP** for 2 sec.
4. Record the name for the installation, e.g. Place, Owner, see **5.3**