



## Product Range

# Computer & Periphery



2017 / 04



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type number 01105



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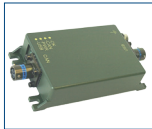
Optical 4-Key-MIL-Sensor Trackball with Hand Rest

type number 00914



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type number 00922



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type number 00981



Video Server and VGA Switch

type number 00975



2HE 19inch ruggedized X86 Computer

type number 01254



## Airborne Computer System with Docking Station and Cockpit Holder

type number 01105



### Main Feature:

The 3D-Pilot™ System has been developed for avionTEK GmbH © www.aviontek.com

and contains of three main Parts:

- 3D pilot instrument,
- Break out box,
- Cockpit holder

The 3D-Pilot Instrument itself is kept removable. This is helpful for maintenance, theft protection or environmental conditions that exceeds the specified parameters of the Instrument.

The left side interfaces of the instrument (HDMI, Ethernet USB) are for maintenance only and are hidden behind the cockpit holder in operational condition.

In normal operation, the cockpit holder together with the brake out box should be mounted inside the cockpit with a „RAM@ MOUNT“.

All external Sensors like GPS, compass, etc. as well as the power supply are connected as a fixed installation at the rear side interfaces of the break out box and should always remain inside the Aircraft.

### Options:

- WLAN
- Internal GPS module
- ARINC429 Interface

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Display:	6.5" XGA LED LCD Projected Capacitive Touch
CPU:	AMD G-Series T56N dual X86 core 1.65GHz L2:512KBx2
Chipset:	A55E
Graphics:	AMD Radeon™ HD6320 Full DirectX® 11 Open GL4.0, Shader Model 5 HW MPEG2 decode
RAM:	DDR3-1333 up to 4GB
Storage:	Up to 2x 2.5" S-ATA, SSD or CFast Type II Flash Card
Interfaces:	Main Unit 1x USB 1x HDMI 1x 10 / 100 / 1000 MBit LAN Docking Station 4x Rear USB 2.0 1x Front USB 2.0 3x RS232 1x 10 / 100 / 1000 MBit LAN 1x SDHC Card Reader
Sound:	High Definition Audio Codec w. Integrated Stereo Speakers
Controls:	On / Off, LCD Brightness 7x Programmable Function Keys 1x Push Button Rotary Encoder 1x Joystick Rotary Encoder
Power supply:	12-32 V DC according to RTCA DO160E, Sec.16 Cat. B w/o interruptions, no emergency operation at 14V Board systems Power consumption <40 W
Environment:	-20 °C to 60 °C (operating) -30 °C to 80 °C (storage) IP 53 / EN60529, Designed to meet TSO-C106, TSO-C113
Case:	milled aluminium alloy
Surface treatment:	laquered, black matt RAL 9021- HR
Dimensions:	180 x 195 x 95 mm (W x H x D)
Weight:	2.2 kg

## Ruggedized Handheld Computer „Panther“

type number 00783



### Specific Technical Data 10.4" Version:

- 10.4" XGA TFT-LCD
- Dimensions without extensions:  
286 x 235 x 60 mm (W x H x D)
- 3.0 kg

### Options:

- DockLite DL-8M (Type number 00821) can be mounted on Panther or on the vehicle fixation.
- Connectors: 2x serial, 4x USB, 56 k fax modem, VGA

### Technical Data:

CPU:	Intel Core Duo ULV 1.06 GHz, Level 2 cache, 2MB
RAM :	1 GB up to 4 GB DDRII-RAM
HDD:	exchangeable 2.5" S-ATA HDD 120 GB
Graphics:	224 MB SMA (max.) Intel Graphics Media Accelerator 950 (GMA 950), integrated 256 Bit, 400 MHz core 3D / 2D, Dynamic Video Memory Technology (DVMT)
Touch Screen:	resistive
Controls:	6 free programmable keys
Sound:	AC 97 with integrated stereo-speakers
Interfaces:	1x DC; 1x USB 2.0; 1x serial, 1x 10 / 100 / 1000 Mbit LAN, PCMCIA Type II, 1x docking connector, 1x express card
Temperature:	-20 °C to +50 °C (operation) -30 °C with optional heater module -40 °C to +71 °C (storage)
Housing:	AlMg NATO green or TBD rain-, dust-, salt fog proof
Vibration:	Tracked & Comp. wheeled Vehicles / Helicopter OH58A/C
Shock:	40 g, 11 ms

The Panther Hand Held Computer is supplied by roda mildef GmbH and Aschenbrenner GmbH

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## Ruggedized handheld PC „Panther“ 8.4“ Display

type number 00891



### DockLite DL-8M Specifications

- DockLite can be mounted on panther or on the vehicle fixation
- Connectors standard model: 2x serial, 4x USB, 56 k Fax Modem, VGA, audio (microphone), DC-In
- Rain-, dust-, vibration- and shockproof IP 54 and MIL-STD 810F

### Options:

- Flash Disk S-ATA instead of HDD
- WLAN, bluetooth, UMTS, modem, fiberoptical-LAN
- Joystick
- FDD and CD / DVD external
- Display with filter for use with night vision equipment
- Heating system for -30 °C operating
- Camera module
- GPS module UBlox-5H
- SDIP 27 Level B
- MIL-STD 461E navy mobile & army
- 1 or 2 additional COM-Ports with DB9 or MIL connectors
- CANBUS
- Customised versions with other interfaces or connector types available on request

By courtesy of roda mildef GmbH

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Display:	8.4" XGA TFT LCD touchscreen (resistive) with stylus Optional sunlight readable Display with LED-backlight
CPU:	Intel Core 2 Duo ULV 1.06 GHz L2 cache 2 MB
Chipset:	North Bridge: Mobile Intel 945GM / GME Express South Bridge: Intel 82801GHM ICH7
Graphics:	224 MB SMA (max.) Intel Graphics Media Accelerator 950 (GMA 950), integrated 256 Bit, 400 MHz core 3D / 2D, Dynamic Video Memory Technology (DVMT)
RAM:	1 GB up to 4 GB DDRII-RAM (The maximum RAM size availability depends on type & version of the installed operating system.)
Storage:	Removable 2.5" S-ATA HDD 120 GB
Interfaces:	1x USB 2.0, 1x serial, 1x 10 / 100 / 1000 MBit LAN, 1x DC-In, 1x Docking Connector, 1x PCMCIA Type II, 1x Express Card
Sound:	AC97 Sound and integrated speakers
Controls:	On / Off, LCD brightness, Standby, 6 free programmable function keys
Power supply:	Removable 11.1 V / 4400 mAh Li-Ion battery, Optional second 7200 mAh battery, AC-adaptor 100 V AC -240 V AC - 50 Hz / 60 Hz, Integrated vehicle power adapter 12 V DC -32 V DC
Environment:	IP 54, MIL-STD 810F, MIL-STD 461E, Navy Fixed & Air Force
Housing:	Magnesium / aluminium, rain-, dust-, vibration- and shockproof
Color:	NATO-green
Dimensions:	250 x 198 x 45 mm (W x H x D)
Weight:	1.9 kg

## 12" Computer with Picture-in-Picture Video Input

type number 01051



### Main Features:

- Ruggedized computer system for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Front panel controls are backlit foil keys. Keydimming depends on display brightness.
- Eight-wire resistive touch system
- Keyboard with 6 function keys
- The CCIR-camera picture can be displayed as an overlay within the computer graphics.

### Options:

- Flash Disk S-ATA instead of HDD
- WLAN, bluetooth, UMTS, modem, fiberoptical-LAN
- Joystick
- FDD and CD / DVD external
- Display with filter for use with night vision equipment
- Heating system for -30 °C operating
- Camera module
- GPS module UBlox-5H
- SDIP 27 Level B
- MIL-STD 461E navy mobile & army
- 1 or 2 additional COM-Ports with DB9 or MIL connectors
- CAN-Bus
- Customised versions with other interfaces or connector types available on request

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Display:	12.1" XGA LED LCD with touchscreen Optional sunlight readable
CPU:	Intel Core 2 Duo ULV 1.06 GHz L2 cache 2 MB
Chipset:	North Bridge: Mobile Intel 945GM / GME Express South Bridge: Intel 82801GHM ICH7
Graphics:	224 MB SMA (max.) Intel Graphics Media Accelerator 950 (GMA 950), integrated 256 Bit, 400 MHz core 3D / 2D, Dynamic Video Memory Technology (DVMT)
RAM:	1 GB up to 4 GB DDRII-RAM (The maximum RAM size availability depends on type & version of the installed operating system.)
Storage:	Removable 2.5" S-ATA HDD 120 GB
Interfaces:	2x USB 2.0, 1x serial, 2x 10 / 100 MBit LAN, 1x DC-In, 1x Docking Connector, 1x PCMCIA Type II, 1x Express Card
Sound:	AC97 Sound and integrated speakers
Controls:	On / Off, LCD brightness, up / down, 6 free programmable function keys
Power supply:	External vehicle converter type no: 01070 required 24 V DC (18 V DC - 32 V DC) according to VG 96916-5 without interruptions
Environment:	IP 54, MIL-STD 810F, MIL-STD 461E, Navy Fixed & Air Force
Dimensions:	353 x 260 x 84 mm (W x H x D)
Weight:	approx. 4 kg
Color:	RAL6031 HR bronze green or TBD

By courtesy of roda mildef GmbH





## Hardened Computer SPARTACUS for Wheel and Chain Driven Vehicles

type number 00786



### Main Feature:

Especially designed for mobile operation in wheel and chain driven military vehicles, SPARTACUS fulfils under any environmental condition today's requirements which are put on modern PC technology.

Its optimized dimensions and the modular design allow custom specific extensions by additional interfaces, disk drives, PC-cards etc.

### Options:

- 4 x Video-in (max)
- CAN BUS-interfaces

### Technical Data:

CPU:	Intel Pentium M 1.6 GHz
RAM:	512 MB - 1024 MB DDR-RAM
Drive:	HDD up to 60 GB or 8 GB Flash disk
Interfaces:	2 x USB 2.0 external + 3 x USB 2.0 internal 1 x keyboard / mouse Video-channel 1: VGA analogue Video-channel 2: DV / LVDS 3 x PC-card type II, 1 x optional internal or external 10 x RS 232C / RS 422 / R 485, one of them internal 1 x LAN 10 / 100 Base-T
Power supply:	9 V DC to 36 V DC
Battery:	NiMH-rechargeable battery pack, exchangeable from outside, also for an external display, e.g. 15" LCD

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

By courtesy of our customer



## Customer Specific Ruggedized Special Applications

type number 00657



### Main Feature:

The DIU control and display unit is designed especially for use in submarines.

### Technical Data:

Operating system:	Windows NT
CPU:	Intel® Mobile Pentium® up to 266 MHz
RAM:	up to 128 MB
Mass memory:	<ul style="list-style-type: none"> <li>■ flash memories in PC card format, which are operated in ATA mode</li> <li>■ up to 2 Gbyte memory possible</li> <li>■ hard disk up to 2 Gbyte (on request)</li> </ul>
Graphics:	<ul style="list-style-type: none"> <li>■ standard VGA graphics</li> <li>■ digital output for TFT display</li> </ul>
Monitor:	<ul style="list-style-type: none"> <li>■ 10.4" TFT color display</li> <li>■ display protected by a glass panel</li> <li>■ 800 x 600 pixels</li> <li>■ display brightness adjustable</li> </ul>
Status indicators:	LEDs for important system information such as ready status and malfunctions
Keyboard:	membrane keyboard with background light with numeric keypad
Standstill heating:	to prevent condensation, the device is heated when it is switched off
Power supply:	<ul style="list-style-type: none"> <li>■ internal 28 V DC power supply unit reverse polarity and transient protection for vehicle network according to VG96916T5 (w/o intermittent operation)</li> <li>■ EMC filter</li> </ul>
Housing:	aluminum housing
Weight / Size:	<ul style="list-style-type: none"> <li>■ approx. 7 kg</li> <li>■ approx. 300 x 295 x 76 mm (W x H x D), without connector protrusions</li> </ul>
Class of Protection:	<ul style="list-style-type: none"> <li>■ class of protection IP 54 according to DIN 40050</li> <li>■ EN60529, IEC 529</li> </ul>

By courtesy of ATM ComputerSysteme GmbH

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## Customer Specific Equipment Desk Top or Rack Mounted Communication Server

type number 00719



### Main Feature

- Desktop PC 1 HE height
- CPU: Pentium 4
- Customer specified configuration and interface
- for 19" Rack or as desk top, adapter kit available

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## Custom Designed Portable Data Memory for Military Applications

type numbers: 00716 | 00812



### Main Feature

Portable data memory for tactical army personnel,  
protected in a belt pack

### Accessories:

- Transportation belt pack and
- cable 1.5 m with SJT & USB connectors

### Option:

Operating temperature -55 °C - +100 °C

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Memory:	32 MB flash memory 256 MB max. on board Load / read via universal interface <ul style="list-style-type: none"> <li>■ USB 1.1 full speed</li> <li>■ RS 232</li> <li>■ RS 485</li> </ul>
Protection:	cover open: IP 67 EN 60529 closed cover: 30 m water
Temperature:	-40 °C to +72 °C (operating) -55 °C to +85 °C (storage)
Housing:	aluminium anodized
Dimensions:	100 mm x 40 mm
Weight:	150 g
Drop test:	10 x 1 m

### Option type number 00812:

Custom Specific Option up to 8 GB; USB 2.0



Temperature: -25 °C to +70 °C (operating)  
-40 °C to +85 °C (storage)



## 5 Port 10 / 100 - Base T Ethernet Switch – SJT Connector Version

type number 00724



### Main Feature:

This 5 Port 10 / 100-Base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex IEEE 802.3x & half duplex back pressure operation with flow control (no collisions).

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1 kg
Dimensions:	without overlaying parts 194 x 100 x 40 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, 5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	SJT00RT08-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)



## 5 Port 10 / 100 - Base T Ethernet Switch – RJF Connector Version

type number 00873



### Main Feature:

This 5 Port 10 / 100-Base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex IEEE 802.3x & half duplex back pressure operation with flow control (no collisions).

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1 kg
Dimensions:	without overlaying parts 214 x 100 x 50 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, 5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	RJFTV22G00
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)



## 8 Port 10 / 100 - Base T Ethernet Switch – SJT Connector Version

type number 00784



### Main Feature:

This 8 Port 10 / 100-Base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex IEEE 802.3x & half duplex back pressure operation with flow control (no collisions).

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.2 kg
Dimensions:	without overlaying parts 194 x 100 x 60 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, 5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	SJT00RT08-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)

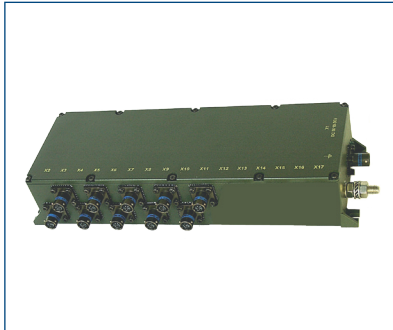
Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## 10 Port 10 / 100 - Base T Ethernet Switch – SJT Connector Version

type number 00945



### Main Feature:

This 10 Port 10 / 100-Base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-duplex operation with flow control (no collisions).

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.8 kg
Dimensions:	without overlaying parts 290 x 100 x 60 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, < 7.5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	SJT00RT08-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810FF

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## 10 Port 10 / 100 - Base T Ethernet Switch – SJT Connector Version

type number 00952



### Main Feature:

This 10 Port 10 / 100-Base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex operation with flow control (no collisions).

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.8 kg
Dimensions:	without overlaying parts 290 x 100 x 68 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, < 7.5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	9x-SJT00RT08-35SN014 1x-SJT00RT10-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810FF

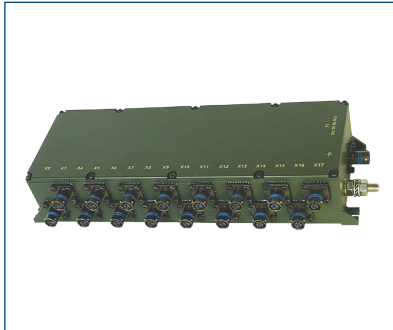
Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

## 16 Port 10 / 100 - Base T Ethernet Switch – SJT Connector Version

type number 00837



### Main Feature:

This 16 Port 10 / 100-base T ethernet switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-duplex operation with flow control (no collisions).

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.8 kg
Dimensions:	without overlaying parts 290 x 100 x 60 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, < 7.5 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	SJT 00RT08-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810FF

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)



## 5 - 8 Port Managed Gigabit Ethernet Switch

type number 01141



### Main Feature:

This 5-8 Port Managed Gigabit Ethernet Switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- 5-8 copper Gigabit ports, Layer 2+, 10 / 100 / 1000 Mbps
- non-blocking wire-speed performance
- all ports are galvanically isolated from each other
- Multiple protocol support: IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, IEEE 802.1X.
- Configuration over web interface (optional: RS 232)
- Optional: Indicator LEDs

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 2 kg
Dimensions:	without overlaying parts 268 x 130 x 55 mm (W x D x H)
Power supply:	10 V DC to 32 V DC, < 10 W according to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	TV02RW-11-35SN optional: SJT00RT-10-35SN014
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +70 °C (operating) (optinal: +85 °C) -40 °C to +85 °C (storage)
EMI:	MIL-STD 461 F
MTBF:	50.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)

## Ruggedized 5 Copper + 1 Single or Multi-Mode Fiber Optic 10 / 100 - Base T / 100 FX Ethernet Switch

type number 00909



5 port Cu +1 Multi-Mode HDM connector version

### Main Feature:

This 5x copper & up to three fiber optic connections, each for Single- or Multi-Mode, 10 / 100-base T ethernet Switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-duplex IEEE 802.3 & half duplex back pressure operation with flow control (no collisions).

### Options:

- up to 3x HDM fiber optic connections

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.3 kg
Dimensions:	without overlaying parts 170 x 100 x 60 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, < 12 W acc. to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	5x SJT00RT08-35SN014 & 1x HDM
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)



## Ruggedized 5 Copper + Single- + Multi-Mode Fiber Optic 10 / 100 - Base T / FX Ethernet Switch

type number 00910



5 port Cu + 1 Single- +1 Multi-Mode HDM connector

### Main Feature:

This 5x copper & up to three fiber optic connections, each for Single- or Multi-Mode, 10 / 100-base T ethernet Switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex IEEE 802.3 & half duplex back pressure operation with flow control (no collisions).

### Options:

- up to 3x HDM fiber optic connections

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1.3 kg
Dimensions:	without overlaying parts 170 x 100 x 60 mm (W x D x H)
Power supply:	18 V DC to 32 V DC, < 12 W acc. to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	5x SJT00RT08-35SN014 & 2x HDM
Power supply:	SJT00RT08-98PN014

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +55 °C (operating) -45 °C to +71 °C (storage)
EMI:	MIL-STD 461 E
MTBF:	100.000 h
Protection:	IP 65 acc. to EN 60529
Altitude:	9000 m (transportation)



## Media Converter 1 Cu- Port to 1 LWL-Port for military use 10 / 100 Base TX to 100 Base FX

type number 00971



1 Port Cu + 1 Multi-Mode HMC connector

### Main Feature:

Conversion between TX- LAN and FX- LAN  
Standard: fast-ethernet / protocol: IEEE802.3  
FX: Multi-Mode 1300 nm  
The switch has especially been developed for extreme harsh environmental conditions.

### Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

### Features:

- Unmanaged 10 / 100 Base TX, auto-detecting, auto-crossover and auto-polarity.
- Support for up to 1024 MAC addresses.
- Full-Duplex IEEE 802.3 & half duplex back pressure operation with flow control (no collisions)
- FX- connector with cap
- Internal EMC- filter
- ON- status shown by a green LED

### Options:

- up to 3x HDM fiber optic connections

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	AlMg3 milled, color RAL9013 (oyster white) or RAL6031 (green)
Weight:	approx. 1.3 kg
Dimensions:	without overlaying parts 170 x 100 x 60 mm (W x D x H)
Power supply:	10 V DC to 32 V DC, < 12 W acc. to VG 96916 T5 or MIL-STD-1275

### Connectors:

Ports:	1x SJT00RT08-35SN014 & 1x HMC
Power supply:	SJT00RT08-98PN014 grounding bolt M8 x 30

### Environmental Conditions:

according to MIL-STD-810F

Temperature:	-40 °C to +63 °C (operating) (MIL-STD-810F, Method 501.4 & 502.4 Proc.II) -45 °C to +71 °C (storage) (MIL-STD-810F, Method 501.4 & 502.4 Proc.I)
EMC:	VG95373 and MIL-STD-461E
MTBF:	100.000 h
Protection:	IP 65 acc. EN60529 (all connectors protected by caps) protection against ice and snow, sand and dust, salt fog (all connectors protected by caps)
Humidity:	5 % to 95 % (acc. MIL-STD-810F, Method 507.4)
Safety:	acc. EN60950
Vibration:	MIL-STD-810F: (10 to 57) Hz: ± 0.28 mm / (57 to 500) Hz: 3.5 g (all axes)
Shock:	MIL-STD-810F: 25 g / 6 ms non operating / 15 g / 11 ms operating



## Optical 4-Key-MIL-Sensor Trackball with Hand Rest

type number 00914



- The ball is replaced by an optical sensor to exclude unintended position change
- The trackball can be mounted irrespective to its position

### Options:

- Housing: POM4
- Color: black or silver

### Technical Data:

Connection:	USB Type A with 147 cm cable.
Standards:	USB 1.1 & 2.0
Consumption:	21 mA stand by 44 mA operating
Housing:	Aluminium, color green RAL 6031 HR
Dimensions:	90 x 200 x 45 mm (W x H x D)
Controls:	<ul style="list-style-type: none"> <li>■ Left mouse button</li> <li>■ Right mouse button</li> <li>■ Additional medial button</li> <li>■ Trackball</li> </ul>

### Environmental Conditions:

Temperature:	-15 °C to +55 °C (operating) -40 °C to +85 °C (storage)
Humidity:	up to 95 % rel.
Protection:	IP 66 acc. to EN60529

Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## Optical 4-Key-MIL-Sensor Trackball without Hand Rest

type number 00922



- The ball is replaced by an optical sensor to exclude unintended position change
- The trackball can be mounted irrespective to its position

### Options:

- Housing: POM4
- Color: black or silver

### Features:

Connection:	USB Type A with 147 cm cable.
Standards:	USB 1.1 & 2.0
Consumption:	21 mA stand by 44 mA operating
Housing:	Aluminium, color green RAL 6031 HR
Dimensions:	90 x 100 x 45 mm (W x H x D)
Controls:	<ul style="list-style-type: none"> <li>■ Left mouse button</li> <li>■ Right mouse button</li> <li>■ Additional medial button</li> <li>■ Trackball</li> </ul>

### Environmental Conditions:

Temperature:	-15 °C to +55 °C (operating) -40 °C to +85 °C (storage)
Humidity:	up to 95 % rel.
Protection:	IP 66 acc. to EN60529

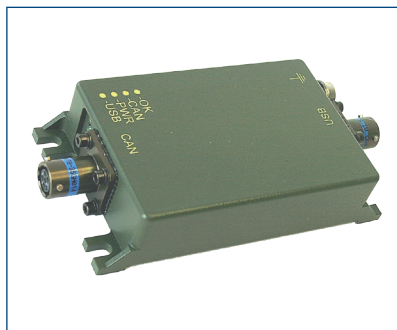
Ask for further technical information!  
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.





## Ruggedized CAN-USB BUS Interface

type number 00981



### Main Feature:

This ruggedized CAN-USB BUS Interface is ARM7-microcontroller based. It can be used in armoured tactical vehicles.

### Features:

- supplies the USB 2.0 Speed Interface with data rates of 480 Mbit / sec.
- ISO 11898 compatible CAN interface allows data rates of up to 1Mbit / sec.
- Bit rate and mean features can be set by software
- Software drivers for Windows 2k / XP, Windows XP x64 and Windows CE etc.
- Power supply by USB
- CAN-Interface is electrically isolated from other potentials
- Four LEDs show the state of the Interface

### Options:

- Software drivers for Windows 2k / XP, Windows XP x 64 and Windows CE etc.
- White RAL 1013 or black RAL 9005
- Extended temperature range of -40 °C to +55 °C by internal heating

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

### Technical Data:

Housing:	Aluminium
Color:	Powder Coating green RAL 6031 HR
Dimensions:	90 x 60 x 25 mm (W x D x H) without overlaying parts
Weight:	< 200 g

### Environmental Conditions:

Temperature:	-10 °C to +55 °C (operating) -40 °C to +80 °C (storage)
EMI:	acc. to MIL-STD-810F
Protection:	IP 65 acc. to EN 60529
Vibration:	MIL-STD-810F Fig. 514.5C-3 for wheeled vehicles
Shock:	15 g, 3 ms; 25 g, 6 ms; 100 g, 0.5 ms
Humidity:	95 %



## Video Server and VGA Switch

type number 00975



### Main Feature:

This device consists of two independent parts, mounted in one box:

- video server

The video server part is a full motion video encoder, that uses the standard MPEG / MPEG4 algorithm. The video server digitizes an NTSC / PAL analogue video source and distributes these digital images over an IP network. The distributed video stream is up to 30 frames / sec at a resolution of 720 x 480.

- 4 port VGA switch.

The VGA switch can feed one of four independent analogue VGA video input signals (up to UXGA) to one monitor output. The active input port is selected manually by push bottoms and indicated by LED.

### Technical Data:

Power supply:	24 V DC according to VG 96916-5
Housing:	Aluminium, color RAL 1013 HR white
Protection:	IP 65 according to EN 60529
EMC / EMI:	according to MIL-STD-461E
Temperature:	-40 °C to +63 °C (operation) -46 °C to +85 °C (storage) (Method 501.4 and 502.4)
Humidity:	95 % rel. (Method 507.4)
Salt Fog:	5 % NaCl (Method 509.4)
Vibration:	Wheeled Vehicles Fig 514.5C-3 (Method 514.5)
Shock:	10 g, 6 ms (Method 516.5)
Dimensions:	210 x 88 x 220 mm (W x H x D)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.



## 2HE 19inch ruggedized X86 Computer

type number 01254



### Main Feature:

This product has been developed for use under harsh environmental conditions as given in military shelters / containers or ship requirements. Depending on several variations and / or custom specific installation this platform might be configured as server- or workstation computer, working under Windows™ or Linux® operating systems as well.

### Technical Data:

<b>CPU:</b>	COM Express Typ 6 Basic, Thermal Design Power without fan 35 W max.
<b>Chipset:</b>	3th -7th Generation Intel® Core™ i3, i5, i7, Xeon® Processors tbd.
<b>Graphics:</b>	depending on COM Express CPU type and generation
<b>DRAM:</b>	DDR3 / 4 up to 32 GB depending on COM Express CPU type and generation
<b>Storage:</b>	Up to 2x internal 2.5" SATA III HDD / SSD
<b>Mainboard:</b>	Flex ATX Formfactor, designed and manufactured by Aschenbrenner
<b>Interfaces:</b>	8x 10 / 100 / 1000Mbit Ethernet via 4pcs. dual Intel i350 mini PCIe Controller Cards or 4pcs. Full size mini PCIe sockets 8x RS 422 via on board USB UART, galvanically isolated 3x USB 2.0, Front 1x VGA-Analog, Front 1x 10 / 100 / 1000Mbit Ethernet, Front 1x DVI, internal 1x USB 3.0, internal 1x PCI Express Graphics (PEG) connector, internal 1x PCI Express L1 connector, internal
<b>Sound:</b>	Option: High Definition Audio Codec
<b>Controls:</b>	On / Off Key PWR-Led / HDD-Led / Watchdog-Led
<b>Power supply:</b>	Integrated galvanically isolated power supply, input voltage range 18-32 V DC, transients according to VG96916 T5 w/o interruptions



## 2HE 19inch ruggedized X86 Computer

type number 01254

Environment: Temperature:	IP54 / EN60529 -31 °C to 60 °C (operating) -40 °C to 70 °C (storage)
EMI:	MIL-STD461F CE102, CS106, CS114, CS116, RE101, RE102, RS101, RS103
Case:	Full aluminium body, milled profiles, anodized, all screws stainless A4
Surface treatment:	lacquered, RAL 9031-HR or tbd. over Surtec 650 finish
Dimensions w/o Connectors and carrying handles:	482.60 mm (459.2 mm body without front plate) x 88.10 mm x 396 mm (W x H x D)
Weight:	7.4 kg
Connectors:	MIL-D38999 or VG96912 or tbd.
Options:	<ul style="list-style-type: none"> <li>■ SDIP- 27 Level B (ER) / Zone 1</li> <li>■ Additional cutouts and / or customized connectors, pinning</li> <li>■ AC power Supply</li> </ul>

Ask for further technical information!  
Functional or interface modifications can be realized on  
request. Each configuration change causes a new type  
number.