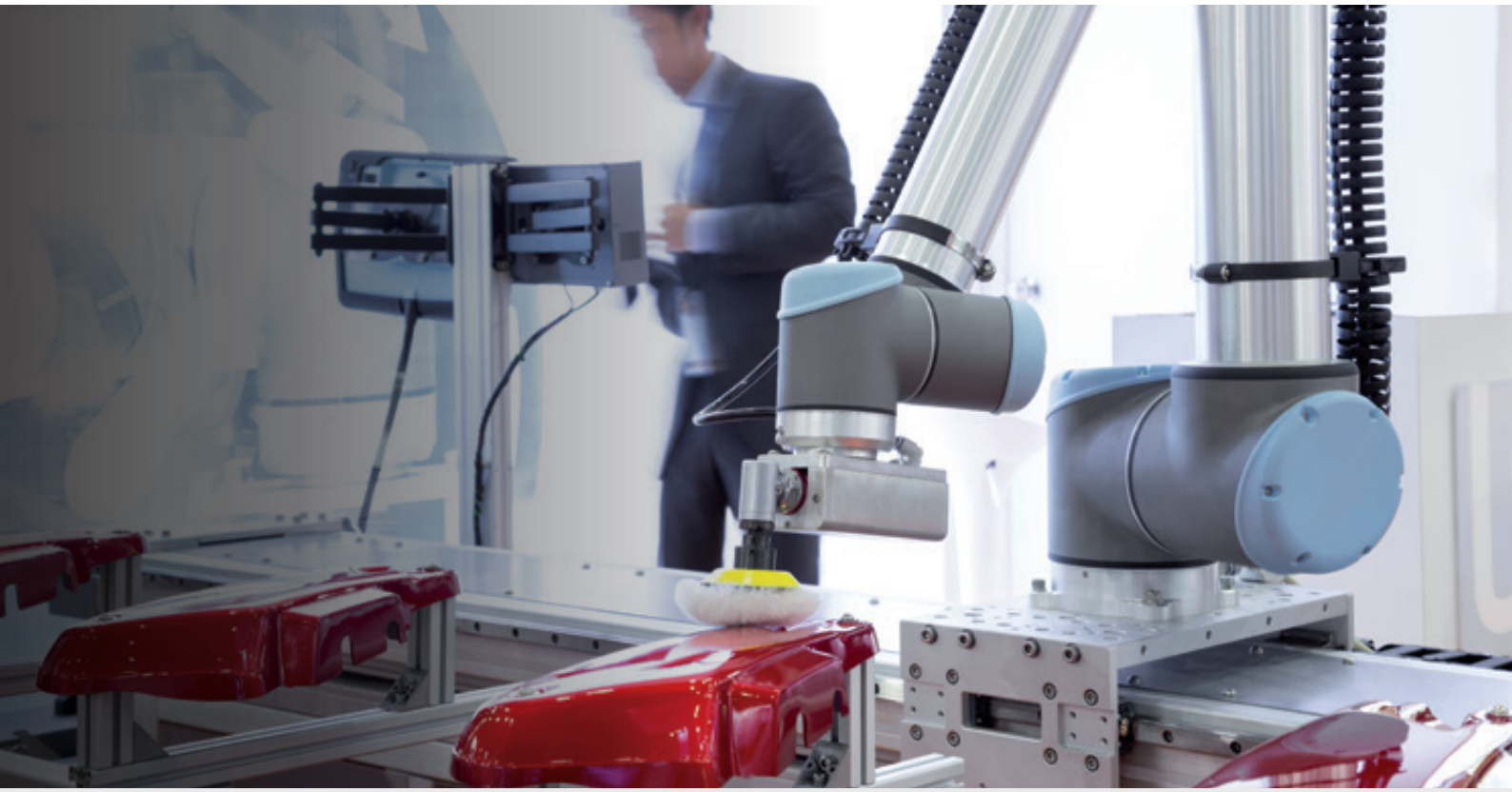
janztec
Industrial Computing Architects



Embedded Computing

Industrial PC

Industrial Security

Custom-built Industrial Computers and Secure Appliances

Industrial Computing Architects

Industrial
Computing
Architects

Janz Tec AG – Custom-built Industrial Computers and Secure Appliances
For 35 years Janz Tec AG has been one of the leading producers of embedded computers, industrial PCs and components. Our highly qualified staff devise hardware and software for industrial computers and secure appliances, all exclusively produced in Germany. Industrial Security is an important aspect of the appliances and guarantees secure transfer and storage of information for industrial applications. In our Systems Engineering division, we make available our longstanding experience in the areas of expertise – conception, design and integration of our customers' complex technical systems.

Industrial Computing Architects
The staff of Janz Tec AG see themselves as *Industrial Computing Architects* – they devise, develop and produce components and systems on the basis of standards customised to the customer's individual requirements. This unique combination of specialists in the areas of hardware and software engineering as well as information technology enables us to design every industrial computer, control unit and component in accordance with the customer's technological application and specific requirements. Our chief concerns in this are sustainability in the climate of IoT, long-term availability and highest quality.

Integration of Secure Appliances
Janz Tec offers a variety of interfaces for the integration of individual systems, sensors and actuators from different producers within complex system layouts, at the same time guaranteeing highest functional reliability and industrial security. Our industrial computer systems are distinguished by their highly modular, open architecture which ensures reduced integration outlay and unified information access. Industrial security is assured as an integral part of our solutions.

Your Partner for Highest Technological Demands
We will fulfil your highest technological demands. We train our highly qualified employees for this and ensure they receive continuous further training. Additionally we keep up with the changing trends, both economic and technological, by being involved with different organisations. Our aim is the optimal solution for your application.

Quality management *Quality at Work*
The very highest quality is our benchmark. We have been living and improving our process-oriented quality management system *Quality at Work* for many years. Our certification according to EN ISO 9001:2008 supports us in successfully realising demanding automation tasks. This demand for quality is also seen in the consequent training and further development of our employees. A highly-trained team guarantees high customer satisfaction.

Take advantage of over 35 years of experience and the far-reaching know-how of our *Industrial Computing Architects.*

Michael Rennerich and Matthias Stute, Management of Janz Tec AG

Milestones

1982 Michael Janz founds Janz Elektronik GmbH in Lichtenau.

1985 The successful start-up becomes Janz Computer AG after the investment of the Stute family.

1987 The company obtains a larger industrial location.

1990 Partnerships with foreign representatives expand the distribution network worldwide.

2001 Janz grows further:
The operative companies Janz Informationssysteme AG and Janz Automationssysteme AG are founded.

2005 Expansion of production areas at Paderborn headquarters.

2011 Janz Automationssysteme AG operates under the name Janz Tec AG.

2015 A second facility starts in Bad Lippspringe and the production area is doubled.

6 Embedded Computing
8 Embedded PCs
14 IoT Gateways
16 Web Panels
18 Panel PCs
20 References
24 Industrial PC
26 Mini | Compact IPCs
29 Desktop | Wallmount PCs
30 Rack PCs
32 References
34 Boards
36 CAN Host Interfaces
38 CAN FD Boards
39 VMEbus Boards
40 CODESYS
44 Industrial Security
52 Industries
54 Contact and Adresses

Embedded Computing

Reliable Embedded Computing Solutions

With their robustness and reliability, Janz Tec's embedded computing systems, also called emPC's, are made for industrial applications in all different branches and applications. Each application has different requirements for controlling systems such as, for example, passive cooling, zero maintenance, flexible storage media and communication interfaces.

ARM and x86-based computing systems are available in flexible performance ranges and with different operating systems.

Additionally, all emPC's can be equipped with industrial grade touch displays in different diagonals and with resistive or capacitive touchscreens. These panel PC's are known under the label emVIEW. Customer-specific designs are also available in smaller quantities.

Fanless Embedded PC

Embedded PC System, ARM based

emPC

Embedded PC System x86 based, with Intel Atom technology

emPC-A/RPI3

Processor
› Based on Raspberry Pi 3, Model B
› Broadcom BCM2836 processor
› Quad-Core CPU based on ARM Cortex-A53 with 4 x 1.2 GHz *1)
› Fanless cooling concept
› Realtime clock, battery buffered

Memory
› System memory 1 GB DDR2
› External accessible µSD card slot

Interfaces
› 1 x 10/100 Mbit/s Ethernet
› 4 x USB (v2.0)
› 1 x 9-pin D-SUB connector for serial debug console
› 1 x CAN (ISO/DIS 11898-2 opto-isolated, termination settings via jumper)
› 1 x RS232 (Rx, Tx, RTS, CTS) or switchable to RS485 (Half Duplex; termination settings via jumper)
› 8 x digital inputs / outputs ($24V_{DC}$)

Power Supply
› Input 9 … 32 V_{DC}

Physical
› Ambient operating temperature 0 °C ... 35/40°C *2)
› Non-operating temperature range from -20 °C … 75 °C
› Humidity 0 % ~ 95 %, non-condensing
› Dimensions (w x h x d): 99.8 x 30.0 x 96.7 mm
› Desktop, Wall or DIN rail mounting

Supported Operating Systems
› Linux

Options
› OSIRIS Basic

*1) CPU performance will be reduced by software in our standard OS image to 4 x 600 MHz for protecting the system against overheating.

*2) temperature range depends on mounting situation of the device, please see hardware manual for more detailed information

emPC-A500

Processor
› Freescale i.MX515 application processor with 600 MHz
› Fanless cooling concept
› 32 kB instruction and data caches
› Unified 256 kB L2 Cache
› Vector floating point co-processor

Memory
› System memory 256 MB DDR2
› Boot Flash 2 MB, with boot loader
› Battery-free NVRAM 32 kB
› CompactFlash Socket, Type I/II

Interfaces
› 2 x 10/100 Mbit/s Ethernet (RJ45 connectors)
› 2 x USB (v2.0), with 500 mA power supply capability
› Up to 2 x RS232 serial interfaces
› Up to 2 x CAN/CANopen interfaces
› 15-pin VGA graphic interface on front panel

Power Supply
› Input 9…34 V_{DC}
› Power consumption ca. 6 W

Physical
› Ambient operating temperature -40 °C ... +70 °C
› Non-operating temperature range from -40 °C … 75 °C
› Humidity 0 % ~ 80 %, non-condensing
› Dimensions (w x h x d): 111 x 62 x 104 mm
› Weight approx. 0.8 kg

Supported Operating Systems
› Windows CE 6.0
› Linux
› Other operating systems on request

Option
› CODESYS IEC61131-3 runtime environment
› Integrated I/O modules

emPC-A/iMX6

Processor
› Freescale i.MX6 application processor
› Quad-Core CPU based on ARM Cortex-A9 800 MHz, with ARMv7™, Neon, VFPv3 and Trustzone support
› Fanless cooling concept

Memory
› System memory 2 GB DDR3
› Battery-free NVRAM 128 kB
› Internal CFast Socket for SATA SSD
› Internal 4Gbyte eMMC flash
› Internal SD card slot

Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet
› 2 x USB (v2.0), with 500 mA power supply capability
› Up to 2 x RS232 serial interfaces
› Up to 2 x CAN/CANopen interfaces
› Serial port with RTS/CTS only
› DVI-D graphic interface on front panel (single link)

Power Supply
› Input 9…34 V_{DC}
› Power consumption ca. 6 W

Physical
› Ambient operating temperature -40 °C ... 60 °C
› Non-operating temperature range from -40 °C … 75 °C
› Humidity 0 % ~ 80 %, non-condensing
› Dimensions (w x h x d): 111 x 62 x 104 mm
› Weight approx. 0.8 kg

Supported Operating Systems
› Linux
› Other operating systems on request

Option
› CODESYS IEC61131-3 runtime environment
› Integrated I/O modules
› OSIRIS Standard

emPC-X

Processor
› Intel Atom E3825 (2 x 1.33 GHz, 1 MB L2 Cache)
› Intel Atom x5-E3940 (4 x 1.6/1.8 GHz, 2 MB L2 Cache) (preliminary)

Memory
› 2 GB DDR3L system memory with 1.067 GT/s
› 128 kB battery-free NVRAM
› Internal CFast Socket for SATA SSD

Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet
› 3 x USB (v2.0)
› Up to 2 x RS232 serial interfaces
› Up to 2 x CAN/CANopen interfaces
› Reset push button

Power Supply
› Input 9...34 V_{DC}
› Power consumption < 12 W

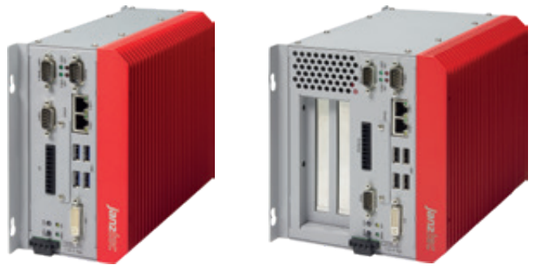
Physical
› Ambient operating temperature 0 °C ... 50 °C
› Non-operating temperature range from -20 °C … 75 °C
› Humidity 0 % ~ 80 %, non-condensing
› Dimensions (w x h x d): 111 x 62 x 104 mm
› Weight approx. 0.8 kg

Supported Operating Systems
› Windows Embedded Compact (WEC) 7
› Windows Embedded Standard (WES) 7
› Windows 7, Windows 10 IoT
› Linux
› Other operating systems on request

Option
› CODESYS IEC61131-3 runtime environment
› Integrated I/O modules

Flexible Embedded PC Systems

emPC-CX+



Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet, RJ45 connectors
› 4 x USB host connection, USB 2.0 or USB 3.0
› Up to 2 x isolated CAN/CANopen ports
› Up to 2 x RS232 ports
› DVI-I connector
› Internal mPCIe socket

Power Supply
› Input 9/14…34 V_{DC}

Physical
› Ambient operating temperature range: see table
› Non-operating temperature range: -20°C…75°C
› Humidity: 0 ~ 80 %, non-condensing
› Dimensions excl. wall mounting pads (w x h x d):
› 0 slot version: 96 x 171 x 230 mm
› 2 slot version: 147 x 171 x 230 mm
› 4 slot version: 179 x 171 x 230 mm

Supported Operating Systems
› Windows Embedded Compact (WEC) 7
› Windows Embedded Standard (WES) 7
› Windows 7, Windows 10 IoT
› Linux
› Other operating systems on request

Options
› CODESYS IEC61131-3 runtime environment
› Customized IO expansion with personality board
› Up to 4 either PCI or PCIexpress slots

Intel®Atom™ › Intel®Core™ i3 / i7

		emPC-CX+/A-E3827	emPC-CX+/i3-3120ME	emPC-CX+/i7-3517UE
Processor		Intel Atom E3827	Intel i3-3120ME	Intel i7-3517UE
Frequency		2 x 1.75 GHz	2 x 2.4 GHz	2 x 1.7/2.8 GHz
max. RAM		8 GB DDR3L	16 GB DDR3	16 GB DDR3
L2 Cache		1 MB	3 MB	4 MB
Chipset		integrated in SoC	QM77	QM77
PCI slots		0/2	0/2	0/2
PCIe (x1)slots		0/2	0/2/4	0/2/4
mPCIe slots		1	1	1
Hard Disk (internal, 2,5") / SSD		1x S-ATA II	2x S-ATA III	2x S-ATA III
CFast socket (external)		yes	yes	yes
CAN / CANopen		2/1*	2/1*	2/1*
Ethernet (MBit/s)		2 x 10/100/1000	2 x 10/100/1000	2 x 10/100/1000
USB (v2.0 / v3.0)		4/1	4/4	4/4
RS232		1/2*	1/2*	1/2*
RS485		on request	on request	on request
Power Supply		9 … 34 V_{DC}	14 … 34 V_{DC}	14 … 34 V_{DC}
Ambient operating temperatur range	with fan		0 °C...50 °C	0 °C...50 °C
	without fan	0 °C...50 °C	0 °C...45 °C	0 °C...45 °C

* These options are available on request. Please contact our regional sales office for further information.

EXTREME

Particularly Robust Systems for Use in Extreme Environment

IP67

emPC-CXR – Rugged Embedded PC Systems
Rugged and high-quality computer platform
Made in Germany

› COM Express embedded processor modules
› New housing design and new cooling concept
› Extreme requirements in reference to temperature, ingress protection, shock and vibration.
› High-performance computer platform for the fields marine, mining industry, military, aircraft industry, construction machines and navy.
› Rugged communication computers specifically designed for heavy vehicles working in harsh environments.

Made in Germany

emPC-CXR

Processor
› Intel Core i7-3517UE (Dual Core Technology with up to 1.7 GHz, 4 MB L2 Cache)
› Intel Celeron 1047UE (Dual Core Technology with up to 1.4 GHz, 2 MB L2 Cache)

Interfaces
› 2 x M12 connectors for CAN or serial ports
› 2 x M12 connectors for 10/100/1000 Mbit/s Ethernet
› 2 x M8 connectors for USB v2.0
› 1 x M12 power supply connector
› 1 x M12 with 4 digital input/outputs
› 1 x 15 pin DSUB VGA connector (waterproof)

Physical
› Ambient operating temperature range from **-40°C …+ 70°C**
› Dimensions (w x h x d): 270 x 200 x 90 mm (not including M connector overhang)
› Shock (operational): IEC60068-2-27, 50G, half sine, 11ms duration
› Vibration (operational): IEC60068-2-64, 5Grms, random, 5-500Hz, 1Oct/min, 1hr/axis
› IP67 environmental protection

Supported Operating Systems
› Windows Embedded Standard (WES) 7
› Windows 10 IoT Enterprise
› Linux
› Other operating systems on request

Options
› CODESYS IEC61131-3 runtime environment
› OLED display with 2 x 20 characters
› 4 free programmable buttons

emPC-CX+/ET

Processor
› Intel Core i7-3517UE (Dual Core Technology with up to 1.7 GHz, 4 MB L2 Cache)
› Intel Celeron 1047UE (Dual Core Technology with up to 1.4 GHz, 2 MB L2 Cache)

Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet, RJ45 connectors
› 4 x USB host connection, USB 2.0 or USB 3.0
› Up to 2 x isolated CAN/CANopen ports
› Up to 2 x RS232 ports
› DVI-I connector

Physical
› Ambient operating temperature **-40°C…+70°C**
› Non-operating temperature range from **-40°C…85°C**
› Humidity 0 ~ 80 %, non-condensing
› Dimensions excl. wall mounting pads (w x h x d): 96 x 171 x 230 mm
› Shock (operational): IEC60068-2-27, 50G, half sine, 11ms duration
› Vibration (operational): IEC60068-2-64, 5Grms, random, 5-500Hz, 1Oct/min, 1hr/axis

Supported Operating Systems
› Windows Embedded Standard (WES) 7
› Windows 10 IoT Enterprise
› Linux

Options
› CODESYS IEC61131-3 runtime environment
› Customized IO expansion with personality board

IoT Gateways

Embedded PC System

emIOT-X

Processor
› Intel Atom E3825 (2 x 1.33 GHz, 1 MB L2 Cache)
› Intel Atom x5-E3940: 4 x @1.6 / 1.8 GHz

Radio and Wireless Technologies
› GPRS/UMTS/LTE-CAT6 (Down: 300 Mbps | Up: 50 Mbps)
› Wi-Fi 802.11 a/b/g/n
› With GPS/GNSS module
› Optional with Bluetooth 4.0 (2.1+EDR, LE) or ZigBee 802.15.4 support
› For usage in Europe, Middle East, Africa and America

Memory
› 2 GB DDR3L system memory with 1.067 GT/s
› 128 kB battery-free NVRAM
› Internal CFast Socket for SATA SSD

Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet
› 3 x USB (v2.0)
› Up to 2 x RS232 serial interfaces
› Up to 2 x CAN/CANopen interfaces

Power Supply
› Input 9...34 V DC

Physical
› Ambient operating temperature 0 °C ... 50 °C
› Non-operating temperature range from -20 °C … 75 °C
› Humidity 0 % ~ 80 %, non-condensing
› Dimensions (w x h x d): 111 x 62 x 104 mm
› Weight approx. 0.8 kg

Supported Operating Systems
› Windows Embedded Compact (WEC) 7
› Windows Embedded Standard (WES) 7
› Windows 7, Windows 10 IoT
› Linux
› Other operating systems on request

Option
› CODESYS IEC61131-3 runtime environment
› Integrated I/O modules

emIOT-A/iMX6

Processor
› Freescale i.MX6 application processor
› Quad-Core CPU based on ARM Cortex-A9 800 MHz, with ARMv7™, Neon, VFPv3 and Trustzone support
› Fanless cooling concept

Radio and Wireless Technologies
› GPRS/UMTS/LTE-CAT6 (Down: 300 Mbps | Up: 50 Mbps)
› Wi-Fi 802.11 a/b/g/n
› With GPS/GNSS module
› Optional with Bluetooth 4.0 (2.1+EDR, LE) or ZigBee 802.15.4 support
› For usage in Europe, Middle East, Africa and America

Memory
› System memory 2 GB DDR3
› Battery-free NVRAM 128 kB
› Internal CFast Socket for SATA SSD
› Internal 4 GByte eMMC storage
› Internal SD card slot

Interfaces
› 2 x 10/100/1000 Mbit/s Ethernet
› 2 x USB (v2.0), with 500 mA power supply capability
› Up to 2 x RS232 serial interfaces
› Up to 2 x CAN/CANopen interfaces
› DVI-D graphic interface on front panel (single link)

Power Supply
› Input 9…34 V DC

Physical
› Ambient operating temperature -40 °C ... 60 °C
› Non-operating temperature range from -40 °C … 75 °C

Supported Operating Systems
› Linux

Option
› CODESYS IEC61131-3 runtime environment
› integrated I/O modules

emIOT-Edge

Processor
› Efficiency Single Core ARM Cortex A5 @ 550 MHz
› Built-In LTE telecom core @ 600 MHz
› Optional:
LTE CAT-NB1 Modem with Cortex A7 @ 1,3 GHz and GPRS fallback (Preliminary)

Radio and Wireless Technologies
› GPRS/UMTS/LTE-CAT3 (Down: 100 Mbps | Up: 50 Mbps)
› With GPS/GNSS support
› For usage in Europe, Middle East, Africa and America

Memory
› Memory: 256 MB RAM
› Internal flash storage: 512 MB

Interfaces
› 1x M12 includes
- Power supply
- 2x Digital I/O
- 1x Serial Console
- 1x Remote pin

› 1x M12 adaptive interfaces with the options
1) 10/100 Fast Ethernet
2) 1x CAN
1x RS232/RS485
2x Digital I/O
3) On request other customer specific interfaces

Power Supply
› Input 9…34 V DC
Remote contact to trigger

Physical
› IP65 protection class
› Solid aluminum housing
› Ambient operating temperature -20 °C ... 60 °C
› Non-operating temperature range from -40 °C … 75 °C

Supported Operating Systems
› Linux

emWEB

Display
› 7”, 10”, 15” or 21” TFT display
• Aspect ratio 16:9
• LED backlight technology

Touch Screen
• Resistive touch screen
• Projected capacitive touchscreen (PCT)

Processors
• Freescale i.MX6Dual, i.MX6Quad (optional)

System
• Fanless cooling
• Real time clock (battery backed up)
• 4 free programmable buttons at front site (optional)

Storage Mediums / Memory
• 1 GB DDR3 memory (soldered to board)
• 8 GB µSD card (internal)

Interfaces
• 1 x RJ45 connector for 10/100BaseT Ethernet
• 1 x USB 2.0
• 1 x Connector for power supply
• 1 x CAN (optional)

Software
• Minimal Debian Linux operating system
• HTML5 browser application automatically starting in full screen mode after system boot up

Certifications
• CE

Physical and environmental conditions
• Ambient operating temperature range 0°C … + 55°C
• Non-operating temperature range -20°C … 75 °C
• Humidity 0% ~ 80%, non-condensing

Housing
• Solid metal sheet housing for industrial usage
• IP65 front side, IP20 rear sides
• Front design “Janz Tec” for default

Options
• CAN (Controller Area Network) interface
• Security features:
  - Signed and encrypted boot
  - Hardware random generator (NIST certified)
  - Hardware accelerated cryptographic engine
• Customized front design possible

	7.0“	10.1“	15.6“	21.5“
Used in	emWEB-7	emWEB-10	emWEB-15	emWEB-21
Resistive Touchscreen	yes	no	yes	yes
Capacitive Touchscreen	yes	yes	no	no
Display Resolution	WSVGA / 1024 x 600	WXGA / 1280 x 800	WXGA / 1366 x 768	Full HD / 1920 x 1080
Contrast ratio	600 : 1	800:1	500 : 1	5000 : 1
Viewing angle (hor.)	150°	170°	170°	178°
Viewing angle (vert.)	145°	170°	160°	178°
Luminance (typ.)	300 cd/m²	500 cd/m²	300 cd/m²	300 cd/m²
Input level	9 … 34 VDC	9 … 34 VDC	14 … 34 VDC	14 … 34 VDC
Power consumption	8W	11W	14W	18W
Dimensions (w x h x d) in mm	213,5 x 147,0 x 24,0	288,0 x 225,0 x 33,0	427,0 x 279,0 x 34,0	570,1 x 366,7 x 34,0

Panel PC Systems

emVIEW

The scalable product series from emVIEW systems offers a wide spectrum of processor performance and display sizes. Customer-specific solutions can be implemented at any time for optimal adaptation to your task requirements.

Housing
› Aluminum front panel with front foil for corporate design (standard is Janz Tec design)
› Dimensions and weights see table

Touchscreen
› Resistive and/or capacitive touchscreen

Additional PC Features:
› Depend on the emPC model:
emPC-A500
emPC-A/iMX6
emPC-X
emPC-CX+
emPC-CX+/ET

Industrial display only features:
› 5 rear side control buttons for Power (On/Off), OSD (activating), Confirm (for OSD menu), Up and Down (navigation within OSD menu)
› DVI-D and DP graphic ports
› RS232 and USB touchscreen port
› Power connector for 14...32 V DC power supply
› Resistive or capacitve touchscreens
› Display properties see emVIEW table

	6.5“	7.0“	8.4“	10.1“	12.1“	15.0“	15.6“	21.5“	Custom Design
emPC-A500	X	X	X	X	X	–	–	–	on request
emPC-A/iMX6	X	X	X	X	X	on request	X	–	on request
emPC-X	X	X	X	X	X	X	X	–	on request
emPC-CX+	–	–	–	–	X	X	X	X	on request
emPC-CX+/ET	–	–	–	–	X	X	X	X	on request
Industrial Display only	–	–	emVIEW-8T/D	emVIEW-10WT/D	emVIEW-12T/D	emVIEW-15T/D	emVIEW-15WT/D	emVIEW-21WT/D	on request

This table shows the availability of the emVIEW displays with the emPC systems. If there are some missing items, or questions, please contact your regional sales office.

	7.0“	8.4“	10.1“	12.1“	15.0“	15.6“	21.5“
Used in	emVIEW-7WT	emVIEW-8T	emVIEW-10WT	emVIEW-12T	emVIEW-15T	emVIEW-15WT	emVIEW-21WT
Backlight	LED	LED	LED	LED	LED	LED	LED
Resolution	1024 x 600	800 x 600	1280 x 800	800 x 600	1024 x 768	1366 x 768	1920 x 1080
Format	16:9	4:3	16:9	4:3	4:3	16:10	16:9
Luminance (typ.)	300 cd/m²	400 cd/m²	500 cd/m²	450 cd/m²	750 cd/m²	300 cd/m²	300 cd/m²
Contrast (typ.)	600:1	500:1	800:1	700:1	700:1	500:1	5000:1
Colors	16.7 Mio.	256k	16.7 Mio.	16.7 Mio.	16.7 Mio	16.7 Mio.	16.7 Mio
Viewing angle (hor.)	160°	160°	170°	160°	160°	170°	178°
Viewing angle (vert.)	145°	140°	170°	140°	140°	160°	178°
Resistive Touchscreen	yes	yes	no	yes	yes	yes	yes
Capacitive Touchscreen	no	on request	yes	yes	on request	yes	on request
Front Protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65

Embedded Computing Reference

Advanced Airport Navigation Lighting Controllers for Safe Landings

Challenge: The challenge for Janz Tec was to find a controller for navigation lights at airports like runways and gate signals, indicators for taxiways etc. These navigation lights need the utmost reliability and they feature redundant systems in most cases.

Solution: To allow simple integration in new as well as existing installations, the dimensions of this controller had to be compact. With dimensions of 134 x 185 x 90 mm, this PC offers the highest performance available in this configuration. Easy unit serviceability was also very important, so connections were provided above and below the system. The new system upgrades the front display and a more powerful processor as well as rapid Ethernet interfaces. Featuring the usual industrial controller interfaces (3 x GigabyteEthernet ports, 4 x USB2.0 ports, 2 x serial interfaces and 1 x DVI-I-Interface), additionally CANopen and several analogue and digital I/Os have been added to provide a perfect custom solution.

Pro Janz Tec: Requiring a long-term availability (as far as 10 years) this company searched for a reliable partner with a high level of controller expertise. Janz Tec AG's development competence, together with requirements resulted in a decision to make a custom, jointly developed controller system.

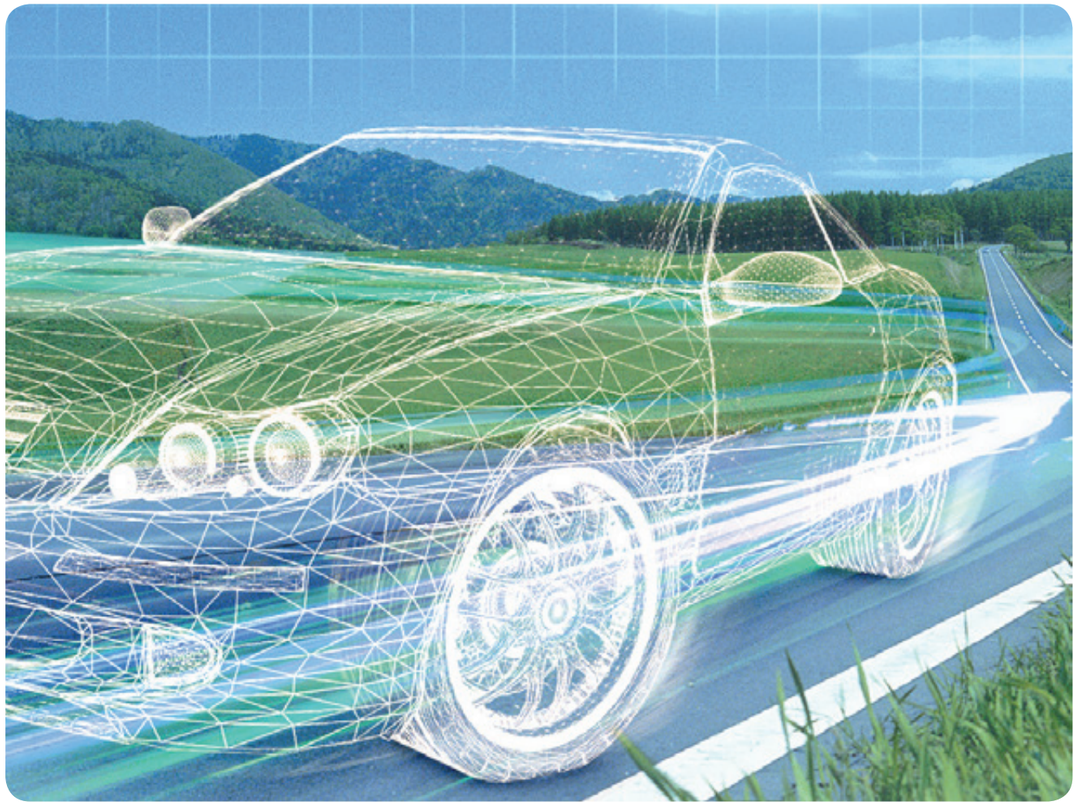
Embedded Computing Reference

SoftMotion – System-integrated Control Software

Challenge: To stay ahead as a system supplier and maintain the position of a global leader in the technology sector, top performance is required in the drive technology industry in many ways. Besides developing new products, a company must also demonstrate the ability to tailor previously developed solutions to a customer's specific requirements. Our customer has always been aware of this challenge and took up the gauntlet in three specific core target industries.

Solution: Thus, they chose to base their system on the high-performance EtherCAT at an early stage, which is why the MC6 motion controller also relies on EtherCAT – an Ethernet-based synchronous bus system. Today, the machine tool industry cannot survive without drive technology. Reliability, precision and a high load capacity must be guaranteed at all times. The drives of our customer ensure that plant and machinery operate smoothly – even in the most difficult operating conditions.

Pro Janz Tec: They not only found a control system manufacturer in the Paderborn-based company, Janz Tec, but also a qualified partner for EtherCAT issues. Janz is known for its reliability and expertise – qualities that have been shaping our customer for years. Thanks to Janz Tec, the compact size of the MC6 means it can be used in a wide range of applications.



Embedded Computing Reference

Unique Embedded Development System for Automotive Environments

Challenge: The challenge for Janz Tec was to build a customer specific embedded computer system for the MicroAutoBox (MABX), which is an example of a world-implemented Real-time development platform in Rapid-Control-Prototyping.

Solution: As an extension for MicroAutoBox II the individual embedded computer system was designed. The integrated Gigabit-Ethernet-Switch realizes the communication between the PowerPC MABX II and the Janz Tec Embedded-PC, which is powered by a passively-cooled Intel® CPU – though more powerful COM Express module can be used. To incorporate WLAN, mobile communications or FireWire®, the computer unit offers an internal PCIe-Mini-Card-slot and an Express-Card-socket on at the rear, and three Gigabit Ethernet connections on the front. One internal 2.5“ form factor SATA connector allows using ruggedized SSDs as well as high capacity hard disks.

Pro Janz Tec: This customer was looking for a partner who could offer intelligent, individualized solutions. With the Micro-AutoBox II and its embedded computing expansion, users now have a unique development system offering great versatility, compact configuration and almost unlimited possibilities.

The Senior Product Manager at our customer says: “Because of Janz Tec AG`s Embedded know-how, we were able to offer an extension option for the MicroAutoBox II within just a few months. The cooperation was straightforward and issues arising could be dealt with promptly. In Janz Tec AG we found a regional partner with obvious competence in Embedded PC technology.“

Embedded Computing Reference

Latest Generation Aircraft Tow Tractor uses Janz Tec emVIEW Systems

Challenge: The challenge for Janz Tec was to build the customer specific HMI system, with a display which is suitable for daylight operation (sunny conditions) in aircraft tow tractor cabins. Low power operation even in adverse environmental conditions is essential for fanless operation.

Solution: At the beginning of the project a standard Janz Tec emVIEW-6T/A400 was selected, a small compact ARM based Panel PC with a 6.5“ display. Important factors in selecting these systems were the full CAN/CANopen support and the use of Soft-SPS CODESYS as IEC 61131-3 control software. Based on a standard emVIEW-6T/A400, a customer specific product was designed, with a display suitable for daylight operation and customer CI front panel design.

Pro Janz Tec: Since the tractors are equipped with very large windows, and thus have a lot of ambient light in the cabins, a normal display is often difficult to read and Janz Tec was able to offer a small HMI system with a display technology suitable for this application. The decision to use Janz Tec for the series launch was based on several reasons – significantly the fast, flexible response to additional requests from the customer. This decision insured that a system could be delivered that could cope with wide temperature ranges.

Industrial PC

Flexible Industrial PC Systems

Our Industrial PC Systems are available with mini | compact, 19” rack and wall mount housings, as well as customer-specific variants. Particular attention is paid to the selection of suitable components which are available long-term. Likewise, special certifications such as EN 60950, EN 50121 are possible as well as certifications according to customer specifications.

Why powered by Advantech

Benchmarking power: Your Janz Tec Industrial PC features advanced OEM technology from Advantech, the global leader in industrial PCs. The built-in Advantech components are equipped with latest Intel® 7th/6th Generation Core™ i Technology.

First-class quality: The installed Advantech components are ensured by extensive quality test resulting in high reliability and longevity.

Proven partnership: Buying a stamped „Powered by Advantech“ Janz Tec Industrial PC from a partner of Advantech is your proof of trust and confidence. Janz Tec IPCs fulfill strict requirements related to application knowledge, experience, service performance and local coverage.

About Advantech: Founded in 1983, Advantech is a leader in providing trusted innovative industrial products. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, and global logistics support; Advantech has always been an innovator in the development and manufacture of high-quality, high-performance computing platforms.

›››

Powered by ADVANTECH

FALCON active 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Active PWM cooling concept (optimized and streamlined airflow)
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Input 12 … 24 VDC Phoenix Connector or 12 VDC DIN Connector

Storage Mediums / Memory
› Up to 2 x SSD internal or with Hot-Swap Storage Expansion Kit (RAID 1)
› DDR4 SO-DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Air Filter Polyurethane PPI30 or PPI80 (front accessible)
› Hot-Swap Storage Expansion Kit
› Rack or Wallmounting Kit
› Desktop/Tower Rubber Feet Kit
› Power Adapter with Phoenix or DIN lockable DC plug

Housing
› Solid stainless steel housing for industrial usage
› 1 x System Fan PWM (Ø 80 mm) 36.37 CFM
› Dimensions (w x h x d): 328 x 88,8 x 201 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

FALCON active 2

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Active cooling concept with 2 System Fan
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Two SKUs to support ATX Power Supply & AC-DC Power Adapter

Storage Mediums / Memory
› Up to 2 x SSD internal (RAID 1) or 1 x SSD + 1 x slimODD
› DDR4 SO-DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Slim ODD
› Power Adapter with Phoenix plug

Housing
› Economical IPC chassis for Mini-ITX motherboard
› Front LED indicators for system fault detection
› Reserved USB, COM and WLAN antenna openings on front side
› 2 x System Fan (Ø 70 mm) 39.45 CFM
› Dimensions (w x h x d): 250 x 98 x 255 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

FALCON passive 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Passive cooling concept (fanless)
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Input 12 … 24 VDC Phoenix Connector

Storage Mediums / Memory
› Up to 2 x SSD internal (1 x 2,5” + 1 x mSATA)
› DDR4 SO-DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Slim ODD
› Power Adapter with Phoenix plug

Housing
› SECC/Aluminium housing for industrial usage
› Heatpipe heatsink (CPU and Chipset)
› Dimensions (w x h x d): 260 x 80 x 240 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

FALCON passive 2

Processors
› 7th Generation Intel® Core™ i7-7700T Processor w/ Configurable TDP-down and TDP-down Frequency or i5-7500T w/ TDP-down Frequency

System
› Passive cooling concept (fanless) with integrated heat sink on top cover
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Input 12 … 24 VDC Phoenix Connector or 12 VDC DIN Connector

Storage Mediums / Memory
› Up to 2 x SSD internal (RAID 1) and 1 x M.2 Socket (2242/2260) for PCIe (2 lanes)
› DDR4 SO-DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Clip for horizontal rail mounting
› Wall or Desktop mounting bracket
› Plastic tip-up feet or Rubber feet kit
› Power Adapter with Phoenix or DIN lockable DC plug

Housing
› Aluminium housing for industrial usage w/ Integrated EMC and IP30 protection
› Color RAL 7021 (other Color on request)
› Dimensions (w x h x d): 240 x tbd x 190 mm

Operating Systems
› Windows® 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … tbd°C (w/ air flow)
› Non-operating temperature range -20°C … 60°C

Mini | Compact IPC

FALCON passive 3

Processors
› Intel® Core™ i7-6822EQ or Core™ i3-6100E CPU

System
› Passive cooling concept (fanless) for wide operating temperature and 2U rackmount
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Input 100 ~ 240V AC Power

Storage Mediums / Memory
› Up to 2 x SSD internal (RAID 1)
› 1 x M.2 (2260 M-Key, with SATA interface)
› 8GB DDR4 onboard w/o ECC, DDR4 SO-DIMM memory max. Capacity 24GB (up to 16GB per SO-DIMM)

Options
› 2U Rackmount kit

Housing
› Housing for industrial usage w/ PCI/PCIe slots
› Dimensions (w x h x d): 427 x 88 x 325 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range -20°C … 60°C
› Non-operating temperature range -40°C … 85°C

FALCON modular 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Support expansion modules (PCI/PCIe and Hot-Swap Storage Expansion Kit)
› Wide operating temperature
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Input 9 … 36 VDC Phoenix Connector

Storage Mediums / Memory
› 1 x 2,5” HDD/SSD internal + 1 x CFast + 1 x mSATA
› DDR4 SO-DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› GPIO module (32 bit)
› Power Adapter with Phoenix plug
› 2-Slot i-module with 1 x PCIe x16 + 1 x PCIe x4
› 2-Slot i-module with 2 x PCIe x8
› 2-Slot i-module with 1 x PCIe x16 + 1 x PCI
› 2-Slot i-module with 1 x PCIe x16 + 1 x PCIe x4 + 2 x 2.5“ HDD/SSD bay
› 4-Slot i-module with 1 x PCIe x8 + 3 x PCIe x4
› 4-Slot i-module with 1 x PCIe x16 + 3 x PCIClip for horizontal rail mounting

Housing
› Dimensions (w x h x d): 78 x 192 x 230 mm

Operating Systems
› Windows® 7 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range -10°C … 50°C
› Non-operating temperature range -40°C … 85°C

Desktop | Wallmount PC

Powered by ADVANTECH

ENDEAVOUR MB 2

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Supports microATX / Mini-ITX motherboard
› Two USB 2.0 and two USB 3.0 ports in the front side
› Supports up to four FH/FL (10.5“) expansion slots
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports 80plus single power supply up to 500W

Storage Mediums / Memory
› Supports up to internal two 3.5“ or one 3.5“ + one 2.5“ HDD
› DDR4 DIMM memory max. Capacity 64GB (up to 16GB per SO-DIMM)

Options
› Slim Optical Drive
› COM port cable kit

Housing
› 1 x System Fan (Ø 120 mm)
› Dimensions (w x h x d): 192 x 376.7 x 338.5 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

ENDEAVOUR SBC 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Supports full-size SHB/SBC
› Supports front accessible slots
› Lockable front door prevent unauthorized access
› Easy maintain system fan
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports 80plus single power supply up to 650W

Storage Mediums / Memory
› Up to 2 x HDD/SSD internal and 2 x HDD/SSD with Hot-Swap Storage Expansion Kit (RAID 1)
› DDR4 DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Optical Drive
› DVI-D or DP cable with bracket
› Dual port USB 2.0/3.0 cable with bracket
› COM port cable kit

Housing
› 2 x System Fan (Ø 92 mm)
› Dimensions (w x h x d): 240 x 260 x 460 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

Rack PC

Powered by ADVANTECH

ATLANTIS 1U 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Supports full-size SHB/SBC or ATX/MicroATX motherboards
› LED indicators for power, HDD, temperature, fan, LAN1 and LAN2
› Supports up to 2 expansion slots in BP and 1 expansion slot via riser card in MB version
› Active PWM cooling concept with 1 expansion slot via riser card in MB version
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports Flex ATX/PFC power supplies

Storage Mediums / Memory
› Up to 2 x HDD/SSD internal or 2 x HDD/SSD with Hot-Swap Storage Expansion Kit (RAID 1)
› DDR4 DIMM memory max. Capacity 32GB/64GB (up to 16GB per SO-DIMM)

Options
› Hot-Swap Storage Expansion Kit (up to 2 x 2,5” SATA HDD/SSD)
› Slim Optical Drive
› COM port cable kit

Housing
› System Fan BP version: 4 (3 x Ø 40 mm) 24 CFM + (1 x Ø 40mm) 15 CFM
› System Fan MB version: 2 x (Ø 40 mm) 24 CFM
› Dimensions (w x h x d): 480 x 44 x 497 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

ATLANTIS 2U 2

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› 398 mm short depth 2U rackmount chassis
› Two Internal 2.5“ drive bay and two „hot-swap or external“ drive bay
› Built-in Intelligent System Module enabling whole system fan control and remote manageability
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports 80 Plus single 350W or 500W redundant power supply

Storage Mediums / Memory
› Up to 2 x HDD/SSD internal and 2 x HDD/SSD with Hot-Swap Storage Expansion Kit (RAID 1)
› DDR4 DIMM memory max. Capacity 64GB (up to 16GB per SO-DIMM)

Options
› Hot-Swap Storage Expansion Kit (up to 2 x 2,5” SATA HDD/SSD)
› Slim Optical Drive
› Dual port USB 2.0 cable with bracket
› COM port cable kit

Housing
› 1 x System Fan PWM (Ø 80 mm) 41 CFM
› Dimensions (w x h x d): 482 x 88 x 398 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

ATLANTIS 3U 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Supports EATX/ATX/MicroATX motherboard with dual processors
› Front-accessible system fan without opening top cover for easy maintenance
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports Flex ATX Power, 2U 80Plus Single or Redundant Power Supply

Storage Mediums / Memory
› Two Hot-Swap 3.5“/2.5“ drive bays, one slim ODD drive bay and two internal 3.5“ HDD bays
› DDR4 DIMM memory max. Capacity 64GB (up to 16GB per SO-DIMM)

Options
› Slim Optical Drive
› Dual port USB 2.0/3.0 cable with bracket
› COM port cable kit

Housing
› 3 x System Fan 2 x (Ø 80 mm) 57 CFM + 1 x (Ø 60 mm) 27.72 CFM
› Dimensions (w x h x d): 426.4 x 132.2 x 480 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

ATLANTIS 4U 1

Processors
› 7th or 6th Generation of Intel® Core™ CPU Technology supported

System
› Supports full-size SHB/SBC
› Supports front accessible slots
› Lockable front door prevent unauthorized access
› Easy maintain system fan and filter
› Designed for 24/7 use in industrial applications
› Embedded Roadmap lifecycle

Power supply
› Supports 80plus single power supply up to 650W

Storage Mediums / Memory
› Up to 2 x HDD/SSD internal and 2 x HDD/SSD with Hot-Swap Storage Expansion Kit (RAID 1)
› DDR4 DIMM memory max. Capacity 32GB (up to 16GB per SO-DIMM)

Options
› Optical Drive
› DVI-D or DP cable with bracket
› Dual port USB 2.0/3.0 cable with bracket
› COM port cable kit

Housing
› 3 x System Fan (Ø 80 mm)
› Dimensions (w x h x d): 482 x 177 x 455 mm

Operating Systems
› Windows® 7 FES / 8.1 FES / 10 IoT Enterprise 2016 LTSB / Linux

Physical and environmental conditions
› Ambient operating temperature range 0°C … 50°C
› Non-operating temperature range -20°C … 60°C

Top Quality Mobile Equipment for Concentrated Feed Mixing

Challenge: Janz Tec was required to provide a reliable controller to be used in feed-mix machinery, where exact dispensing of feed formulations is essential for the safe feeding of domestic animals. Progressive customer requirements and the latest technology in food processing also require advanced control technology in these stationary and mobile mixing plants.

Solution: A Janz-sourced computing system communicates with two displays installed in the vehicle. One 12.1“ display with touchscreen is installed in the cab close to the driver to allow easy parameter setting at customer sites. From here, all control, service, and maintenance work can be performed for the entire mixer. This information is also registered at the rear of the truck by an additional display, which makes the equipment extremely user-friendly. Great care was taken in selecting and mounting the correct display for readability even in bright sunlight. This required the surface of the display to be specially treated with an anti-reflective coating. CODESYS – a Soft PLC programming tool (IEC 61131-3) – was selected as the most convenient user interface, since this has proven ideal in similar applications.

Pro Janz Tec: This customer was looking for a competent manufacturer of control systems with a good track record, longevity, and expertise. Janz Tec was able to meet all of the customer’s special requirements, such as presenting different display contents on the two monitors.

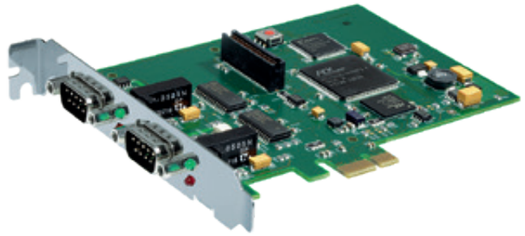
IEC 60945-Certified ’ECDIS’ PC

Challenge: One or more 19“-rack mounted PC systems in multiscreen mode provide the ship’s central information display and command control inputs, since this is more suitable for marine applications. Ergonomics and design requirements for ship bridges (especially yachting) increasingly make it necessary to use smaller and more adaptable computers. Due to the complex software required, our customer could not accept any limitations with computer performance, so a Core2Duo processor was selected.

Solution: It was necessary to develop a custom computer with the manufacturer of interated bridge systems because a) the company uses special IO boards with own designed connectors and b) the housing should be as small as possible. The combined experience of the customer and Janz Tec AG was needed!

Pro Janz Tec: We succeeded in reducing the volume of the unit by 60 % compared to the previous generation unit. The number of internal connectors, a potential fault source, could be reduced at the same time. For the customer it is also vital that the computer has long-term availability, with even longer term after-sales service for spare parts and repairs. Since many of the components chosen come from Janz Tec directly, this reduces the ‘guaranteed availability’ issues.

Boards



Standardized Board Solutions

In addition to system solutions, Janz Tec develops board-level products for different bus systems such as VME or PCI. The focus is on communication interfaces, e. g. CANopen and process I/O boards. The software support for the connection of the respective boards into the system environment is extensive.

A further forte is the customer-specific board development e. g. of components with different processors (SoC).

›››

Overview CAN Host Interfaces

CAN
CANopen

CAN-PCI2

CAN-USB

CAN-104

CAN-PCIL

CAN-PCIeL

CAN-mPCIeL

CAN-104L

CAN-104L+

		CAN-PCI2	CAN-104	CAN-PCIL	CAN-PCIeL	CAN-mPCIeL	CAN-104L	CAN-104L+	CAN-USB
System Architecture		PCI	PC/104	PCI	PCIe	PCIe mini card	PC/104	PCI/104	USB
CAN Controller		NXP SJA 1000	NXP SJA 1000	NXP SJA 1000	NXP SJA 1000	NXP SJA 1000	NXP SJA 1000	NXP SJA 1000	NXP SJA 1000
CAN Channels	**1 Channel**	X	X	X	X	X	X	X	X
	2 Channels	X	X	X	X		X	X	
	4 Channels			X	X				
CPU onboard		MC68332	MC68332	none	none	none	none	none	AVR
CAN Specification	**CAN 2.0A (11 bit identifier)**	X	X	X	X	X	X	X	X
	CAN 2.0B (29 bit identifier)	X	X	X	X	X	X	X	X
	CANopen	X (1ch)	X (1ch)	X	X	X	X	X	X
	ISO/DIS 11898-2	X	X	X	X	X	X	X	X
	opto-isolated	X	X	X	X	X	X	X	X
Operating System Support	**Windows 2000/XP/7/8**	X	X	X	X	X	X	X	X
	Windows CE 6.0			X	X	X	X	X	X
	Windows Embedded Compact 7			X	X	X	X	X	X
	Windows Embedded Standard 7	X	X	X	X	X	X	X	X
	Linux	X	X	X	X	X	X	X	X

CAN FD Boards

High-Performance PCIe Interface

CAN-PCIe/FD

› High-performance PCIe x1 CAN field bus controller
› Local intelligence with Xilinx Zynq 400 MHz
› 512MB DDR3, 16 bit
› 2 x CAN-FD interfaces with 9-pin D-SUB connector
› 2 additional CAN interfaces can be field installed via transceiver cable
› ISO/DIS 11898-2
› CAN-FD up to 8 Mbit/s
› Software drivers dor Windows and Linux operated systems

High-Performance Interface for PMC Sockets

CAN-PMC/FD

› High-performance PMC CAN field bus controller
› Local intelligence with Xilinx Zynq
› PCI interface bus master capable
› 4 independent CAN FD IP Cores in Zynq FPGA (40 MHz clock)
› 25-pin D-SUB connector
› All I/Os are available at front and at Rear I/O
› ISO/DIS 11898-2
› Optionally opto-isolated CAN interfaces
› ICANOS firmware on-board
› CANopen optionally available
› Software drivers dor Windows and Linux operated systems

VMEbus Boards

Simple VME FMC Carrier (SVEC)

VME64x SVEC

› Two Low-Pin Count FMC slots
› No dedicated clock signals from Carrier to FMC (as only available on HPC pins and use LPC)
› FMC connectivity: all 34 differential pairs connected,1 GTP transceiver with clock, 2 clock pairs, JTAG Xilinx FPGAs
› Application FPGA: Spartan-6 XC6SLX150T-FGG900
› Direct connection to all resources such as VME64x, memories and FMC connectors
› System FPGA: Spartan-6 XC6SLX9-2FTG256C Provides VME bootloader, early oscillator/PLL config Configuration Flash memory for both Main FPGA and Application FPGA configuration FPGA configuration from SPI flash or via VME Clocking resources
› 1x 10-280 MHz I2C Programmable XO Oscillator, starts up at 100 MHz (Silicon Labs Si570, freely usable)
› 1x 25 MHz TCXO controlled by a DAC with SPI interface (AD5662, used by White Rabbit PTP core)
› 1x 20 MHz VCXO controlled by a DAC with SPI interface (AD5662, used by White Rabbit PTP core)
› 2x Low-jitter frequency synthesizer/fanout (TI CDCM61004, fixed configuration, Fout=125 MHz, used by White Rabbit PTP core) On-board memories
› 2x 256 MByte (2 Gbit) DDR3 (16-bit bus, M41J128M16HA-15E)
› 1x 128 Mbit SPI flash for FPGA firmware storage
› 64kbit EEPROM (24AA64T-I/MC) connected for storing application parameters
› 1x I2C configuration EEPROM (24LC64) Miscellaneous
› On-board thermometer IC (DS18B20U+)
› Unique 64-bit identifier (DS18B20U+) Front panel
› 1x SFP port (White Rabbit compatible)
› 4x LEMO/SMC programmable I/Os capable of driving 3.3V @ 50 ohm
› 2x mini displayPort connectors for high-speed serial GTP links (not for video)
› 8x Programmable LED
› Reset push button

32-Channel Digital Power I/O

VDOT-32

› Double Eurocard form factor (6U) with VMEbus interface
› 32 opto-isolated inputs/outputs
› Outputs with high-side power switch (BTS721)
› Voltage ranges 12V/24V
› Output current max. 2.5A, short circuit, overvoltage, overload and overheating protected
› Outputs can be read back; each 8 bit group usable as inputs
› LED display, simulation sockets for each channel each channel current-limited
› Undervoltage and overvoltage shutdown with auto-restart and hysteresis
› Counter/timer with trigger/gate activation
› Change-of-state and pattern recognition interrupt
› Front-panel and P2 connection for input lines

64-Channel Digital I/O

VDIO-64

› Double Eurocard form factor (6U) with VMEbus interface
› 32 digital inputs and 32 digital outputs
› Input/output voltage ranges 12V/24V, other voltages optionally available
› Opto-isolated outputs optionally available
› Output current max. 2.5A, short circuit, overvoltage, overload and overheating protected
› LED and interrupt error indication
› Counter/timer with trigger/gate activation
› Change-of-state and pattern recognition interrupt
› Front panel connection of I/O lines

CODESYS

CODESYS - Development Software for Industrial Control Systems

More than 300 well-known manufacturers from different industries rely on the hardware-independent CODESYS programming system from 3S-Smart Software Solutions. This makes CODESYS the market leader in IEC 61131-3 development software for industrial control systems in automation technology. Janz Tec AG offers its customers pre-configured CODESYS runtime environments for all emPC, emVIEW, emWEB and JIPSY systems.

Access to bus systems, internal IOs and NVRAM and the integration of available interfaces are already included and can be used directly from the development environment.

CODESYS on Janz Tec systems is highly universal and therefore very versatile. Hence, the systems are used in many industries for many different purposes.

›››

CODESYS

CODESYS has a wide range of industrial bus protocols that are already included in the environment. Users can easily integrate bus communication into their applications. The configuration of the bus systems is already integrated in the CODESYS development environment. Depending on the system type, Janz Tec AG provides the following industrial bus protocols for their devices:

CANopen

Modbus

PROFIBUS

EtherCAT

PROFINET

Real-time Machine Control

Real-time Environment

Machine control requires a real-time processing unit in most cases. Janz Tec AG provides a complete environment for real-time processing based on CODESYS, the leading IEC 61131-3 programming environment in the world. We provide both CODESYS V2 as well as CODESYS V3, each pre-installed and exactly adapted to the system on which it is running. Peripheral interfaces, bus systems and I/Os are already configured and usable when a customer starts the system the first time. Real-time environment, installation, and configuration are combined into one single package – available for all Janz Tec systems.

Since interfaces are nearly identical, customers can easily choose between several system types for their range of projects. Hardware can even be changed if more performance is needed or if machines need more complexity over time, with correspondingly more complex programming. Modular machines can be equipped with a system that meets the exact perfomance and cost needed.

SoftMotion

For integrating motors and drives into a system, CODESYS SoftMotion expansion provides function blocks standardized by the PLCopen organization. SoftMotion is available as an option. Naturally, SoftMotion also comes pre-configured and pre-licensed.

Wide range of supported operating systems

The emVIEW systems are especially suitable for visualization and monitoring purposes.

OPC server

CODESYS V3 always contains a free OPC server. So it is easy to provide data from the real-time environment to all relevant applications. Simply define a variable to be exported in the OPC namespace – that‘s all! Because OPC is standardized, access from OPC clients of all types is possible, either locally installed or running on a remote system.

SCADA system integration

Integrating a system from Janz Tec into complex SCADA software is as easy as it can be. Using the OPC server, each SCADA system can be configured to access real-time data via this interface.

CODESYS

V2/V3

Industrial Security

The leading security ecosystem for unrestricted access to Industry 4.0

Nothing is more important nowadays than working efficiently and protecting your knowledge and processes.
Digitalization isn’t on its way – it has already arrived! The global networking of all systems and processes creates collaboration opportunities and provides new, positive benefits. But at the same time, it also calls for new standards on process security and efficiency.
Digitalization presents you with the challenge of networking your products, machines and systems with one another and making information accessible via the Internet. It goes without saying that this all needs to be done with security in mind, given the increasing number of hacking attacks and data thefts.

›››

Secure your know-how and your ticket to the future

What does that mean to you? Stay at the cutting edge, today and in the future – using our expertise!

Set your company on course into the future with the leading corporate security ecosystem. We have developed a toolkit for the industrial transformation of your company that protects your know-how and ensures that you successfully make the leap to Industry 4.0.Whoever has access to your systems also has access to your processes and, more importantly, access to your know-how. This is no longer simply a theoretical risk, but a very real danger. Both hardware and software offer attack vectors for criminals. At the same time, they need to be adapted to new process and security standards and translated into new dimensions of efficiency. Simply put, this is the challenge you are facing. Almost every company has its own requirements in this respect.The fully protected security ecosystem from Janz Tec AG connects processes and supply chains. It can be freely configured to meet almost any digitalization requirements and conditions.

Industrial security for your business model

Cloud security/IoT security
The fully protected security ecosystem securely connects your applications to the Internet of Things. Our solutions ensure secure integration with the cloud of your choice.

Industrial network security
Get a grip on your networks – the fully protected security ecosystem enables you to control network access, isolate networks and secure network communications.

Secure remote maintenance & access
Implement remote services with absolute security – boost efficiency and get up to date quickly with the fully protected security ecosystem.

Data security and know-how protection
Your network, your data, your know-how – no matter where, when or who you are working with, the confidentiality and integrity of your information is protected thanks to the fully protected security ecosystem.

Fully protected industrial transformation accompanied by machine and process upgrades

What are the benefits for you? You can fully concentrate on the successful implementation of your business model – the security of your digitalization project is our job!

Fully protected industrial transformation offers the following benefits:

- Your production keeps running without any downtime
- Enhanced efficiency thanks to secure networking
- Your Know-how is absolutely secure
- Security ecosystem – toolkit versions based on a modular principle
- We take care of high-security networking
- Top quality is our benchmark

We are your development partner, with over 35 years of expertise in highly individualized industrial machine and process control systems with a unique hardware and software product portfolio for initial installation and retrofitting.

Fully Protected Security Ecosystem

Fully protected industrial transformation solutions – tailored to your application.

Stay at the cutting edge of digitalization using our expertise! The perfect solution for any field of application – whether purely internal and with external network connection.

Two starting points for your individual retrofit

Security ecosystem – Zone node
Instant zone setting – can be used anywhere and in any environment, temporarily or permanently; for flexible integration of all assets in a completely closed and fully protected high-performance private network. The solution is freely configurable and can be extended with additional functions.

Security ecosystem – Network
Instant zone setting – can be used anywhere in the world and in any environment, temporarily or permanently; for flexible integration of all assets in a completely closed and fully protected high-performance private network. Permanent secure connection to the home base and scalable for additional networks. The solution is freely configurable and can be extended with additional functions from the fully protected security ecosystem toolkit.

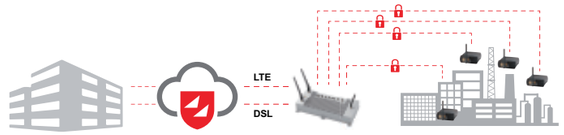
Use Cases

Content distribution

Make data and information available to your customers wherever it may be needed – accessible at all times and in a highly secure and billable manner.

Production on demand

Optimize the capacity utilization of your machines and systems around the world. Remote configuration of your processes via the network on demand – precisely timed, highly secure.

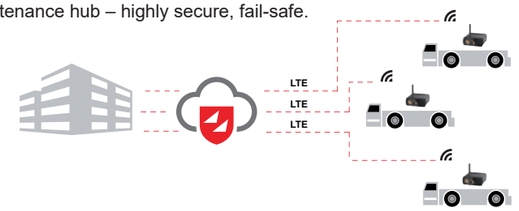


Cloudlet collaboration

Just take the cloud with you and ensure smooth collaboration within your teams under difficult conditions and despite unstable network connections – with high security and availability.

Monitoring & maintenance

Monitoring and maintenance – gather all information on site and consolidate it in your maintenance hub – highly secure, fail-safe.



Toolkit summary table for Fully Protected Security Ecosystem

OSIRIS platforms and modules
Fully protected industrial transformation solutions: The security ecosystem is perfect for any field of application – whether purely internal and with external network connection. Choose the security modules and features relevant for your application.

Choose your variant!
Completely individual solutions are possible. Do not hesitate to contact us and tell us your requirements!

	OSIRIS Premium	**OSIRIS Standard**	**OSIRIS Basic**	**OSIRIS Light**
Base Device	Custom Design	emIOT-A/iMX6	emPC-A/RPI3	emIOT-Edge
Security Features				
Tamper Protection	✓			
Minimum Operating System	✓	✓	✓	✓
High Assurance Boot	✓	✓		
Encrypted Firmware Image	✓			
AAA Infrastructure (RODC / DC)	✓	✓	✓	
Local Area Network Access Control (IEEE 802.1X)	✓	✓		✓
Encrypted communication	✓	✓	✓	✓
Multi-channel wide area network access	✓	✓	✓	
Secure Data Storage / Fileshare	✓	✓	✓	✓
Location control	✓			
Remote access and configuration	✓	✓	✓	✓
Communication Stack				
LTE / UMTS Modem (WWAN)	✓	✓		✓
Managed Gbit Switch (Ethernet)	✓			
Ethernet Connectors	5	2	1	0
Hotspot (WLAN)	✓	✓	✓	✓
Industrial bus systems (CAN etc.)	On request	✓	✓	✓
Data Broker – Machine Data Connectors				
Customer-specific software stack		e.g. OPC-UA, MQTT, CODESYS		
Data Broker – Enterprise Application Connectors				
Customer- or provider-specific software stack		e.g. SAP HANA Cloud Platform IoT Services, Oracle IoT Cloud Services, nemetris Smart Industry Apps		
Hardware Specifications				
Processor	Quad Core i.MX6 SoC	Dual or Quad Core i.MX6 SoC	ARM Cortex-A53	To be released.
Main Memory	2 GB	2 GB	1 GB	
Operating Temperature Range	-20°C …+40°C	-40°C …+60°C	0°C…35°C	
Non-operating Temperature Range	-30°C …+80°C	-40°C …+75°C	0°C…35°C	
Battery-buffered Real-time clock	✓	✓	✓	
Storage	Up to 512 GB mSATA SSD	Battery-free NVRAM 128 kB Up to 128 GB CFast card	Up to 128 GB µSD card	
Dimensions	349 x 188 x 69 mm	111 x 49 x 104 mm	100 x 30 x 97 mm	
Input Voltage	9…34 V_{DC}	9…34 V_{DC}	9…32 V_{DC}	

Industrial Computer Systems for Your Industry

Machine and Unit Construction

- **Machine Tools**
- **Special Machines**
- **Test Stand Systems**
- **Logistics**

Power and Energy

- **Transport and Distribution**
- **Smart Grids**
- **Renewable Energies**

Transport and Traffic

- **Traffic Guidance Systems**
- **Railway Technology**
- **Transport Systems**

Medical Technology

- **Computer Tomography**
- **Bioreactors**
- **Laser Systems**

Automotive

- **Driver Technology**
- **Control Systems**
- **Control Systems (with closed loop)**

Maritime Applications and Ship Construction

Addresses and Contacts

Janz Tec has a worldwide network of sales and service contacts. Please feel free to contact them directly. Or contact us, and we will help you to find the right contact person.

Germany
Janz Tec AG
Im Doerener Feld 8
33100 Paderborn
Phone: +49 5251 1550-0
www.janztec.com
mail@janztec.com

Europe

Austria
Janz Tec AG
Office Munich
mailas.austria@janztec.com

Belgium / Luxembourg / Netherlands
Novotec BV
mailas.benelux@janztec.com

Finland
SKS Control Oy
mailas.finland@janztec.com

France
NeoMore
mailas.france@janztec.com

Great Britain
ARBOR Technology UK Ltd.
mailas.arbor@janztec.com

Italy
LVD SYSTEMS S.r.l
mailas.italy@janztec.com

Scandinavia
Profcon Electronics AB
mailas.scandinavia@janztec.com

SDT-Scandinavian Drive Technologies AB
mailas.scandinavia@janztec.com

Switzerland
Janz Tec AG
Office Mainz
mailas.switzerland@janztec.com

Hoffmann + Krippner GmbH
mailas.switzerland@janztec.com

Slovak Republik
S. D. A. s. r. o.
mailas.eastern-europe@janztec.com

Russia
Vital Electronics JSC
mailas.russia@janztec.com

USA / Asia / Australia

Australia / New Zealand
CAN+AUTOmotion Pty Ltd.
mailas.australia@janztec.com

Walter Breunig Intelligent Platforms P/L
mailas.australia@janztec.com

China
Wind Hill Technologies Co. Ltd.
mailas.china@janztec.com

India
CAN+AUTOmotion Pty Ltd.
mailas.india@janztec.com

USA
Saelig Co. Inc.
mailas.usa@janztec.com

AGS-TECH Inc.
mailas.usa@janztec.com

www.janztec.com

janztec
Industrial Computing Architects

Janz Tec AG
Im Doerener Feld 8
33100 Paderborn
Germany

Fon: +49 5251 1550-0
Fax: +49 5251 1550-190
mail@janztec.com
www.janztec.com

Industrial
Computing
Architects

© 11 | 2017 Janz Tec AG