

Operation Manual

Touch panel with on-wall housing



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DIN EN ISO 9001, DIN EN ISO 14001,
DIN EN ISO 13485 and SCC
certified company (TUV SUD)

Table of contents

A	General information	4
1	Preface	
2	Warranty	
3	General safety information	
4	Shipping and storage	
5	Disposal of used parts and materials	
B	Basic information.....	8
1	Laws, directives, standards	
C	Product description	9
1	Type designation plate	
2	Designated application	
3	Design	
4	Technical specifications	
5	Accessories	
6	Scope of supply	
D	Installation.....	12
1	General installation information	
2	Mounting	
3	Electrical installation	
E	Start-up	16
1	General information	
2	Start screen of touch panel	
3	Applicability	
F	Operation	21
1	Menu structure	21
2	Basic display	22
3	Extended display.....	22
4	Main menu	23
4.1	Operation of control system	
4.2	Operation of pool water controller	
5	Language	33
6	Code.....	33
7	Time / date	33
8	Configuration.....	33
8.1	Basic setting	32
8.2	Contrast	34
8.3	Touch adjustment	34
G	Troubleshooting.....	35
H	Maintenance and care	36
Attachments: List of representatives / Warranty card		

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grünbeck**EC Declaration of Conformity**

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

If the system is modified in a way not approved by us, this certificate is void.

System designation: Touch panel with on-wall housing

System type: _____

System number: _____

Applicable EC guidelines: EC Guideline EMV (89/336/EC, version 92/31/EC)
Low Voltage Guideline (2006/95/EC)

Applied harmonized standards, in particular: DIN EN 61000-6-2, DIN EN 61000-6-3
1st Guideline on Device and Product Safety
(Ordinance on the Marketing of Electrical Operating Materials to be used within specific voltage limits – 1. GPSGV).

Applied national standards and technical specifications, in particular: _____

Date/Signature of manufacturer: 23.06.08 i. V. 
M. Pöpperl
Dipl.-Ing. (FH)

Function of signatory: Head of Engineering Department for Serial Products

A General information

1 Preface

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

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

Customer satisfaction is our prime objective and providing customers with qualified advice is crucial. If you have any questions concerning this system, possible extensions or general water and waste water treatment, our customer service staff as well as the experts at our headquarters in Hoechststedt, are available to help you.

Advice and assistance For advice and assistance please contact your local representative (refer to the enclosed list) or get in touch with our service centre which can be reached during office hours:

Tel.: +49 9074 41-333

Fax: +49 9074 41-120

Email: service@gruenbeck.de

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

2 Warranty

All devices and systems supplied by Grünbeck Wasseraufbereitung GmbH are manufactured according to the most recent technical standards and subjected to a comprehensive quality assurance system. All warranty claims are subject to our General Terms and Conditions:

Terms and Conditions of Sale and Delivery (excerpt)	
.....	
11. Warranty	
<p>a) If goods and services are supplied which are obviously defective, the Customer must report such defects within 8 (eight) days after receipt of such goods and services in order to maintain the liability claims.</p> <p>b) If the defect is of such a nature that only a spare part needs to be replaced, Grünbeck shall have the right to request the Purchaser to replace the new part delivered by us if the costs for sending a technician to the Purchaser's site are unreasonably high.</p> <p>c) The warranty periods are:</p> <ul style="list-style-type: none"> - two years: for devices for private use (natural persons) - one year: for devices for industrial or commercial use (companies) - two years: for all DVGW-certified devices, also for industrial or commercial use within the framework of the liability agreement with the ZVSHK. <p>after delivery/acceptance. This excludes electrical parts and parts which are subject to wear and tear. The warranty period shall only apply if the operating instructions are observed meticulously, if the device is mounted, commissioned, operated and maintained properly, and/or if a maintenance contract is made within six months. If these requirements are not met, the warranty shall be void. The warranty shall be void if the purchaser uses dosing agents or chemicals supplied by other manufacturers and if the quality and composition of such dosing agents or chemicals is beyond Grünbeck's control.</p>	<p>Grünbeck shall not be liable for defects or damage resulting from inept handling or operation.</p> <p>d) Grünbeck shall only be liable if the Customer performs the maintenance work as stated in the operating instructions or has the maintenance work performed in such a way and if the Customer uses spare parts supplied or recommended by Grünbeck.</p> <p>e) Grünbeck shall not be liable for damage resulting from frost, water or electrical over-voltage or from parts which are subject to wear and tear. This applies in particular to electrical parts.</p> <p>f) The claims of the Purchaser are limited to repair or replacement, as the case may be, at the discretion of Grünbeck. Grünbeck shall have the right to several attempts to repair. If Grünbeck fails to repair or replace the defective delivery within a reasonable time, the customer shall have the right to either cancel the contract or demand an appropriate reduction of the purchase price.</p> <p>g) In case of complaints with regard to systems that are not installed in Germany, the warranty claim will be settled by the local technical customer service authorised by Grünbeck. If no technical customer service is designated in the specific country, the assignment of Grünbeck's technical customer service shall end at the German border. All additional cost, apart from the material required, shall be borne by the customer.</p>
.....	

3 General safety information

Operating personnel	Only persons who have read and understood this operation manual are permitted to work with the system. The safety guidelines are to be strictly adhered to.
Symbols and notes	Important notes in this operation manual are characterised by symbols. Please pay particular attention to these notes in order to ensure a danger-free, safe and productive system operation.



Danger! Failure to adhere to these notes will cause serious or life-threatening injury, extreme damage to property or inadmissible contamination of drinking water.



Warning! Failure to adhere to these notes may cause injury, damage to property or contamination of the drinking water.



Attention! Failure to adhere to these notes may result in damage to the system or other objects.



Note: This symbol characterises notes and tips to make your work easier.



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



Tasks with this symbol may only be performed by 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 local water works or an approved installation company.

Protection from water damage



Warning! In order to properly protect the installation site from water damage:

- a) a sufficient floor drain system must be available or
- b) a suitable alarm device to prevent consequential damage must be installed.

Indication of specific dangers

Danger due to electricity! → Do not touch electrical parts with wet hands! Disconnect the system from mains before starting work on electrical parts of the system. Have qualified experts replace damaged cables immediately.

Danger due to mechanical energy! System parts may be subject to overpressure. Danger of injury and damage to property due to escaping water and unexpected movement of system parts. → Check pressure pipes regularly. Depressurise the system before starting repair or maintenance work on the system.

Hazardous to health due to contaminated drinking water! → The system may only be installed by a qualified company. The operation manual must be strictly adhered to! Ensure that there is sufficient flow. The pertinent guidelines must be followed for starting-up after long periods of standstill. Inspections and maintenance must be performed at the intervals specified!



Note: By concluding a maintenance contract, you ensure that all of the required tasks are performed on time. You may perform the interim inspections yourself.

4 Shipping and storage



Attention! The system may be damaged by frost or high temperatures. In order to avoid damage of this kind: Protect from frost during transportation and storage! Do not install or store system 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).

5 Disposal of used parts and materials

Used parts and materials are to be disposed of, or made available for recycling purposes, according to the applicable local guidelines.

If a material is subject to specific regulations, adhere to the notes indicated on the packing.

If in doubt, contact your local waste disposal authority or the manufacturer for more information.

B Basic information

1 Laws, directives, standards

The multi-colour and central operating respectively display unit for the most important pool water parameters was developed in connection with the automatic measuring and control systems GENO[®]-CPR-tronic 02 family and GENO[®]-CPR-tronic 02 public. Up to 6 automatic measuring and control systems as well as a pool water controller type GENO[®]-BW-tronic or FIL-tronic may be connected to the touch panel.

For operation in a private pool a control system GENO[®]-BW-tronic, starting from software version 1.49 is required and in public pools (e. g. hotels, municipal pools) the FIL-tronic BWA or BWH (starting from serial number 070300858) is a prerequisite. Units with older serial numbers do not feature a RS-485 interface which is required for the connection of the touch panel. As an RS-485 interface cannot be retrofitted, a new operating and display unit FIL-tronic MK 200 (order no. 938 15 005) with integrated RS-485 interface needs to be installed.

The replacement of the FIL-tronic's operating and display unit can be done on site by Grünbeck's technical service or an authorised service company. However, prior to replacing the operating and display unit, the old settings need to be documented in order to enter them at the new operating and display unit.

In case a GENO[®]-BW-tronic controller with a lower software version than V1.49 shall be retrofitted with a touch panel, the pool water controller has to be dismantled and send to Grünbeck's headquarters where a software update will be implemented free of charge. Afterwards, it will be returned to the customer or Grünbeck's technical customer service.

C Product description

1 Type designation plate

The touch panel's type designation plate is located on the inside of the plastic housing. Please specify the data shown on the type designation plate in order to be able to proceed your inquiries or orders more quickly. Simply copy the information from the type designation plate to the form below so that all the required information is available when needed.

Touch panel	
Order no.:	203 <input type="text"/> <input type="text"/> <input type="text"/>
Serial number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> / <input type="text"/>

2 Designated application

In private pools, the touch panel is used in combination with the measuring and control system GENO® - CPR-tronic 02 family and the pool water control system GENO® - BW-tronic (starting from software version V1.49).

In public pools, the touch panel is used in combination with the measuring and control system GENO® -CPR-tronic 02 public and the pool water control system FIL-tronic (interface RS-485 required!).

3 Design

The display with a screen size of 5.7" features a graphics colour display which is capable to depict 256 colours.



Note: The touch panel is a sophisticated control unit which is easily damaged and therefore needs to be handled with care. External impact of forces, e. g. hits or falls absolutely have to be prevented otherwise the proper functioning of the system can no longer be guaranteed. Despite elaborate packing, transport damage may occur. Please take this fact into consideration when unpacking the device and check for completeness and soundness.

4 Technical specifications

Table C-1: Technical specifications		Touch panel with on-wall housing
Connection data		
Power supply of power supply unit	[VAC/Hz]	230/50
Power supply of touch panel	[VAC]	8 – 12
Performance data		
Transmission distance RS-485	[m]	up to 1200
Graphics resolution	[pixel]	320 x 240
Palette of colours		256
Protection		IP 54
Power input of power supply unit	[VA]	18
Dimensions and weights		
Screen size	[inch]	5,7
Dimensions (w x h x d)	[mm]	280 x 170 x 60
Primary cable length	[m]	3
Secondary cable length	[m]	5
Weight	[kg]	approx. 3
Interfaces		
Printer interface		RS-485
Interface for measuring and control system resp. pool water controller		RS-485
Ambient data		
Colour of housing		light grey (RAL 7035)
Housing material		ABS
Ambient temperature	[°C]	0 – 50
Order no.		203 545

5 Accessories

5.1 In-wall version

The standard touch panel comes in a light grey plastic housing for on-wall mounting. However, with the touch panel's optional "in-wall version", in-wall installation is possible as well. On site, the PVC frame must either be mounted flush or max. 10 mm lower than the future completed wall (refer to mounting instructions for PVC in-wall frame). Then, the touch panel can be connected and inserted into the frame. The brush-finished stainless steel orifice can be fastened from the front to the substructure below by means of 4 flat headed screws and serves as a modern and contemporary wall finish.

Table C-1(a): Technical specifications		In-wall version
Dimensions		
In-wall opening (w x h x d)	[mm]	320 x 210 x 90
Inside dimensions of in-wall frame (w x h x d)	[mm]	280 x 170 x 80
Outside dimensions of in-wall frame (w x h x d)	[mm]	304 x 194 x 80
Stainless steel orifice (w x h x d)	[mm]	320 x 210 x 1.5
Ambient data		
In-wall frame		PVC (grey)
Brush-finished stainless steel orifice		1.4571
Order no.		203 350

5.2 Shutter module, light module, air conditioning module

Starting with the touch panel's software version V 0.99 and with the optional modules described below, several pool components can be operated centrally from the touch panel.

By means of the optional shutter module, an automatic pool cover can be activated. The cover is used for outdoor pools in order to save heat energy and to reduce the entry of natural impurities.

By means of the light module, room illumination or underwater spots can be activated. Thanks to this optional module, all connected illumination elements can be operated centrally from the touch panel.

An air conditioning system by Menerga can be activated by the optional air conditioning module. By means of this optional module, the relative humidity in the indoor pool can be set.

These three optional modules can be used up to a distance of 1200 m from the touch panel and are connected with the touch panel via an RS-485 serial interface.

Table C-1(b): Technical specifications	Shutter module	Light module	Air conditioning module
Connection data			
Mains power cable with plug		2 m	
Primary power supply		230 VAC	
Secondary power supply		18 VAC	
Performance data			
Protection		IP 66	
Dimensions			
Dimensions (h x w x d)		160 x 250 x 90 mm	
Distance of shutter module from touch panel		up to 1200 m	
Interfaces			
Interface to touch panel		RS-485	
Ambient data			
Housing material / transparent cover		polycarbonate / Plexiglas	
Order no.	203 570	203 575	203 580

6 Scope of supply

The on-wall version of the touch panel is installed in a light grey plastic housing, consisting of:

- 1 separate power supply unit for power supply
- 2 cable ducts
- 1 fastening material for on-wall mounting
- 1 operation manual

D Installation

1 General installation instructions



Note: Carefully read the operation manual, prior to installing the system.



Note: Only connect the touch panel to mains after it has been completely mounted.



Note: If it must be assumed that the safe operation of the system is no longer possible, the system must be shut down and secured against unintentional operation. You definitely must assume that safe operation no longer is possible

- if the device has visible defects,
- if the device is not working,
- after longer periods of storage under unfavourable conditions
- or due to considerable stress during transport.

2 Mounting

The touch panel can be mounted up to a distance of 1200 m from the measuring and control system. The power supply unit of the touch panel requires a primary power supply of 230 VAC from a shock-proof socket.



Attention! The minimum distance between pool edge and touch panel must at least be 2 m or more (sector 2). The power supply unit and the corresponding socket must be located outside of sector 2, e. g. the distance to the pool edge must exceed 3.5 m. As this minimum distance often cannot be kept in small rooms, we recommend installing the power supply unit on the reverse side of wall, away from the pool (refer to fig. D-1).

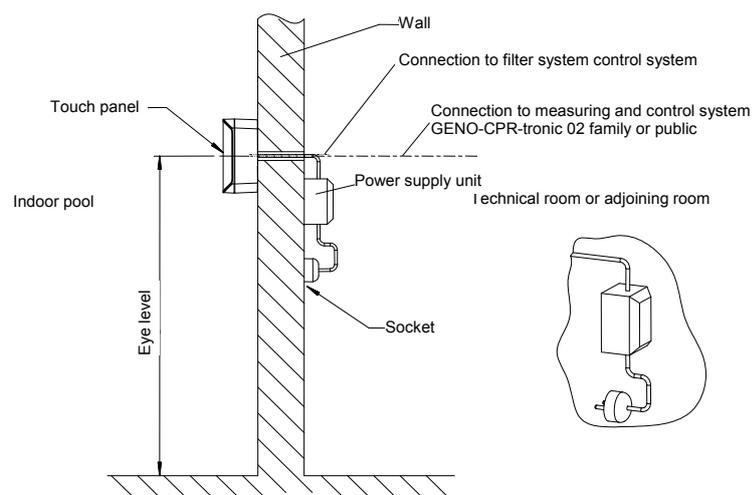


Fig. D-1: Recommendations for on-wall mounting of touch panel



Attention! The mounting surface for the touch panel housing must be completely planar. If the touch screen is mounted on an uneven surface and as a consequence, torsional forces affect the control panel, its functionality can no longer be assured. Furthermore, extensive deformations at the touch panel may cause irreparable damage.

3 Electrical installation



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



Note: All devices that are connected directly must comply with the following standards: IEC 950 / EN 60950.

Note: Please observe local installation directives and general guidelines (e. g. VDE, DIN).

Terminal	Designation	Function
1	P-B	RS-485 interface to printer
2	P-A	
3	P-Gnd	
4	free	
5	free	
6	free	Power supply of touch panel (8 ... 12 VAC)
7	free	
8	10V AC	
9	10V AC	
14	V-A	RS-485 interface to connect GENO [®] -CPR-tronic 02 family/public, GENO [®] -BW-tronic, FIL-tronic
15	V-B	
16	V-Gnd	

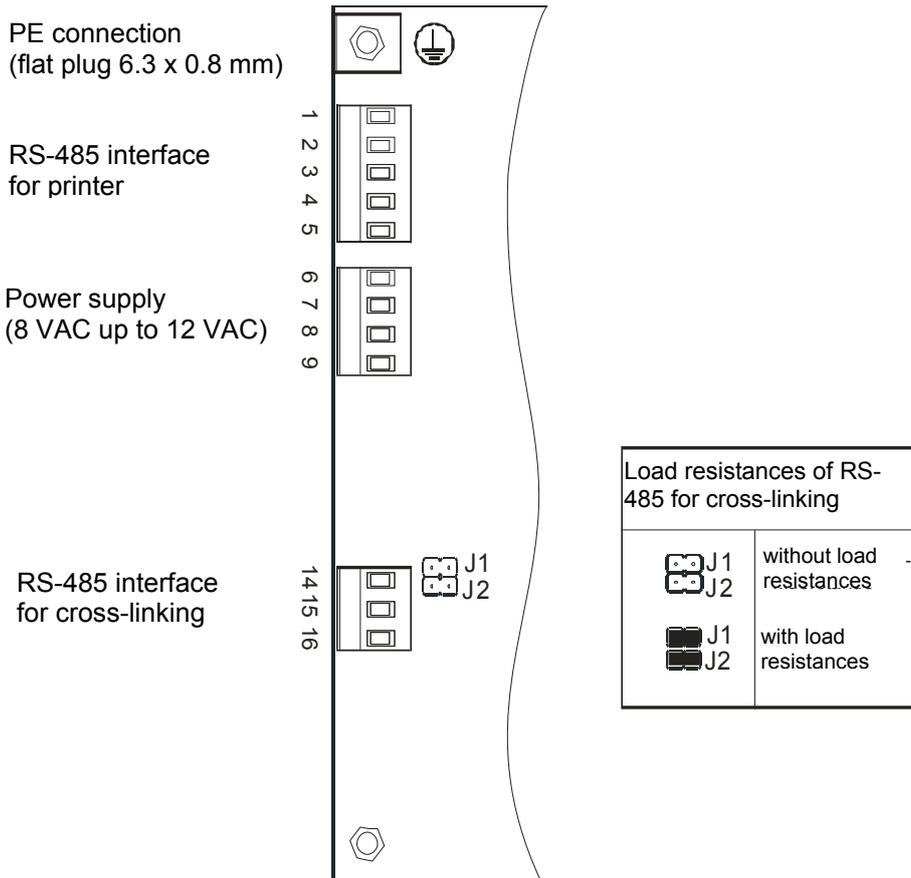


Fig. D-2: Terminal connections at the touch panel

3.1 Wiring of touch panel and automatic measuring and control system

Terminals at touch panel	Terminals at GENO [®] -CPR-tronic 02 family / public	Load resistance, position
14	89 or 92	J8 above terminal 87
15	88 or 91	
16	87 or 90	

3.2 Wiring of touch panel and GENO[®] - BW-tronic

Terminals at touch panel	Terminals at GENO [®] -BW-tronic	Load resistance, position
14	75	J1, J2 (*) adjacent to terminal 77
15	76	
16	77	

3.3 Wiring of touch panel and FIL-tronic

Terminals at touch panel	Terminals at FIL-tronic	Load resistance, position
14	11	J1, J2 (*) behind terminal 11 upon removal of sheet metal cover
15	12	
16	13	

(*) either both jumpers must be plugged in or both must be open

3.4 Structure of RS-485 cross-linking / How to set the load resistances

Irrespective of the length of the line, the connecting line of the RS-485 interface should always be a shielded line. In case of cable lengths < 20 m, a shielded line such as LiYY 3x0.25 mm² can be used. In case of longer cable lengths, starting from 100 metres and if sources of interference or similar are present in the vicinity, the use of shielded lines such as LiYcY 3x0.5 mm² is mandatory (terminal GND is connected at all devices). The shielding is connected to a PE terminal on one side of the device where the best link for the protective earth conductor can be expected, not at the touch panel itself!

In case more than two devices are linked to one RS-485 line, the load resistances must be set at the terminals of the RS-485 interface of the first and last device. This is done by plugging in the two jumpers J1 and J2 resp. J8 (refer to chapter E “Electrical installation” in the operation manual of the respective device).

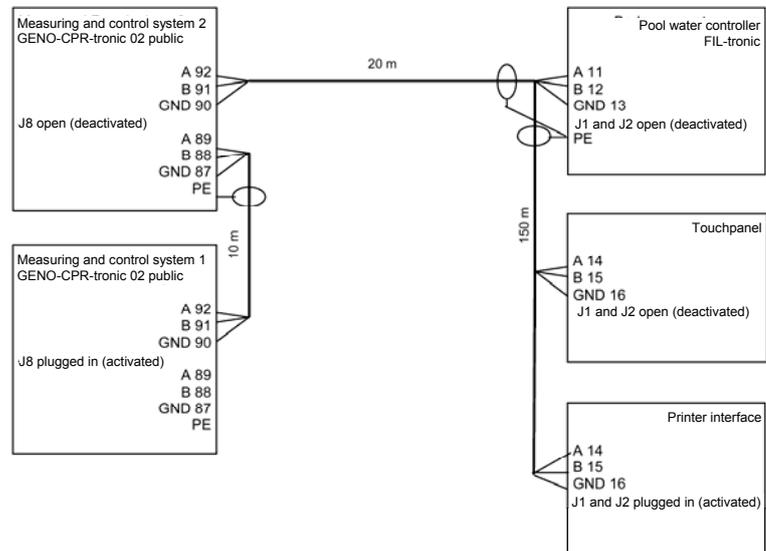


Fig. D-3: Example for RS-485 cross-linking, all lines are LiYcY 3x0.5 mm²

E Start-up

1 General information



The work described below may only be performed by trained experts. We recommend having the system started up by Grünbeck's technical customer service.



Note: Carefully read the operation manual, prior to starting up the system.



Warning! Improper operation and incorrect settings may result in dangerous operation states which might cause damage to persons, health or property.

Only make the settings described in the present chapter!

2 Start screen of touch panel

Upon connection to the power supply, a start screen will be displayed at the touch panel which shows Grünbeck's logo, address and the software version (refer to fig. E-1). After a few seconds, the display automatically changes to the first measuring and control system. If no control system has been installed at that time, the display shown corresponds to fig. E-2.



Fig. E-1: Start screen of touch panel

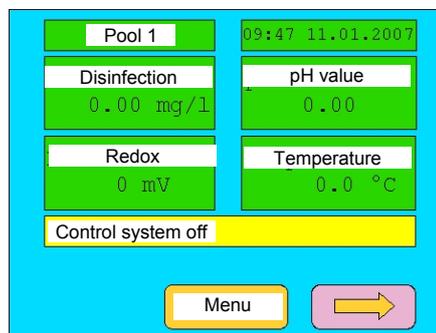


Fig. E-2: Basic display without control system

3 Applicability

During the start-up it must be decided whether the touch panel shall be used as display unit only or to enter modifications at the automatic measuring and control system as well.

3.1 Configuration of the measuring and control system (touch panel as remote display)

If the touch panel is only used as display unit or remote display for the measuring and control system, the following settings have to be made in the menu item „configurations“ (code protected), menu item “interfaces” of the GENO®-CPR-tronic 02 family resp. public:

SCHNITTSTELLEN

▶ Anlagen-Adresse: 1
 Baudrate RS 485: 19200
 Modus RS 485: LE-SEN
 Baudrate Drucker: 4800
 Zeilen / Seite: 45

Interfaces

▶ System address: 1
 Baud rate RS-485: 19200
 RS-485 mode: READ
 Baud rate of printer: 4800
 Lines / page: 45

When establishing the communication between the touch panel and the automatic measuring control system, make sure that the correct RS-485 baud rate (**19200**) and the correct RS-485 mode (**LESEN/READ**) is set during the configuration of the interface. In case several automatic measuring and control systems GENO®-CPR-tronic 02 family or public are installed, the system addresses 1 to 6 will be assigned, according to the total number of systems. For better allocation of the various automatic measuring and control systems GENO®-CPR-tronic 02 family or public we recommend entering a separate page text for each pool (refer to operation manual 203 970, chapter F, item 4.4.6.2).

If the RS-485 is in READ mode and new settings are entered at the touch panel, they will be indicated but not transferred to the control system of the automatic measuring and control system. The data transfer only takes place from the control system of the automatic measuring and control system to the touch panel but not vice versa.

3.2 Configuration of the measuring and control system (touch panel as remote control)

If the touch panel shall be used as display unit and at the same time as remote control system for the automatic measuring and control system as well, the following settings must be made in the configuration menu (code protected), menu item “interfaces”, at the GENO®-CPR-tronic 02 family resp. public:

SCHNITTSTELLEN

▶ Anlagen-Adresse: 1
 Baudrate RS 485: 19200
 Modus RS 485: ÄNDERN
 Baudrate Drucker: 4800
 Zeilen / Seite: 45

Interfaces

▶ System address: 1
 Baud rate RS-485: 19200
 RS-485 mode: MODIFY
 Baud rate of printer: 4800
 Lines / page: 45

When establishing the communication between the touch panel and the automatic measuring control system, it is to be made sure that the correct RS-485 baud rate (**19200**) and the proper RS-485

mode (ÄNDERN/MODIFY) is set during the configuration of the interface.

When several automatic measuring and control systems GENO[®]-CPR-tronic 02 family or public are installed, according to the total number of systems the system addresses 1 to 6 will be assigned,. For better allocation of the various automatic measuring and control systems GENO[®]- CPR-tronic 02 family or public we recommend entering a separate page text for each pool (refer to operation manual 203 970, chapter F, item 4.4.6.2).

If the RS-485 is in MODIFY mode and new settings are entered at the touch panel, they will also be transferred to and accepted by the control system of the automatic measuring and control system. Therefore, the modification of a parameter can either be made at the control system of the automatic measuring and control system or at the touch panel. The data transfer is possible in both directions.

3.3 Configuration of the pool water controller GENO[®]-BW-tronic

In order to use the touch panel in combination with a pool water controller GENO[®]-BW-tronic, the pool water controller needs to be configured accordingly after the installation of the touch panel. The serial interface must be configured in the configuration menu (code protected), menu item „inputs and outputs“, of the GENO[®]-BW-tronic according the overview below.

SER. SCHNITTSTELLE:
 vorhanden: JA
Parameter:

SER. INTERFACE: available: YES Parameter:

The basic setting of the serial interface must be changed from NEIN/NO to JA/YES

SER. SCHNITTST. PARAM.
 Adresse: 7
Baudrate: 19200

PARAM. OF SER. INTERFACE Address: 7 Baud rate: 19200
--

In a next step, the adjusted serial interface needs to be adapted to the requirements of the touch panel. **Always** set the system address at the pool water controller GENO[®]-BW-tronic to 7 and set the baud rate to 19200.

When these settings at the pool water controller have been made, the communication between the touch panel and the GENO[®]-BW-tronic is established and the functions described in chapter F, item 4.2.2, can be started respectively modified at the touch panel.

3.4 Configuration of the pool water controller FIL-tronic BWA or BWH

In order to use the touch panel in combination with a pool water controller FIL-tronic BWA or BWH, the pool water controller needs to be configured accordingly after the installation of the touch panel. Quit the basic display at the pool water controller FIL-tronic by means of the menu key and access the input function of the system menu by means of the F2 key (code protected). In the sub-item „system menu“, the correct system number can now be configured according to the overview below.

<p>SYSTEM-MENÜ Eingangslogik E/A Konfiguration ► Systemkonfiguration E/A Anzeige Störspeicher Grundeinstellung</p>	<p>SYSTEM MENU Input logic E/A configuration ► System configuration E/A display Error memory Basic setting</p>
---	---

Select the submenu “system configuration” in the system menu by means of the arrow keys and access it by means of the enter key.

<p>Systemkonfiguration Anlage sperren: NEIN Sprache: DEUTSCH Mod. Meldungen: NEIN Systemdatenausdr: 0 ► Anlagen-Nummer: 8</p>	<p>System configuration Lock system: NO Language: GERMAN Mod. signals: NO System data print: 0 ► System number: 8</p>
---	---

Always enter the system number 8 in the menu “system configuration” at the FIL-tronic BWA and FIL-tronic BWH when they are operated in combination with a touch panel

When these settings at the pool water controller FIL-tronic have been made, the communication between the touch panel and the FIL-tronic is established and the functions described in chapter F, item 4.2.3, can now be started respectively modified at the touch panel.



Note: The required baud rate of 19200 is a standard setting at the FIL-tronic and cannot be changed.

3.5 Configuration of the control systems at the touch panel

The internal touch panel configuration with regard to the automatic measuring and control systems can be made in the main menu, submenu “configuration”.

In order to have all automatic measuring and control systems GENO®-CPR-tronic 02 family resp. public that are connected displayed, these need to be logged on first. The log-on takes place by activation of the corresponding control panel. In the next submenu, the display may then be activated or deactivated. Activation takes place via control panel „Aktiv/activated“ and deactivation by means of control panel „Inaktiv/deactivated“. If the control system is active, the “Aktiv” panel turns green and the “Inaktiv” panel turns grey. In case the measuring and control system is logged out, the panels turn grey and red.

In addition, the setting whether a temperature control is active for the logged-on measuring and control systems can be made here.

Activation takes place by means of control panel "EIN/ON" and deactivation by means of control panel "AUS/OFF". If a temperature control is active, the "Aktiv" panel turns green and the "Inaktiv" panel turns grey. If the temperature control is switched off, the panels turn grey and red.

3.6 Configuration of the pool controller at the touch panel

The internal configuration of the touch panel with regard to the pool water controller can be made in the main menu, submenu "configuration".

Either a GENO[®]-BW-tronic or a FIL-tronic can be logged on. If no pool water controller is available, please select the panel „keine BW-tronic/no BW-tronic, keine FIL-tronic/no FIL-tronic“. Only one selection can be made in this submenu. When the GENO[®]-BW-tronic or the FIL-tronic was selected, the activated control panel turns green for monitoring purposes. If „keine BW-tronic, keine FIL-tronic“ was selected, the corresponding control panel turns red.

Keine BW-tronic Keine FIL-tronic	BW-tronic vorhanden	FIL-tronic vorhanden
No BW-tronic No FIL-tronic	BW-tronic available	FIL- available

F Operation

1 Menu structure

The following overview (fig. F-1) indicates the menu structure. On the screens that are displayed after the operating unit has been started, the touch area „menu“ always leads to the main menu. However, the main menu differs in one aspect: Depending on the starting page, the menu item “operation of control system” gives access to the corresponding submenu of the respective measuring and control system GENO®-CPR-tronic 02 family or public. In order to avoid confusion and for better distinction in case of several measuring and control systems, the standard setting (e. g. pool 1, pool 2, pool 3, etc.) can also be set at the each control system by entering an individual pool designation via the menu “Konfiguration/configuration” (Code 0290), printer settings, page text 1 resp. page text 2. Page text 1 will be indicated in the upper left corner of the basic resp. the extended display. In the corresponding main menus the two page texts will be indicated in the blue field in the lower right corner.

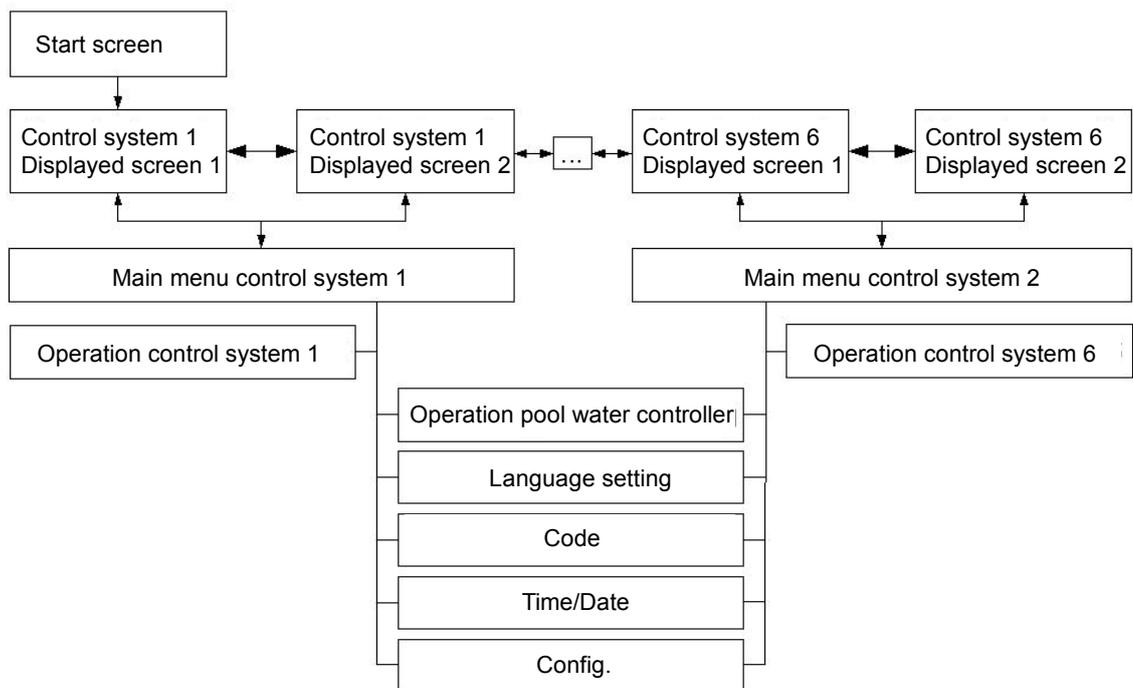


Fig. F-1: Menu structure

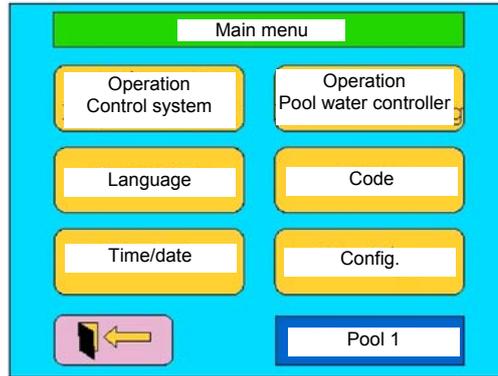


Fig. F-2: Main menu for pool

2 Basic display

In the basic display, the four most important pool parameters can be read and checked in large, clearly visible panels. The structure of the basic display is always the same, refer to fig. F-3. If there is no error pending at the measuring and control system, the upper status line has a green background and „Steuerung ein/control system on“ is indicated as text message. If an alarm or error message is pending at the measuring and control system, a small red field starts blinking, the upper status line turns red and the corresponding alarm or error message can be read.

If several error messages are pending, more blinking fields will occur and the respective messages will be displayed alternately in the corresponding status line. The alarm and error messages must be acknowledged directly at the measuring and control system or the pool water controller.

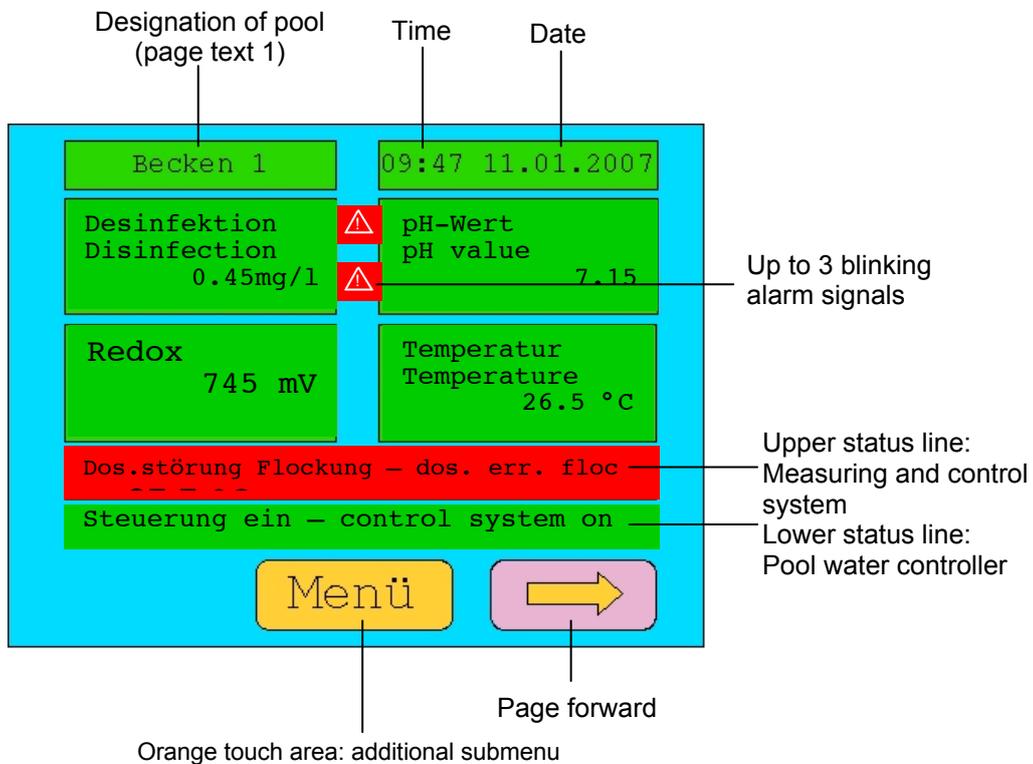
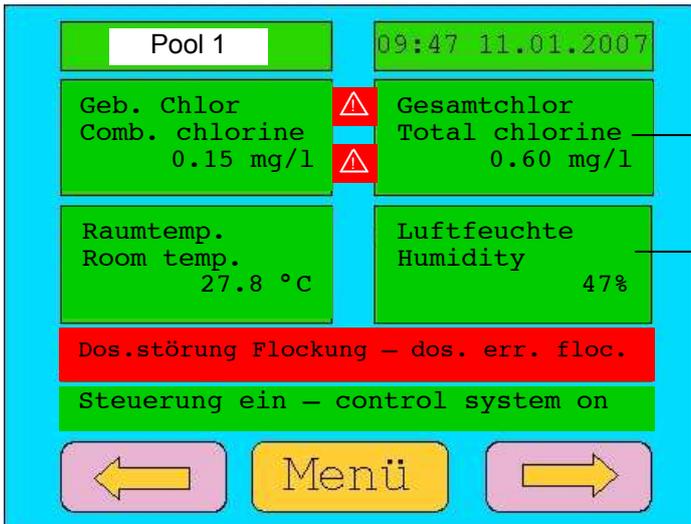


Fig. F-3: Basic display for pool 1

3 Extended display

With the corresponding optional elements, additional pool parameters that might be of interest can be indicated in the extended display. Regarding the proper connection of the optional elements to the measuring and control system, please refer to the respective operation manuals as this information is not given in detail in the present operation manual.



Display only possible with optional chlorine measuring cell (only for public)

Display only possible with optional Hygro thermo transmitter

Fig. F-4: Extended display for pool 1

4 Main menu

From the basic or extended display, you may access the main menu by means of the orange "menu" key. There, you will find an additional six orange touch areas which in turn have several submenus each. In the following paragraphs, these submenus are described in more detail.

Via the Exit key  you may leave this screen again.

4.1 Operation of control system

The menu "Regelanlage/control system" consists of six submenus. In case of several measuring and control systems, the first step is to select the desired pool in the basic or extended display by means of the arrow keys  and . In this menu, a variety of settings can be made which are described in detail in the following paragraphs. By means of the  key, you may quit this screen again and return to the main menu.

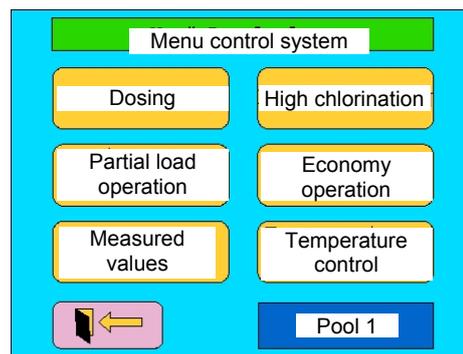


Fig. F-5: Menu "Regelanlagen/control systems" for pool 1

4.1.1 Dosing

In this menu item, the pH, disinfection and flocculation dosing may be activated or deactivated. Activation via touch area "Ein/On" and deactivation via „Aus/Off“ panel. If dosing is active, the corresponding „Ein/On“ panel will turn green and the „Aus/Off“ panel grey. In case dosing is deactivated, the „Aus/Off“ panel turns red and the „Ein/On“ panel turns grey.

4.1.2 High chlorination

Similar to the operation of the dosing, the high chlorination can be switched on resp. off in the menu "Hochchlorung/high chlorination". It is activated by means of the touch area "Ein/On" and deactivated via "Aus/Off". If high chlorination is active, the „Ein/On“ panel turns green and the „Aus/Off“ panel turns grey. If the high chlorination is turned off, the "Aus/Off" panel is red and the "Ein/On" panel is grey.

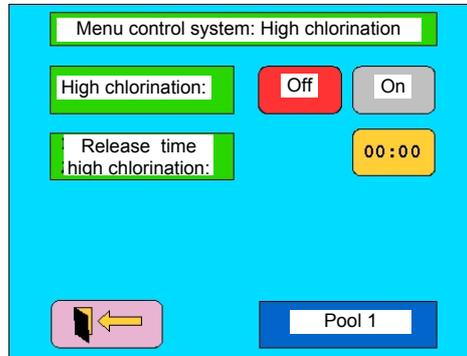


Fig. F-6: Menu item "Hochchlorung/high chlorination"

In addition, the release time may be set. In order to do so, press the orange coloured touch area for the time. A number block will appear where the desired time can be entered.

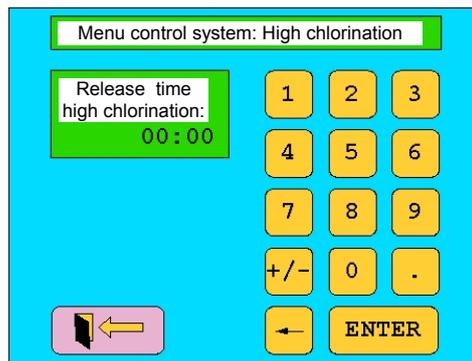


Fig. F-7: Release time "Hochchlorung/high chlorination (key pad)

A time can only be entered if the touch area "Hochchlorung Auslösezeit/release time of high chlorination" is active. The status is indicated by the white-coloured background of the time. In addition, a line cursor will occur beneath the editable figure. The numbers in the number block only serve to enter the time. In this case, the fields "+/-", and "." do not have any function. The arrow key to the left  sets the current figure to zero and moves the cursor one step to the left. The enter key confirms the entered time. In order to quit the number block, press the exit key .

4.1.3 Partial load operation

The menu „partial load operation“ is where the partial load operation may be activated or deactivated and where all parameters for the partial load operation are contained.

There are four different partial load modes available.

- **Uhr/Time:** Partial load operation is timer-released and determined by entering a start and stop time.
- **Hand/Manu:** Partial load operation is released manually.
- **Ext:** Partial load operation is released via external signal.
- **Auto:** Partial load operation is released automatically if the pool water parameters are within the defined max. and min. values. If the defined upper limits are exceeded or the lower limits are undershot, the measuring and control system switches to standard operation, readjusts the corresponding pool parameters and automatically returns to partial load operation.

The background of currently activated mode is green, the background of the three remaining modes is grey.

The time for the partial load operation in the time mode is determined by a start and stop time. Touch the respective time panel in order to access the number block. The entry of the time is made in the same way as the release time of the high chloronation.

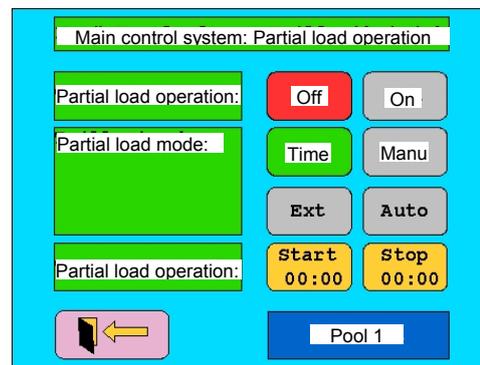


Fig. F-8: Menu item “Teillastbetrieb / partial load operation”

4.1.4 Economy operation

In this menu, the economy operation can be activated or deactivated. Activation takes place via touch area “Ein/on” and the deactivation via the “Aus/off” panel. If economy operation is active, the “Ein/On” field turns green and the “Aus/Off” field grey. If the economy operation is switched off, the “Aus/Off” panel turns red and the „Ein/On” panel turns grey.

4.1.5 Measured values

Here, another submenu with the following menu items will occur:

- Index values
- Alarm values
- Readjustment

4.1.5.1 Index values

Here, the index values for the dosing can be set:

- Disinfection (in combination with a GENO[®]-CPR-tronic 02 family)
- Chlorine (in combination with a GENO[®]-CPR-tronic 02 public)
- pH
- Redox

By touching the current value in the orange-coloured panel, you switch to the number block. The values are entered in the same way as the release time of the high chlorination.

4.1.5.2 Alarm values

Here, the alarm values, i. e. the lower and upper limits, for the dosing can be set:

- Disinfection (in combination with a GENO[®]-CPR-tronic 02 family)
- Chlorine (in combination with a GENO[®]-CPR-tronic 02 public)
- pH
- Redox

By touching the current value in the orange-coloured panel, you switch to the number block. The values are entered in the same way as the release time of the high chlorination.

4.1.5.3 Readjustment

Here, the readjustment values for the dosing can be set:

- Disinfection (in combination with a GENO[®]-CPR-tronic 02 family)
- Chlorine (in combination with a GENO[®]-CPR-tronic 02 public)
- pH

By touching the current value in the orange-coloured panel, you switch to the number block. The values are entered in the same way as the release time of the high chlorination.

4.1.6 Temperature control



Note: This menu item will only appear after corresponding configuration at the touch panel. In order to get this display, you must first select the desired pool and call up the menu item "Konfiguration/configuration" in the main menu of the touch panel. Now, all control systems that are logged in (green background) and all those that are not (orange background) can be selected and the temperature control can be switched on or off.

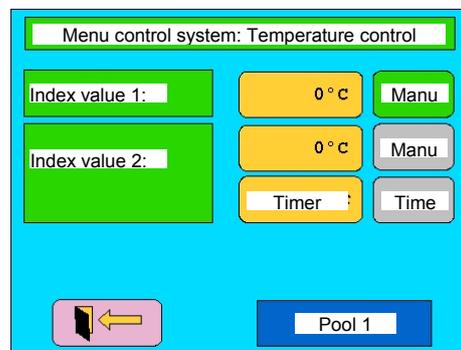


Fig. F-9: Menu item "Temperaturregelung/temperature control"

Here, two index values can be set for the temperature control, but only one can be active at any time. Both index values can be activated manually. Furthermore, by means of a timer up to eight time intervals can be defined for index value 2 during which index value 2 is active.

The index value is entered by means of the number block and can only be 50 °C as a maximum in order to protect the PVC piping. The touch areas “Hand/menu” and “Uhr/time” activate the respective index value. The touch area “timer” produces the following display:

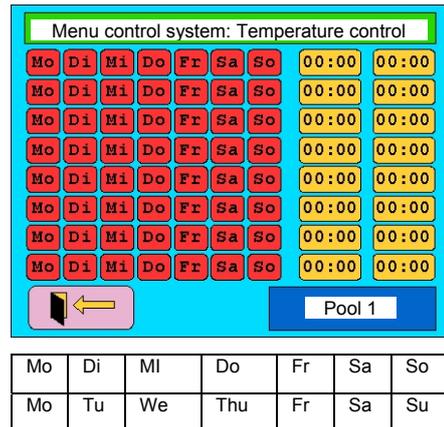


Fig. F-10: Temperature control: timer

The times are entered by means of the number block, the allocation of the weekday takes place directly by pressing the respective day in the same line. Days with a green background are active, days with a red background are deactivated.

4.2 Operation of the pool water controller

4.2.1 Selection of pool water controller

Keine/no BW-tronic Keine /no FIL-tronic	BW-tronic vorhanden/available	FIL- vorhanden/available
--	----------------------------------	-----------------------------

Depending on which pool water controller has been chosen, the respective menus differ. If the left panel is chosen, the panel „Bedienung BW-Steuerung/operation pool water controller“ does not appear in the main menu. The menu navigation of the middle resp. right panel will be described in the next paragraphs in more detail.

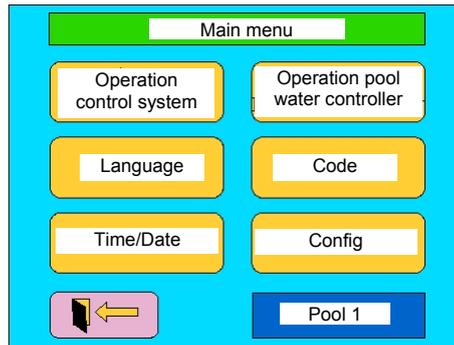


Fig. F-11: Main menu for pool 1

4.2.2 Operation of pool water controller GENO®-BW-tronic

If a GENO®-BW-tronic is available, the selection described in the following will appear if the menu item „BW-Steuerung/pool water controller“ is chosen. For further information, please refer to the description of the BW-tronic.

4.2.2.1 Filtration - backwash

In the submenu „Filtern – Spülen/filtration - backwash“ you may either deactivate both the functions filtration and backwash at the same time or set them to automatic mode. As an alternative, it is also possible to start the individual functions manually or timer-controlled via a timer.

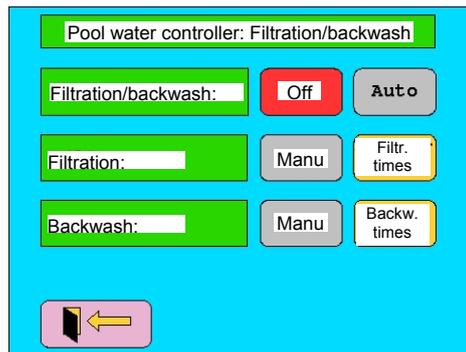


Fig. F-12: Menu item for filter (BW-tronic)

Pressing the touch areas „Filterzeiten/filtration times“ resp. „Spülzeiten/backwash times“ directly takes you to the respective timer menu. Regarding the filtration, three timer channels each are available for every weekday, i. e. every day a maximum of three different filtration intervals can be chosen.

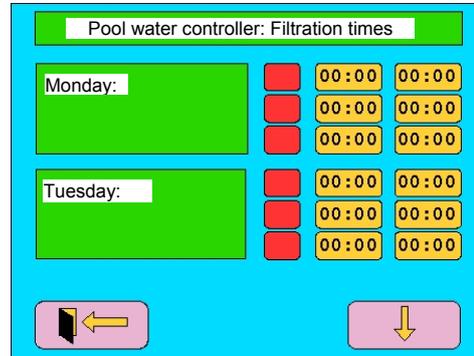


Fig. F-13: Setting of filter run times (BW-tronic)

In order to activate a channel, press the small, red touch area. For monitoring purposes, the operated panel then turns green. A green panel indicates an active and a red panel a deactivated timer channel. The times may be entered via the number block which is shown upon pressing a time touch area.

On one screen, there is room for six timer channels (i. e. two weekdays). In order to move to the next or previous screen, please press the corresponding arrows.

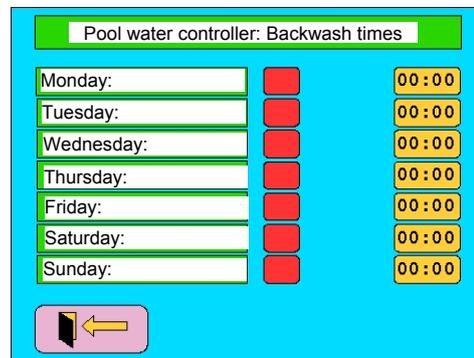


Fig. F-14: Setting of backwash times (BW-tronic)

4.2.2.2 Channel cleaning

In this menu, the channel cleaning may be activated or deactivated. Activation takes place via touch area "Ein/On" and deactivation via "Aus/Off" panel. If the channel cleaning is active, the "Ein/On" panel turns green and the "Aus/Off" panel turns grey. If the channel cleaning is switched off, the panels turn grey and red.

4.2.2.3 Temperature selection

In combination with the GENO®-BW-tronic, up to three different pool water temperatures may be set at the touch panel (refer to fig. F-16). In the first line, a standard temperature can be entered via the orange touch area and the well-known number block. If the standard temperature shall be switched on, touch the right panel in the top line. For monitoring purposes, the right touch area turns green. In the next line, a warm bathing temperature (increased index value) can be entered and started by touching the right panel. If the warm bathing temperature is active, the background colour of the right panel in the second line is red.

In the third line, a winter temperature can be entered which is intended as anti-freeze protection for a filled-up outdoor pool during the winter months. Here, a low pool water temperature (e. g. 3 °C) may be entered. In order to guarantee sufficient anti-freeze protection, however, the filter run time must set to an adequately long interval as the pool may only be heated up during the filter run time. If the winter temperature is activated, the right touch area turns blue. As only one pool temperature can be active at a time, the other two temperature settings are deactivated which is indicated by a grey-coloured panel.



Note: Should the customer only require one constant pool water temperature, the same temperature index value should be set for all three selections in order to avoid the unintentional modification of the temperature.

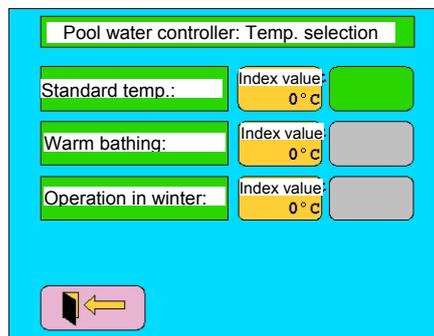


Fig. F-15: Temperature selection (BW-tronic only)

4.2.3 Operation of pool water controller FIL-tronic

4.2.3.1 Recirculation

If the touch panel is operated in combination with a FIL-tronic controller, up to four recirculation pumps are available. Each recirculation pump has its own submenu in which the operating mode may be chosen and the times for the timer can be entered.

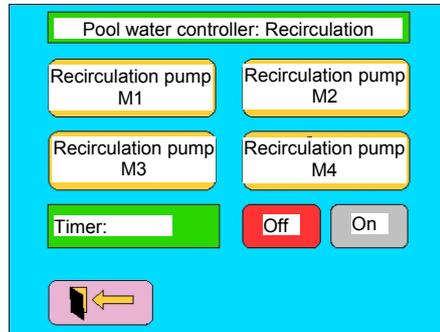


Fig. F-16: Pool water controller: recirculation (FIL-tronic only)

For each recirculation pump, two timer channels are available. For both switching contacts, one timer interval may be determined each which is allocated to one or more weekdays.

The times can be entered via the number block, the allocation of the weekdays takes place by pressing the respective day within the same line. On green-coloured days, the interval is active, on red-coloured days it is deactivated.

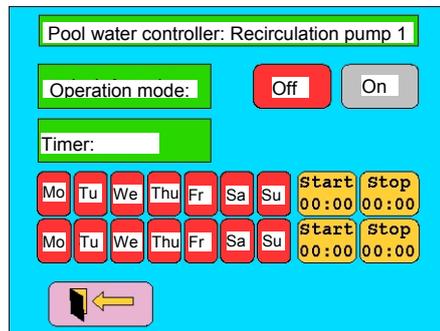


Fig. F-17: Pool water controller: recirculation 1

4.2.3.2 Channel cleaning

In this menu, the channel cleaning may be activated or deactivated. Activation takes place via touch area "Ein/On" and deactivation via "Aus/Off" panel. If the channel cleaning is active, the "Ein/On" panel turns green and the "Aus/Off" panel turns grey. If the channel cleaning is switched off, the panels turn grey and red.

4.2.3.3 Start backwash

In this menu, the filter backwash may be released. The backwash times are stored in the control system and can also be adjusted there. For further information, please refer to paragraph 4.2.1 “times/filter 1/2/3/4” in the FIL-tronic’s operation manual.

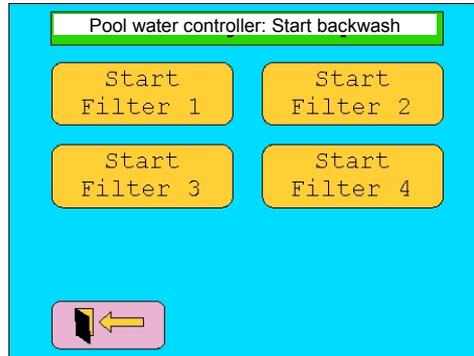


Fig. F-18: Pool water controller: start backwash (FIL-tronic)

4.2.3.4 Temperature selection

In this menu item, the temperature index values for „Normal/standard“ and „Warmbaden/warm bathing“ may be determined.

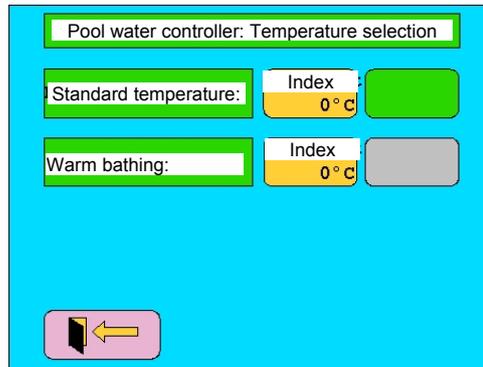


Fig. F-19: Pool water controller: temperature selection (FIL-tronic)

4.2.3.5 Attractions

On this screen, the attractions are indicated – if applicable. A maximum of four attractions is feasible. Activation of the attractions takes place via touch area “Ein/On” and deactivation via “Aus/Off” panel. If an attraction is active, the “Ein/On” panel turns green and the “Aus/Off” panel turns grey. If an attraction is switched off, the panels turn grey and red.

If the attractions’ start is set to „Automatik/automatic“ at the FIL-tronic, the attractions will be indicated at the operating unit collectively. The text will then read “Attraktionen/attractions” instead of “Attraktion 1/attraction 1”, “Attraktion 2/attraction 2”,

5 Language

Presently, the touch panel is only available with a German menu navigation. Starting with version 1.00, the introduction of an English menu navigation is envisioned and a switchover can then be made in the main menu (refer to fig. F-2). In case of older software versions, changing the language is not possible and therefore the corresponding panel "Sprache/language" will not be displayed in the main menu.

6 Code

After the initial start, no Code is active for the operating unit and therefore, all menus can be operated without restrictions. In the menu "Code Einstellung/Code setting" a four-digit code within the setting range of 1000 ... 9999 can be entered.

The entry of the Code takes place by operating the panel "set". Now, the well-known number block occurs by which the desired Code can be set. However, the Code may only be entered if it has been activated in addition. Activation takes place by means of operating panel "Ja/yes", deactivation by means of "Nein/no". panel. If the Code is active, the "Ja/yes" panel turns green and the "Nein/no" panel turns grey. If the Code is switched off, the panels turn grey resp. red.

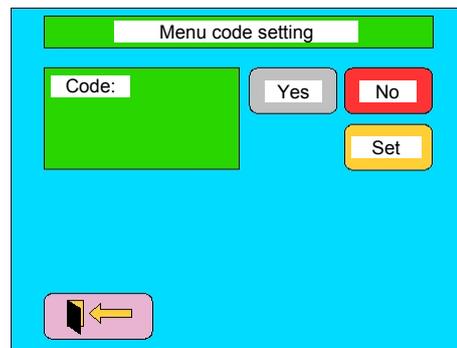


Fig. F-20: Setting and activation of a code

If a Code has been set and was activated, quitting the menu structure means that the main menu can only be accessed again after the respective Code is entered.

7 Time / date

In this menu, date and time of the real-time clock are indicated and may be modified. This can be done by means of the corresponding number block which will appear upon pressing the orange-coloured touch areas.

8 Configuration

8.1 Basic setting

The menu item "Grundeinstellung/basic setting" immediately results in the reset of the values set in the operating unit. There is no switchover to a continuing submenu. This means for example that all automatic measuring and control systems (apart from system 1) and pool water controllers will be logged out. The swimming pool(s) will be renamed to „Becken 1/pool 1“ (... „Becken 6/pool 6“).

8.2 Contrast

Here, the contrast of the display can be adjusted. Press on „+“ at the control panel to increase the contrast and on „-“ to decrease it.

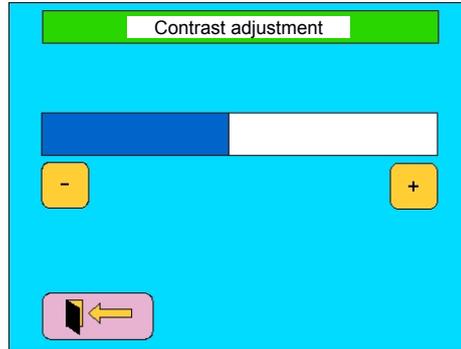


Fig. F-21: Contrast adjustment

8.3 Touch adjustment

You only need this menu if the calibration of the touch foil shows deviations, i. e. if you try to touch the user screen and it does not react to your touch or a touch area close by is activated.

To adjust the touch screen, please proceed as follows

1. Select menu item “Touch Abgleich/touch adjustment”
2. Press on the red cross in the upper left corner



Note: Do not use your finger but a pencil or similar to hit the cross point as exactly as possible.

3. A red cross will be displayed in the lower right corner. Press on the cross point with a fine tip (e. g. pencil) once again.
4. The message „Abgleich abgeschlossen/adjustment completed“ is displayed. You may now quit the menu.

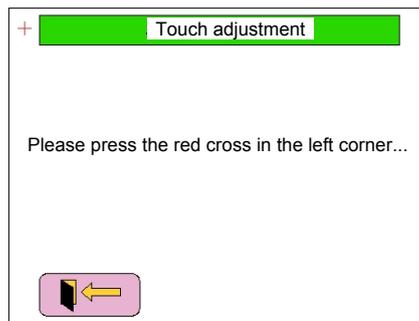


Fig. F-22: Touch adjustment

G Troubleshooting



The works described herein may only be performed by trained and authorised experts. We recommend having the start-up performed by Grünbeck's technical service.

Even carefully designed and manufactured technical systems that are operated properly can experience malfunctions. Table G-1 provides an overview of possible problems that may occur during the operation of the systems and indicates their causes and the corresponding remedies.

The touch panel is equipped with error detection, warning and reporting system. However, the touch panel can only indicate alarm and fault signals. Acknowledgement of the alarm or fault signals has to take place directly at the connected measuring and control systems or the pool water controller in the technical equipment room.



Note: Grünbeck's customer service/authorised service company must always be notified in case of malfunctions that cannot be remedied with the information provided in table G-1! When you contact the customer service, please provide the following information: system designation, serial number and, if applicable, the error message displayed.

What you see	Why it happened	What to do
No communication	Check connections of touch panel and measuring and control system	Check electrical connection and configuration of interface
	Check connections of touch panel and pool water controller	Check electrical connection and configuration of interface
User interface does not react	Torsion at touch screen	Mount touch panel free of torsion
Display does not work	No power supply	Check mains plug resp. power supply unit
Signal in upper status line	Alarm, fault signal or other problem pending at measuring and control system	Check measuring and control system (e. g . supply of dosing agent, dosing point, etc.)
Signal in bottom status line	Alarm, fault signal or other problem pending at pool water controller	Check pool water controller (e. g. temperature, ...)
Modified touch panel parameters are not copied by measuring and control system	RS-485 mode = READ	RS-485 mode = MODIFY

H Maintenance and care

In order to ensure the proper functioning of the touch panel, the display and the housing may only be cleaned with a moist cloth from time to time. Special and regular maintenance is not required.