

# Operation manual for optional modules

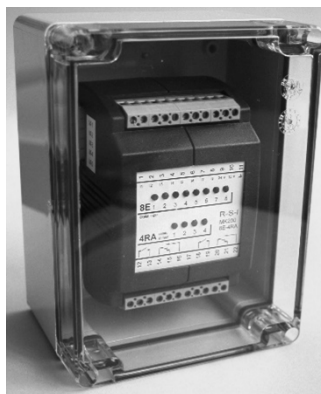
Data logger for CPR-tronic 02

Optional module for chemical refill and empty signal

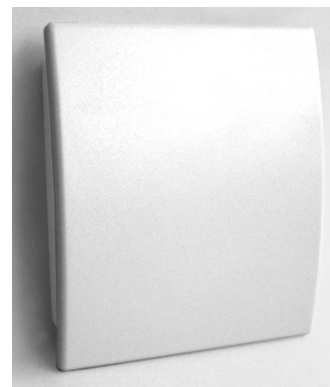
Hygro thermo transmitter



Data logger for CPR-tronic 02  
Order no. 203 565



Optional module chemicals  
Refill and empty signal  
Order no. 203 555



Hygro thermo transmitter  
Order no. 203 535

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**TÜV SÜD-zertifiziertes Unternehmen**  
nach DIN EN ISO 9001, DIN EN ISO 14001  
und SCC



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## Publisher's information

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**EU Declaration of Conformity**

This is to certify that the system designated below complies with the safety and health requirements of the applicable European Directives in terms of its design, construction and execution.

This certificate will become invalid if the system is modified in a way not approved by us.

Manufacturer: Grünbeck Wasseraufbereitung GmbH  
Josef-Grünbeck-Str. 1  
89420 Hoechstädt  
Germany

Responsible for documentation: Markus Poepperl

System designation: Optional modules

System type: Data logger for CPR-tronic 02,  
optional module chemicals refill and empty signal,  
hygro thermo transmitter

Order no.:

Applicable EC guidelines: Low voltage (2014/35/EU)  
EMC (2014/30/EU)

Applied harmonised standards,  
in particular: DIN EN 61000-6-2:2006-03  
DIN EN 61000-6-3:2011-09

Applied national standards  
and technical  
specifications,  
in particular:

Place, date and signature Hoechstädt, 28.08.2018 p.p.

M. Pöpperl  
Dipl.-Ing. (FH)

Function of signatory: Head of Technical Product Design

## **A General**

### **1 | Preface**

Thank you for opting for a Grünbeck product. Backed by decades of experience in the area of water treatment, we provide customised solutions for all kind of processes.

All Grünbeck systems and devices are made from high-grade materials. This ensures reliable operation over many years, provided you treat your water treatment system with the required care. This operation manual assists you with important information. Therefore, please read the complete operation manual before installing, operating or maintaining your system.

Customer satisfaction is our primary aim, and providing customers with qualified advice is crucial at Grünbeck. If you have any questions concerning this device, possible extensions or general water and waste water treatment, our field service staff, as well as the experts at our headquarters in Hoechstädt, are available to help you.

**Advice and assistance** For advice and assistance, please contact your local representative (refer to [www.gruenbeck.com](http://www.gruenbeck.com)). or get in touch with our service centre which can be reached during office hours:

Phone: +49 (0)9074 41-333

Fax: +49 (0)9074/41-120

E-mail: [service@gruenbeck.com](mailto:service@gruenbeck.com)

We can connect you with the appropriate expert more quickly if you are able to provide the required system data. In order to have the required data handy at all times, please copy it from the type plate to the overview in chapter C-1.

## 2 | General safety information

### Operating personnel

Only persons who have read and understood this operation manual are permitted to work with our systems and devices. The safety information in particular are to be strictly adhered to.

### Symbols and notes

Important information in this operation manual is characterised by symbols. Please pay particular attention to this information to ensure the hazard-free, safe and efficient handling of the system.



**Danger!** Failure to adhere to this information will cause serious or life-threatening injuries, extreme damage to property or inadmissible contamination of the drinking water.



**Warning!** Failure to adhere to this information may cause injuries, damage to property or contamination of the drinking water.



**Caution!** Failure to adhere to this information may result in damage to the system or other objects.



**Note:** This symbol characterises information and tips that make your work easier.



Tasks with this symbol may only be performed by Grünbeck's technical service/authorised service company or by persons expressly authorised by Grünbeck.



Tasks with this symbol may only be performed by trained and qualified electrical experts according to the VDE guidelines or according to the guidelines of a similar local institution.



Tasks with this symbol may only be performed by the responsible water supplier or an approved installation company.

### 3 | Shipping and storage



**Caution!** The systems and devices may be damaged by frost or high temperatures. Protect from frost during shipping and storage! Do not install or store the systems or devices next to objects which radiate a lot of heat.

The system may only be transported and stored in its original packing. Ensure that it is handled with care and placed the right side up (as indicated on the packing).

### 4 | Disposal

Comply with the applicable national regulations.

#### 4.1. Packaging

Dispose of the packaging in an environmentally sound manner.

#### 4.2. Product



If this symbol (crossed-out wheelie bin) is on the product, this product or its electrical and electronic components must not be disposed of as household waste.

Find out about the local regulations on the separate collection of electrical and electronic products.

Make use of the collection points available to you for the disposal of your product.

If your product contains batteries or rechargeable batteries, dispose of them separately from your product.



For more information on take-back and disposal, go to [www.gruenbeck.com](http://www.gruenbeck.com).



## B Basic information

### 1 | Laws, regulations, standards

In the interest of good health, rules cannot be ignored when it comes to the processing of drinking water.

Among other things, the regulations stipulate that

- only approved companies are permitted to make major modifications to water supply facilities
- and that checks, inspections and maintenance on installed devices are to be performed at regular intervals.

DIN standard 19643, the German Ordinance on the Treatment of Water in Swimming Pools and Baths, indicates the microbiological, chemical and physio-chemical requirements on the quality of the pool water in public swimming pools. The admissible concentrations for the most important pool water parameters can be found there as well.

DIN 16713 describes the treatment of swimming pool and bathing pool water in public swimming baths. The requirements of DIN EN 16713 must be complied with in order to ensure good water quality, and thus the protection of health. The concentrations for the individual pool water parameters indicated in this chapter as well as some of the disinfection processes described, therefore only and exclusively apply to private swimming pools.

## C Product description

### 1 | Data logger

The data logger is designed to document the pool water parameters and can be used in private as well as public pools in combination with the automatic measuring and control system GENO-CPR-tronic 02 family or public. The maximum distance between the automatic measuring control system and the data logger can be up to 1200 m. The data logger is located in a small, separate housing and is cross-linked with the GENO-CPR-tronic 02 family or public by means of a serial interface RS 485.

Apart from time and date, the most important pool water parameters (free chlorine, pH value, Redox water temperature, combined chlorine, total amount of chlorine, room temperature and relative humidity of air) are stored in a text file on the inserted SD memory card. The memory card must be removed from the data logger from time to time to be read out on a laptop or PC by means of a card reader. The read data can be imported for example into an excel file and displayed in a graphic chart.

The SD memory card supplied with the device has a memory size of at least 128 MB and is already formatted. At a recording interval of one minute, the measured values can be recorded for 1 year. At a recording interval of one hour, the measured values theoretically could be recorded for 10 years. For safety reasons, however, a backup via PC (card read-out) should be done at regular intervals (every 3 months).

#### 1.1 Technical specifications

Table C-1: Technical specifications	Data logger for CPR-tronic 02
Dimensions (h x w x d)	135 x 100 x 75 mm
Type of memory card	SD/MMC
Memory card size	at least 128 MB
Format of memory card	up to and including 1 GB FAT / > 1GB: FAT32
Voltage supply	18 VAC
Distance between data logger and CPR-tronic 02	up to 1200 m
Material of housing/transparent cover	polycarbonate/Plexiglass
Protection	IP 54
Interface to measuring and control system	RS-485
Order no.	203 565

#### 1.2 Scope of supply

Upon delivery, the data logger features a white plastic housing with transparent cover, a SD memory card (128 MB), fastening material and an operation manual.

## 2 | Optional module for chemical refill and empty signal

In combination with a dosing system GENO-Schlauflex-Chlor or GENO-Schlauflex-pH, two pieces of information (pre-alarm and empty signal) per terminal pair can be connected to the automatic measuring and control system via the optional module for chemical refill and empty signal. For the required terminal pairs (DES dosing and pH dosing), please refer to chapter D (installation).

In combination with the dosing systems GENODOS SB 1/40, SBC 1/40 or SBF 0/40 as well as the voltage-free level signal GENODOS (order no. 163 870), two sets of information (pre-alarm and empty signal) per terminal pair can be connected to the automatic measuring and control system via the optional module for chemical refill and empty signal. For the required terminal pairs (pH dosing, DES dosing and flocculation), please refer to chapter D (installation).

Voltage-free output contacts for the further processing of the signals are available. The output contacts can, for example, be transferred to a central control system and either visualised by a lamp or made audible by means of a horn.

### 2.1 Technical data

Table C-2: Technical specifications	Optional module for chemical refill and empty signal
Dimensions (w x h x d)	160 x 120 x 100 mm
Standard module	MK 200-Module 8E/4RA
Voltage supply	18 VAC
Data transfer	RS-485 with input and output interface
Inputs	max. 3 suction lances (pH, disinfection and flocculation) with pre-alarm and empty signal
Outputs	4 switching contacts (3 x refill and one joint empty signal 230 V / 2A)
Material of housing bottom	polycarbonate
Material of transparent cover	Plexiglass
Colour of housing bottom	RAL 7035
Protection	IP 66
Order no.	203 555

### 2.2 Scope of supply

The optional module for chemical refill and empty signal features a transparent plastic housing including four cable ducts (M20x1.5), fastening material and an operation manual.

## 3 | Hygro thermo transmitter

The hygro thermo transmitter continuously registers the room temperature respectively the relative humidity in the indoor pool and transmits the measured values to the control unit in the measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public. The measured parameters are then indicated in the corresponding fields of the extended basic display.

### 3.1 Technical specifications

Table C-3: Technical specifications	Hygro thermo transmitter
Dimensions (w x h x d)	100 x 85 x 26
Humidity sensor	capacitive measuring method
Temperature sensor	platinum chip temperature sensor Pt 1000
Measuring range of humidity	0 ... 100 % (relative humidity)
Measuring range of temperature	0 ... 50°C
Protection	IP 20
Output signal	4 .... 20 mA
Voltage supply	24 V (DC)
Housing	polycarbonate
Weight	approx. 150 g
Ambient temperature	- 5 up to 50 °C
Order no.	203 535

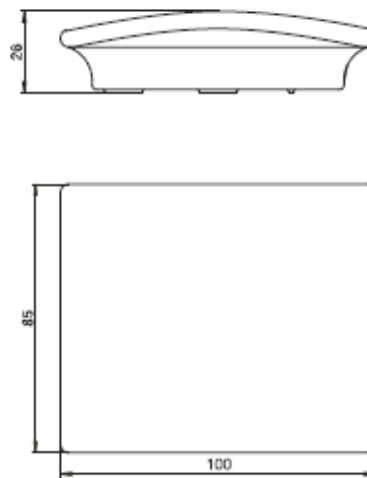


Fig. C-1: Dimensional drawing hygro thermo transmitter

### 3.2 Scope of supply

The hygro thermo transmitter will be delivered in a two-part, white plastic housing, including fastening material and an operation manual.

## D Installation



The tasks described below may only be performed by qualified electrical experts according to the VDE guidelines or according to the guidelines of a similar local institution.

### 1 | Installation of the data logger

The data logger is located in a transparent plastic housing and can be used to record the pool water parameters (log printout). The data logger can either be installed in the utility room, the office of the pool attendant or another room up to a distance of 1200 m from the automatic measuring and control system GENO-CPR-tronic 02 family or public. The data logger can be fastened to the brickwork by means of the fastening material supplied with the device.

#### 1.1 Electrical installation of the data logger

The data logger is connected to the automatic measuring and control system by means of a serial interface RS 485. Please refer to the following list for the required terminal combinations.

Data logger	Terminal GENO-CPR-tronic 02	Designation
1	66	B (-)
2	67	A (+)
3	68	GND
4	69	0 VAC
5	70	18 VAC
PE	--	NC (GND)

### 2 | Installation of the optional module for chemical refill and empty signal

The optional module for chemical refill and empty signal is located in a transparent plastic housing and is used for connecting the alarm or fault signals to the automatic measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public. In general, the optional module for chemical refill and empty signal is mounted to suitable brickwork near the dosing systems by means of the attached mounting material.

#### 2.1 Electrical installation of the optional module for chemical refill and empty signal

The optional module for chemical refill and empty signal is connected to the automatic measuring and control system by means of a serial interface RS-485. Please refer to the following list for the required terminal combinations.

Optional module for refill and empty signal	Terminal spaliQ Professional or GENO-CPR-tronic 02 family or public	Designation
1	66	B (-)
2	67	A (+)
3	68	GND
4	69	18 VAC
5	70	0 VAC
PE	--	NC (GND)

All three wires (brown, green and white) of the two usable suction lances may be connected to the optional module. If required, the plugs on the GENODOS suction lances can be pinched off and the three individual wires must be connected directly to the optional module. For more detailed connection options regarding this component, please refer to the wiring diagram, fig. D-3.

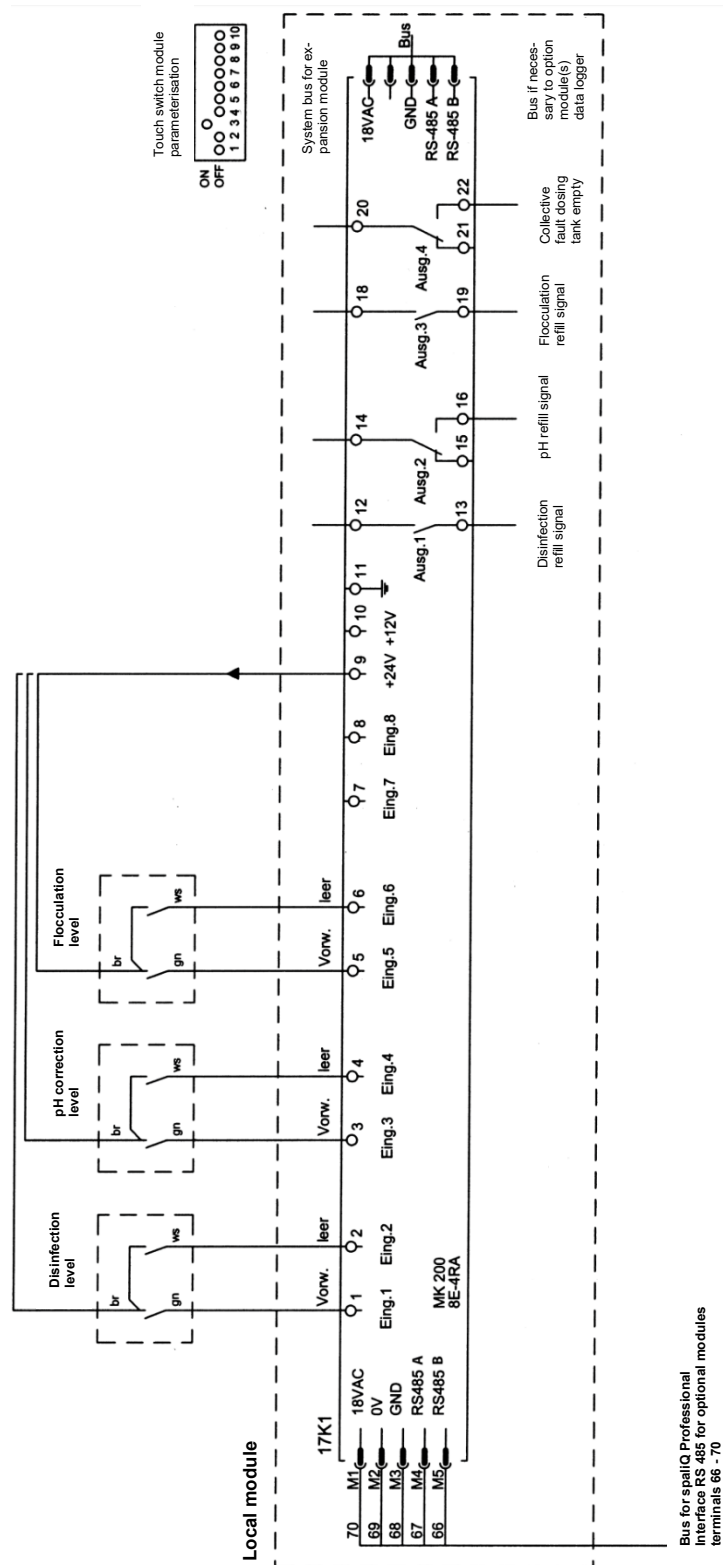


**Note:** In order to be able to avoid unintended error and malfunction signals at the measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public, jumpers must be installed at the inputs that are not needed.

The 10 dip switches for the parametrisation of the module are located beneath a blue cover on the right side of the optional module's housing. In order to access these switches, dismantle the module including the fastening rail. The correct settings, switch 3 = ON and the remaining switches = OFF, have already been made at the factory and usually do not need to be modified.



**Caution!** In case of the GENODOS dosing pumps, the factory-provided contact sleeve which interconnects the three pins a, b and c in the bushing of the dosing pump must remain connected (also refer to operation manual (BA 118940), GENODOS pump GP, chapter 5 Wiring diagram, page 11).



br = brown wire of the suction lance  
gn = green wire of the suction lance  
ws = white wire of the suction lance

Fig. D-3: Connection options (dosing systems and measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public)

### 3 | Installation hygro thermo transmitter

The hygro thermo transmitter is designed as optional equipment for the automatic measuring and control system and in general is installed directly in the indoor pool by means of the attached fastening material. Open the white housing of the hygro thermo transmitter and establish a cable connection between the automatic measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public and the hygro thermo transmitter.

#### 3.1 Electrical installation of the hygro thermo transmitter

Now, the hygro thermo transmitter has to be wired to the measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public. For the respective terminal connections, please refer to the table below:

Terminal of hygro thermo transmitter	Terminal measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public
1	52 (or 56)
2	57
3	53



## **E Start-up**

### **1 | Data logger**

For the start-up, the SD memory card must be located in the data logger. A corresponding configuration must be implemented on the automatic measuring and control system GENO-CPR-tronic 02 family or public (see operating instructions for the measuring and control system).

### **2 | Optional module for chemical refill and empty signal**

For the start-up, the optional module for chemical refill and empty signal must be logged on by making a corresponding configuration at the automatic measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public.

### **3 | Hygro thermo transmitter**

The hygro thermo transmitter can be operated at the automatic measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public without any further configuration. Therefore, no special settings are required at the measuring and control unit.

## F Operation

### 1 | Data logger

#### 1.1 Removal of the memory card



**Caution!** Never remove the memory card from the data logger while the green LED is illuminated. This may result in a loss of data or even the destruction of the SD memory card.

Alternative 1:

- Remove the memory card from the data logger while the LED is NOT illuminated.
- Reinsert the memory card into the data logger after one hour at the latest (so that no error signal will occur at the GENO-CPR-tronic 02 family or public).
- About an hour after its removal, the card will be reinitialised.

Option 2:

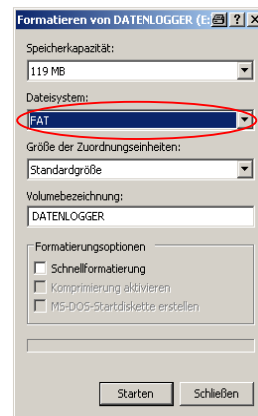
- Set the memory card in the menu "Configuration", submenu "Optional modules" at the GENO-CPR-tronic 02 family or public to "Data logger NO".
- Now the memory card can be removed without any problems (even for more than an hour).
- After reinserting the memory card at the GENO-CPR-tronic 02 family or public, set it to "Data logger YES" in the menu "Configuration", submenu "Optional modules".

## 1.2 Formatting of memory card

In order for the data logger to record the data on the card (SD/MMC), the card must be formatted correctly. The memory card (SD) supplied with the device has already been formatted properly.

- Insert the memory card into the card reader of your PC.
- The PC will recognize the card and visualise it as a proper drive in the explorer.
- By making a right-click on the corresponding drive, you can open the context menu.

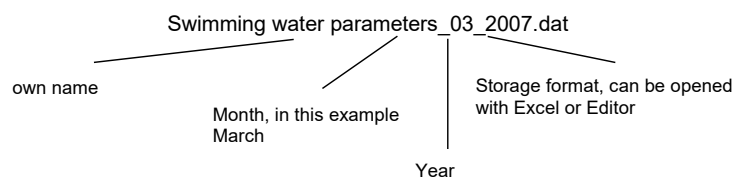
Select "formatting". The following window will appear



- Select FAT as file system if the memory size is < 1GB.
- Select FAT32 if the memory size is > 1 GB.
- Click on Start.

## 1.3 Read-out of memory card on PC

Remove the SD memory card from the data logger and put it into a card reader which is connected to a laptop or PC. Copy the existing files called cpr2dat.dat from the SD memory card and paste them in the desired folder on the hard drive. For better structuring in the folder, we recommend renaming the currently pasted file:



Content of memory card accessed via editor.

Datum	Zeit	frei.Cl	pH-Wert	Redox	W.Temp.	Geb.Cl	Ges.Cl	R.Temp.	Feuchte
15.03.07	15:08	000,23	007,22	0785	026,7	00,10	00,33	28,8	56
15.03.07	15:38	000,23	007,20	0785	026,7	00,10	00,33	28,9	56
15.03.07	16:08	000,23	007,20	0785	026,8	00,10	00,33	28,7	56
15.03.07	16:38	000,23	007,21	0785	026,8	00,10	00,33	28,9	56
15.03.07	17:08	000,23	007,21	0785	026,8	00,10	00,33	28,8	56
15.03.07	17:38	000,23	007,21	0784	026,8	00,10	00,33	28,9	56
15.03.07	18:08	000,23	007,21	0785	026,9	00,10	00,33	28,7	56
15.03.07	18:38	000,23	007,21	0785	026,9	00,10	00,33	28,9	56
15.03.07	19:08	000,23	007,21	0785	026,9	00,10	00,33	28,8	56
15.03.07	19:38	000,23	007,22	0784	027,0	00,10	00,33	28,9	56
15.03.07	20:08	000,23	007,21	0785	026,9	00,10	00,33	28,9	56
15.03.07	20:38	000,23	007,21	0785	027,0	00,10	00,33	28,9	56
15.03.07	21:08	000,23	007,21	0784	027,0	00,10	00,33	28,7	56
15.03.07	21:38	000,23	007,21	0784	027,0	00,10	00,33	28,9	56
15.03.07	22:08	000,23	007,21	0784	027,0	00,10	00,33	28,6	56
15.03.07	22:38	000,23	007,21	0784	027,0	00,10	00,33	28,6	56
15.03.07	23:08	000,23	007,21	0784	027,0	00,10	00,33	28,9	56
15.03.07	23:38	000,23	007,21	0784	027,0	00,10	00,33	28,9	56
16.03.07	00:08	000,23	007,21	0784	027,1	00,10	00,33	28,7	56
16.03.07	00:38	000,23	007,21	0784	027,1	00,10	00,33	28,9	56
16.03.07	01:08	000,23	007,21	0784	027,1	00,10	00,33	28,8	56
16.03.07	01:38	000,23	007,20	0785	027,1	00,10	00,33	28,9	56
16.03.07	02:08	000,23	007,20	0784	027,1	00,10	00,33	28,6	56
16.03.07	02:38	000,23	007,21	0784	027,1	00,10	00,33	28,9	56
16.03.07	03:08	000,23	007,21	0784	027,1	00,10	00,33	28,8	56
16.03.07	03:38	000,23	007,21	0783	027,1	00,10	00,33	28,9	56
16.03.07	04:08	000,22	007,21	0783	027,1	00,11	00,33	28,7	56
16.03.07	04:38	000,23	007,21	0784	027,1	00,10	00,33	28,8	56
16.03.07	05:08	000,22	007,21	0783	027,1	00,11	00,33	28,9	56
16.03.07	05:38	000,22	007,21	0783	027,1	00,11	00,33	28,9	56
16.03.07	06:08	000,22	007,21	0783	027,1	00,11	00,33	28,8	56
16.03.07	06:38	000,22	007,21	0783	027,0	00,11	00,33	28,9	56
16.03.07	07:08	000,22	007,21	0786	026,6	00,11	00,33	28,7	56

Content of memory card accessed via Excel.

Datum	Zeit	frei.Cl	pH-Wert	Redox	W.Temp.	Geb.Cl	Ges.Cl	R.Temp.	Feuchte
15.03.07	15:08	0,23	7,22	785	26,7	0,10	0,33	28,8	56
15.03.07	15:38	0,23	7,20	785	26,7	0,10	0,33	28,9	56
15.03.07	16:08	0,23	7,20	785	26,8	0,10	0,33	28,7	56
15.03.07	16:38	0,23	7,21	785	26,8	0,10	0,33	28,8	56
15.03.07	17:08	0,23	7,21	785	26,8	0,10	0,33	28,8	56
15.03.07	17:38	0,23	7,21	784	26,8	0,10	0,33	28,7	56
15.03.07	18:08	0,23	7,21	786	26,9	0,10	0,33	28,8	56
15.03.07	18:38	0,23	7,21	785	26,9	0,10	0,33	28,9	56
15.03.07	19:08	0,23	7,21	785	26,9	0,10	0,33	28,8	56
15.03.07	19:38	0,23	7,21	785	26,9	0,10	0,33	28,7	56
15.03.07	20:08	0,23	7,21	785	26,9	0,10	0,33	28,9	56
15.03.07	20:38	0,23	7,21	785	27,0	0,10	0,33	28,8	56
15.03.07	21:08	0,23	7,21	784	27,0	0,10	0,33	28,7	56
15.03.07	21:38	0,23	7,21	784	27,0	0,10	0,33	28,9	56
15.03.07	22:08	0,23	7,21	784	27,0	0,10	0,33	28,8	56
15.03.07	22:38	0,23	7,21	784	27,0	0,10	0,33	28,9	56
15.03.07	23:08	0,23	7,22	784	27,0	0,10	0,33	28,6	56
15.03.07	23:38	0,23	7,21	784	27,0	0,10	0,33	28,6	56
16.03.07	00:08	0,23	7,21	784	27,1	0,10	0,33	28,9	56
16.03.07	00:38	0,23	7,21	784	27,1	0,10	0,33	28,9	56
16.03.07	01:08	0,23	7,21	784	27,1	0,10	0,33	28,7	56

Following the data transfer from the SD memory card to the desired folder on the hard drive, the file on the SD memory card may be deleted and the SD memory card reinserted into the data logger. If the error signal "data logger" occurs, acknowledge it by pressing the CI key at the measuring and control system.

## 2 | Optional module for chemical refill and empty signal

At the optional module for chemical refill and empty signal, 12 light emitting diodes can be detected through the transparent cover. One light emitting diode each is available for the 8 inputs and 4 outputs. The following overview indicates the connection alternatives.

Input 1:	LED is illuminated in case of pre-alarm for disinfection tank
Input 2:	LED is illuminated in case of empty signal for disinfection tank
Input 3:	LED is illuminated in case of pre-alarm for pH correcting agent tank
Input 4:	LED is illuminated in case of empty signal for pH correcting agent tank
Input 5:	LED is illuminated in case of pre-alarm for flocculation tank
Input 6:	LED is illuminated in case of empty signal for flocculation tank
Input 7:	Input is not connected
Input 8:	Input is not connected
Output 1:	"Refill disinfection" signal at the measuring and control unit if LED at output 1 is illuminated
Output 2:	"Refill pH" signal at the measuring and control unit if LED at output 2 is illuminated
Output 3:	"Refill flocculation" signal at the measuring and control unit if LED at output 3 is illuminated
Output 4:	"Collective fault" signal at the measuring and control unit (one or several dosing tanks are empty) if the LED at output 4 is illuminated

## 3 | Hygro thermo transmitter

The hygro thermo transmitter is a sensitive measuring station and designed to register the air temperature and the relative humidity in indoor pools. At this capacitive measuring device, no modifications of the settings can be made. However, if a deviation is determined between the air temperature respectively the relative humidity displayed at the automatic measuring and control system and the reference measurement, an adjustment (manual offset) can be made at the measuring and control system spaliQ Professional or GENO-CPR-tronic 02 family or public.

## G Faults

### 1 | Data logger

This is what you observe	This is the cause	This is what to do
a) "Data logger [2]" signal at the measuring and control system due to communication		
	Data logger connected incorrectly	Check wiring (refer to D, Electrical installation of data logger)
	Connecting line defective (e. g. wire break, cable coating pinched)	Check connecting line and replace, if necessary
	Data logger not logged in at measuring and control system	Log on data logger at GENO-CPR-tronic 02 family or public (refer to part E)
b) "Data logger [2]" signal at the measuring and control system due to memory card		
	SD memory card formatted incorrectly	Format SD memory card at PC again in FAT format up to and including 1GB = FAT / > 1GB = FAT32
	Incorrect memory card format	Insert SD memory cards
	Memory card (> 1 Gigabyte) inserted	Use SD memory card less or equal to 1GB or notify Grünbeck's technical service/authorised service company regarding the replacement of the data logger.
	Memory card not inserted in data logger	Insert memory card in data logger
	Memory card was removed from data logger for more than one hour	Insert memory card in data logger and acknowledge error at the measuring and control system with "CI"

**2 | Optional module refill and empty signal**

This is what you observe	This is the cause	This is what to do
<b>a) "Refill and empty signal" at the measuring and control system</b>		
	Connecting line defective (e. g. wire break, cable coating pinched)	Check connecting line and replace, if necessary
	Wiring incorrect	Check terminal combinations
	Incorrect dip switch position during module parameterisation	Check dip switch position for module parameterisation (switch 3 = on, rest = off, refer to fig. D-3)
<b>b) No "refill and empty signal" despite empty dosing tanks</b>		
	Float switch in suction lance defective	Replace suction lance
	Cable break at suction lance	Replace suction lance

**3 | Hygro thermo transmitter**

This is what you observe	This is the cause	This is what to do
<b>a) Humidity and room temperature are not displayed at the measuring and control system</b>		
	Hygro thermo transmitter connected incorrectly	Check wiring connections between hygro thermo transmitter and measuring and control system.
	Wiring problems between measuring and control system and hygro thermo transmitter	Check wiring and replace, if necessary
<b>b) Incorrect measuring values for humidity and room temperature at measuring and control system</b>		
	Temperature module defective	Replace hygro thermo transmitter
	Humidity module defective	Replace hygro thermo transmitter

## H Maintenance and care

### 1 | Data logger for CPR-tronic 02



**Note:** We recommend reading out the measured values from the memory card at a PC at least every 3 months and to store them on a computer in order to ensure the consistent and safe storage of the data.

Clean the outside of the plastic housing from time to time with a moist cloth. Do not use any aggressive cleaning agents.

### 2 | Optional module for chemical refill and empty signal

Visually check for visible defects and damage in regular intervals. If significant damage is detectable, the optional module for chemical refill and empty signal must be put out of operation and be replaced without delay. Clean the outside of the plastic housing from time to time with a moist cloth. Do not use any aggressive cleaning agents.

### 3 | Hygro thermo transmitter

In case of visually detectable damage, the hygro thermo transmitter has to be put out of service immediately and be replaced without delay. Clean the outside of the plastic housing from time to time with a moist cloth. Do not use any aggressive cleaning agents.

Due to the natural ageing process of the temperature and humidity sensor, the measured room temperature and the determined humidity may no longer correspond to the values measured during the regular reference measurements after some years of service. As such, an offset can be entered for the room temperature and the room humidity at the spaliQ Professional or GENO-CPR-tronic 02 family or public measuring and control system (refer to operating instructions for the measuring and control system).