



# iPC25 - F

Operating instructions

The information, technical data and measurements contained in this publication are based on the state of the art at the time of publication. However, any printing errors and errors that may be present can not be excluded. We would be grateful for any suggested improvements or references to errors.

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	04/05/2015	First edition	RL
a	29/05/2017	Supplement D3313-S4	HG
b	17/07/2017	EMC / low voltage directive	RL



*Current operating guides for download can be found under:*  
[www.isel.com/en/support-downloads/manuals.html](http://www.isel.com/en/support-downloads/manuals.html)

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## 1 General notices

**Carefully read the operating instructions to the end and follow the instructions given.** Failure to observe these operating instructions can result in property damage, serious personal injury or death.

### 1.1 Safety symbols



***Attention***

This symbol indicates that there is a risk to the life and health of personnel.



***Danger***

This symbol indicates that there is a risk to the material, machine and the environment.



***Information***

This symbol highlights important information.

### 1.2 Safety notices



- The industrial PCs iPC25 are based on the latest state of the art and the recognised safety regulations.
- The device may only be used for its intended use.
- The device may only be operated in an impeccable technical condition. Faults must be removed immediately. Children and unauthorised persons must not operate the device.
- All work must be carried out exclusively by authorised personnel and taking into account the regulations of the electrical industry and accident prevention regulations.
- Installation and use of the equipment must be carried out according to the standards of the declaration of conformity. The regulations and limits set by the manufacturer do not protect the device from improper use of the equipment.
- The device must not be exposed to high humidity and high vibrations.
- Keep these operating instructions carefully and make sure each user observes them!

## 2 Product description

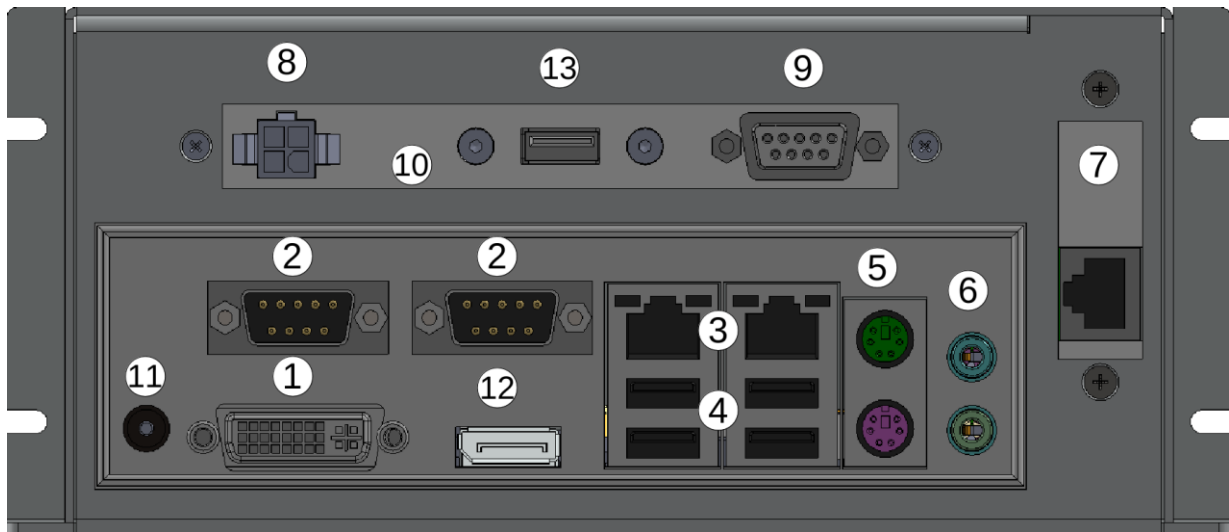


### 2.1 Technical data


Item number 371066 xxxx	4001 (E)	4001 P (E)
<b><i>Dimensions (W x H x D):</i></b>	210 x 90 x 190 mm	
<b><i>Weight:</i></b>	1.2 kg.	
<b><i>Ambient temperature:</i></b>	0°C to 35°C	
<b><i>Relative humidity:</i></b>	max. 90% non condensing	
<b><i>Protection type</i></b>	IP20	
<b><i>Supply voltage: on the interface 8 (see 2.2)</i></b>	12 VDC/min. 100W (external power supply 12V/ 100W required)	
<b><i>Use:</i></b>	Industrial area / Home- Office area	
<b><i>Form-Factor:</i></b>	Mini-ITX	
<b><i>CPU:</i></b>	AMD GX-222GC	
<b><i>Main memory</i></b>	2xSO DIMM Socket (1.5V/ 1.35V), max. 16GB, SC, DDR-1333/ DD3-1600	

<b>Hard drive:</b>	2,5“ HDD $\geq$ 500GB	2,5“ SSD $\geq$ 256GB MLC/MTPF 2mill. Std.
<b>Operating system:</b>	Windows 7 Embedded standard 64bit	
<b>Connections:</b>		
<i>external</i>	1 x DVI-I, 1xDisplayPort	
	1 x PS/2 keyboard, 1 x PS/2 mouse	
	5 x USB 2.0	
	2 x LAN 1Gbit	
	2 x serial Port RS 232	
	1 x Sub-D9-pin connection for iBP10 / iBP17 / iOP-19-TFT	
	Audio Line in, Line out	
	12 V,DC power supply	
<i>internal</i>		
	PCI Express x4 Slot	
	1 x Mini PCI Express Slot x4 (incl. USB2.0)	
	USB 2.0 / USB 3.0 channels	
	LVDS Dual Channel / Backlight Inverter	
	other internal connections, see data sheet Mainboard	
<b>Optional connections:</b>	USB	
	DVI-I/VGA interface / DVI-I/HDMI via Interface-Connector	

## 2.2 Interfaces iPC25 - F



No.	Interface
1	<b>DVI-I connection</b> , optional adapter DVI-I available on VGA
2	<b>RS 232 connection</b> Serial interface RS232 –COM1 + COM2
3	<b>LAN connection</b> 2x RJ45 socket for network
4	<b>USB interfaces</b> 4 x USB 2.0 interfaces for the connection of peripherals
5	<b>Mouse, Keyboard Connection</b> Connection socket for mouse and keyboard
6	<b>Audio connection</b> Jack socket Line In, Line Out
7	<b>1 x CAN connection</b> CAN-Bus connection RJ45, optional CAN Duo – 2 x separate CAN-Bus
8	<b>Connection of the power supply for cabinet mounting with 2-core cable (+ 12VDC white / GND brown)</b> 12 VDC/100W supply voltage

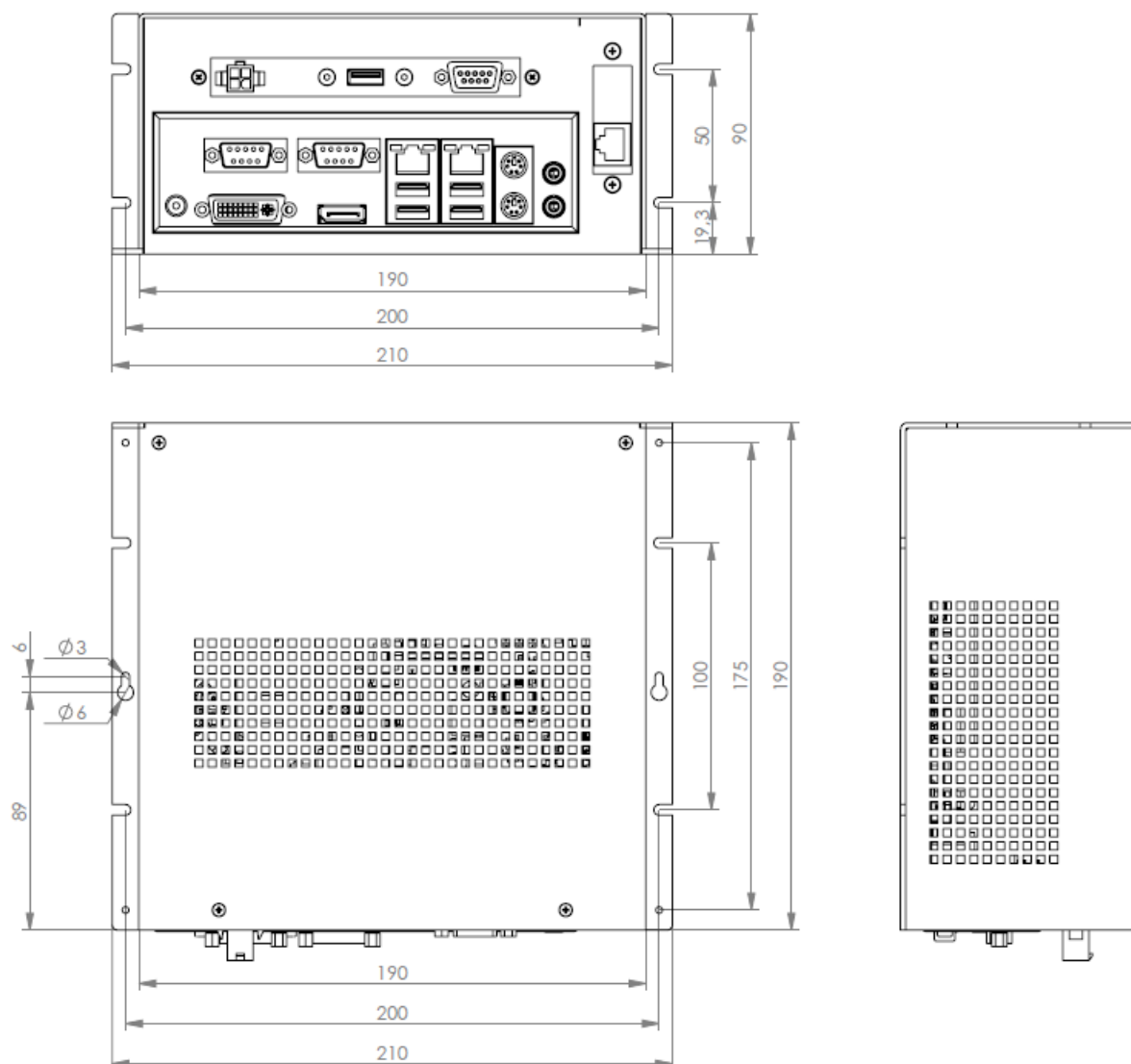
9	<b>SubD-9-pin socket for connection iBP10 / iBP17 / iOP-19-TFT only for cabinet mounting</b> <table><tr><th>Pin</th><th>Description</th><th>Description</th></tr><tr><td>1</td><td>PWR BTN +</td><td>Connection for Power key +</td></tr><tr><td>2</td><td>PWR BTN GND</td><td>Connection for Power key GND</td></tr><tr><td>3</td><td>PWR LED +5VDC</td><td>Connection for power indicator LED +</td></tr><tr><td>4</td><td>PWR LED GND</td><td>Connection for power indicator LED GND</td></tr><tr><td>5</td><td>HDD LED +5VDC</td><td>Connection for HDD power indicator LED +</td></tr><tr><td>6</td><td>+12VDC</td><td>Supply voltage for TFT +12V</td></tr><tr><td>7</td><td>GND</td><td>Supply voltage for TFT GND</td></tr><tr><td>8</td><td>n.v.</td><td></td></tr><tr><td>9</td><td>HDD LED GND</td><td>Connection for HDD power indicator LED GND</td></tr></table>  <b>Power supply for computers and monitors only possible in connection with a sufficiently dimensioned power supply, with iBP10 / iBP17 / iOP-19-TFT at least 100W.</b>	Pin	Description	Description	1	PWR BTN +	Connection for Power key +	2	PWR BTN GND	Connection for Power key GND	3	PWR LED +5VDC	Connection for power indicator LED +	4	PWR LED GND	Connection for power indicator LED GND	5	HDD LED +5VDC	Connection for HDD power indicator LED +	6	+12VDC	Supply voltage for TFT +12V	7	GND	Supply voltage for TFT GND	8	n.v.		9	HDD LED GND	Connection for HDD power indicator LED GND
Pin	Description	Description																													
1	PWR BTN +	Connection for Power key +																													
2	PWR BTN GND	Connection for Power key GND																													
3	PWR LED +5VDC	Connection for power indicator LED +																													
4	PWR LED GND	Connection for power indicator LED GND																													
5	HDD LED +5VDC	Connection for HDD power indicator LED +																													
6	+12VDC	Supply voltage for TFT +12V																													
7	GND	Supply voltage for TFT GND																													
8	n.v.																														
9	HDD LED GND	Connection for HDD power indicator LED GND																													
10	<b>Multifunction screen</b> for additional optional connections																														
11	<b>Connector for power supply 2-pin plug when used with external plug-in power supply 12 VDC/5A hollow plug 5.5/2.5mm (+ pole inside)</b> <i>Attention: Only one power supply connection is available at all times.</i> <i>Based on the variants/item numbers</i>																														
12	<b>Connection for monitors with display port</b>																														
13	<b>additional USB interface</b> 1 x USB 2.0 interfaces for the connection of peripherals																														



### 3 Assembly and start-up

#### 3.1 Installation dimensions

##### *Scale drawing iPC25- F*



Make sure that there is always sufficient clearance for the air circulation on the ventilation slots of the iPC. Failure to observe this measure will result in overheating and possible defects in the control computer.



Avoid, as far as possible, extreme environmental conditions.  
Protect the PC from dust, moisture and heat.  
The ventilation slots of the PC must not be covered.

### 3.2 Switching on the control unit

The control unit is switched on via the contacts of the sub-D9-pin socket connection in the slot of the iPC (see chapter 2.2).

When a 12V DC supply voltage is applied, the computer can also power up the operating system independently. This is the default setting in the BIOS of the computer. On delivery, the IPC25 computers are set up, so that the standalone start-up is disabled.

The BIOS setting can be found under "**POWER → Power Failure Recovery**"

#### **Important notice!**

If the start-up of the control computer is set up in the BIOS when the supply voltage is applied, the computer must be shut down properly before the machine is switched off. Otherwise there is the risk of a loss of data as well as a damaged, operating system that can no longer be booted.

## 4 Recovering the operating system Windows® Embedded Standard 7

### Important information



- 1) To restore the Windows® Embedded operating system Standard 7 of your control computer, you need the USB Recovery Stick supplied. This data carrier contains an image of the operating system of your installed control computer in the delivery state.
- 2) The hard disk of the control computer delivered is set to two partitions in the factory. The primary partition (approx. 40 GB) of the hard disk contains the operating system Windows® Embedded Standard 7, while the second partition for user data is available.
- 3) If you have partitioned the hard disk other than in the delivery state, this will be returned to the delivery state when restored. (i.e. only the partitions described under 2.) are created.)

### 4.1 Preparations for restoring the operating system.

#### *Backing up user data*



- 1) Back up your user data from all partitions to an external data carrier (USB stick, USB HDD).
- 2) If you have made changes to the control configuration of your software since the delivery, please back up your current control configuration with the CNC wbBackup wizard. This is located within the CNCworkbench entry in the Start menu. Also save this backup on the external disk!



***The backup must be done on an external data carrier, since when restoring the operating system all partitions are formatted and thus all data is lost.***

#### *Preparing USB Boot*

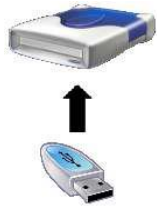


- 1) After you have backed up all the data, you must use the operating system of the recovery USB stick supplied. Plug the USB stick into an available USB port on the computer. Switch on the computer and press the <F12> key at the beginning of the boot process.  
→ The boot menu of the computer is displayed.
- 2) Use the <Up / Down arrow keys> to select the USB stick in the list. Confirm your selection with the <ENTER> key.
- 3) If you have set everything correctly, do not boot the installed operating system but the operating system on the USB Stick.



***Alternatively, you can also use the <Delete> key in the system start to call up the BIOS of the computer. There you have to change the boot sequence and set the USB Recovery Stick as the first boot medium. After saving the settings, the operating system is now started on the Recovery Stick.***

## 4.2 Performing system recovery



- 1) After you have set the boot medium or the boot-sequence, start the computer again.
- 2) If the USB stick does the booting, a "Blue" cube is displayed on the screen and below this a rotating circle".
- 3) After loading the operating system, a command line starts and then the Windows® Embedded Standard 7 Recovery Wizard.
- 4) Follow the wizard's instructions. Click on the last window on the "Install" button to start the recovery.  
After successful recovery, a wizard window is displayed. Confirm with OK!
- 5) Remove the USB Stick (Recovery Stick).
- 6) Now in the still open command line window, enter the command `<exit>` to close the window. The computer will now start again

## 5 Maintenance and repair

### Maintenance

The industrial PCs of the iPC series are maintenance-free.

### Cleaning



Switch off the control computer and the connected components and remove the power supply.

Use a damp, soft cloth for cleaning. Do not use detergents or abrasive cleaners. Be careful not to allow moisture to enter the housing through the ventilation slots.

## 6 EG-Konformitätserklärung

### 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: Industrie PC**

*Device: industrial PC*

**Typ: iPC25-F**

*Type: iPC25-F*

**Art.-Nr.: 371066 10xx**

*Product - No.: 371066 10xx*

mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt:

*complies with the requirements of the European Directives:*

EG-Richtlinie 2014/30/EU

*EC-Directive 2014/30/EU*

EMV Richtlinie

*EMC directive*

EG-Richtlinie 2014/35/EU

*EC-Directive 2014/35/EU*

Niederspannungsrichtlinie

*low voltage directive*

Folgende harmonisierte Normen wurden angewandt:

*Following harmonized standards have been applied:*

EN 61000-6-2:2006-

EMV - Fachgrundnorm - Störfestigkeit für Industriebereich

*EMC - Generic standards - Immunity for industrial environments*

EN 61000-4-2:2008

EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen Entladung statischer Elektrizität (ESD)

*EMC - Testing and measurement techniques; Electrostatic discharge immunity test*

EN 61000-4-4:2012

EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen schnelle transiente elektrische Störgrößen (Burst)

*EMC - Testing and measurement techniques - Electrical fast transient/burst immunity test*

EN 61000-4-5:2007

EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen energiereiche Impulse (Surge)

*EMC - Testing and measurement techniques - Surge immunity test*

EN 61000-4-11:2005

EMV - Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen Spannungs-einbrüche / Spannungsunterbrechungen

*EMC - Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests*

EN 61000-6-4:2011

EMV - Fachgrundnorm - Störaussendung Industriebereich

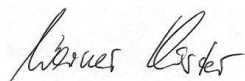
*EMC - Generic standards - Emission standard for industrial environments*

DIN EN 55011:2011

Industrielle, wissenschaftliche und medizinische Hochfrequenzgeräte (ISM-Geräte) - Funkstörungen - Grenzwerte und Messverfahren

*Industrial scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement*

Dernbach, 17.07.2017



Werner Kister, Vorstand / managing board

# IMPORTANT NOTICE!

**If there are problems with ISEL Germany AG computers,**

please always first re-install the operating system with the help of the recovery USB-Stick supplied and matching the serial number.

The recovery stick contains in the folder „Recovery -> Wimtargetfolder“ a Windows image with the extension xxxx.wim (approx. 3 GB).

This can be re-installed using the operating instructions of the computer.

If this is not the case, please send this recovery stick back to us and we will install the Windows image on your stick. This means that you can reset your computer to the delivery status at any time.

This will save you time and money.

## IMPORTANT!

**For repairs to computers,**

always include the recovery stick that matches the serial number.

**When returning a computer,**

make sure you return the accessories supplied.

Accessories in the accessory box with attached serial number consist of:

- USB recovery stick (matching the computer / licence number)
- DVD driver of the main board
- Manuals for the main board
- Computer's voltage supply cable



