

OPUS 21c 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 supervising 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** Injection moulded housing, Colour RAL 7015, Landscape, Goretex membrane DAE 8/4 on bottom for pressure adjustment.
- Build in type:** Dimensions: 206 x 186 x 67 mm (W x H x D) without flange and encoder knobs; mounting from backside, clipping dimensions 200 x 180 mm.
- Standalone type:** Dimensions: 200 x 180 x 67 mm (W x H x D) without flange-encoder knobs, mounting from backside with for M6 screws.
- 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 angel), viewing angle: horizontal ±65°, vertical +40/-65°, Response-Time max. 40 ms.
- Keyboard** tactile Silikon-keyboard with 20 keys, key size ca. 14 x 10 mm, orange-yellow backlit (Nightdesign), Force 6 N, Color of key top RAL 7005 (mouse grey), color of key writing: RAL 7047 (Tele grey 4).
- Encoder** 3 incremental encoders with 15-incremental-pulses / 30-detents per rev, force: 1,5 Ncm +1/-1 Ncm, nightdesign due to above placed light fields.

LED Indicators	1 x triangle LED, front upper right corner, freely programmable for alarms. 6 x Yellow LEDs, each on side of 6 condion keys, freely projectable.
Processor	16-Bit-Processor C167CR, Speed 20 MHz.
Memory	1 MByte Flash for BIOS, 2 Mbyte Flash for User Interface Data, 1024 kByte SRAM, Serial EEPROM 32kByte.
Interfaces	CANbus interface acc. ISO/DIS 11898, CAN - Spezifikation 2.0 B aktive, EMC- optimized for 250 kBit/s, Connection to Physical Layer via 82C251, not galvanic isolated, CAN wires short circuited protected against VCC, ground and signal lines.
Optional Beeper	Typ: East SL11 – 12HL, build in, sound exit through extra drilling (IP 65).
Optional Video Input (color units only)	Video input for bw or color video acc. to CCITT, signal: 1 Vpp.@75 Ohm, project or video can be displayed alternatively, functionality guaranteed with Wachendorff camera, connector: BNC-Subd (Conec 4007W2SCR86E10X).
Power Supply	10-50 VDC (nominal 24 VDC), max 2 A, Quiescent current max 1 mA, protection against reverse polarity up to –30 VDC, high voltage protection up to 50 V. On/off switching via ignition (clamb 15), reverse polarity secured to –30 V, over voltage protected to 30 V.
Temperatures	Operating temperature –25°C to +65°C, Storage tempe rature –30°C to +80°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 (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”.
Emission	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.