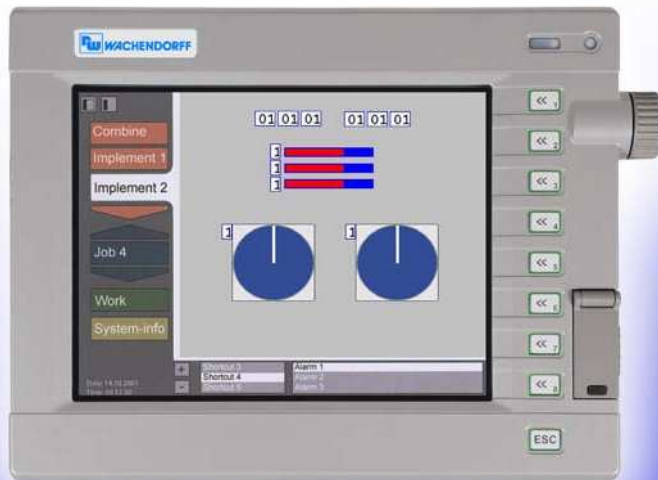


## OPUS A1 Technical Specifications



**HOTLINE** Every working day in **Germany** from **8:00** a.m. to **4:30** p.m. (**CET**)  
Telephone **+49 6722 9965-640** or email to **support@wachendorff.de**

### IMPLEMENTATION

**Programming** The OPUS Control Units can be programmed with our easy to use "Projektor-Tool". The graphic based programm is ® Windows based (NT, 2000, XP) and enabled the integration of own bitmaps and logos. Linking variables to display objects enables dynamical behavior, triggered via CANbus.

**Free Training** A free training in Geisenheim is offered to you. The training lasts a whole day teaching the general principles of the OPUS Control Units and the Projektor-Tool. For further information, training dates or general information ring or email us.

### TECHNICAL DATA

**Housing** Aluminium diecast housing, dimensions 310 x 243 x 77 mm (excl. connectors and encoder knob), color RAL 9006 (aluminum white), stand alone mounting flange in rear position, landscape orientated, zink-trap-door in front of flashcard-slot.

**Display** TFT-color display transmissive 10,4", 640 x 480 pixels with 256 colors, CCFL-backlight with max. 350 cd/m<sup>2</sup>, automatic adaption to ambient light via sensor and software, contrast: >170, viewing angle: horizontal ±45°, vertical ±35°, response-time max. 40 ms.

**Touchscreen** Analog-resistive touch screen with PVC on glass technology.

**Keyboard** 8+1 keys with silicon-technology, night design (green backlight, not adjustable), touchable click, force 6 N (max. value 100 N).

**Encoder** 1 optical encoder with click , 32 incremental pulses per rev., torque: 1,5 Ncm +1/-1 Ncm, click force > 5 N +/-1 N (max. value 100 N).

**LED Indicators** 1 multicolor LED in upper right corner.

**Processor** 32-Bit-microprocessor Intel XScale PXA255, Speed 200 MHz.

<b>Memory</b>	16 MByte Flash-ROM, 32 MByte SDRAM. Serial EEPROM 32 kByte • min. 256 MB SD-Card, fixed mounted 1 slot for Multi Media Cards or SD Card
<b>Interfaces</b>	<ol style="list-style-type: none"> <li>1) 2 CAN-controllers Philips SJA1000, Bus interfaces according to ISO/DIS 11898, CAN-specification 2.0 B active, EMC-optimized for 100/125/250 kBit/s, non isolated, short circuit protected,</li> <li>2) 2 serial interfaces (RXD, TXD, RTS, CTS, @ EIA-Level of RS232) EMC optimized for transmission rates up to 115.400 Baud, non isolated, short circuit protected,</li> <li>3) Functionality/usage: COM1: ® Linux console for debugging/development, optional other usage, COM2: user-defined,</li> <li>4) <b>Optional:</b> 3rd CAN-Interface with same functionality as defined above,</li> <li>5) <b>Optional:</b> 2 additional serial interfaces (RXD, TXD, RTS, CTS, @ EIA-Level of RS232) EMC optimized for transmission rates up to 115.400 Baud, non isolated, short circuit protected, functionality/usage COM3-4: user-defined.</li> </ol>
<b>Beeper</b>	Piezo. Output level minimum approx. 75 to 80 dBA in 1 m distance to frontside.
<b>Real Time Clock</b>	RTC buffered 2 weeks with Gold Cap.
<b>Optional Video Input (color units only)</b>	1 or 2 Video inputc acc. to CCITT, Color coding models: PAL 50 Hz, Video input level: 1 Vpp @ 75 Ohms.
<b>Power Supply</b>	10 – 32 VDC (nominal 12/24 VDC), max. 2 A with switched power supply, non isolated, protected against reverse polarity up to –32 VDC, quiescent current on battery supply in off-condition is max. 400uA. Electronic system function (without display, night design and LED-indicators) down to 7 VDC. On/Off Input (ignition/pin 15). Optional delayed shutdown via software.
<b>Temperatures</b>	Operating temperature –25°C to +65°C • Storage temp erature –30°C to +85°C.
<b>Vibration</b>	5g @ 57 – 300 Hz, 150 h per axis acc. to IEC 60068-2-6:1995.
<b>Shock</b>	30g, 11ms , 10 times each axis: acc. to IEC 60068-2-27:1987.
<b>Protection</b>	IP 6k5, DIN 40050 Teil 9.
<b>Immunity</b>	Immunity acc. to Directive 204/104 EEC (200V/m stripline) for electrical/electronic subassemblies. Conducted Susceptability against disturbance by conduction an coupling acc. to ISO 7637-2 and ISO 7637-3, Immunity against ESD ±15KV air-discharge and ±8KV contact-discharge acc. to EN 61000-4-2. Without “e-mark”.
<b>Emission</b>	Radiation acc. to Directive 204/104 EEC for electrical/electronic subassemblies.
<b>Projekting</b>	Wachendorff "Projektor-Tool" for ® Windows NT/2000/XP. ® Windows is a registered trademark of Microsoft Corporation in the United States and other countries.