

Fischer Panda



Panel AGT Control Manual

Art Nr. 21.02.02.017H

Art.Nr. 21.02.02.006H

Fischer Panda GmbH

Revision status

	Document
Aktuell:	Panel AGT Control_Kunde_eng.R05.1 vom 21.4.10
Replace	Panda AGT Control_Manual.R05

Revision	Page

Hardware and Software revision

After turning on the panel the welcome screen will show the software revision. The hardware revision is printed on the reverse side of the panel.



Attention: Please note the safety remarks in your generator manual.



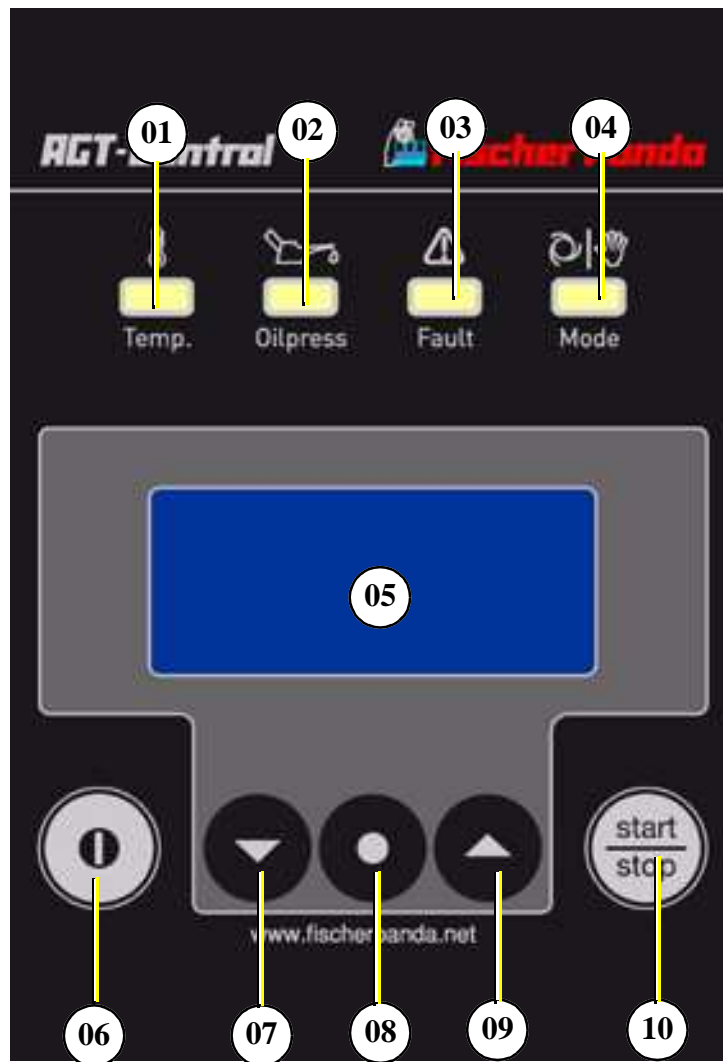
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7. General Operation

7.1 Panel AGT Control 145x100mm



- 01. LED for temp. green/red ¹
- 02. LED for oil pressure green/red ¹
- 03. LED for fault green/red ¹
- 04. LED for mode Mode green/yellow²
- 05. Display

- 06. Main switch „ON/OFF“
- 07. Button „down“³
- 08. Button „Enter“
- 09. Button „up“³
- 10. Button generator „start/stop“

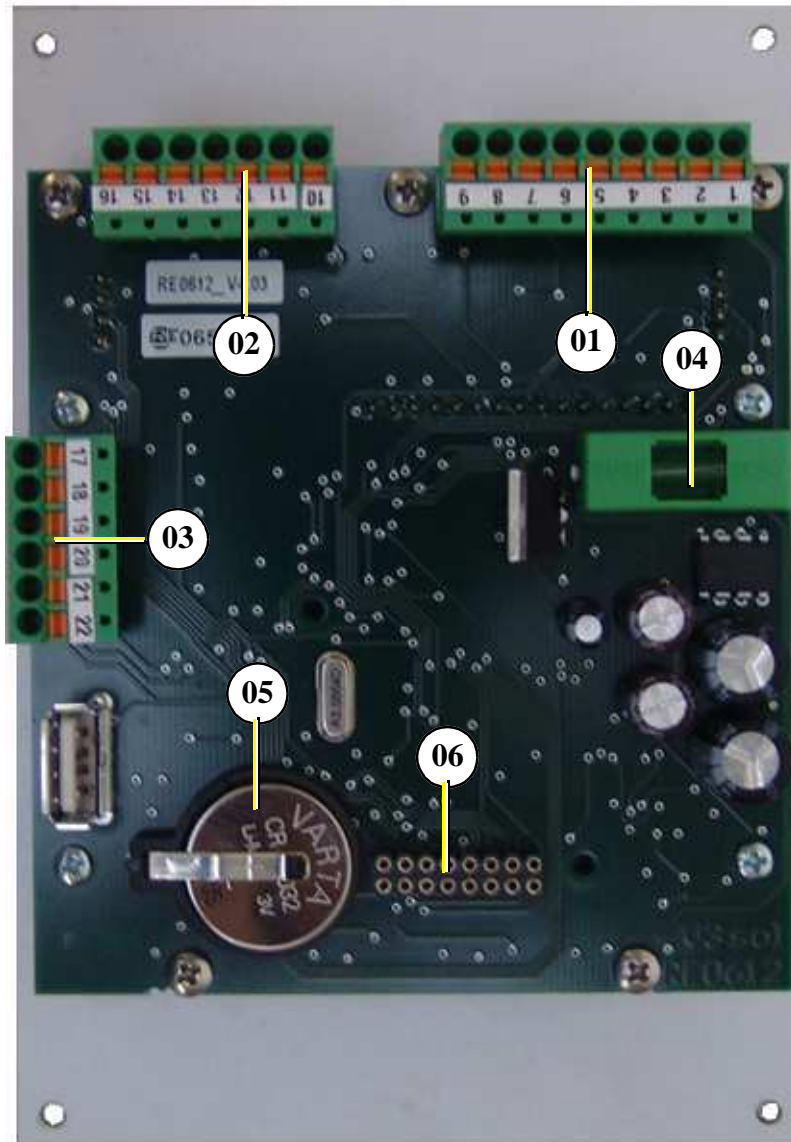
¹ LED green: normal running mode , LED red: fault

² Mode LED green: Manuel mode, Mode LED yellow: Attention automatic mode

³ Selectfunction for menu

Fig. 7.1-1: Front Panel 100x145

7.2 Reverse Side



01. terminal 1-9
 02. terminal 10-16
 03. terminal 17-22

04. Fuse 1,6A slow to blow
 05. Battery for real time clock
 06. Connector for master/slave Adapter

Fig. 7.2-1: Panel Reverse Side

7.3 Running modes - Automatic Mode, Manual Mode and Power Save Mode

Switch on the Panel by pressing the „ON/OFF“ button.

Advice: If the panel is switched on by an external signal (clamp 18 High(+Vbat), the panel can also only be switched off by this external signal. In order to ensure a safe emergency shutdown function, a 2pole emergency shutdown (terminal 1 „VBat+“ and terminal 18 „Extern On“) is necessary.

7.3.1 Manual Mode

The Panel is ALWAYS in the manual mode, after it had been switched on (key 6 Page 65.

Manual Modus -->LED „Mode“ lights green

- Menu is activ.
- Generator can be started and stopped with the „start/stop“ button.
- After the standby time the screen will turn dark.
- After the power save time the display switches in the power save mode.
- To switch into the automatic mode press the „down“-button. The sreen will display the new mode and the mode LED turns into yellow.

The Panel can be switched off by pressing the „ON/OFF“ button. The running generator will also stop.

7.3.2 Automatic Mode

Automatic Modus -->LED „Mode“ lights yellow ==> CAUTION!!! SAFETY INSTRUCTIONS



PLEASE CONSIDER, THAT AN AUTOMATIC START IS POSSIBLE AT ANY TIME (FOR EXEMPLE BY THE BATTERY VOLTAGE CONTROL OR BY AN EXTERNAL SIGNAL). THEREFORE, DISCONNECT THE BATTERIES BEFORE WORKING ON THE GENERATOR.

- Menu is active
- The starting requirements will be requested and carried out.
- After the standby time the screen will turn dark.
- After the power save time the display switches in the power save mode.
- To switch into the automatic mode press the „down“-button. The sreen will display the new mode and the mode LED turns into yellow.

The Panel can be switched off by pressing the „ON/OFF“ button. The running generator will also stop.



7.3.3 Standby Modus

The display will turn dark after the standby time (only when the generator is not running!), in order to save electric power (both automatic and manual mode).

The standby time and the intensity of the LED standby light is adjustable in the menu.

All buttons are active. Pressing a button (for example „Start“) will start an action and the display changes either to the „automatic mode“ or to „manual mode“ .

The panel can be switched off by pressing the „ON/OFF“ button.

7.3.4 Power Save Modus

After the power save time, which can be adjusted by the Fischer Panda Distributor, the panel will automatically switch into the Power save mode. The panel will be reactivated by pressing the "ENTER"-button for 1 sec.

- Screen is dark.

If the panel switches from the automatic mode to the Power save mode, the mode LED will blink yellow. The panel returns to the automatic mode by a starting request (battery voltage control or external signal).

If the panel switch from the manual mode to the power save mode, the mode LED will blink green. By pressing the "Start/Stop" button, the panel changes from the power save mode back to the manual mode, and the starting/stopping procedure will be activated.

If the panel changes from an emergency mode to the power safe mode, the fault LED will blink red and the mode LED will blink according to the mode yellow or green.

The panel can be switched off by pressing the „ON/OFF“ button.



7.4 Starting and Stopping the generator

7.4.1 Starting the generator in the „Manual mode“

1. Open the fuel valve (if necessary).
2. If necessary, close the main battery switch and open the sea lock (Marine version).
3. Press the „ON/OFF“-button (switch on the panel), or awaken the panel from the power save mode by pressing the „Enter“-button. *Optional „ON“ with : +12V on Clamp 18*
- 5.) Press the „Start/Stop“-button - the panel will switch to the manual mode and the generator will automatically be started. The panel initiates following steps

pre glow¹
 start of the generator
 running the generator

Mode LED is green => „Manual mode“



Errors are recorded and evaluated only in the "run mode" (generator is running). The display always shows the first arisen error. All other errors are stored in the error log and can be looked up and analysed in the menu "error log".

¹The glow time can be interrupted by pressing the enter button (for example, when the engine is already warmed up).



ATTENTION: If there is difficulty in starting - close the seacock (Panda Marine Generators only)

If the generator engine does not start immediately and further start attempts are necessary, then the seacock **MUST** be closed (i.e. for ventilating the fuel lines etc.) The cooling water impeller pump turns automatically and draws cooling water as long as the motor is turning. If the diesel motor is running, the cooling water is blown out by the exhaust system gases. The cooling water cannot be pressed through the exhaust as long as the diesel motor does not run at sufficient speed. This leads to severe motor damage.



Open the seavalue as soon as the generator is started.

7.4.2 Starting the generator in the „Automatic Mode“

1. Open the fuel valve (if necessary)
2. If necessary, close the main battery switch and open the sea lock (Marine version).
3. Press the „ON/OFF“-button (switch on the panel) (*Optional external „ON“: +12V on Clamp 18*)
4. The panel automatically switches to the „manual mode“. For changing into the „automatic mode“, press the arrow key and acknowledge the choice. In the automatic mode, the starting procedure will be activated, if a starting request is made (for example by the battery voltage control clamp 14 or by an external clamp).
 - pre glow¹ (0 - 15 sec, according to adjustment) (when required, pre-glow is active after the start)
 - starting phase
 - recognizing the generator
 - running the generator

LED shines yellow constantly => „Automatic Mode“



Automatic starting of the generator is at any time possible



Errors are recorded and evaluated only in the "run mode" (generator is running). The display always shows the first arisen error. All other errors are stored in the error log and can be looked up and analysed in the menu "error log". Status indications are always displayed according to conditions.

5. By pressing the "START/STOP" button when the generator is not running, the panel will switch to the manual mode and the starting procedure will be activated. By pressing the "START/STOP" button when the generator is running, the panel will switch to the manual mode and the generator will be stopped.

¹ The glow time can be interrupted by pressing the enter button (for example, when the engine is already warmed up).





7.4.3 Stopping the generator

1. In the "manual mode" the generator can be stopped either by pressing the "Start/Stop" button or by switching off the remote control panel.
2. In the „automatic mode“ the generator will be stopped by an external stop requirement (e.g. from the battery voltage control or an external signal). The generator can be stopped by pressing the "start/stop" button. The panel will then switch to the manual mode.
(the panel can be switched off by "clamp open" or by „0V“ on clamp 18. The generator will also be stopped. This is of course only possible, if the panel was switched on by clamp 18).
3. After a longer period of non-use time, the battery main switch should be disconnected and the fuel valve and the sea valve (if necessary) should be closed (position 0 = off).

7.5 Menutable Adjustments

The menutable is accessed as follows:

1. Switch on the panel by pressing the "ON/OFF" key (key 06 - Page 65)
2. Switch to the menu by pressing the "Enter" key (key 08 - Page 65)
3. Select a menu option by pressing the "arrow up / arrow down" keys (keys 7+9 - Page 65)
(flashing line = current selection)
4. Confirm the selection by pressing the "Enter" key (key 08 - Page 65)

The values are stopped as follows:

Change the values by pressing the "arrow up/arrow down" keys (key 7+9 - Page 65)

Confirm the input by pressing the "Enter" key (key 08 - Page 65)



7.5.1 Menu tree

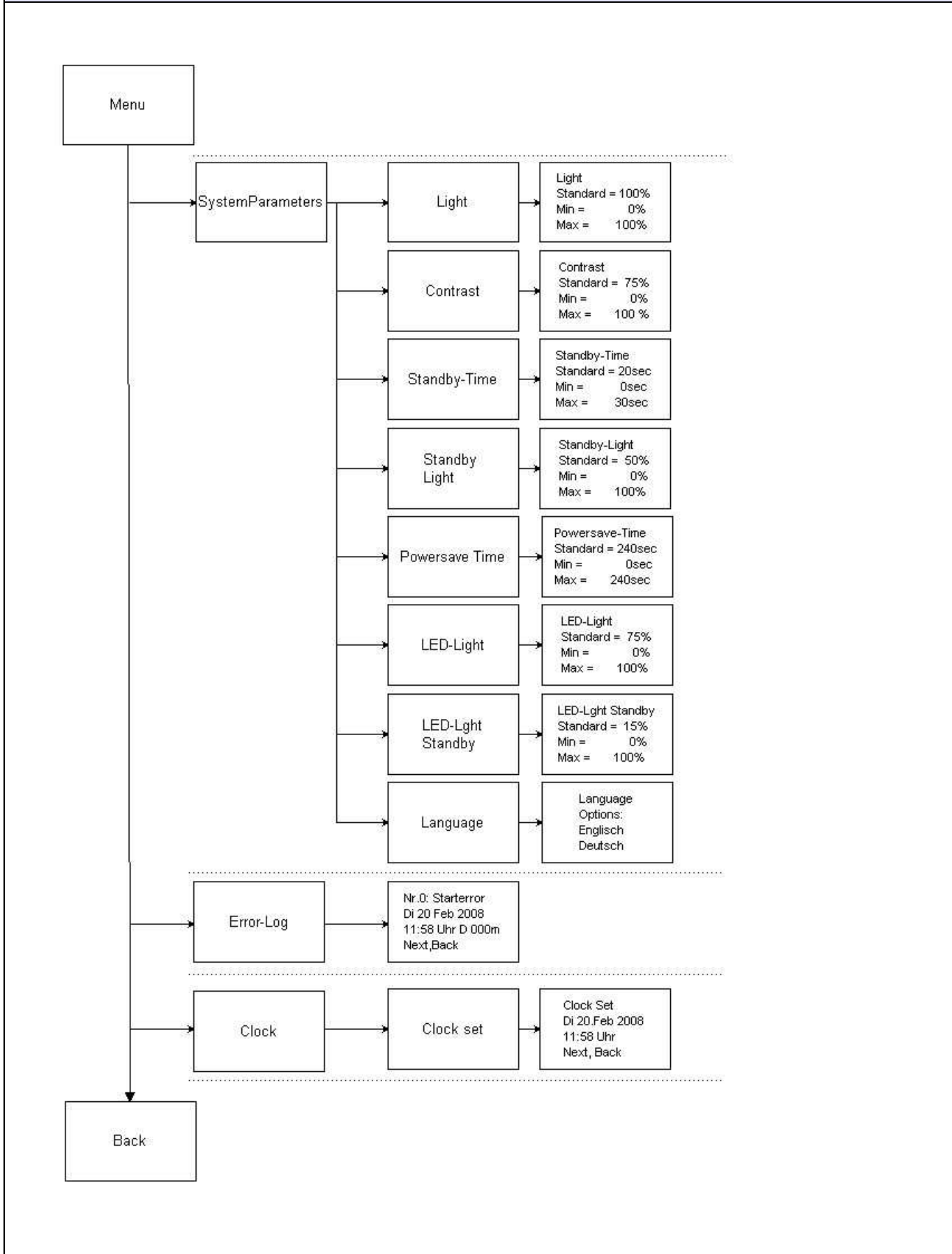


Fig. 7.5.1-1: Menu tree



7.5.1.1 Explanation of the menu table

System Parameter

-In the system parameters all user important settings concerning the display can be made.

System Parameter - Light

- Setting of the general background light of the display in the operating mode of the panel

Minimum value 0% - maximum value 100% - default value 100%

System Parameter - Contrast

- Setting of the contrast of the display in the operation mode and standby mode of the panel

Minimum value 0% - maximum value 100% - default value 75%

System Parameter - Standby time

- Setting of the time span, until the panel switches into the standby mode. Each pressing of the button causes a reset of the timer

Minimum value 0 seconds - maximum value 30 seconds - default value 20 seconds

System Parameter - Standby Light

- Setting of the general background lighting of the display in the standby mode of the panel

Minimum value 0% - maximum value 100% - default value 50%

System Parameter - Power Save Time

Setting of the time span, until the panel switches into the power save mode. Each pressing of the button causes a reset of the timer.

Minimum value 0sec - maximum value 240 seconds - default value 240 seconds

System Parameter - LED Light

Setting of the LED brightness in the operating mode of the panel

Minimum value 0% - maximum value 100% - default value 75%

Systemparameter - LED-Lighting Standby

Setting of the LED brightness in the standby mode of the panel
Minimum value 0% - maximum value 100% - default value 15%

System Parameter - Language Setting

Setting of the display language
German or English - Standard English

Error Log

In the error log the error messages occurred during starting / operating the generator are stored and can be looked up belatedly. The error log also stores every reset of the countdown time of a delayed error.

Clock Set

- Setting of the system time

7.6 Error Message

The AGT Control Panel are pre-installed so that a maximum operation reliability is ensured. That means, that all errors, which can damage the generator, are setted to "emergency stop" (see Capture 7.6.1, "Type of Error „Emergency Stop“," on page 75). Other configurations can be made by Fischer Panda, according to the application (e.g. DE-drive - also see "Type of Error „Delayed“" on Page 75.)

The AGT Control Panel displays the error messages in different ways.

- appropriate LED changes from green on red (e.g. oil-press)
- general fault LED changes from green on red
- display of the error in the operating mode of the display (see ...) - only if the error is set to "display only"
- display changes to delayed error display (see ...) - only if the error is set to "delayed"
- display changes to the error display - only if the error is set to "emergency stop".

The appropriate settings can only be made by Fischer Panda or an authorized Fischer Panda Service Point.

For standard configuration see section 7.6.5, "Error Messages," on page 76.



7.6.1 Type of Error „Emergency Stop“

The report for this error is activated.

- Fault-LED changes to red (at temperature errors or oil pressure errors the appropriate error LED)
- The display changes to error display
- The generator stops immediately
- The external error output will be switched for approx. 5 sec. (clamp 21)

The setting "emergency stop" ensures highest security to avoid consequential damages for the generator.

7.6.2 Type of Error „Delayed“

The report for this error is activated.

- Fault LED changes to red (at temperature errors or oil pressure errors the appropriate fault LED)
- Display changes to "delayed errors" display and starts a countdown
- Generator stops after the countdown
- External error output will be switched.

Vehicles with Diesel Electric Drive Systems are relayed on the driving power for safe manoeuvring. If an emergency shut-down cuts off the drive (i.e. in order to protect the generator against damage), this can lead to a high danger situation for ship, crew and passengers. With the "delayed" error, the driver has the possibility to reach a safe area. A possible considerable damage to the generator is in this situation accepted by the driver.

Der Countdown kann durch langes drücken der „ENTER“ Taste (see “Panel AGT Control 145x100mm” on page 65. Key 08) zurückgesetzt werden. Der Countdown startet dann automatisch neu.

The countdown can be reset by pressing the "Enter" key (see “Panel AGT Control 145x100mm” on page 65. Key 08). The countdown will then start again automatically.

Resetting the countdown will be reported in the error log and leads to a loss of warranty. Therefore, only use the resetting in emergency situations.

7.6.3 Type of Error „Display only“

The report for this error is activated.

- Fault-LED changes to red (at temperature error or oil pressure error the appropriate fault LED)
- Display of the error in the operating mode of the display
- Generator does not stop
- External error output will be switched.

Only for errors which do not affect the system security.

7.6.4 Type of Error „Deactivated“

The report for this error is deactivated.

- Fault-LED does not change to red (at temperature error or oil pressure error the appropriate fault LED)
- No display of the error
- Generator does not stop

All error types, which are not needed in the generator / drive configuration can be deactivated.

7.6.5 Error Messages

The following errors can be displayed:

Oil error (oil pressure error)

possible settings: deactivated - display only - delayed - emergency stop

Standard: emergency stop

Temp error (temperature error)

possible settings: deactivated - display only - delayed - emergency stop

Standard: emergency stop

Waterflow error

possible settings: deactivated - display only - delayed - emergency stop

Standard: deactivated

Prop drive error

possible settings: deactivated - display only - delayed - emergency stop

Standard: deactivated

Attention!! Different configuration can lead to a warrenty loss.

(e.g. oil error are deactivated)





7.7 Installation of the AGT Control Panels

7.8 Clamps of the AGT Control Panel

Connect the wires of the connection cable with the terminal of the AGT control according to its no.




Clamp	Name of clamp		Function	Application
1	Vbat (operation voltage)	E	operation voltage + (Automotive)	Standard ²
2	GND (Ground)	E	operation voltage - (Automotive)	Standard ²
3	T-Fail (temperature error)	E	to GND: temperature OK open: temperature error	Standard ²
4	Antrieb-Fail (drive error)	E	to GND: drive OK open: drive error or invers	Optional ³
5	Oil-Fail (oilpressure error)	E	to GND: oil pressure OK open: oil pressure error	Standard ²
6	Gen-AC-1 (generator frequency)	E	frequency of the generators phases der Generator-Phasen connection 1 ¹	 Standard ²
7	Gen-AC-2(generator frequency)	E	frequency of the generators phases der Generator-Phasen connection 2 ¹	 Standard ²
8	Heat (pre-glow)	A	to Vbat-F-S ⁵ : pre-glow on (Fused a. switched) open (with free wheeling diode): pre-glow off free wheeling diode = protection diode (inverse voltage)	Standard ²
9	DC Supply fuel system	A	to Vbat-F-S ⁵ : fuel system on (Fused a. switched) open (with free wheeling diode):fuel system off free wheeling diode = protection diode (inverse voltage)	Standard ²
10	Start(starter)	A	to Vbat-F-S ⁵ : starter on (Fused a. switched) open (with free wheeling diode): starter off free wheeling diode = protection diode (inverse voltage)	Standard ²
11	VCS on	A	to Vbat-F-S ⁵ : VCS on (Fused a. switched) open (with free wheeling diode): VCS off free wheeling diode = protection diode (inverse voltage)	Optional ³
12	Vbat-F-S (switched operation voltage)	A	connection for external units which should be switched on and off by the panel to Vbat-F-S: units on (Fused a. switched) open (mit Freilaufdiode): units off free wheeling diode = protection diode (inverse voltage)	Optional ³
13	GND (Ground)		GND to clamp 14	Standard ²
14	Auto-Start-BW(battery voltage control start)	E	to GND (clamp 14): Generator on open: Generator off	Standard ²
15	GND(Ground)		GND to clamp 16	Standard ²
16	Auto-Start-Ex.(external start)	 E	to GND (clamp 16): Generator on open: Generator off	Standard ²
17	Gen-Run (generator is running)	A	Generator runs in normal mode	Option ³

Fig. 7.8-1: Clamps




18	Panel-On (external panel switch on) 	E	In = +12/24VDC (+/- tolerance battery voltage): Panel switched on, FlipFlop ON/OFF reset In = open or 0V: Panel switched off	Optional ³
19	BW-OK(failure battery voltage control)	E	to GND: no errors open: no measurement voltage or over voltage or reset not possible	NA Optional ⁴
20	VCS-OK	E	to GND : VCS on and no voltage error logged: open: VCS off or voltage error logged	NA Optional ⁴
21	alarm/error out	A	to Vbat-F-S: Alarm on (Fused a. switched) open (with free-wheeling diode): Alarm off Free wheeling diode = protection diode (inverse voltage)	Optional ³
22	Water-Fail (water error)	E	to GND : Temperature OK open: cooling water temperature error	Optional ³

Fig. 7.8-1: Clamps

¹ Protection of the measurement connection - at voltages >48V with voltage divider RE 9908

² Must be connected for the standard operation.

³ Can be connected optional. This function is activated.

⁴ This function is in preparation. Not available so far



7.8.1 Systemparameter Setting

For recording your preferential settings.

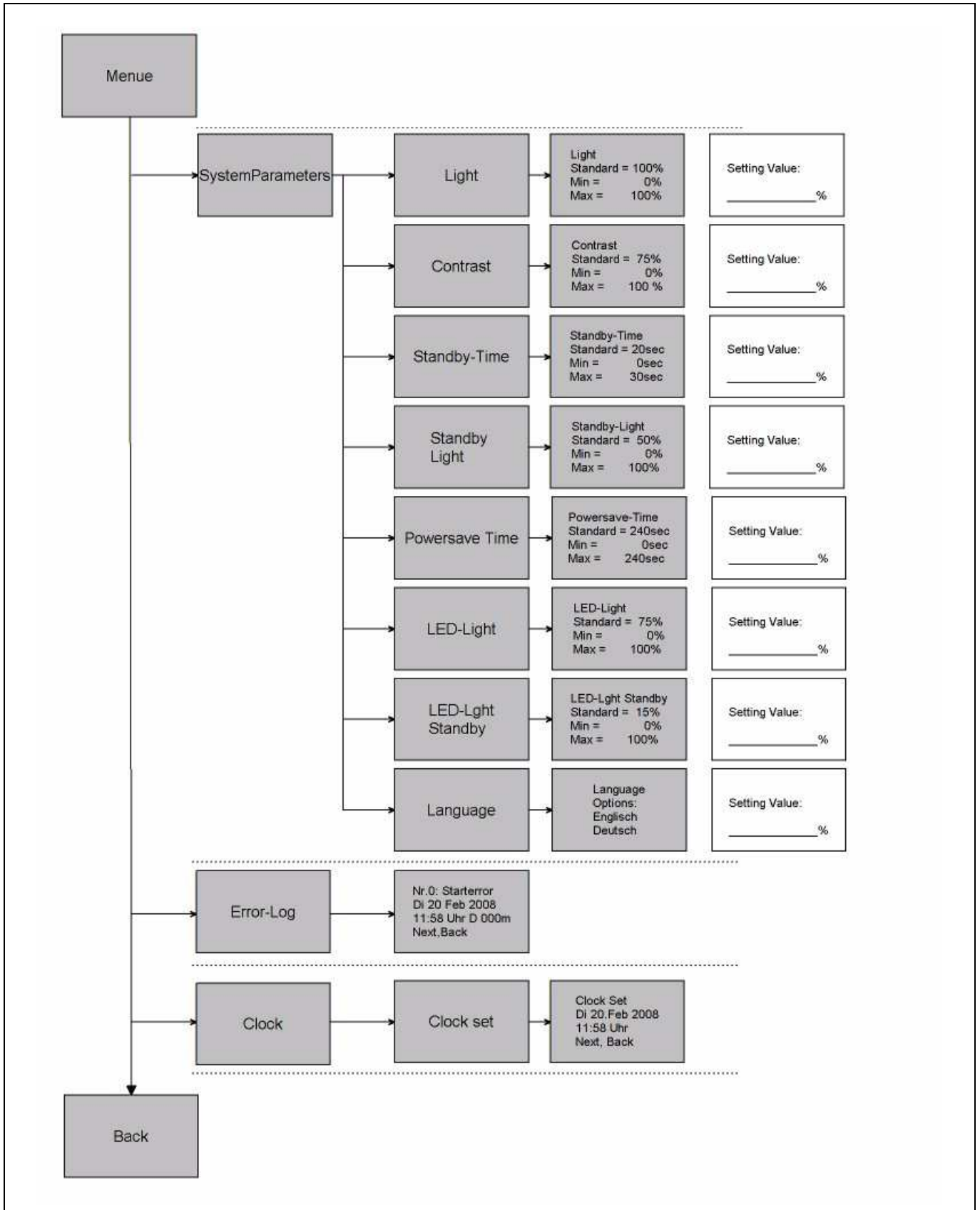


Fig. 7.8.1-1: Systemparameter settings



8. Installation/Tech. documentation

8.1 Clamps



Clamp	Clamp name		Funktion	used as
1	Vbat (12V)		Battery voltage + (12V-Automotive)	Standard
2	GND		Battery voltage - (12V-Automotive)	Standard
3	temperature error	E	toGND : temperature OK open: temperature error	Standard
4	drive error	E	to GND : drive OK open: drive error	Option
5	oil pressure error	E	to GND: oil pressure OK open: oil pressure error	Standard
6	Generator-frequency	E	frequency of the generator phase connection 1	Standard
7	Generator-frequency	E	frequency of the generator phase connection 2	Standard
8	pre glow	A	to Vbat-F-S : pre glow on open (with free wheeling diode): pre heat off	Standard
9	fuel pump	A	to Vbat-F-S: fuel pump on open (eith free wheeling diode): fuel pump off	Standard
10	starterr	A	to Vbat-F-S: starter on open (with free wheeling diode) starter off	Standard
11	VCS on	A	to Vbat-F-S: VCS on open (with free wheeling diode): VCS off	Option
12	switched service voltage	A	connection for external units which should be switchedb on and off by the panel. to Vbat-F-S: units on open (with free wheeling diode): units off	Option
13	GND to 14		GND to Clamp 14	Standard
14	Battery monitor start	E	to GND : Generator on open : Generator soll off	Standard
15	GND to 16		GND to clamp 16	Standard
16	external start 	E	to GND generator on open: generator off	Standard
17	Generator is running	A	generator runs in normal mode	Option
18	Panel external turn on 	E	in = +12/24VDC (+/- Toleranz Batterievoltage): panel turn on, FlipFlop ON/OFF reset in = open or 0V panel turn off	Option
19	battery monitor error	E	to GND : no errors open: no mesurement voltage or over voltage or reset not possible	Option
20	VCS-OK	E	to GND : VCS on and no voltage error loged open: VCS off or voltqage error loged	Option
Clamp	Clamp name		Funktion	used as

Fig. 8.1-1: Clamps



21	alarm/error out	A	to Vbat-F-S : Alarm on open (eith free wheeling diode): Alarm off	Option
22	cooling water temp. error	E	to GND : Temperature OK open: cooling water temperature error	Option

Fig. 8.1-1: Clamps



9. Installation

9.1 Wiring diagram Panda AGT Control Panel

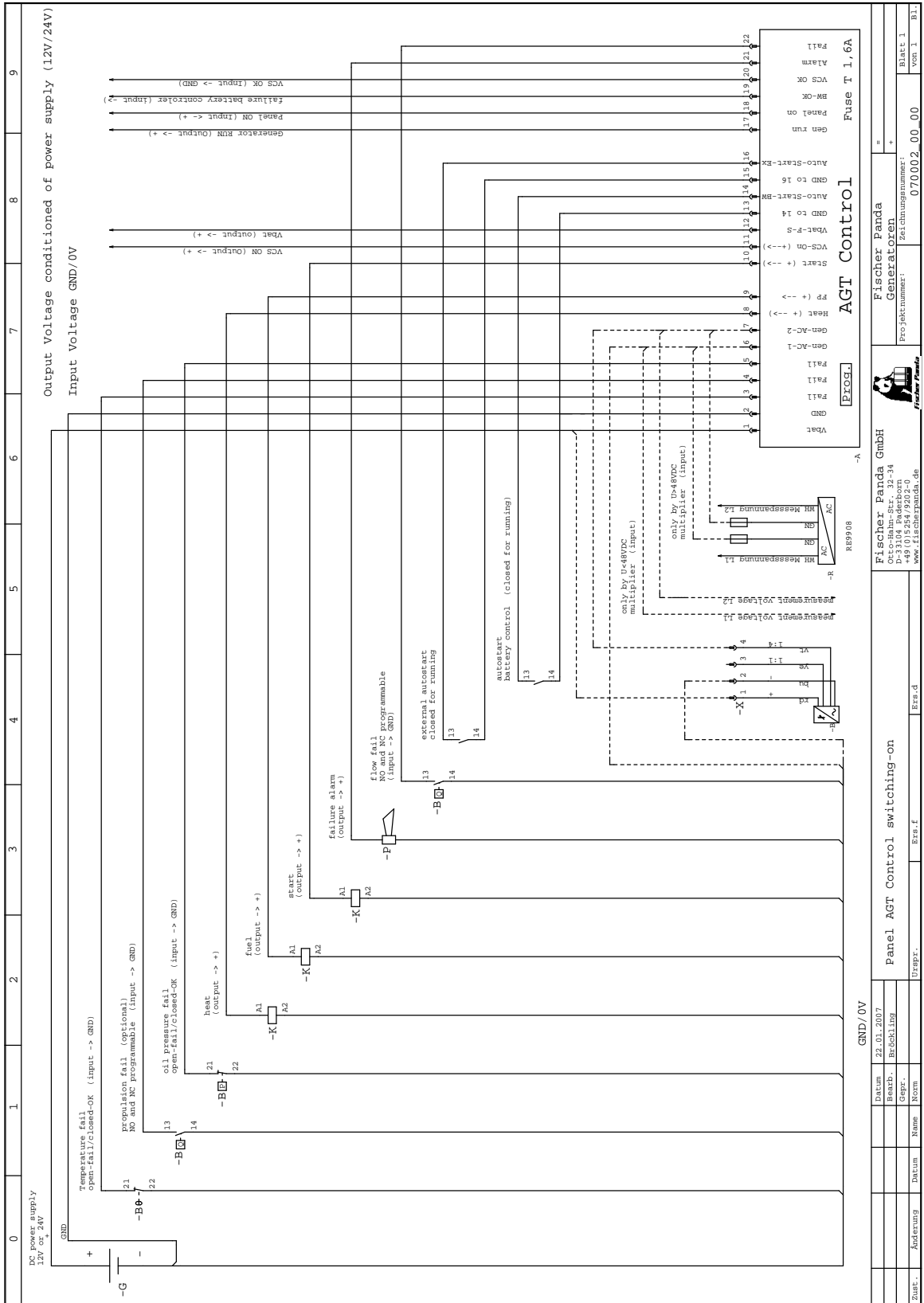


Fig. 9.1-1: Wiring diagram



9.2 Technical Data AGT Control Panel

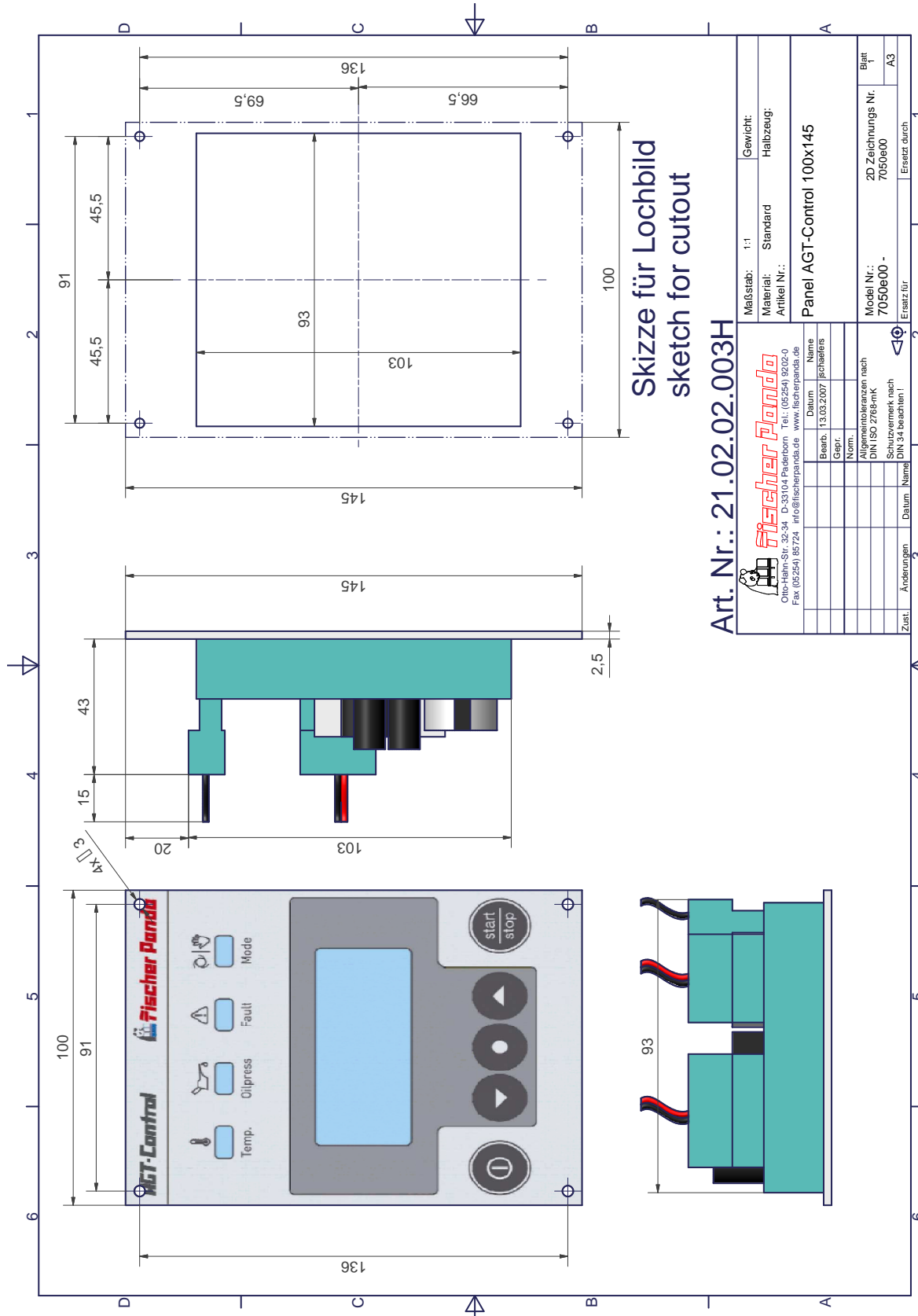
Panel Version	Panel AGT Control 12VDC	Panel AGT Control 24VDC
Max. Current Consumption	190mA	290mA
Standby Mode	75mA	95mA
Energy Save Mode	20-35mA	23-30mA
Temperature Area Operation / Storage	(-20) - 70°C / (-30) - 80°C (pre-glow phase might be necessary)	
Max. load of the outputs	1,2A for all together	
UV consistency at field service		
U _{max}	34,9V(Panel switches off automatically at 35VDC)	
U _{min}	9V	
U _{nom}	12-14,4 VDC	24-28VDC
I _{max}	1,6A (= Fuse)	
Fuse	1,6A delay	

Fig. 9.2-1: Technical Data AGT Control



10. Measurements

10.1 Hole Pattern 145x100mm



Skizze für Lochbild
sketch for cutout

Art. Nr.: 21.02.02.003H

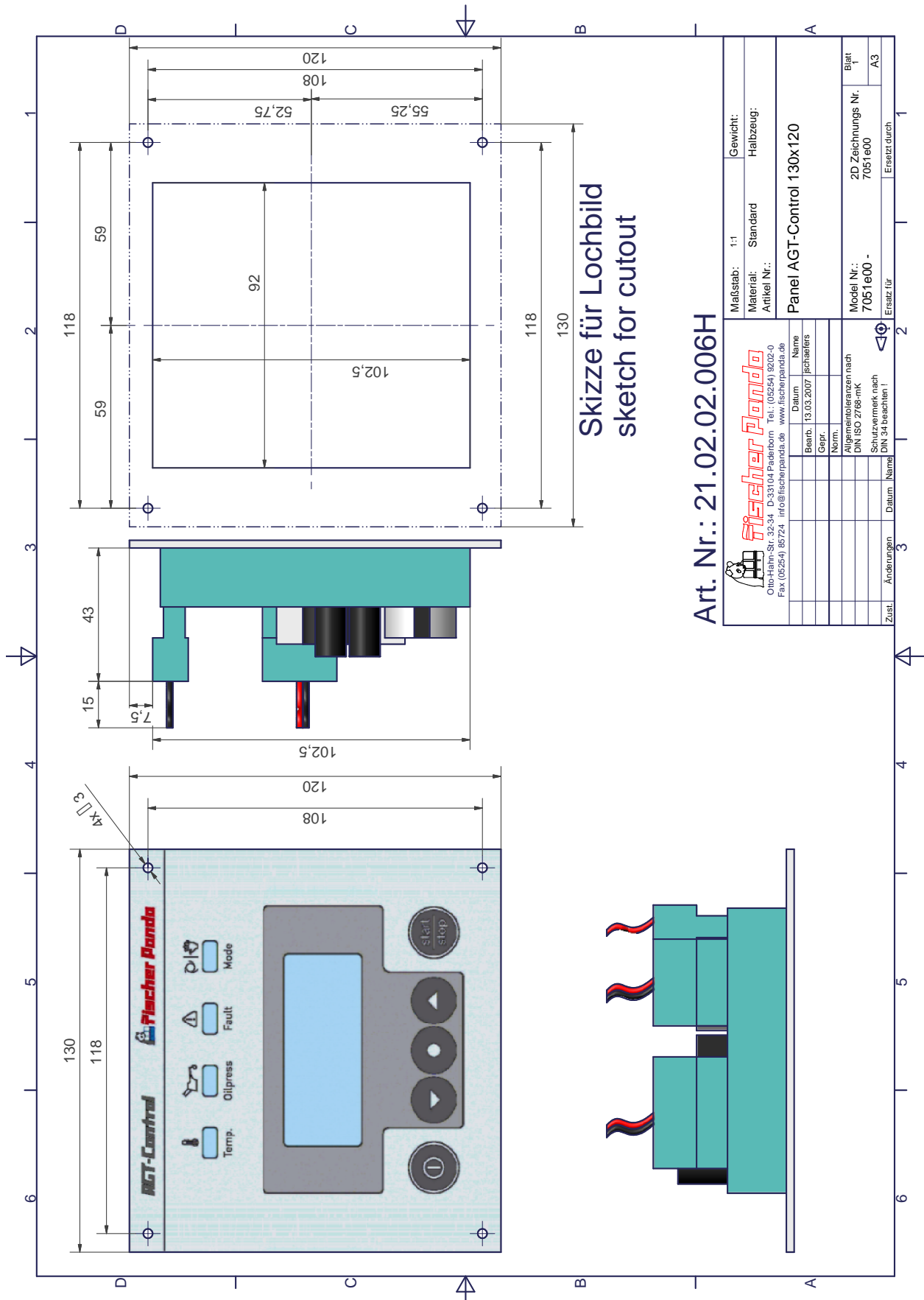
Material: Standard		Gewicht: Halbzeug:	
Artikel Nr.: Panel AGT-Control 100x145			
Model Nr.: 7050600 -		2D Zeichnungs Nr. 7050e00	
Blatt A3		Ersatz durch	
Ersatz für		Ersatz durch	
Zust.		Datum	
Änderungen		Datum	
3		3	
4		4	
5		5	
6		6	

Fischer Panda		Name	
Otto-Hahn-Str. 32-34 D-33104 Paderborn Tel.: (05254) 9202-0		Bearb. 13.03.2007 jschaeffers	
Fax (05254) 85724 info@fischerpanda.de www.fischerpanda.de		Gepr.	
Norm.		Allgemeinabw. nach DIN ISO 2768-mK	
Schutzvermerk nach DIN 34 beachten!		Datum	

Fig. 10.1-1: Hole Pattern 145x100mm



10.2 Hole Pattern 130x120mm



Art. Nr.: 21.02.02.006H

		Maßstab: 1:1 Material: Standard Artikel Nr.:	Gewicht: Halbzeug:
Otto-Hahn-Str. 32-34 D-33104 Paderborn Tel.: (05254) 9202-0 Fax: (05254) 85724 info@fischerpanda.de www.fischerpanda.de		Panel AGT-Control 130x120	
Bearb. 13.03.2007 Gepr. Norm.	Datum Name	Model Nr.: 2D Zeichnungs Nr. 7051e00 - Blatt 1 Ersatz für 7051e00 - A3	
Änderungen	Zust.	Ersatz durch	

Fig. 10.2-1: Hole Pattern 130x120mm