

OPUS A2 Technical Specifications



H O T L I N E 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 supervising the general principles of the OPUS Control Units and the Projektor-Tool. For further information, traininh dates or general information ring or email us.

TECHNICAL DATA

- Housing** Plastic moulded housing: Dimensions approx. 229 x 160 x 70 mm. (excl. connectors and encoder knob), Colors housing RAL 7040, Landscape orientated.
Mounting: flange in rear position to fit to a standard mounting bracket from RAM-Mount (RAM101). Label for customers use available, t.b.a. on upper left of lower middle position.
- Display** TFT-Color Display transmissive 5,7", 320 x 240 Pixels with 16 Colors, CCFL-Backlight with max. 300 cd/m², automatic adaption to ambient light via sensor, contrast 350:1 (optimal viewing angle), viewing angle: horizontal ±65°, vertikal +40/-65°, response-time max. 40 ms,
or
2) FSTN-monochrome Display transfective 5,6", 320 x 240 pixels with 16 levels of gray, Backlight with white LEDs, automatic adaption to ambient light via sensor. Contrast: >=20, viewing angle: tbd
- Keyboard** 6+1 Keys silicon keypad, Touchable click, night design with green LEDs, force 6 N (max. value 100 N)

Encoder	1 encoder with click, 30 incremental pulses per rev., dynamic incremental input, torque: 1,5 Ncm +1/-1 Ncm, click force > 5N +/-1 (max. value 100 N).
LED Indicators	1 multicolor LED on upper right corner.
Processor	16-Bit-Processor C167CR-LM, Speed 20 MHz.
Memory	1 MByte Flash for BIOS, 4 Mbyte Flash for User Interface Data, optional orderable with 4 MB, 1024 kByte SRAM, Serial EEPROM 32 kByte.
Interfaces	<p>1) Two-CANbus Interfaces according to ISO/DIS 11989, CAN-Specification 2.0 B active, EMC-optimized for 100/125/250 kBit/s, with 82C251 transceiver, non isolated, short circuit protected.</p> <p>2) alternativ to second CAN: One RS-232 serial interface (RXD, TXD only), EIA-level, non isolated, short circuit protected.</p>
Beeper	Piezo – Beeper. Output level minimum approx. 75 to 80 dBA in 80 cm distance to backside
Real Time Clock	RTC buffered 2 weeks with Gold Cap.
Optional Video Input (color units only)	Composite video input acc. To CCITT. Signal level 1Vpp, 75 Ohms impedance, no overlay: computer screen or video screen can be displayed alternatively. Functionality will be guaranteed with a color Wachendorff camera, connector: two channel BNC-subd (Conec 4007W2SCR86E10X)
Power Supply	8 – 50 VDC (nominal 12 VDC), max. 1 A with switched power supply, non isolated. Protected against reverse polarity up to –60 VDC. Electronic system function (without Display) at low power > 8V, On/Off Input (Ignition/Klemme 15) Quiescent current on Battery supply in off-condition is max. 100uA.
Temperatures	Operating temperature TFT Display –10°C to +65°C, Operating temperatur STN Display –20°C to +65°C, Electronic system operation –30°C to +80°C, Storage temperature –30°C to +85°C.
Vibration	5g @ 57 – 2000 Hz, 150 h per axis acc. to IEC 60068-2-6:1995.
Shock	30g, 11ms , 10 times each axis: acc. to IEC 60068-2-27:1987.
Protection	IP 6k5, DIN 40050 Teil 9.
Immunity	Immunity acc. to Directive 204/104 EEC (100V/m radiated) 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”.
Emmission	Radiation acc. to Directive 204/104 EEC for electrical/electronic subassemblies.
Projekting	Wachendorff "Projektor-Tool" for ® Windows NT/2000/XP. ® Windows is a registered trademark of Microsoft Corporation in the United States and other countries.