PUS











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Albert Zahalka Tel +49 6722 4026-0 dl-opus-info@topcon.com

Welcome to Topcon Electronics

We have been involved in electronic equipment for almost 30 years. We combine our experience with innovation driving, as we believe innovation is the main impulse to develop further and it brings a breath of fresh air to the market. A good understanding of providers in order to apply their know-how and putting the customer needs in the centre of innovation's strategy is the formula that we have successfully applied to become synonymous with innovation, quality and reliability.

The development of our company, headquartered in Geisenheim am Rhein, is inseparably linked to the success of the OPUS operating panels. As the leading manufacturer in this sector, Topcon Electronics has supplemented TOPCON Positioning Group's portfolio since November 2014, which has thereby increased our presence in the OEM sector.

We stand for our commitment to expand our portfolio of high-quality products and to become a leading OEM supplier of machinery equipment worldwide. We are represented in many industries and mobile processing machines with our OPUS operating panels: in construction and agricultural machinery, in the vehicle fleets of municipalities and in numerous special vehicles. We owe our company's good reputation outside the German borders to outstanding technological achievements, excellent product quality and a trusting partnership with our customers.

We, Topcon Electronics, are pleased, as part of the Topcon Family, to seize new opportunities in the global market, to be able to prove ourselves further as guarantor for innovative products and to inspire our customers with outstanding "Made in Germany" technologies.

We hope you enjoy looking through our product catalog. My employees and I are very eager to hear from you with any questions, suggestions and desires that you may have concerning our company and our products.

Sincerely yours

A: Market

Your Contacts

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PUS







We do what we do with Passion

Topcon Electronics creates the perfect interface between man and machine. As a supplier of mobile end devices, you can expect us to ensure that your machines run problem-free, day in, day out.

As a market and innovation leader in the field, we are the world's only manufacturer that specialises exclusively in the development of display units. All Opus products are developed and assembled entirely in Germany. Our customers trust in our premium products is what makes the difference. We will only be satisfied when you are delighted – with no ifs ands or buts.



The Highest Level of Quality

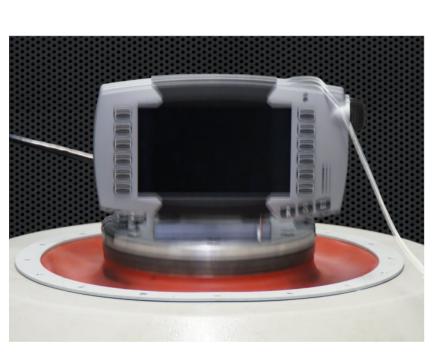
Our combination of innovation and competence ensures peak performance at all times. Because of this, our mobile end devices further increase the value of your products. They ensure that quality is increased, contribute to cost reductions, and add to the value of your product.

Not only do we manufacture products for our customers in large batches; the daily work of our engineers and technicians also includes the production of prototypes and small batches. We also offer a broad range of standard products that can be easily configured to your specific requirements.

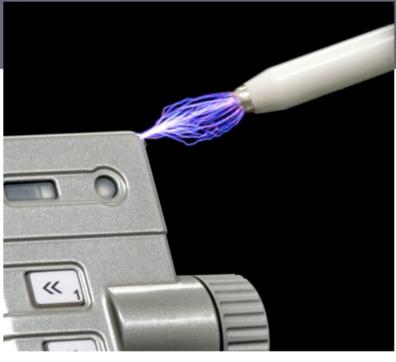
Only the sum of all perfect details can result in the perfect product. Whether it be a one-off or a production run, all devices are constantly monitored during manufacture, at burn-in and in the final test.



heat
cold
corrosion
radiation
water
electric current
vibration
snow









At our Heart: the Technical Centre

The core of our company is the technical centre, where we simulate all possible external influences that can impact on the control unit under operating conditions. This includes defined series of tests with regard to temperature, humidity, light and contamination. Our products must also be capable of withstanding shocks and vibration. The tests for these factors are all performed and evaluated on the basis of the established standards.







We create rain, generate wind and throw up huge amounts of dust. Owing to the permanent load represented by weather influences that affect control

units, a robust and resistant design is a must. We give particular priority to the quality of our displays. These must be able to not only stand up to the most adverse environmental influences, but must also be clearly readable at all times in order to guarantee constant functional reliability. Bright displays using the latest technology are a Topcon Electronics standard that we apply to all our products.

Topcon Electronics represents safe and dependable products – for the entire product lifetime.





OPUS A3e – All Basic Needs Covered

A lot of technology – at a low investment cost. This slogan fittingly describes the OPUS A3e. This full-value operator console features a 4.3" screen with 480 x 272 pixels and is optionally available with a touchscreen display. A further plus point of the OPUSA3e is its weight: less than 1kg.

Inside is a powerful and reliable 32-bit, 532 MHz processor, with memory option ranging up to 1 GB.

Equipped with a multi-color LED, 4 analog or digital inputs, 2 CANbus ports and a full-speed USB 2.0 interface, this low-cost unit is not lacking in functionality.

The OPUS A3e: high performance at an entry-level price.

Acoustic Alarm

To assure reliable monitoring, the full version of the OPUS A3e features an acoustic alarm with an output of approximately 60 dBA.

This makes it particularly suitable as a parameterisation unit, and it uses the trusted Embedded Linux operating system.

You can count on it: the OPUS A3e offers the best price-to-performance ratio available on the market in its class.























Orientation landscape or portrait W142 x H98 x D43 mm excl. connector and cables

Display

4.3", 15:9 TFT transmissive 480 x 272 px, 400 cd/mì Contrast ratio 400:1

Signals

Multi-color LED Piezo alarm, approx. 60 dB(A)

Processor

32-bit, 532 MHz Freescale© I.MX35 Memory

256 MB DDR2 RAM 1 GB NAND flash

User Interface

Analog-resistive touchscreen

Interfaces

2 x CAN ISO 11898 CAN specification 2.0 B active Ethernet 10/100 Mbit/s Base-T 1 RS-232 (RxD, TxD, GND only) Analog/Digital I/O: 4 analog/digital inputs, 3 digital outputs 1 USB 2.0 full speed Light sensor Video

1 composite CCITT video input PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply 9 ...36 V DC

Operating System Embedded Linux® **Real Time Clock**

Buffered by battery

Environmental Conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5g, Shock 30g

Programming Environment

Opus Projektor CODESYS V3 ISO-VT **Supported Protocols**

CANopen® CANfreestyle (Layer 2) J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A3s – Good Things come in Small Packages

The OPUS A3s offers you all the possibilities of the OPUS A3eco, but with even more useful features. The A3s version allows the user to implement a variety of different user interfaces with ease.

The unit also includes an encoder, eight softkeys and three hardkeys with exceptional tactile touch underlining the quality of the A3s.

The 4.3" screen features operation verification, and can also be supplied as an analog resistive touchscreen.

The multi-color LED is supplemented by three additional LEDs. The high-speed USB 2.0 interface on the front is best suited to high-speed data exchange and is positioned in the casing of the unit for maximum protection against the elements. CANbus ports for fast operation, an acoustic alarm with approximately 60 dBA output and a camera input to ensure the highest level of safety. A powerful 32-bit, 532 MHz processor offers outstanding performance. This is supported by 1 GB of NAND, plus up to 256 MB DDR2-RAM.























Orientation landscape or portrait W198 x H98 x D60 mm excl. connector and cables

Display

4.3", 15:9 TFT transmissive 480 x 272 px, 400 cd/mì Contrast ratio 400:1

Signals

Multi-color LED 3 status - LED`s Piezo alarm, approx. 60 dB(A)

Processor

32-bit, 532 MHz Freescale© I.MX35

Memory

256 MB DDR2 RAM 1 GB NAND flash

User Interface

8 softkeys 3 hardkeys Encoder Analog-resistive touchscreen

Interfaces

2 x CANbus ISO 11898 CAN specification 2.0 B active Ethernet 10/100 Mbit/s Base-T 1 RS-232 (RxD, TxD, GND only) Analog/Digital I/O: 4 analog/digital inputs, 3 digital outputs 1 USB 2.0 full speed on main connector 1 USB 2.0 high speed on front Light sensor

Video

1 composite CCITT video input PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply 9 ...36 V DC

Operating System Embedded Linux®

Real Time Clock

Buffered by goldcap

Environmental Conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5q, Shock 30q

Programming Environment

Opus Projektor CODESYS V3 ISO-VT

Supported Protocols

CANopen® CANfreestyle (Layer2) J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A6e – Technology for Convenience

The OPUS A6e is the first choice for complex HMI which rely on the processing of a wide range of information. This unit features a bright, high-resolution display with a great picture – and therefore offers complete ease of use under all operating conditions. With an optimised size of 7" and a 800 x 480 pixel resolution, everything the operator needs is perfectly readable. The large optional 4 GB of memory, combined with the 32-bit, 800 MHz processor, is ideally suited to demanding applications.

The device can be orientated either horizontally or vertically and we can supply both standalone and dashboard mounting accessories.

Integrated Camera Input

A built-in camera input allows you to easily connect an OPUS camera. Further features of the OPUS A6e are two CANbus ports and four configurable inputs either analog or digital. The OPUS A6e can also be fitted with an PTC and two additional camera inputs as optional extras.























Orientation landscape or portrait W223 x H139 x D64 mm excl. connector and cables

Display

7", 15:9 TFT transmissive 800 x 480 px, 400 cd/m² Contrast ratio 500:1

Signals

Speaker, approx. 80 dB(A)

Processor

32-bit, 800 MHz Freescale® I.MX6™

Memory

512 MB DDR3 RAM 4 GB eMMC flash

User interface

Capactive touchscreen

Interfaces

2 x CANbus ISO 11898 CAN specification 2.0 B active Ethernet 10/100 Mbit/s Base -T 1 RS-232 (RxD, TxD, GND only) Analog/Digital I/O: 4 analog/digital inputs, 3 digital outputs 1 USB 2.0 full speed

Video

3 composite CCITT video inputs PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply

9...36 V DC

Operating System Embedded Linux®

Real time clock

Buffered by goldcap

Environmental conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5g, Shock 30g

Programming environment

Opus Projektor CODESYS V3 ISO-VT

Supported Protocols

CANopen® CANfreestyle (Layer 2) J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A6s – Everything you need

The difference is in the sum of all the details. Where the features of the OPUS A6e are still not enough, there is always its 'big brother': the OPUS A6s. This model can offer many additional and practically relevant features where the technical demands are greater. It offers a bright 7" display coupled with up to three video inputs. The high-speed USB 2.0 interface on the front is best suited to high-speed data exchange and is positioned in the casing of the unit for maximum protection against the elements. Available as a standalone or dashboard solution, the unit offers an encoder, twelve softkeys and three hard keys, plus four digital or analog inputs and a light sensor. A multi-color LED and a standard LED provide

immediate visual indication to the operator of any faults detected.

The high-performance, 32-bit, 800 MHz processor and the memory capacity of either 4 GB NAND plus 512 MB of DDR2 make the OPUS A6s a powerful heavyweight. Fitted with two CANbus ports, it leaves no wish unfulfilled. Problem-free functionality is assured by the trusted Embedded Linux operating system.























Orientation landscape or portrait W267 x H144 x D76 mm excl. connector and cables

Display

7", 15:9 TFT transmissive 800 x 480 px, 400 cd/m² Contrast ratio 500:1

Signals

1 multi-color LED 3 status LED's Speaker, approx. 80 dB(A)

Processor

32-bit, 800 MHz Freescale® I.MX6™

Memory

512 MB DDR3 RAM 4 GB eMMC flash

User interface

12 softkeys 4 hardkeys Encoder Capacitive touchscreen

Interfaces

2 x CANbus ISO 11898 CAN specification 2.0 B active Ethernet 10/100 Mbit/s Base-T 1 RS-232 (RxD, TxD, GND only) Analog/Digital I/O: 4 analog/digital inputs, 3 digital outputs

Video

3 composite CCITT video inputs PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply 9 ...36 V DC

Operating System Embedded Linux®

Real time clock

Buffered by goldcap

Environmental conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5g, Shock 30g

Programming environment

Opus Projektor CODESYS V3 ISO-VT

Supported Protocols

CANopen® CANfreestyle (Layer 2) J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A8e – Communicative Competence

In the OPUS A8e, we have combined the most brilliant technology into a single unit – with maximum performance and a sophisticated design. Unlike the OPUS A8s, the OPUS A8e is operated entirely without keys. This is achieved through a high-quality touch panel with an analog resistive glass surface.

A distinguishing feature of the OPUS A8e is its scalable process architecture. Its high performance enables the device to simultaneously display all safety factors on the video raster screen. OPUS A8e – Communicative competence

The OPUS A8e's great look is thanks to an extravagantly designed aluminum casing. The OPUS A8e is therefore the ideal device for demanding users and applications.























Orientation landscape or portrait W330 x H214 x D60 mm excl. connector and cables

Display

12.1", 16:9 TFT transmissive 1280 x 800 px , 400 cd/m² Contrast ratio 1000:1

Signals

1 multi-color LED 3 status LED's Speaker, approx. 80 dB(A)

Processor

64-bit, 1 GHz Freescale® I.MX6™ quad core

Memory

1024 MB DDR3 RAM 8 GB eMMC flash

User interface

Capacitive touchscreen

Interfaces

2 x CANbus ISO 11898 CAN specification 2.0 B active 1 x RS-232 (RxD, TxD, GND only) Ethernet 1 x 10/100 Mbit/s Base-T 4 analog/digital inputs, 3 digital outputs 1 USB 2.0 full speed on main connector

Video

3 composite CCITT video inputs PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply 9 ...36 V DC

Operating System Embedded Linux®

Real Time Clock

Buffered by goldcap

Environmental Conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5g, Shock 30g

Programming Environment

Opus Projektor CODESYS V3 ISO-VT

Supported Protocols

CANopen® CANfreestyle J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A8s – High Performance with a Strong Presence

The OPUS A8s sets new standards. Its high-resolution, 12.1" screen and aluminium casing give this model a high-class, modern look that you can take with you anywhere.

In the full line range, the OPUS A8 features 1024 MB of RAM and two CANbus ports. Three analogue video inputs, four D/A inputs and three digital outputs add further convenience. The device also has an audio output and an USB port on the front of the panel for even greater connectivity.

For situations requiring fewer connections, the basic line is a good choice. This has the same visual appearance, but differs in the technical features that it offers.























Orientation landscape or portrait W376 x H214 x D76 mm excl. connector and cables

Display

12.1", 16:9 TFT transmissive 1280 x 800 px , 400 cd/m² Contrast ratio 1000:1

Signals

1 multi-color LED 3 status LED's Speaker, approx. 80 dB(A)

Processor

64-bit, 1 GHz Freescale® I.MX6™ quad core

Memory

1024 MB DDR3 RAM 8 GB eMMC flash

User Interface

8 softkeys 4 hardkeys Capacitive glass/glass touchscreen

Interfaces

2 x CANbus ISO 11898
CAN specification 2.0 B active
1 x RS-232 (RxD, TxD, GND only)
Ethernet 1 x 10/100 Mbit/s Base-T
Analog/Digital I/O:
4 analog/digital inputs,
3 digital outputs
1 USB 2.0 full speed on main
connector
1 USB 2.0 high speed on front

Video

3 composite CCITT video inputs PAL 50 Hz color coding/NTSC 1 Vpp, 75 Ohm

Power Supply 9 ...36 V DC

Operating System Embedded Linux®

Real Time Clock

Buffered by goldcap

Environmental Conditions

Temperatures operating -30° to +65°C storage -40° to +85°C Protection IP 66 Vibration 5q, Shock 30q

Programming Environment

Opus Projektor CODESYS V3 ISO-VT

Supported Protocols

CANopen® CANfreestyle J1939

Advanced Programming

C/C++

Certificates

CE mark E1

Connectors

Main: AMP Seal, 26 pin Video: M12 round, 5 pole, b-coded Ethernet: M12 round, 4 pole, d-coded







OPUS A1rvc InDash



OPUS A1rvc



Our History OPUS A2



OPUS A4



OPUS A5



OPUS Thor

Our History



Individual Products with Character

At Topcon Electronics, we offer our customers individual solutions for every individual request, as our declared aim is to combine flexibility, spontaneity and innovation within the company.

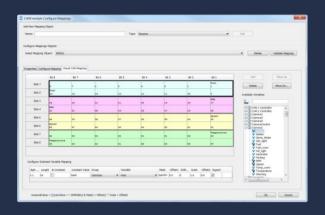
We therefore maintain a large product portfolio in order to be able to offer a suitable solution for every application.

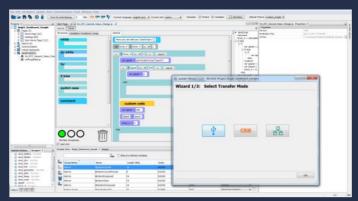
For each of our products, we also show options for individualisation, in order to ensure that they fit into the vehicle of your choice. Topcon Electronics uses the same standards when manufacturing small custom series production as it does for large batches of production. The production conditions are defined at all levels of manufacturing. If our standard products are still not suitable for your particular technical requirements, we will be happy to develop entirely new devices to suit your individual specifications that are perfectly suited to your selected area of activity.

Near you, all over the World

For us, service means a holistic approach to support. This includes close liaison with our customers during and following product development, competent support that offers you solutions as quickly as possible, and reliable developer tools that make project planning simple for you. This is also a reason for the variety of training events that we offer in-house.

These prepare your employees for using the devices and software, where necessary, with coaching from our experienced trainers. We are happy to offer this and do so systematically.







Three Steps to an Individual User Interface

To ensure that the device matches your requirements and wishes, you can create new programmes yourself and run these in just three simple work steps.

So take things into your own hands and simply follow the three simple steps:

Step 1

If you wish to make changes to the user interface of your device, you can make these yourself quite simply. The Projektor Tool, available from us, allows you to integrate objects by dragging and dropping, and enables you to use your own bitmap graphics.

Step 2

Next, prepare the device for use by attaching your objects using CAN messages.

Step 3

Finally, you can simply and easily copy your finished project onto your device using a USB stick and then test the new functions, making further changes if necessary.

Our programming options include "Projektor", CoDeSys, C++ and the ISO VT terminal.

Technical Specifications OPUS Operator Panels









OPUS

technical specification	A3e		A3s		A6e		A 6s	
	Basic	Full	Basic	Full	Basic	Full	Basic	Full
Standalone	Х	Х	Х	Х	Х	Х	Х	Х
Dashboard Mount	Х	Х	Х	Х	Х	Х	Х	X
Landscape	Х	Х	Х	Х	Х	Х	Х	Х
Portrait	Х	Х	Х	Х	Х	Х	Х	X
Size	4.3"	4.3"	4.3"	4.3"	7"	7"	7"	7"
Ratio	15:9	15:9	15:9	15:9	15:9	15:9	15:9	15:9
Touchscreen	-	Х	-	Х	-	Х	-	Х
Keys Soft/ Hard	-	-	8/3	8/3	-	-	12/4	12/4
Keys with Backlight	-	-	Х	Х	-	-	Х	Х
Encoder with Click	-	-	1	1	-	-	1	1
LED	1	1	3	4	-	-	3	4
Audible Signal	-	Beeper	-	Beeper	Speaker	Speaker	Speaker	Speaker
Processor Size	32-bit							
Processor Speed	532 MHz	532 MHz	532 MHz	532 MHz	800 MHz	800 MHz	800 MHz	800 MHz
RAM	128 MB	256 MB	128 MB	256 MB	512 MB	512 MB	512 MB	512 MB
Mass Storage	512 MB	1 GB	512 MB	1 GB	2 GB	4 GB	2 GB	4 GB
EEPROM	32 kB serial							
CANbus Ports	2	2	2	2	2	2	2	2
Serial Ports	1	1	1	1	1	1	1	1
I/O	-	4/3	-	4/3	-	4/3	-	4/3
USB	1	1	1	2	1	1	1	2
Ethernet	-	1	-	1	1	1	1	1
Max video input	-	1	-	1	1	3	1	3
Audio out	-	-	-	-	-	X	-	X





A8e A8s OPUS technical specification

				<u> </u>
Basic	Full	Basic	Full	
x	Х	Х	х	Standalone
Х	Х	Х	X	Dashboard Mount
х	Х	Х	X	Landscape
Х	X	Х	х	Portrait
12,1"	12,1"	12,1"	12,1"	Size
16:9	16:9	16:9	16:9	Ratio
Х	X	Х	х	Touchscreen
-	-	8/4	8/4	Keys Soft/ Hard
-	-	Х	Х	Keys with Backlight
-	-	1	1	Encoder
4	4	4	4	LED
Speaker	Speaker	Speaker	Speaker	Audible Signal
32-bit	64-bit	32-bit	64-bit	Processor Size
800 MHz, solo	1 GHz, quad	800 MHz, solo	1 GHz, quad	Processor Speed
512 MB	1 GB	512 MB	1 GB	RAM
4 GB	8 GB	4 GB	8 GB	Mass Storage
32 kB serial	32 kB serial	32 kB serial	32 kB serial	EEPROM
2	2	2	2	CANbus Ports
1	1	1	1	Serial Ports
2/1	4/3	2/1	4/3	I/O
1	1	2	2	USB
1	1	1	1	Ethernet
1	3	1	3	Max video input
-	X	-	х	Audio out





Come and visit us



We are pleased to welcome you to our headquarters in Geisenheim next to Schloss Johannisberg, or at our booth during national and international exhibitions!

For more information, please visit:

www.topcon-electronics.de



How to get here



Our company headquarters are in south-western Germany in the federal state of Hessen, in the region of Rheingau. Frankfurt am Main airport is only approx. 50 km away. For flights within Europe or Germany, another alternative is Frankfurt Hahn airport, about 60 km away in Hunsrück.



Arriving at the motorway, please head towards Frankfurt am Main/Wiesbaden. Once your reach A66 motorway drive westward from Wiesbaden towards Eltville and Ruedesheim/Rhine. Before Eltville, the A66 turns into Federal Road B42. From there, please head towards "Geisenheim/Industriegebiet".





Constant operation on weekdays from 6 am to 7 pm, approx. every 20 minutes between Bingen/Ruedesheim and Ingelheim/Mittelheim.

Turn off from the B42 towards "Mitte" or "Industriegebiet", drive along Chauvignystraße.
From there, through the railway underpass, then turn right onto Industriestrasse. You will find our visitor car park next to the building.

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