



ARMY



AIR FORCE



NAVY

REDFOX AG

Ruggedized Computers – Made in Switzerland



We realize your Vision. Active listening, active thinking and active fulfilling – these are the principles followed by all REDFOX staff. They lead to precise, efficient and client oriented solutions. Andreas Fuchs CEO REDFOX AG



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TAKE THE RIGHT DECISIONS

REDFOX computers and systems facilitate missions. Military leadership is supported by a choice of alternative actions in combat.

REDFOX AG develops and manufactures its products in Switzerland according to traditional quality standards. The REDFOX DEFENCE product portfolio is developed in compliance to specific military needs. REDFOX AG assists the integration process in order to shorten time to operational readiness.

The REDFOX DEFENCE product range includes all required components. High reliability, long life expectancy and durability are ensured in all configurations by the following characteristics:

Protected against dust and water penetration

- MIL-STD-810F
- EN60529

Electromagnetic immunity

- MIL-STD-461F
- RTCA DO-160E

Electrostatic immunity

- IEC 61000

Wide operating temperature ranges

- MIL-STD-810F
- RTCA DO-160E

Resistance to shock and vibration

- MIL-STD-810F
- RTCA DO-160E

Tolerant voltage supply

- MIL-STD-1275B
- RTCA DO-160E
- IEC 55022

Altitude proof

- MIL-STD-810F



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CUSTOMIZATION

Every mission has its particular needs. REDFOX DEFENCE products have a modular design. This allows affordable customization on various levels with short time to readiness. Displays can be adapted to specific utilization. Moreover, through the use of additional internal modules in computer systems further requirements can be fulfilled, practically independent of ambient temperature.

Displays

REDFOX DEFENCE displays fulfill high requirement regarding toughness and readability. However, certain circumstances need additional efforts. REDFOX DEFENCE displays offer the option to realize following additional functions:

- Night vision
- Higher or lower Resolution
- Vandal proof
- Sunlight readable / Transreflection
- Variations in size and format

Bus Systems

All REDFOX DEFENCE computer systems do offer several possibilities of standardized application expansions. The following bus systems are supported by default:

- PC Card
- PC/104plus
- PCI/104express
- CompactFlash
- Hilscher COM
- GPIOs (General purpose input output)

Customized USB 2.0 Modules

REDFOX DEFENCE computer systems do have six internal USB2 slots. Those allow specific application enhancements. These modules are wholly developed and produced by REDFOX AG. This offers numerous possibilities of tailored applications, with short time to operational readiness.

Security Module

Hardware and Software needs to be protected from unauthorized access. The Security module is part of a protection concept. It allows configuring specific user profile in combination with an e-token. The e-token is a hybrid USB and one-time password token. It combines the functionality of smart card based authentication tokens with one-time password user authentication technology in detached mode.

Monitoring Subsystem

Special circumstances need special measurements, in terms of functional reliability. REDFOX DEFENCE offers the option of equipping it with autonomous microcontrollers. Those microcontrollers take over thereby many monitoring and control functions. Over the user friendly Microsoft Windows™ mask, operating conditions can be configured. For example, critical application can be time watched, or unit heating and background lighting individually adjusted. With critical operating conditions a warning reference appears, before individual preset mechanism becomes active. Over the Setup program all functions of the micro control unit can be configured comfortably and clearly.



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PANEL PC AIO

REDFOX DEFENCE panel PC AIO is distinctively built for daily use in military applications. During development, primary considerations were on reliability and performance in all situations.

The fully self contained aluminum case guarantees optimal protection against dust and water. Its uncompromising mechanical design permits easy usability as well as reliable protection against electromagnetic interferences.

Processing Power with Adaptability

The panels PC AIO obtain its performance by using multi core CPUs. Efficient heat dissipation ensures full processing power even with high ambient temperature, without use of fans . Multi screen capability enhances user application. Several standard bus systems allow cost efficient customization. Those are:

- USB 2.0
- RS232
- Fire Wire 800 (IEEE1394b)
- PCI/104express
- GPIOs (General purpose input output)
- Cardbus
- PC/104plus
- CompactFlash
- Hilscher COM
- PC Card

Security by Monitoring and Intervention

An autonomous microcontroller manages and monitors the computer. A variety of customer specific characteristics can be programmed by systematic parameter settings:

- Predefined start up and shut down of the computer system
- Activate and deactivate heater
- Trigger alarms
- Monitor the instructor processor
- Deletion of predefined data

Shortening of Response Time

All REDFOX DEFENCE panel PC AIO units are equipped with touch screens. Touch screens have two main attributes. First, it enables one to interact with what is displayed directly on the screen, where it is displayed, rather than indirectly with a mouse or touchpad. Secondly, it lets one do so without requiring any intermediate device, such as a stylus that needs to be held in the hand. Optionally, programmable buttons expand the field of application.

Ready for Action

The panels PC AIO are off the shelf available in the following form factors:

All in one unit with 15" XGA LCD with IP65 connectors	RFD-AIO15M-3RS
All in one unit with 10.4" XGA LCD with IP65 connectors	RFD-AIO10M-3RS
All in one unit with 15" XGA LCD with docking connectors	RFD-AIO15D-3RS
All in one unit with 10.4" XGA LCD with docking connectors	RFD-AIO10D-3RS



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HARDWARE SPECIFICATIONS

CPU	Intel® Core™2 Duo Processor L7400	1.50 GHz
Chipset	Intel® 945 GME Express	
Video Interface	1 x 2-channel LVDS, 18 bit 2 x DVI 1 x VGA 1 x PEG (PCI Express for Graphics)	
Audio Interface	Audio line-in, stereo Audio line-out, stereo Mic-in, mono	
Keyboard/Mouse Interface	2 x PS/2	
Extension Bus System	3 x PCI Express x 1 (EPIC-Express format) 6 x USB 2.0 sub-modules (internal) ISA bus for Hilscher field bus modules	
DRAM	4 GByte Dual channel DDR2 DRAM Module Max. data rate 667 MHz	Allows Windows to access 3 GByte DRAM
S-ATA	2 x SATA	
CompactFlash	1 x CompactFlash slot	Interfaces only present on the main board
Ethernet	2 x 1000/100/10 BASE-T	
USB	4 x USB 2.0, external	
COM interfaces	1 x serial interface	
Boot	Harddisk, CD, USB, CompactFlash	
PCMCIA	2 x PCMCIA/PC card slot	
Firewire	2 x Firewire, IEEE1394b 800 MBit/s	

AMBIENT PARAMETERS

Standard operating temperature	-25°C to +55°C	Ambient temperature
Extended operating temperature	-40°C to +70°C	Ambient temperature

ELECTRICAL CHARACTERISTICS

Input voltage	24 VDC nominal (8 to 40 VDC)	MIL-STD 1275B
Input power	Max. 80 W	With active heating

MECHANICAL DATA

Dimensions, Weight	424x314x109 mm (W/H/D)	9.8 kg	With 15" screen
	306x244x89 mm (W/H/D)	6.7 kg	With 10.4" screen



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BLACK BOX COMPUTER SYSTEM

REDFOX DEFENCE black box computer system is distinctively built for daily use in military applications. During development, primary considerations were on reliability and performance in all situations.

The fully self contained aluminum case guarantees optimal protection against dust and water. Its uncompromising mechanical design permits easy usability as well as reliable protection against electromagnetic interferences.

Processing Power with Adaptability

The black box computer system obtains its performance by using multi core CPUs. Efficient heat dissipation ensures full processing power even with high ambient temperature, without use of fans. Multi screen operation facilitates its installation and enhances user application. Several standard bus systems allow cost efficient customization. Those are:

- USB 2.0
- RS232
- Fire Wire 800 (IEEE1394b)
- PCI/104express
- GPIOs (General purpose input output)
- Cardbus
- PC/104plus
- CompactFlash
- Hilscher COM
- PC Card

Security by Monitoring and Intervention

An autonomous microcontroller manages and monitors the computer. A variety of customer specific characteristics can be programmed by systematic parameter settings:

- Predefined start up and shut down of the computer system
- Activate and deactivate heater
- Trigger alarms
- Monitor the instructor processor
- Deletion of predefined data

Ready for Action

The black box computer systems are off the shelf available in the following versions:

Black box unit with IP65 connectors
Black box unit with docking connectors

RFD-BBX00M-3RS
RFD-BBX00D-3RS



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HARDWARE SPECIFICATIONS

CPU	Intel® Core™2 Duo Processor L7400	1.50 GHz
Chipset	Intel® 945 GME Express	
Video Interface	1 x 2-channel LVDS, 18 bit 2 x DVI 1 x VGA 1 x PEG (PCI Express for Graphics)	
Audio Interface	Audio line-in, stereo Audio line-out, stereo Mic-in, mono	
Keyboard/Mouse Interface	2 x PS/2	
Extension Bus System	3 x PCI Express x 1 (EPIC-Express format) 6 x USB 2.0 sub-modules (internal) ISA bus for Hilscher field bus modules	
DRAM	4 GByte Dual channel DDR2 DRAM Module Max. data rate 667 MHz	Allows Windows to access 3 GByte DRAM
S-ATA	2 x SATA	
CompactFlash	1 x CompactFlash slot	Interfaces only present on the main board
Ethernet	2 x 1000/100/10 BASE-T	
USB	4 x USB 2.0, external	
COM interfaces	1 x serial interface	
Boot	Harddisk, CD, USB, CompactFlash	
PCMCIA	2 x PCMCIA/PC card slot	
Firewire	2 x Firewire, IEEE1394b 800 MBit/s	

AMBIENT PARAMETERS

Standard operating temperature	-25°C to +55°C	Ambient temperature
Extended operating temperature	-40°C to +70°C	Ambient temperature

ELECTRICAL CHARACTERISTICS

Input voltage	24 VDC nominal (8 to 40 VDC)	MIL-STD 1275B
Input power	Max. 80 W	With active heating

MECHANICAL DATA

Dimensions, Weight	306x244x87 mm (W/H/D)	6.5 kg
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REMOTE DISPLAY

The REDFOX DEFENCE remote displays are usable as additional or remote monitors. They are designed and produced for long term daily military use under harsh conditions. Legibility in very bright environment is assured due to the use of specific filters. Additionally, sensors adjust the brightness according to the ambient.

Shortening of Response Time

All REDFOX DEFENCE remote displays are equipped with touch screens. Touch screens have two main attributes. First, it enables one to interact with what is displayed directly on the screen, where it is displayed, rather than indirectly with a mouse or touchpad. Secondly, it lets one do so without requiring any intermediate device, such as a stylus that needs to be held in the hand. Optionally, programmable buttons expand the field of application.

Ready for Action

An analog input allows the visualization of video signals, for instance for driver's view enhancement systems. The displays are of the shelf available in the following form factors:

15" XGA LCD with touch screen and IP65 connectors
10.4" XGA LCD with touch screen and IP65 connectors
8.4" XGA LCD with touch screen and IP65 connectors

RFD-DIS15M-3RS
RFD-DIS10M-3RS
RFD-DIS08M-3RS



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MAIN SPECIFICATION

15", 10.4" & 8.4" TFT display with XGA resolution (1024 x 768 pixel) and extended temperature range

Resistive 8-wire touch panel

Status-LED for disk-/LAN-activity, power, heating

ON/OFF key

Keys «brightness+» and «brightness-» (adjustment of display brightness / shut off LCD-backlight)

Front keys generate programmable standard key codes

USB 2.0 front interface

Ambient light sensor for adaption of the display brightness

AMBIENT PARAMETERS

Standard operating temperature	-25°C to +55°C	Ambient temperature
Extended operating temperature	-40°C to +70°C	Ambient temperature

ELECTRICAL CHARACTERISTICS

Input voltage	24 VDC nominal (8 to 40 VDC)	MIL-STD 1275B
Input power	Max. 42 W	With heating active

MECHANICAL DATA

Dimensions, Weight	424x314x109 mm (W/H/D)	9.0 kg	With 15" screen
	306x244x89 mm (W/H/D)	6.7 kg	With 10.4" screen
	242x178x62 mm (W/H/D)	2.7 kg	With 8.4" screen



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ETHERNET SWITCH

The REDFOX DEFENCE Ethernet switch ensures communications between computer systems despite harsh conditions. Nine copper based data channels operate at 1000, 100 or 10 Mbit/s. A version with full duplex fiber channel for single mode fibers enhances connectivity.

Expand Sphere of Influence

The copper based channels are equipped with Power over Ethernet. These technologies is especially useful for powering cameras with pan tilt and zoom functions, embedded computers and thin clients via the Ethernet copper cable.

Ready for Action

The Ethernet switch is of the shelf available in the following versions:

Ethernet Switch with IP65 connectors	RFD-ESW90M-3RS
Ethernet Switch with Fiber Optic and IP65 connectors	RFD-ESW91M-3RS

ELECTRICAL CHARACTERISTICS

Input voltage	24 VDC nominal (8 to 40 VDC)	MIL-STD 1275B
Input power	Max. 76 W	With 9 active LAN-links, With 3 POE-devices
LAN-ports 1-4	1000/100/10 MBit/s POE phantom supply	
LAN-ports 5-8	1000/100/10 Mbit/s POE direct supply	
LAN-port 9	1000/100/10 Mbit/s No POE supply	
Optical LAN port	SFP Modul Slot	

AMBIENT PARAMETERS

Standard operating temperature	-25°C to +55°C	Ambient temperature
Extended operating temperature	-40°C to +70°C	Ambient temperature

MECHANICAL DATA

Dimensions, Weight	320x254x66 mm (W/H/D)	4.4 kg
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DOCKING STATIONS

The use of REDFOX DEFENCE docking stations expands the range of possible applications for computer systems significantly. Computer units can be used in different settings without compromising on its durability.

Several Places of Action

The docking stations are designed for vehicle wall mounting as well as for tabletop installation. All connectors are fitted with mechanical protective covers. This prevents contamination even in harsh military use, dispartate a computer is docked or not. A mechanical interlock prevents any tilting of docked units unrelated of extreme conditions. An optical fiber interface is available as a part of an optional connectivity kit.

Ready for Action

The docking stations are of the shelf available in the following versions:

Docking Station for vehicle wall mounting with IP65 connecto	RFD-DOK01M-3RS
Docking Station for tabletop installation with IP65 connector	RFD-DOK00M-3RS
Docking Station for tabletop installation ready for the optional connectivity kit	RFD-DOK00C-3RS



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Realizing Visions

REDFOX AG designs, manufactures and sells ruggedized computers and systems for permanent operations. REDFOX computer systems are built into stationary and mobile equipment for use in harsh environments. In conjunction with partners, innovative products and services are manufactured to meet customer requirements.

Ruggedized Computers – Made in Switzerland

REDFOX AG is based in Switzerland, which enables a sustainably high level of quality. The company was founded in 1985 as an engineering company with the aim of developing industrial and military embedded systems. 50 employees implement individual customer requirements at an uncompromisingly quality standard.

Hightech and Intelligence

REDFOX AG supplies products and support to customers with high demand for functionality and performance. Modular design enables customer specific configurations with short turnaround times. REDFOX systems integration is a main support feature.

Win/Win and More

Send us your requirements. We will meet them and provide a sustainable solution.

Partner



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