



# **CNC-Control-Panel iBP 19**

## **Operating Instruction**

The information, technical data and dimensions contained in this print have been up-to-date when published. Any eventually existing misprints and mistakes cannot be excluded however. We are thankful for any suggestion for improvement and indication of mistakes.

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Manufacturer: isel Germany AG  
Bürgermeister-Ebert-Straße 40  
D-36124 Eichenzell  
  
Tel.: (06659) 981-0  
Fax: (06659) 981-776  
Email: [automation@isel.com](mailto:automation@isel.com)  
<http://www.isel.com>

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Up to date Operating instructions and manuals for download you can find here:

[www.isel-data.de/manuals](http://www.isel-data.de/manuals)

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## 1 General information

### 1.1 Safety symbols



#### *Attention*

This symbol signalizes that there is danger for peoples life und health.



#### *Danger*

This symbol signalizes that there is danger for material, machine and environment.



#### *Information*

This symbol signalizes important information.

### 1.2 Safety instructions



- The control panels series iBP are designed to current technical and recognized rules.
- The device may only be used if it is in correct condition. Any faults have to be eliminated immediately. Neither children nor non-authorized persons are allowed to put the device into operation.
- The device may only be used for the intended use.
- All work on the module must be executed from authorized personal regarding electrical industry rules and accident prevention regulations.
- Assembly and use of operating material has to be according to the standards of conformity declaration. In case of in proper use even the observation the respective rules and standards does not protect against physical damages and damage to property.
- Do not expose the device to high humidity or high vibrations.
- Please take care of the instruction manual. Be sure that all users know the instructions.
- Ignoring the instruction manual can lead to damage, heavy physical damage or to death.

## 2 Product description

### 2.1 Types

type	keyboard	part no.
<i>iBP 19-1 - DE</i>	silicone keyboard	371076 0102
<i>iBP 19-1 - EN</i>	silicone keyboard	371076 0112
<i>iBP 19-2 - DE</i>	high grade steel keyboard	371077 0102
<i>iBP 19-2 - EN</i>	high grade steel keyboard	371077 0112

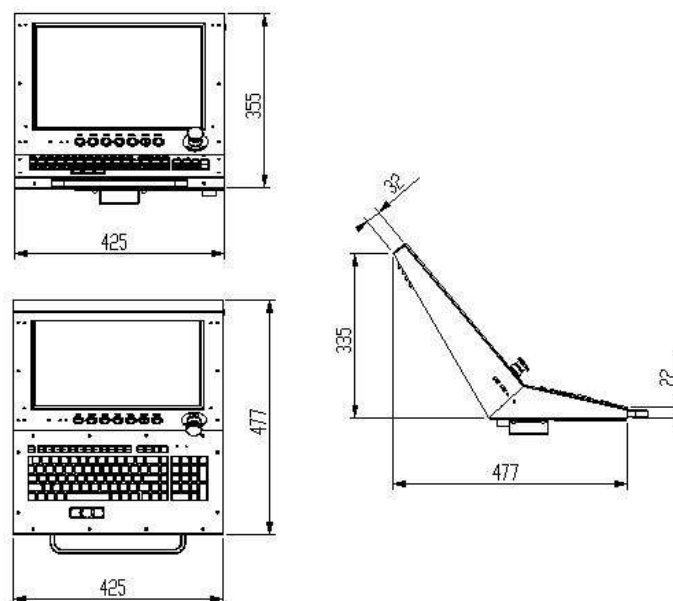
#### 2.1.1 CNC-Control-Panel iBP 19 with 19" Touch screen

##### Technical data



- robust sheet steel chassis
- aluminium front panel in stainless steel optics
- rotatable bearing
- integrated machine control keys
- power supply 12V DC, min. 60 W
- 19" LCD with touch screen display
- Resolution max. 1280 x 1024 pixel
- iBP19-1 with 102 keys USB silicone keyboard and 2-button mouse pointer (IP65)
- iBP19-2 - with 102 keys USB high grade steel keyboard and 2-button track ball (IP65)
- standardized connection cables compatible to isel control PC

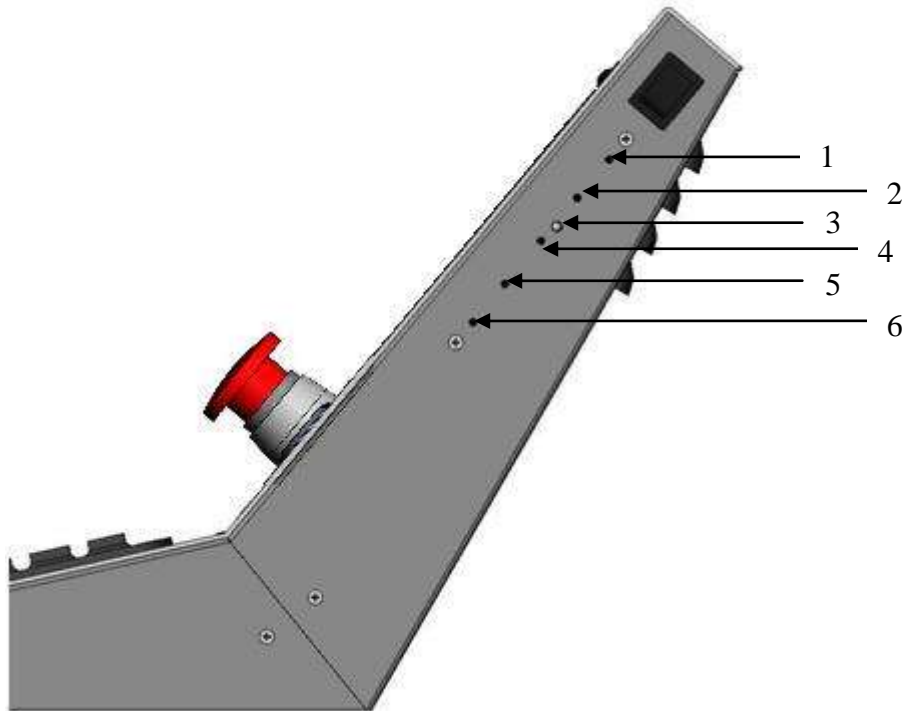
##### Dimension drawing



## 2.2 Description of Operating Elements

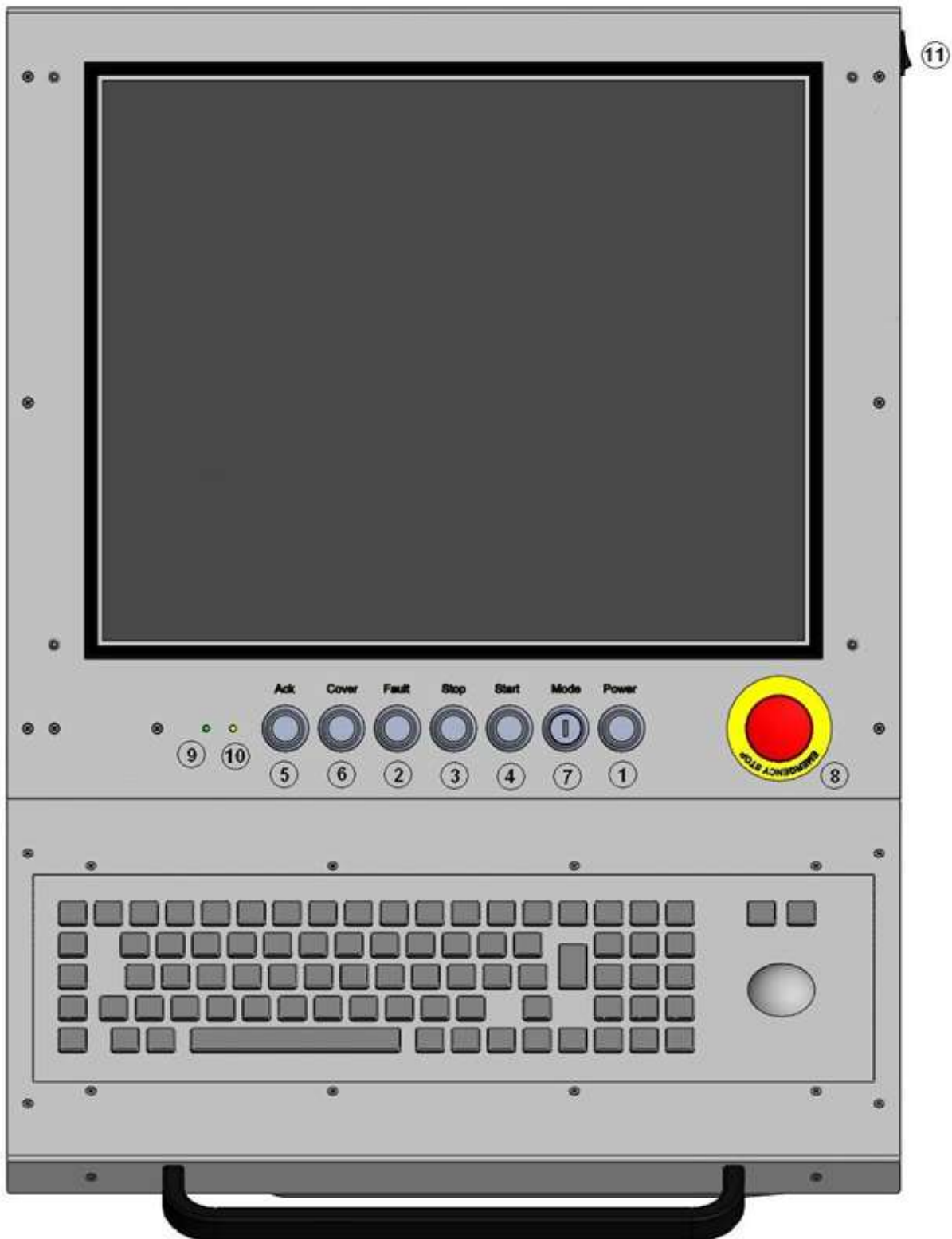
As a standard the most important operating components (keys, switches) are integrated in the casing. Depending on each machine and control these keys can be used.

### *Operating Elements for LCD Monitor*



No.	Element	Description
1	AUTO	AUTO calibration of the LCD screen
2	Right/Up	Menu navigation right/up
3	LED	Operation mode Red→Off, Green→On
4	On/Off	On/Off switch of the LCD
5	Left/Down	Menu navigation left/down
6	Menu	Open the LCD settings menu

*Operating components for the machine*



No.	Component	Description
1	Power-ON key	Power supply of drive amplifiers is connected.
2	Fault- display	The Fault- display signalizes an error within the safety circuit.
3	Stop- key	Interrupts the execution of the current NC program. Repeated pushing of stop key aborts the execution (not valid for all control configurations, only if signalization interface in ProNC is used).
4	Start- key	Starts the execution of the current NC-program or causes the continuation of an interrupted execution (only if signalization interface in ProNC is used).
5	ACK (acknowledge) button	This button has to be pushed so the axes can be moved with open hood during test mode active.
6	Cover-key	Use this button to open the machines cover or safety door. This is possible only if the conditions from “operation mode switch“ are complied. An enable for opening of the cover or safety door is signalized by a white lighted cover button.
7	Operation mode – key switch	Use this switch to choose between automatic- and setup-mode. In automatic-mode you can only open the cover or safety door of the machine if no axis is in motion and the mounted working spindle is switched off (means that spindle does not turn). In the setup-mode you can only open the cover or safety door of the machine if the mounted working spindle is switched off (means that spindle does not turn). You can just move the axes at opened cover or safety door if you press the ACK button.
8	Emergency-Stop button	Deactivation of power supply for motor drive amplifiers, frequency converter and working spindle.

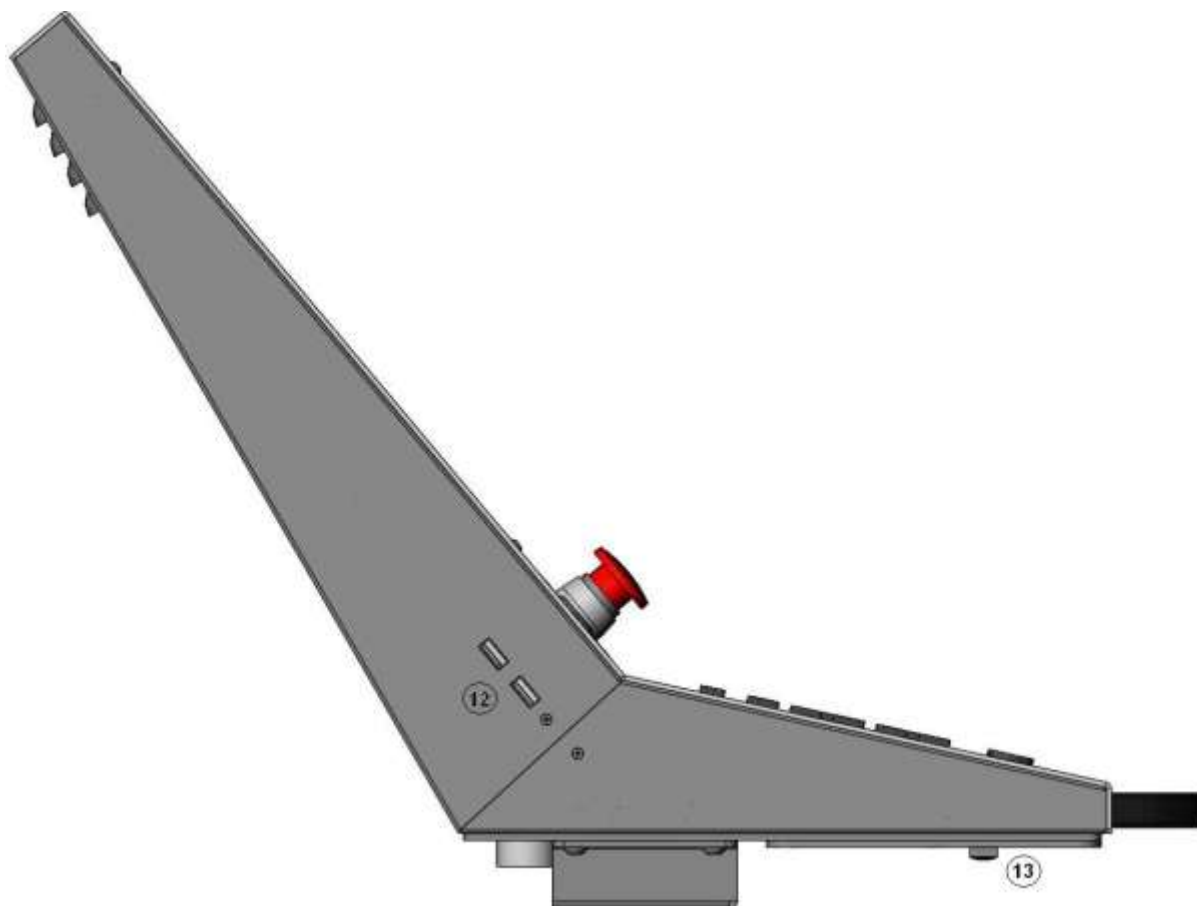


***If you switch the operation mode from AUTO to TEST during an execution of user program the work spindle will be slow down. Switching back in AUTO mode let the spindle turn up again. Please switch the operating mode only in a safety position and only without program execution.***



*Operating components for the control computer*

No.	Component	Description
9	Power-LED (green)	Display of processor operation.
10	HDD-LED (yellow)	Display of hard disc operation within computer.
11	PC-Start-Switch	Activation / deactivation of computer.



No.	Component	Description
12	USB- hub with USB ports	<p>The integrated USB-hub is used to connect the touch-screen of the LCD, the USB-keyboard and the two free USB connectors to the control computers USB bus.</p> <p><b>info</b> <i>The USB-hub has its own +24V power supply voltage (active hub). Power supply voltage is provided via the connection cable of the machine operating elements (see also chapter 3). If the CNC-control-panel is connected to an isel-control computer (e.g. iSR20) without +24V power supply voltage (SubD-25 connector to security circuit module) the LCD-touch-screen and the keyboard has no function.</i></p>
13	USB connector	USB-Connector for USB devices e.g. mouse

### 3 Connection of operating components



*All connection cables of the CNC-control-panel are optimized for the use with isel control computers of the iSR series. The connection cables must not be lengthened because an optimal operation is no longer warranted.*

#### 3.1 Connection of operating components for control computer



##### VGA- connection cable SubD15 plug

This cable with VGA plug is connected to the graphics card of your computer.



##### USB- connection for integrated USB-HUB

Please connect these cables with two unoccupied USB ports on your control computer. By connecting this you can use the USB keyboard, the both USB ports on the left side and the integrated touch screen.



*It is not possible to use 2.5'' USB- hard discs without external power supply because the power supply of the USB ports is not sufficient.*

#### 3.2 Control panel power supply



##### Sub-D9-pin male

This plug is used in connection with an isel iPC15. It connects the cables for the power key on the right side of the casing of the CNC- control panel, the LEDs at the casing front and the power supply of the TFT with the destined socket on the control computer.

Pin	Function	Description
1	PWR BTN +	Connector for Power button +
2	PWR BTN GND	Connector for Power button GND
3	PWR LED +5VDC	Connector for RUN status LED +
4	PWR LED GND	Connector for PWR status LED GND
5	HDD LED +5VDC	Connector for HDD activity LED +
6	+12VDC	Power supply for LCD monitor +12V
7	GND	Power supply for LCD monitor GND
8	n.u.	
9	HDD LED GND	Connector for HDD activity LED GND

### 3.3 Connection of machine operating components



#### Operating component SubD25-pin, plug

With the help of this connection cable the operating components (keys, switches) on the casing front are connected with the safety circuit module of the control inside of the control cabinet.

If the control is integrated in the control cabinet, this plug is connected with the SubD25-pole socket on the safety circuit module.

#### Pin assignment

pin	signal	description
1	E-STOP_1	Emergency stop channel 1, 1.1
2	E-STOP_1	Emergency stop channel 1, 1.2
3	E-STOP_2	Emergency stop channel 2, 2.1
4	E-STOP_2	Emergency stop channel 2, 2.2
5	24V	+24 V DC
6	POWER BTN	Input power button
7	POWER LAMP	Output power button lamp
8	24V	+24VDC
9	KEY SWITCH Test	Input key switch test mode
10	KEY SWITCH Auto	Input key switch automatic mode
11	24V	+24VDC
12	ACK_1	Input acknowledge button channel1
13	24V	+24VDC
14	ACK_2	Input acknowledge button channel 2
15	COVER SWITCH	Input cover button
16	COVER SWITCH	Input cover button
17	GND	
18		
19		
20	FAULT LAMP	output FAULT lamp
21	START BTN	Input START button (make contact)
22	STOP BTN	Input STOP button (break contact)
23	START LAMP	Output START lamp
24	STOP LAMP	Output STOP lamp
25	n.v.	



*The power supply (+24VDC) for the internal USB hub is realized via this cable connection. Please note that the keyboard, touch screen and the USB ports only works, if the connection to the security circuit module (iSM10, iSM5, SKME) is made.*

## 4 Malfunction

Malfunction	Action
No picture on the LCD screen.	<ol style="list-style-type: none"> <li>1 Verify that the connected computer is switched on.</li> <li>2 Check the cable connection from the start switch to the connected computer.</li> <li>3 Check the power supply (8-pin Phoenix)</li> <li>4 Check the POWER-ON control LED. Switch On the control panel.</li> <li>5 A resolution was chosen which the monitor cannot display. Please reboot the PC in safe mode and login as administrator. Set a new display resolution e.g. 1280 x 1024 pixel.</li> </ol>
The picture is skewed.	<ol style="list-style-type: none"> <li>1 Press the AUTO calibration key on the monitor panel.</li> </ol>
The machine cannot be controlled over the operating components.	<ol style="list-style-type: none"> <li>1 Check the cable connection to the safety circuit module (SubD25 plug).</li> <li>2 Check the settings for the signalization in the remote software (affects Start-/Stop switch)</li> </ol>
No function of the integrated touch-screen and keyboard	<ol style="list-style-type: none"> <li>1 Check the power supply voltage of the integrated USB hub is available. Power supply voltage is supplied via the cable (SubD-25-plug) of the machine operating elements to the security circuit module.</li> <li>2 Check the USB cable connection to the control computer</li> </ol>

## 5 Maintenance and Cleaning

### Maintenance

The control panel iBP 19 are maintenance free.

### Cleaning



Switch off the connected computer and remove the power supply.



Use a wet, soft cloth to clean the display. Don't use cleaning agents or abrasives. This causes scratches on the LCD monitor.  
Be sure that no dampness comes into the case.

## **6 Bibliography**

Operating instructions and manuals for download you can find here:

[www.isel-data.de/manuals](http://www.isel-data.de/manuals)

## 7 EC - Declaration of Conformity



Der Hersteller  
*The manufacturer*

**isel Germany AG**  
**Bürgermeister-Ebert-Str. 40**  
**D-36124 Eichenzell**

erklärt hiermit, dass folgendes Produkt  
*hereby declares that the following product*

**Geräteart:** **CNC-Bedienpanel iBP 19**  
*Device:* CNC-Control-Panel iBP 19  
**Typ:** **iBP 19**  
*Type:*  
**Art.-Nr.:** **iBP19: 371076 01xx, 371077 01xx**  
*Product - No.:*

mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt:  
*complies with the requirements of the European Directives:*

EG-Richtlinie 2004/108/EG  
*EC-Directive 2004/108/EC*

EMV Richtlinie  
*EMC directive*

EG-Richtlinie 73/23/EWG  
*EC-Directive 73/23/ECC*

Niederspannungsrichtlinie  
*low voltage directive*

Folgende harmonisierte Normen wurden angewandt:  
*Following harmonized standards have been applied:*

EN 61000-6-2:2005	EMV - Fachgrundnorm - Störfestigkeit für Industriebereich <i>EMC - Generic standards - Immunity for industrial environments</i>
EN 61000-4-2:2007	EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen Entladung statischer Elektrizität (ESD) <i>EMC - Testing and measurement techniques; Electrostatic discharge immunity test</i>
EN 61000-4-4:2004	EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen schnelle transiente elektrische Störgrößen (Burst) <i>EMC - Testing and measurement techniques - Electrical fast transient/burst immunity test</i>
EN 61000-4-5:2006	EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen energiereiche Impulse (Surge) <i>EMC - Testing and measurement techniques - Surge immunity test</i>
EN 61000-4-11:2004	EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen Spannungseinbrüche / Spannungsunterbrechungen <i>EMC - Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests</i>
EN 61000-6-4:2007	EMV - Fachgrundnorm - Störaussendung Industriebereich <i>EMC - Generic standards - Emission standard for industrial environments</i>
DIN EN 55011:2007	Industrielle, wissenschaftliche und medizinische Hochfrequenzgeräte (ISM-Geräte) - Funkstörungen - Grenzwerte und Messverfahren <i>Industrial scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement</i>

Dermbach, 06.09.2010

Werner Kister, Vorstand / managing board