


 **OPAL: clever, schön, flexibel**

OPAL ist ein in sich gekapselter Industrie PC mit anspruchsvollem Design.

Seine Konfigurationsvielfalt und Optionen unterstützen Sie nicht nur bei der Erfüllung Ihrer Aufgabe, sondern reduziert Kosten. OPAL benötigt kein Gehäuse, kann aufgehängt, aufgestellt oder an die Wand gehängt werden. Formschöne Anbauelemente für Schalter und Leuchtmelder werden in IP65 leicht integriert. Wenn es sein muss auch eine vollwertige Tastatur.

Schock und Vibrationen steckt OPAL, dank nicht rotierender Elemente locker weg.

Auf hohe CPU Performance ist nicht zu verzichten. Das clevere passive Kühlsystem macht es möglich.

 **OPAL: clever, beautiful, flexible**

OPAL - the encapsulated Industrial PC with sophisticated design. The various configuration and option possibilities support the user in each application and reduce cost. OPAL needs no additional enclosure and can be fixed directly to a support arm, pedestal system or a wall. Shapely optional element to integrate switches, control lamps can be mounted easily in IP65 rating. If necessary a complete PC keyboard. Shock and vibration is not a problem, because OPAL uses non rotating components. A clever passive cooling system makes it possible to select one of our high performance CPU's.

 **OPAL: intelligente, bello, flessibile**

OPAL è un PC industriale con un design sofisticato. Le innumerevoli configurazioni ed opzioni supportano l'utente in ogni ambito applicativo e riducono i costi. OPAL non necessita di ulteriori contenitori e può essere fissato direttamente a supporti mobili, piedistalli o a muro. In caso di necessità può essere integrato con una tastiera. OPAL non adopera componenti in movimento e non è pertanto sensibile a shock e vibrazioni. Un efficace sistema di raffreddamento passivo rende possibile l'utilizzo di CPU ad alte prestazioni.



## Highlights

- IP65 around
- Rear side accessible
  - ▶ installation/maintenance practicable by one person
- Fanless, passive air conduction
- Motionless, no moving parts
- High Performance
- Low Power consumption
- 1 PCI Slot



## OPAL Configuration

	1	2	3	4	5	6	7	8
<b>Monitor</b>								
15" TFT Display, 1024x768 Pixel		2						
<b>Processor</b>								
VIA Eden™ 533MHz		1						
Intel® Atom™ Processor N270 1.6GHz		2						
Intel® Core™ Duo 2GHz		3						
<b>Memory</b>								
512 MB			3					
1 GB <sup>1</sup>			4					
2 GB <sup>2</sup>			5					
<b>Storage</b>								
DiscOnModule 512 MB				3				
DiscOnModule 1 GB				4				
DiscOnModule 2 GB				5				
DiscOnModule 4 GB				6				
DiscOnModule 8 GB				7				
<b>Drives</b>								
No drives					0			
CFC-Adapter (occupies expansion slot)					1			
<b>Power</b>								
110/230 VAC, auto-switch fanless						3		
24 VDC fanless						4		
<b>Front</b>								
DIVUS foil							0	
customized <sup>3</sup>							2	
<b>Operating system</b>								
Microsoft Windows XP Embedded								S
Microsoft WE7E English <sup>2</sup>								T
Microsoft WE7P MUI <sup>2</sup>								U

Your order code: **OPAL**



### Pre-configured version

#### OPAL 15CE

15" Display (1024x768) - VIA Eden™ 533MHz - 128MB SDRAM - 64MB Flash - CFC Adapter - 230VAC (24VDC Optional) - CE.net or CE 5.0

<sup>1</sup> with VIA C7® 1.5GHz and Intel® Core™ Duo

<sup>2</sup> not possible with VIA Eden, minimum requirement: 1 GB RAM

<sup>3</sup> Frontfoil: min. delivery 25 pcs

warranty ex works, normally 24 months, fixed at order.  
All data refer on print date, errors and changes excepted

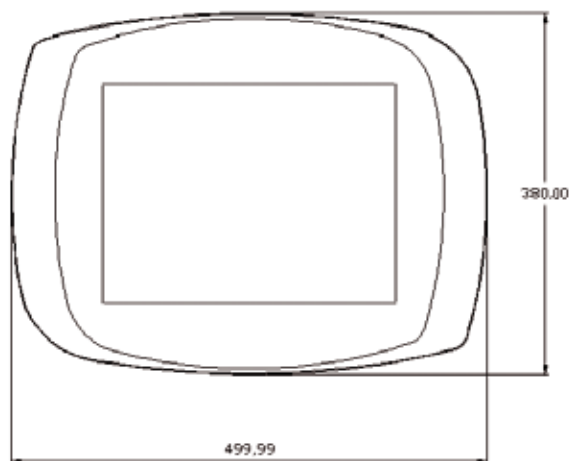
## Technical Data

OPAL VIA Eden ®	
Product Type	Embedded Integrale PC - IP 65 all around
<b>General characteristics</b>	
Processor	VIA Eden 533 MHz fanless
Chipset	VIA 8601A + VT8231
Memory	512MB SDRAM
Expansion slots	1 PCI slot
Operating systems	Microsoft Windows XP-embedded
Power Supply	90 - 260 VAC fanless
	24 VDC fanless optional
Power consumption	30 W with 15" Display
Guarantee	24 Months <sup>1</sup>
<b>Drives</b>	
Mass Memory	DOM (Disk On Module) to 1GB
Additional Drives	CF Card Reader optional
<b>Interfaces</b>	
LAN/Ethernet	1 x RJ45 internal
USB	3 x USB 1.1 (2 x internal, 1 x pin header)
Serial Interface	1 x RS232 (1 x internal)
Parallel Interface	1 x LPT1 (EPP/ECP/SPP) (1 x internal)
Keyboard/Mouse	2 x PS/2 (2 x internal)
Multimedia	S-video/RCA Video port, SPDIF output, microphone, Line in/ out (int)
<b>Watchdog Functions</b>	
CPU Temperature	Surveillance onboard
<b>Ambient Conditions</b>	
Vibration resistance	15G
Shock resistance	50G
EMC	EN 55011, 55022, 500081
Temperature	+5°C to +45°C max.
Relative humidity	5% to 80% at 25°C (no humidity/condense)
Authorization	CE
<b>Mechanical Characteristics</b>	
PC Unit	partly alloy anodized, partly powder coated, EMC proofed

<sup>1</sup> warranty ex works, normally 24 months, fixed at order.  
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Front Unit	
Display diagonal size	15" - 38,1 cm
Resolution	1024x768
Luminosity [cd/m²]	430
Contrast Ratio	450:1
MTBF backlight [h]	50.000
Input	Resistive Touchscreen, 6-wire technology
Touchcontroller	USB controller
Front	Alloy anodised, chemical resistant polyester foil
Rating	IP65 according EN 60529



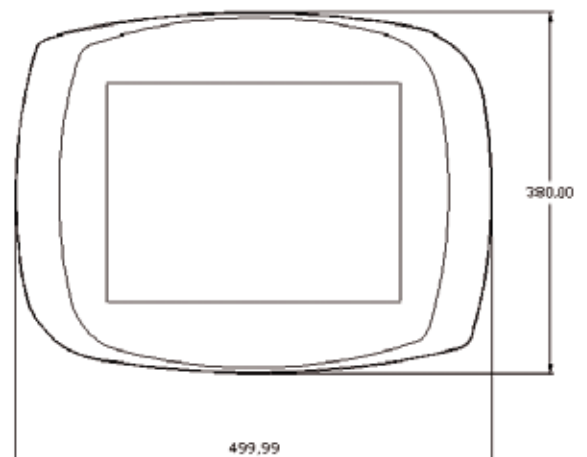
## Technical Data

OPAL Intel® Atom	
Product Type	Embedded Integrale PC - IP 65 all around
<b>General characteristics</b>	
Processor	Intel® Atom™ Processor N270 1.6GHz with 533MHz FSB 512K L2 Cache -- FANLESS
Chipset	Intel® 945GSE + Intel® ICH7M
Memory	512MB to 2GB DDR2 SDRAM SO-DIMM
Expansion slots	1 x PCI Slots
Operating systems	Microsoft Windows XP embedded, Windows Embedded Standard
Power Supply	90 - 260 VAC fanless
	10 - 36 VDC fanless optional
Power consumption	25 W with 15" LED Monitor
Guarantee	24 Months <sup>1</sup>
<b>Drives</b>	
Mass Memory	DOM (Disk On Module) at 512MB (1, 2 and 4GB optional)
Additional Drives	Compact Flash Reader, optional
<b>Interfaces</b>	
LAN/Ethernet	Dual PCIe Gigabit ethernet internal
USB	7 x USB2.0 (4 x int., 3 x pin header)
Serial Interface	5 x RS232 (2 x int 3 x pin header), 1 x RS -232/422/485 (int)
Keyboard/Mouse	2 x PS/2 (int)
Video	1 x VGA Port int., Supports HD resolution Intel® Graphics Media Accelerator 950 (Intel® GMA 950)
Multimedia	Realtek ALC655 AC'97 Codec
<b>Watchdog Functions</b>	
CPU Temperature	Surveillance onboard
<b>Ambient Conditions</b>	
Vibration resistance	15G
Shock resistance	50G
EMC	EN 55011, 55022, 500081
Temperature	+5°C to +45°C max.
Relative humidity	5% to 80% at 25°C (no humidity/condense)
Authorization	CE
<b>Mechanical Characteristics</b>	
PC Unit	partly alloy anodized, partly powder coated, EMC proofed

<sup>1</sup> warranty ex works, normally 24 months, fixed at order.  
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Front Unit	
Display diagonal size	15" - 38,1 cm LED Backlight
Resolution	1024x768
Luminosity [cd/m²]	350
Contrast Ratio	550:1
MTBF backlight [h]	50.000
Input	Resistive Touchscreen, 6-wire technology
Touchcontroller	Alternatively USB or RS232
Front	Alloy anodized, chemical resistant polyester foil
Rating	IP65 according EN 60529



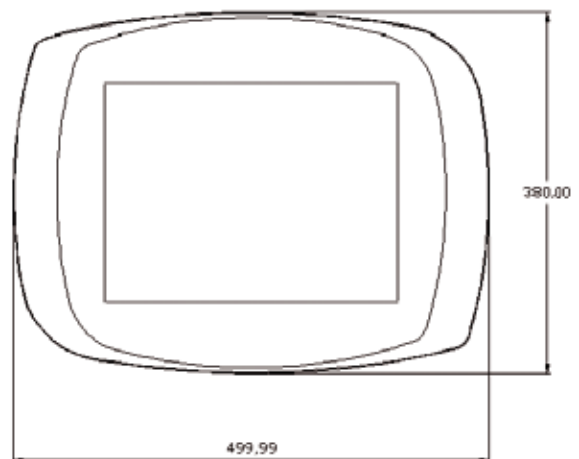
## Technical Data

OPAL INTEL® CORE™	
Product Type	Embedded Integrale PC - IP 65 all around
<b>General characteristics</b>	
Processor	Intel® Core™ Processor
Chipset	Mobile Intel® GM965 + ICH8M-E
Memory	up to 2GB DDR2 RAM
Expansion slots	1 PCI-Slot
Operating systems	Microsoft Windows XP embedded, Windows Embedded Standard
Power Supply	90 - 260 VAC fanless
	24 VDC fanless optional
Power consumption	45 W with 15" Display
Guarantee	24 Months <sup>1</sup>
<b>Drives</b>	
Mass Memory	DOM (Disk On Module) to 4GB
Additional Drives	Compact Flash Reader, optional
<b>Interfaces</b>	
LAN/Ethernet	2 x Intel® GbE RJ45 internal
USB	7 x USB 2.0 (4 x internal, 3 x pin header)
Serial Interface	3 x RS232, 1 x RS232/422/485 (3 x internal, 1 x pin header)
Keyboard/Mouse	2 x PS/2 (2 x internal)
Video	1 x VGA port internal
Multimedia	HD Audio interface with Realtek ALC883
<b>Watchdog Functions</b>	
CPU Temperature	Surveillance onboard
Surveillance	Watchdog timer
<b>Ambient Conditions</b>	
Vibration resistance	15G
Shock resistance	50G
EMC	EN 55011, 55022, 500081
Temperature	+5°C to +45°C max.
Relative humidity	5% to 80% at 25°C (no humidity/condense)
Authorization	CE
<b>Mechanical Characteristics</b>	
PC Unit	partly alloy anodized, partly powder coated, EMC proofed

<sup>1</sup> warranty ex works, normally 24 months, fixed at order.  
All data refer on print date, errors and changes excepted



Front Unit	
Display diagonal size	15" - 38,1 cm
Resolution	1024x768
Luminosity [cd/m²]	430
Contrast Ratio	450:1
MTBF backlight [h]	50.000
Input	Resistive Touchscreen, 6-wire technology
Touchcontroller	Alternatively USB or RS232
Front	Alloy anodised, chemical resistant polyester foil
Rating	IP65 according EN 60529



## Accessories

OPAL Kit-Wall	
<p>Vesa 75 Inclusive OPAL Kit-IP54</p>	
OPAL Kit-IP54	
<p>Protection classification IP 54 cable pass through OPAL Kit-IP54 may be mounted on the top and on the bottom side of OPAL for cable pass through</p>	
OPAL Kit-S-Ext	
<p>OPAL switch extension Kit - 4 x 22 mm holes Single kit without control units. Two kits mountable on each OPAL</p>	
OPAL KB-Holder	
<p>Keyboard Holder for OPAL Inclusive OPAL Kit-IP54</p>	
S_USB / S_RJ45	
<p>USB Interface or RJ45 Interface external, IP65, cable length 0,6m</p>	
OPAL-Bernstein	
<p>Mounting preparation for Bernstein adapter for narrow profile</p>	