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TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

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(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

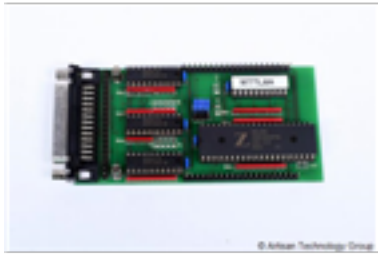
Expert team | Trust guarantee | 100% satisfaction

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Visit our website - *Click HERE*

Janz Computer VMOD-TTL

Digital I/O Module



In Stock

Used and in Excellent Condition

Open Web Page

https://www.artisantg.com/55463-1

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janztec
Industrial Computing Architects

PRODUCT OVERVIEW



Embedded Computing Industrial PC Industrial Communication Custom Design

About us

Janz Tec AG – 30 years of experience in industrial computer systems

Industrial Computing Architects
Janz Tec AG, previously known as Janz Automationssysteme AG, has been one of the leading manufacturers of electronic assemblies and complete industrial computer systems since 1982. The future-oriented and extremely reliable technology from Paderborn is in demand the world over: well-known companies from the machine building and plant engineering, the medical technology, transportation, automotive and power and energy sectors are all part of our satisfied customer base.
With 30 years of experience in the market, Janz Tec AG is capable of meeting individual customer requirements at any time – this starts as early as the concept phase, continues through the development and production of the components up to series delivery.







Janz Tec AG is setting the standards in this field:
- Embedded Computing
- Industrial PC
- Industrial communication
- Custom Design

Janz Tec AG's employees consider themselves to be “industrial computing architects”– they conceive, develop and produce components and systems based on worldwide standards, individually adapted to the specific customer requirements. In this context, long-term availability and the highest-possible quality are in the foreground – always in an optimum price to performance ratio.

You too can profit from the many years of experience, the widely-based know-how and reliable services provided by Janz Tec AG. You can find out which special solutions we have available in the industrial computer system field for your sector in a personal consultation.

Embedded Computing

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Industrial PC

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Custom Design

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Industrial Communication

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EMBEDDED COMPUTING

emPC-X1600



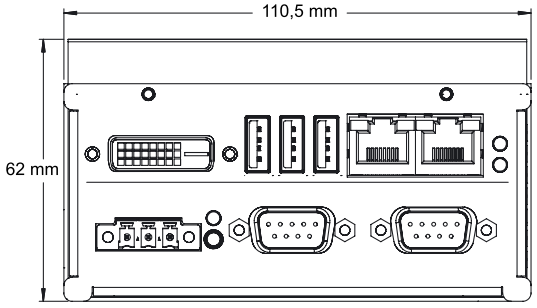
Embedded Computing

Embedded computers are always used when particularly robust and reliable systems are necessary due to the requirements made on them. These modularly-constructed and compact industrial computers are low-maintenance, energy-saving and extremely flexible. The computer architecture of the "embedded system" is oriented on a standard PC, whereby the embedded PC only consists of the components which it really needs for the relevant application. This makes completely independent uses possible in environments in which service would otherwise be extremely cost-intensive. Despite this, many embedded computers are so powerful that they can replace a complete computer.

Benefits of the embedded computer: no fan required, low-maintenance

The embedded computer is used in machine and plant construction, in power and energy, transport and traffic, in medical technology and the automobile industry, in production and manufacturing engineering in addition to other industrial applications. The processors, which are becoming more and more powerful, enable use of an embedded PC even if particularly complex requirements from the above ▶

Fanless Embedded PC with Intel ATOM Technology



Technical Details:

Processor
- Intel Atom Z530 with 1.6 GHz (HyperThreading)
- 533 MHz FSB
- 512 kB L2 cache

Memory
- system memory 1 GB DDR2
- internal ATA SSD with 4GB

Interfaces
- 1 x 10/100/1000 Mbit/s Ethernet,
  1 x 10/100 Mbits Ethernet
- 3 x USB (V 2.0), with 500 mA power suppl capability
- 2 x 9-pin D_SUB connectors for CAN or serial ports
  version /0: 2 x RS232 serial interface or
  version /1: 1 x CAN and 1 x RS232 or
  version /2: 2 x CAN interface

Power Supply
- input 9..32 V DC, power consumption max. 12 W

Physical
- non-operating temperature range from
  -20 °C…75 °C (optional)
- dimensions (w x h x d): approx. 111 x 62 x 104 mm
- weight approx. 0.8 kg

Supported Operating Systems
WES 7, Windows XP, Windows XPembedded, Windows CE 6.0, Linux, QNX; other operating systems on request. For special Windows CE images contact your regional sales office.
CoDeSys IEC61131-3 runtime environment



EMBEDDED COMPUTING

emPC®

emPC-A500



industries need to be dealt with. One advantage of this is the hardware environment familiar to many developers and the availability of appropriate software development environments.

Janz Tec AG has been acquiring the necessary experience in the development of its own embedded computer systems, which can be adapted to customer requirements if required, for many years now. The focus in the embedded computing sector is on the optimum solution appropriate to the application and the individual customer requirements. It is our duty to provide high quality for the systems, which are solidly designed for long-term use, and exceptional price to performance ratios.

Embedded computing under the bonnet
The modern processors currently used in embedded computer systems are currently Freescale i.MX5x and Intel Atom, Intel Celeron and Core2Duo. In addition, all industrial computers are not just fitted with standard interfaces like ethernet, USB and RS 232, but a CANbus interface is also available to the user as a series feature. The embedded PC is frequently without a fan, which means that they can be used with CompactFlash media in most cases so that maintenance can be completely omitted.

Janz Tec AG is capable of controlling installed planned and systems which were previously operated using industrial computers using the considerably smaller and lower-maintenance embedded computers using its in-house products. Please contact us if you want to know more about the benefits of the embedded computing sector!

Embedded PC with Freescale i.MX515

Technical Details

Processor
- ARM Cortex A8: Freescale i.MX515 with 600 MHz
- 2 x 32 kB L1 cache, 256 kB L2 cache

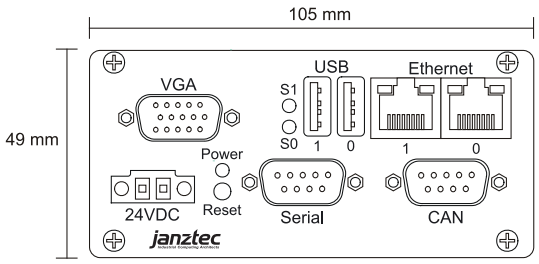
Memory
- 256 DDR2-RAM
- Boot Flash 2 MB
- NVRAM 32 kB (auto-backup to EEPROM, no battery needed)
- internal storage medium Compact Flash socket, Type I/II

Interfaces
- 2 x 10/100 Mbit/s Ethernet
- 2 x USB (V 2.0)
- 2 x 9-pin D-SUB connectors for CAN or serial ports
  version /0: 2 x RS232 serial interface or
  version /1: 1 x CAN and 1 x RS232 or
  version /2: 2 x CAN/CANopen interface

Power Supply
- input 9..32 V DC

Physical
- ambient operating temperature range from 0 °C … 50 °C
- non-operating temperature range from -20 °C … 75 °C
- humidity 0 % ~ 80 %
- extended operating temperature range from -30 °C … 70 °C (optionally)
- dimensions (w x h x d): 105 x 49 x 104 mm
- weight approx. 0.5 kg

Supported Operating Systems
Windows CE 6.0, Linux; other operating systems on request. For special Windows CE images contact your regional Janz Tec sales office.
CoDeSys IEC61131-3 runtime environment



Front panel drawing of emPC-A500



EMBEDDED COMPUTING

emPC®

emPC-X133





Fanless Embedded Controller with up to three CAN/CANopen interfaces

Technical Details

Processor
- AMD Élan SC520 with 133 MHz (with integrated peripherals)
- 66 MHz memory bus frequency, 33 MHz PCI bus frequency
- L1 cache 16 kB unified cache (write-through or write-back)
- integrated FPU; IEEE 754 compliant

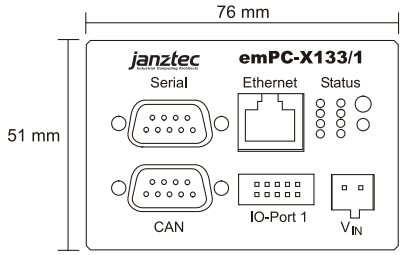
Memory
- system memory up to 128 MB SD-RAM
- Boot FLASH 2 MB, 3.3 V in-circuit programmable
- NVRAM 114 bytes (located in RTC) with battery backup; 4 kB (512 bytes) located in I2C EEPROM; 16 bytes reserved by the system
- internal storage medium Compact Flash socket, Type I/II

Interfaces
- 10/100 Mbit/s Ethernet on front panel
  AMD AM79C973 chipset,
  PCnet-PCI II Ethernet controller (Master Bus capable) with 12 kB SRAM FIFO
  10/100BaseT port at front panel
- 16550 compatible UART (COM1);
  on front panel; 15-pin D-SUB connectors;
  baud rate up to 115200 bits/s, RS232 level
- CAN ports on front panel, 9-pin D-SUB connector (according to CiA DS-102)
  SJA1000 CAN controller
- USB (V 1.1), at front panel, Type A;
  USB PCI host controller, OPTi 82C861
- 4 x isolated inputs (max. 24 V DC);
  4 x isolated outputs (max. 50 mA switching capability per line)
- expansion capabilities optionally possible

Power Supply
- input 10..28 V DC
- power consumption 6 W (.../1 version);
  power consumption 8 W (.../2 and .../3 version)

Physical
- ambient operating temperature range from 0 °C … 50 °C
- non-operating temperature range from -20 °C… 75 °C
- humidity 0 % ~ 80 %, non-condensing
- dimensions (w x h x d): 76 x 51(65) x 120 mm
- weight approx. 0.4 (0.5) kg

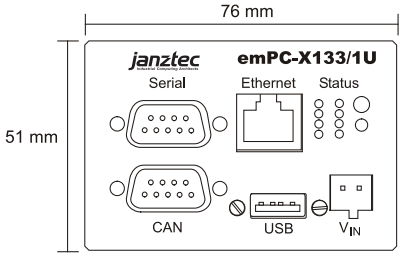
Supported Operating Systems
Linux, QNX, VxWorks
other operating systems on request...



emPC-X133/1

dimensions (w x h x d):
76 x 51 x 120 mm;

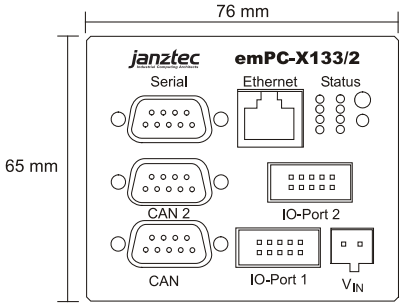
weight
approx. 0.4 kg



emPC-X133/1U

dimensions (w x h x d):
76 x 51 x 120 mm;

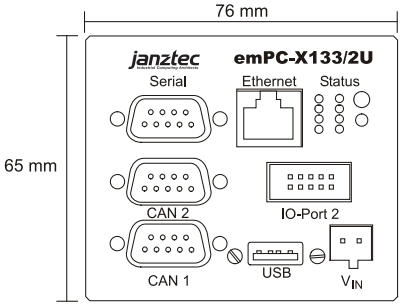
weight
approx. 0.4 kg



emPC-X133/2

dimensions (w x h x d):
76 x 65 x 120 mm;

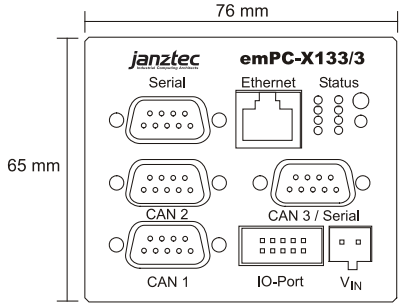
weight
approx. 0.5 kg



emPC-X133/2U

dimensions (w x h x d):
76 x 65 x 120 mm;

weight
approx. 0.5 kg



emPC-X133/3

dimensions (w x h x d):
76 x 65 x 120 mm;

weight
approx. 0.5 kg



EMBEDDED COMPUTING

emPC®

emPC-M Series





emPC-CX Series



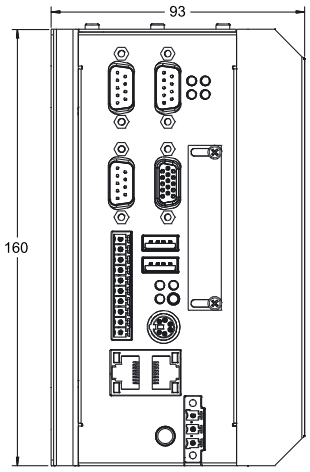
Flexible and High Performance Embedded PC Systems

emPC-M

Physical Environment
- Ambient operation temperature range from 0 °C … 50 °C
- dimensions wall excl. mounting brackets (w x h x d):
- 0 PCI slot version, 96 x 160 x 230 mm
- 2 PCI slot version, 147 x 160 x 230 mm

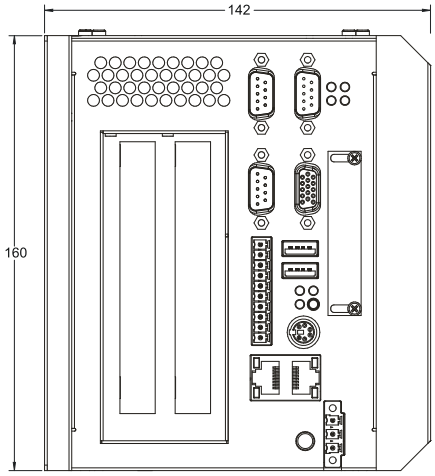
Options
- CoDeSys IEC61131-3 runtime environment
- AddOn-modules for
  AudioLine In/Out (with/without 2W amplifier)
  AudioLine In/Out and NVRAM
  Digital I/O (4xIn/4xOut or 8xIn)

Supported Operating Systems
Windows XP, XPembedded, Windows 7,
Windows CE 5.0/6.0, Linux, RTAI, QNX



Front panel without PCI slots

Connectors / Ports
- 2 x 10/100 Mbits/s Ethernet RJ45 connectors
- 2 x USB (V 2.0), host connection
- 1 x RS232 serial port, 2 x isolated CAN/CANopen port (SJA1000 CAN controller) with status LEDs
- VGA connector for resolutions up to 1280 x 1024
- 1 x PS/2 connector for keyboard/mouse, Reset button
- Type I/II Compact Flash socket (using True IDE mode), removable
- two status LEDs for CompactFlash and internal hard-disk/Compact Flash
- Proprietary slot for special purpose I/O modules (e.g. Audio In/out, digital I/O,…)
- lockable power connector



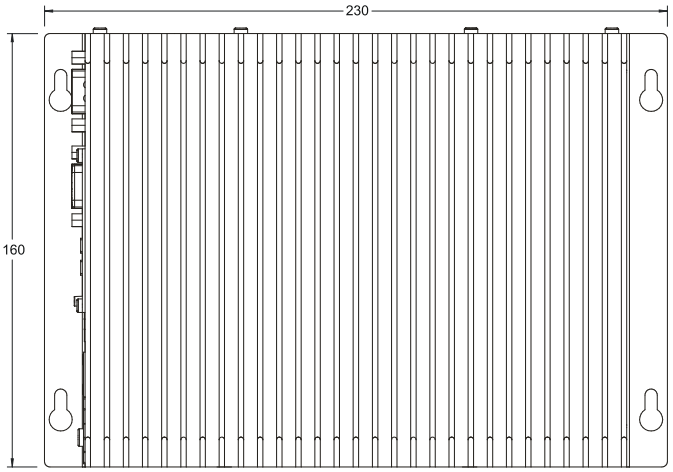
Front panel with two PCI slots

emPC-CX

Physical Environment
- Ambient operation temperature range from 0 °C … 50 °C
- dimensions wall excl. mounting brackets (w x h x d):
- 0 PCI slot version, 96 x 171 x 230 mm
- 2 PCI/PCIe slot version, 147 x 171 x 230 mm

Options
- CoDeSys IEC61131-3 runtime environment
- AddOn-modules for Digital I/O (4 x In/4 x Out or 8 x In)

Supported Operating Systems
Windows XP, XPembedded, Windows 7,
Windows CE 5.0/6.0, Linux, RTA, QNX



Connectors / Ports
- 2 x 10/100/1000 Mbits/s Ethernet RJ45 connectors
- 4 x USB (V2.0), host connection
- 1 x RS232 serial port, 2 x isolated CAN/CANopen port (SJA1000 CAN controller) with status LEDs
- DVI-I connector for resolutions up to 1920 x 1200
- CFast socket, removable
- status LED for CFast internal harddisks
- Proprietary slot for special purpose I/O modules (e.g. digital I/O,…)
- lockable power connector



EMBEDDED COMPUTING

emPC®

Celeron®M

Specifications Overview
emPC-M Series
emPC-CX Series

Processor
MHz
RAM (standard 512 MB)
L2 Cache
Chipset
PCI slots
PCIe slots
Hard Disk (internal, 2.5")
CompactFlash (external)
CompactFlash (internal)
CFast
CAN/CANopen
10/100 MBit/s Ethernet
USB (v2.0)
PS/2
RS232
RS485
AudioLine, In/Out
AudioLine, add. 2W amp.
NVRAM
Digital I/O (4x In; 4x Out)
Digital I/O (8x In)
Custom Specific Design
Power Supply
Power Consumption **
Dimensions (w/o PCI)
Dimensions (2 PCI)
Weight (w/o PCI/approx.)
Operating Systems
CoDeSys Environment

Scaleable Performance

Atom™ N270 | **Core™ 2Duo** | **Intel® Core i3 / i5 / i7**

	emPC-MCM 1000	emPC-MN270	emPC-MC2D	emPC-CX
	Celeron M	Intel Atom N270	Core2Duo	i3/i5/i7
	1 GHz	1.6 GHz	2 x 1.5 GHz	up to 2 x 2.66 GHz
	up to 2 GB DDR2	up to 2 GB DDR2	up to 2 GB DDR2	DDR3
	512 kB	512 kB	4 MB	up to 8 GB
	Intel 915GME		Intel 945GME	
	0/2*			
	5 V/3.3 V*			
				0/2*
	IDE* / S-ATA*			2 x S-ATA
	yes			no
	on request*			no
	no			yes
	2/1*	2/1*	2/1*	
	2	2	2	
	2/4*	2	2	
	1	1	1	
	1/2*	1/2*	1/2*	
	on request*			
	on request*			n. a.
	on request*			n. a.
	on request*			on board
	on request*			
	on request*			
	on request*			
	14 ~ 32 V DC			
	TBD	TBD	31.9 W	
	96 x 160 x 230			96 x 171 x 230
	147 x 160 x 230			147 x 171 x 230
	3.5 kg			
	Windows XP/XPembedded, Windows 7, Windows CE 5.0/6.0, Linux, RTAI			
	on request*			

* These options are available on request. Please contact your regional sales office for further information.
** Incl. Harddisk, Windows XP, 100% workload, no PCI cards



EMBEDDED COMPUTING

emVIEW®

emVIEW Panel PC





HMI Systems and Fanless Industrial Display Solutions

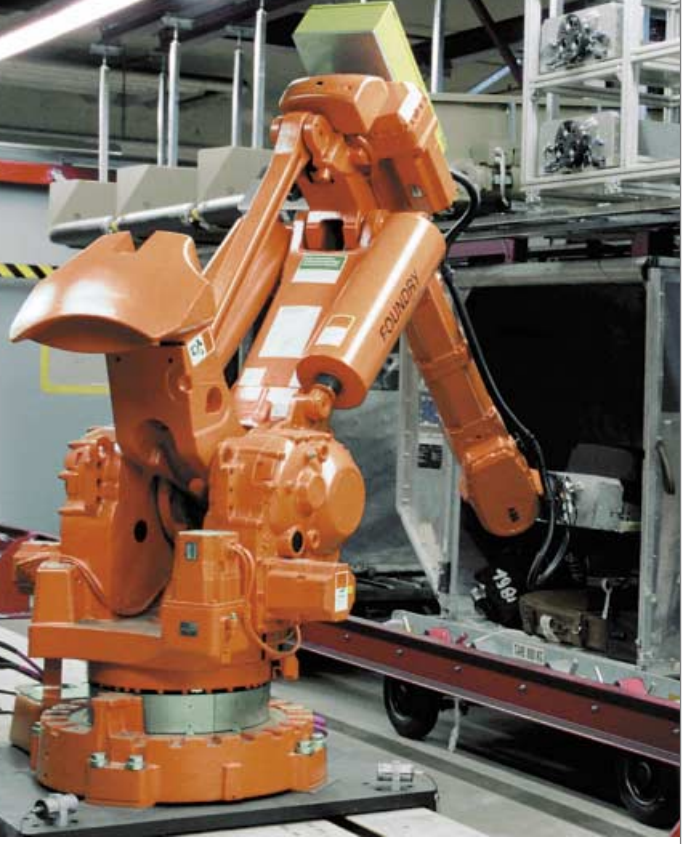
System / Display	emPC-X1600	emPC-A500	emPC-MCM 1000	emPC-MN270	emPC-MC2D	emPC-CX	Stand-alone Display
6.5"	yes	yes	–	–	–	–	–
8.4"	yes	yes	–	–	–	–	on request
12.1"	yes	yes	yes	yes	yes	yes	yes
15.0"	yes	on request	yes	yes	yes	yes	yes
19.0"	–	–	yes	yes	yes	yes	yes
Custom	on request						

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.

Specifications Overview emVIEW Displays

		6.5"	8.4"	12.1"	15.0"	19.0"
used in		emVIEW-6	emVIEW-8	emVIEW-12	emVIEW-15	emVIEW-19
Size		6.5" VGA	8.4" SVGA	12.1" SVGA	15.0" XGA	19.0" SXGA
Backlight		LED		CCFL		
Pixel Pitch		0.207 x 0.207	0.213 x 0.213	0.3075 x 0.3075	0.297 x 0.297	0.294 x 0.294
Resolution		640 x 480	800 x 600	800 x 600	1024 x 768	1280 x 1024
Resolution				1024 x 768		
Luminance	(min.)	500 cd/m²	280 cd/m²	330 cd/m²		
	(typ.)	700 cd/m²	400 cd/m²	450 cd/m²	450 cd/m²	270 cd/m²
Contrast	(min.)	400:1	250:1	500:1	480:1	500:1
	(typ.)	600:1	370:1	700:1	700:1	800:1
Colors		256 k			16.7 Mio.	
Display Mode		Normally White				Normally Black
View	(hor.)	160°	120°	160°	160°	178°
	(vert.)	140°	100°	140°	160°	178°
Operating Temperature		0 °C…+50 °C	0 °C…+50 °C	0 °C…+50 °C	0 °C…+50 °C	0 °C...50 °C
Storage Temperature		-30 °C…+80 °C	-30 °C…+80 °C	-20 °C…+80 °C	-40 °C…+80 °C	-20 °C…+60 °C
Storage Humidity				10...90%@25°C		
Power Consumption		9 W	10 W	TBD	TBD	TBD
min. Lifetime BL (MTBF)		70,000 h	70,000 h	50,000 h	50,000 h	40,000 h
Touchscreen				resistive		
Touch Controller				4-wire, serial		
Dimensions (w x h x d)*		194 x 159 x 55	234 x 190 x 55	320 x 260 x 86	382 x 306 x 77	–
Dimensions (w x h x d)**		–	–	320 x 260 x 118	382 x 306 x 119	460 x 386 x 132
Dimensions (w x h x d)***		–	–	320 x 260 x 173	382 x 306 x 174	460 x 386 x 186
Cut-Off Dim. (w x h)		172 x 142	217 x 171	300 x 240	364 x 288	441 x 367
Front Protection				IP65		
Weight (approx.)		1.0 kg*	1.6 kg*	4.2 kg**	5.6 kg**	9.0 kg**

* The dimensions are inclusive the emPC-A400 based computing system.
** The dimensions are inclusive the emPC-M based computing technology without PCI slots.
*** The dimensions are inclusive the emPC-M based computing technology with two PCI slots.



EMBEDDED COMPUTING

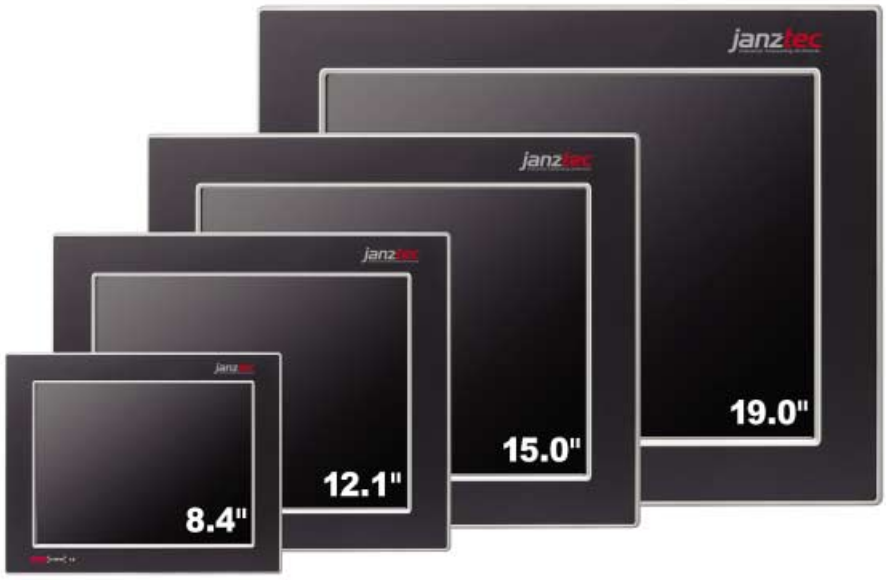
emVIEW®

emVIEW Displays





Industrial TFT LCD Displays



Specifications Overview

Display	emVIEW-8T/D	emVIEW-12T/D	emVIEW-15T/D	emVIEW-19T/D
size	8.4" SVGA	12.1" SVGA	15.0" XGA	19.0" SXGA
dimension (wxhxd)	234 x 190 x 55	320 x 260 x 43	382 x 306 x 46	460 x 386 x 52
resolution	800 x 600	800 x 600	1024 x 768	1280 x 1024
luminance	400 cd/m²	450 cd/m²	450 cd/m²	270 cd/m²
contrast	370 : 1	700 : 1	700 : 1	800 : 1
weight	TBD	3.2 kg	4.6 kg	7.9 kg

Technical Details

Housing
- Aluminum front panel with front foil for corporate design (standard is Janz' design)
- dimensions and weights see table

Touchscreen
- resistive touchscreen

Connectors / Ports
- 5 control buttons for Power (On/Off), OSD (activating), Confirm (for OSD menu), Up and Down (navigation within OSD menu)
- VGA and DVI-D graphic port
- RS232 and USB touchscreen port
- power connector for 14...32 V DC power supply



CoDeSys Embedded Controller

What is CoDeSys?
CoDeSys comes as the standard controller and PLC programming according to IEC 61131-3
CoDeSys (Controller Development System) is a comprehensive software tool for industrial automation technology. Basically it consists of two parts: the programming system CoDeSys and the runtime system CoDeSys SP. The runtime system turns any device into an IEC 61131-3 controller programmable with CoDeSys. Integrated compilers make sure that the program code is processed with optimal speed. Over 200 renowned device manufacturers from different industrial sectors program their automation devices with CoDeSys. Consequently, thousands of end users such as machine or plant builders around the world employ CoDeSys for their daily work for all sorts of different automation tasks. Today, CoDeSys is the widestspread IEC 61131-3 development tool in Europe and has established itself as the standard in controller and PLC programming.



IEC 61131-3 Programming System CoDeSys
The controller programming system CoDeSys is the heart of the Automation Suite of 3S-Smart Software Solutions and contains the complete functionality of a modern development tool.

Features of the Programming System
- Editors for programming in:
  - Instruction List
  - Sequential Function Chart
  - Function Block Diagram
  - Structured Text
  - Ladder Diagram
  - Continuous Function Diagram

- Online functionality offers
  - monitoring of all variables
  - writing and forcing of receipts (sets of variables) into the PLC
  - debugging your complete project (breakpoints, stepping, single cycle, call stack)
  - interrupt-free online changes of POUs and data
  - power flow
  - sampling trace
- library management for user defined libraries
- run time system in ANSI-C for flow control, debugging and communication
- visualization elements
- complete offline simulation
- hierarchical graphical PLC configuration
- DDE server
- OPC server

Integrated IEC 61131-3 Visualization
CoDeSys also offers a completely integrated operating and monitoring solution. The standard interfaces for a basic connection to external visualization tools for example via OPC are also supported by CoDeSys.

Visualization directly in the PLC Programming System
No additional tool is needed to visualize the data of a controller programmed with CoDeSys. The programming system contains an integrated visualization editor.

These options are available:
- **CoDeSys Target Visualization:** A driver for a built-in or attached display turns the controller itself into a client. This portable solution thus combines controller and visualization on embedded platforms.
- **CoDeSys Web Visualization:** The client is a Java applet which communicates with the web server integrated in the runtime system and displays the visualization in any given web browser.

CoDeSys SoftMotion – Control and Motion become one
Motion functionality can be integrated into the CoDeSys programming and runtime system – by including the CoDeSys SoftMotion library. Anything from a simple movement to a complex CNC application can be programmed and controlled with the SoftMotion package.

For more information please contact your Janz' office! More information about CoDeSys can be found at www.3s-software.de or at www.automation-alliance.com.

Specifications Overview

emPC / CoDeSys	emPC-X1600	emPC-A500	emPC-M	emPC-CX
CoDeSys Run Time	standard	standard	standard	standard
CoDeSys Target Visu	option	option	option	option
CoDeSys Web Visu	option	option	option	option
CoDeSys SoftMotion, S*	option	option	option	option
CoDeSys SoftMotion, M*	option	option	option	option

emVIEW / CoDeSys	emVIEW-6		emVIEW-8		emVIEW-12		emVIEW-15		emVIEW-19
	emPC-A500 emPC-X1600		emPC-A500 emPC-X1600		emPC-A500 emPC-X1600	emPC-M emPC-CX	emPC-A500 emPC-X1600	emPC-M emPC-CX	emPC-M emPC-CX
CoDeSys Run Time	standard		standard		standard		standard		standard
CoDeSys Target Visu	standard		standard		standard		standard		standard
CoDeSys Web Visu	option								
CoDeSys SoftMotion, S*	option**	option	option**	option	option**	option	option**	option	option
CoDeSys SoftMotion, M*	option**	option	option**	option	option**	option	option**	option	option

* SoftMotion, S means Single Axis; SoftMotion, M means MultiAxis and CNC functionality



INDUSTRIAL PC

JIPSY

Janz Tec Industrial PC Systems

Individual solutions for your industrial PC

Janz Tec AG, located in Paderborn, has been one of the leading manufacturers of components and systems for automation technology since 1982. The manufacture of individual industrial computers, which can be precisely adapted to the various requirements of our customers, is part of our core business:

- conception of industrial PCs
- design of industrial PCs
- series production
- quality assurance

Janz Tec Industrial PC Systems

An industrial PC has to meet specific requirements in comparison with devices for office use. Such machines are normally exceptionally robustly constructed and have a considerably higher level of failsafe design due to environmental influences or electromagnetic interference.

An industrial PC is highly suitable for the operation, programming, visualisation, long-term archiving and simulation of processes due to its high flexibility. Furthermore, the industrial PC can be combined with conventional industrial control systems or a PLC controller.

Please choose your special system color (RAL codes)





Please choose your special system color (RAL codes)

Well-known companies from the mechanical and facility engineering, power and energy, transport and traffic, medical technology and the automotive sectors are amongst Janz Tec AG's satisfied customers.

Industrial computers are developed individually in consultation with the customer, and can be adapted to varying requirements with regard to the design, housing shape or use of software ("Custom Design").

This does not just include consultation during fitting out, but also selection of components and consideration of the work location. One advantage in the selection of industrial PCs is delivery of complete systems including a function test for the entire unit.

Industrial PC in "custom design" all from under one roof

If you have also made a decision to purchase industrial computer systems, then Janz Tec AG, with its wide an exceptionally flexibly-designed product range, is the right choice. In this context, you can purchase your industrial PC but only as a cabinet installation system, panel PC, 19" rack system or shoebox system.

Janz also supplies industrial computers in a wide selection of different housing shapes which comply with all industrial requirements. Please contact us for an individual consultation.

Standard 19" Rack Mounting System

ATLANTIS

Example Systems
- ATLANTIS/2, ATLANTIS/4, ATLANTIS/4F

Processor
- Slot-CPU systems with passive backplane and Mainboard technology
- performance from Intel up to XEON and Core-i7 technology

Memory
- memory up to 16/32 GB DDR3-RAM
- HDD (SATA)/SSD/ODD for 24/7 applications

Power Supply
- power supply with 350 Watts and more
- Uninterruptible Power Supply (UPS)

Interfaces
- expansion slots (ISA / PCI / PCI-X or PCIexpress) for I/O cards, interfaces etc.
- up to 2 x 10 /100/1000 Mbit/s Ethernet interface

Graphic
- graphic on-board or AGP / PCI / PCIexpress

Space Saving Wall Mounting System

ENDEAVOUR / ENDEAVOUR'

Example Systems
- ENDEAVOUR-FSI1, ENDEAVOUR-7120, ENDEAVOUR-C200

Processor
- Slot-CPU systems with passive backplane and Mainboard technology
- performance from Intel up to XEON and Core-i7 technology

Memory
- memory up to 16/32 GB DDR3-RAM
- HDD (SATA)/SSD/ODD for 24/7 applications

Power Supply
- power supply with 350 Watts and more
- Uninterruptible Power Supply (UPS)

Interfaces
- expansion slots (ISA / PCI / PCI-X or PCIexpress) for I/O cards, interfaces etc.
- up to 2 x 10 /100/1000 Mbit/s Ethernet interface

Graphic
- graphic on-board or AGP / PCI / PCIexpress



CUSTOM DESIGN

CUSTOMDESIGN







Custom Design

Janz Tec AG specialises in optimally setting up industrial computer systems in accordance with customer requirements. Seeing themselves clearly as "Industrial Computing Architects", the company from Paderborn has been developing tailor-made solutions based on standard systems for almost 30 years, both in series production and in smaller piece numbers. Each product can be set up specifically to the customers' requirements. This means that the "custom design" department is not an additional service but a central component of each project.

Customer-specific products – tailor-made to your requirements!

Janz Tec AG can provide you with assistance using exceptionally competent technical support from the development department in addition to fixed contact persons and rapid information if you have questions about hardware and software development. You will receive optimal solutions which are just as individual as your demands and requirements. This starts as early as planning of the project, continues through development and production of the system and reaches as far as delivery and attachment of customer-specific emblems. If required, you can also purchase our Embedded Computer and Industrie PCs in accordance with your CI requirements with a logo or in a special housing. ▶

Top quality mobile equipment for concentrated feed mixing uses Janz Tec controllers

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 computer system communicates with two displays installed in the vehicle. One 12.1" display with touch screen 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.

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 90mm, 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 (1.0GHz Intel Celeron M ULV) as well as rapid Ethernet interfaces. Featuring the usual industrial controller interfaces (3 x Gigabyte-Ethernet 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 lengthy warranty (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.

Polyamide CoDeSys Touch Panel for Data Entry

Challenge: The challenge for Janz Tec was to find a control system for customized special purpose machines suitable for automation tasks, as well as for industrial robots with special requirements regarding interfaces, features and design.

Solution: Janz Tec provided the Panel PC systems emVIEW-8 and emVIEW-12. The Janz systems support all required interfaces and features (Dual-CAN, NVRAM; LAN) and at the same time Janz system's design fits perfectly in the robot control housings. Another notable advantage is the full support of CoDeSys: a customized variation was specially created, which enables the controlling of hardware that does not support CoDeSys. Janz Tec panel system consists of a touch screen display (emVIEW) and an embedded PC (emPC-A400), which provides the plant user the maximum of information and ease of use. emVIEW-12 is equipped with a 12.1" SVGA LCD-Display with touch screen and a resolution of 800 x 600 and a luminance of 350 cd/m². The emPC-A400 offers a performance of 400 MHz and 128 MB RAM.

Pro Janz Tec: This customer relies on products from Janz Tec AG because they offer a competent support from the development department, a constant contact person, as well as giving quick advice to technical questions regarding hardware and software development.



CUSTOM DESIGN

CUSTOMDESIGN

The following example of customer-specific products is intended to show you how flexibly we can respond to your requirements in our Custom Design department:

Custom design for industrial computer systems Janz Tec AG is exceptionally well fitted-out for the future, and has several products in preparation today which will be required by customers tomorrow. For all other requirements, the sales and development team is available with advice and support – contact us for an individual consultation!

emVIEW takes total control



Controller for loading applications in the oil industry



Using Janz Tec emVIEW Systems in Power Plants



Challenge: The challenge for Janz was to design a controller with mobile functionality in a vehicular environment. The functioning systems were to be installed in luxury truck trailers used by racing teams such as Formula 1 and DTM motorsports, etc. These vehicles are the 'mobile business card' of success in motorsports and they accompany the teams to races all over the world.

Solution: To meet these special requirements Janz Tec AG selected emVIEW-12 and emVIEW-8 embedded Panel PC systems with individual stainless steel-framed displays. In addition to the modified housing, Janz Tec provided CoDeSys Support, which was immediately compatible with the customer's hardware components and software programs. The emVIEW-12 controls the trailer power supply as well as air-conditioning and other internal functions, and it makes sure that the trailer's weight is balanced. The fanless emVIEW system operates with Compact Flash memory, so no rotating components at all are used – to insure ultimate reliability.

Pro Janz Tec: This customer was looking for a partner who could offer intelligent, individualized solutions, as well as providing an assurance of wise investment with long-time availability for its products. Additionally, Janz Tec was recommended to this company by another Janz customer, who had already been convinced of Janz Tec strengths in Custom Products.

Challenge: The Challenge for Janz Tec was to provide a controller for oil-product handling vehicles such as Refuelling and Dispensing trucks. Essential requirements were: reliable performance (even after years of operation in a vibration-prone environment), high and low operating and storage temperatures, low power consumption (to avoid overheating issues with an enclosed housing), and long-term product availability in order to receive certification and approval for installation.

Solution: As a communication interface between the main computer, human operator and the machine, a Janz Tec emVIEW-8T/A400 was selected. This system was built into the cab of the Refuelling vehicle to display all relevant data, allowing operator input via a touch screen. The emVIEW communicates via CAN Bus with the fuelling system, the monitor and the user, as well as via WLAN with the main computer. Fuelling orders and other information can also be transmitted directly to the vehicle. The emVIEW-8T/A400 is fitted with an 8.4" SVGA LCD display and a touch screen. The LCD resolution is 800x600 with a luminance of 400 cd/m². This HMI comes with a built-in emPC-A400 as controller. It offers sufficient processor performance for the required tasks with its 400 MHz CPU and up to 128 MB memory. The customer used a software bundle supplied by Janz, which allowed easy access for creating custom applications in C#.

Pro Janz Tec: The reasons for this customer selecting Janz Tec as partner in this project were our prior experience with CAN Bus technology over many years, the fact that system service and support would come from a single source, excellent facilities for custom-adaptation of software and hardware used in the application, so that the resulting optimal custom design was realized without problems – and on time!

Challenge:
The challenge for Janz Tec was to find a customized control system for heat and power coupler plants.

Solution:
The customer uses the latest available technologies, not only in terms of power generation, but also in terms of high quality, reliable user interface and control equipment. That is why the customer selected the Janz emVIEW-12T/A400. Power plant control is very similar to vehicle engine control, both using CANbus as an internal bus. So an emVIEW Fanless Embedded Panel PC, with its built-in CANBus (CAN open), is installed to perform the power plant control. Another vital interface included is Ethernet – allowing remote system maintenance and also a regular exchange of statistical data via FTP.

Of course, software plays a critical role too – the user interface was created using CoDeSys, a versatile development environment for programming controller applications. This IEC 61131-3 programming suite already provides many ready-made function blocks, enabling the complete system to be set up quickly and efficiently.

Pro Janz Tec:
This customer was looking for a partner who could offer intelligent, individualized solutions.

The function of the system was an important issue, but even more essential was the final design of the solution fitting to the customers requirements and needs. The display has a special stainless steel front to match the overall design of the power plant system.



CUSTOM DESIGN

CUSTOMDESIGN





Conception Design

Unique Embedded Development System from Janz Tec AG

Challenge:
The challenge for Janz Tec was to build a customer specific embedded computer system for the dSpace 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® Atom™ 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 MicroAutoBox II and its embedded computing expansion, users now have a unique development system offering great versatility, compact configuration and almost unlimited possibilities.

André Rolfsmeier, Senior Product Manager at dSPACE GmbH 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.“
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Latest Generation Aircraft Tow Tractor uses Janz Tec emVIEW Systems

Challenge:
The challenge for Janz Tec was to build the customer specific HMI system, in collaboration with TREPEL, 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 TREPEL. This decision insured that a system could be delivered that could cope with wide temperature ranges.

Custom Product Development Process

Production **Quality Assurance** **Custom Product**



CUSTOM DESIGN

VMEbus Technology

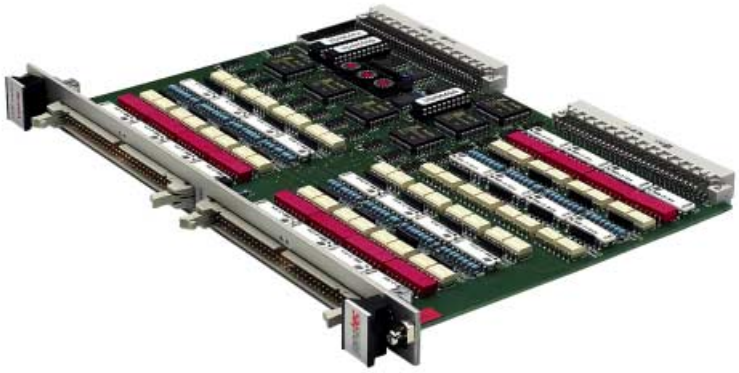
VMEbus Technology is the only computing technology which has been established in the market for more than 20 years now. Additional to the special industrial requirements the VMEbus adapted himself over the past to all new requirements at the industrial market. It permanently has been developed with new features. The most important detail is the forward and backward compatibility.
So VMEbus can be used over a period of many years. All VMEbus products can be combined with VMEbus products of different manufacturers. So all VMEbus systems are 100% compatible to each other.

World Wide Leading Standard
VMEbus now is used in many areas of everyday applications. You can be sure that:

- your electricity, your water and gas pipes are being controlled by VMEbus systems,
- your newspapers, magazines and your paper money has been printed by VMEbus controlled printing machines,
- your worldwide video conferences are controlled via VMEbus based telecommunication systems
- the electronic components in your car has been developed and tested with VMEbus,
- VMEbus systems will control traffic lightning systems, medical systems, railway vehicles and many more machines which are used everyday.

Reliability
By using standard office computer systems the performance will increase every month. So applications will be faster and multicolored, but the applications will also need much more space. In industrial application reliability, long term availability and robustness are the most important items. Critical controlling tasks like exactly switching of valves and synchronous controlling of robotics must be done in real time. Real time means the exactly controlling and – mostly important – the programmable reaction of different tasks. ▶









32-Channel Digital Input

VDIN-32

- double Eurocard form factor (6U) with VMEbus interface
- 32 independent high impedance inputs
- opto-isolated inputs
- input voltage ranges (0V..100V)
- LED status display for each input
- simulation sockets
- counter/timer with trigger/gate activation
- change-of-state and pattern recognition interrupt
- P2 connection of input lines
- 30 kHz max. input frequency

96-Channel Digital Input

VDIN-96

- double Eurocard form factor (6U) with VMEbus interface
- 32, 64 or 96 independent high impedance inputs (opto-isolated version)
- opto-isolated inputs optionally available
- input voltage 5V/24V (up to 100 V optionally available)
- counter/timer with trigger/gate activation
- change-of-state and pattern recognition interrupt
- front-panel and P2 connection for input lines
- 30 kHz max. input frequency

32-Channel Digital Output

VDIO-32

- double Eurocard form factor (6U) with VMEbus interface
- 32 opto-isolated in-/outputs
- voltage ranges 5V/12V/24V
- read-back outputs usable as inputs
- LED display simulation sockets for each channel
- counter/timer with trigger/gate activation
- change-of-state and pattern recognition interrupt
- P2 connection for I/O lines
- 30 kHz max. input frequency

96-Channel Digital Output

VDOT-96

- double Eurocard form factor (6U) with VMEbus interface
- 32 bit, 64 bit or 96 bit digital outputs
- output voltages 12V/24V
- outputs with high-side power switch (BTS721)
- output current max. 2.5A, short circuit, overvoltage, overload and overheating protected
- opto-isolated outputs optionally available
- front-panel and P2-connection for output lines
- LED and interrupt error indication



CUSTOM DESIGN

VMEbus is the leading computing technology (over 50 % market share) in the industrial market. Absolutely safety relevant applications like process controlling in power plants, avionic applications in military and civil aircrafts up to simple controlling of machinery are being controlled by VMEbus systems. In areas, in which the computer breakdown can hazard people or can cost a high amount, VMEbus technology is also being used.

The VMEbus at Janz Tec AG
VMEbus systems of the Janz Tec AG will be fit into many different applications all over the world. So Janz' VMEbus products are well-known in many area of controlling.

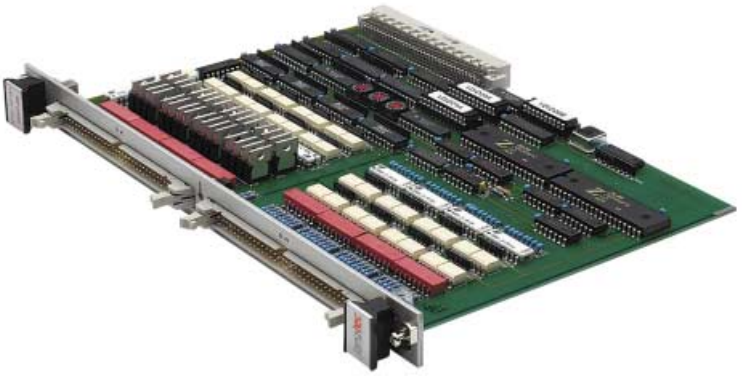
Janz Tec AG supports all board level products with software drivers for most common operating systems. These drivers are vital for making system integration time short.

Additionally, most drivers offer the full features of Janz' commercial products, so that the user can concentrate on the application without needing to understand sometimes complex hardware issues. Operating systems supported with drivers include VxWorks, OS-9, pSOS+, Linux and UNIX.

The range of software drivers is continually developing. Special drivers for other operating systems may be available. Please contact Janz or one of the international sales offices with your particular requirements.

C-language libraries may also be included as examples. The license also includes free telephone support to get you going quickly. C-source code for all drivers is available for purchase on request. Please contact the Janz office for details.









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

80-Channel Parallel I/O

VPIO-80

- double Eurocard form factor (6U) with VMEbus interface
- A24:D16 slave interface
- 32 opto-isolated in- or outputs (factory configured in 8 bit groups)
- up to 70V in-/output voltage, 0.6A output current, open collector
- 48 TTL-compatible in-/outputs, 48mA, open collector
- counter/timer with trigger/gate activation
- change-of-state and pattern recognition interrupt
- opto-isolated lines connected to front panel, TTL lines at P2
- 30 kHz max. input clock rate

32 Relay Output

VREL-32

- double Eurocard form factor (6U) with VMEbus interface
- 32 relay outputs, active closing or opening contacts
- outputs max. 250V (AC), 110V (DC), 3A, 60VA, 30W
- isolation voltage coil/contact : 1500V
- max. switch frequency 500 Hz
- relay states re-readable
- relay outputs at P2 connector
- LED status display



CUSTOM DESIGN

VMEbus Technology









8-Channel Serial I/O

VSIO-D8

- double Eurocard form factor (6U) with VMEbus interface
- 8 independent serial channels
- configurable V.24 (RS232) or 20mA (current loop)
- opto-isolation for 20mA current loop
- signals for modem control
- transfer rates up to 38.4 kBaud asynchronous
- channel parameters independently set by software
- fully interruptable with 8 independent interrupt vectors
- P2 connection for serial lines, transition adapter optional

8-Channel RS232/RS422

VSIO-A8

- double Eurocard form factor (6U) with VMEbus interface
- 8 independent serial channels
- configurable as RS232, RS422 or 20mA
- voltage isolation using opto-isolation
- independent Baud-rates for each channel
- signals for modem-control
- transfer-rate up to 800 kBaud
- all channel parameters are software programmable and independent of each other
- full interrupt capability with 4 independent interrupt vectors
- connector signals at the interfaces are hardware wireable as needed

Static CMOS Memory

VMEM-C16

- double Eurocard form factor (6U) with VMEbus interface
- capacity up to 16MB SRAM or up to 16MB FLASH EPROM
- 140 ns access time
- A24/A32 addressing mode
- D16/D32 data transfer
- memory write protectable with temporary unprotect from front panel
- battery back-up for at least 1000h (rechargeable NiCd battery)

VMEbus Prototyping

VDEV-IO

- double Eurocard form factor (6U) with VMEbus interface
- A24/16:D16 VMEbus slave interface
- full interrupt capabilities
- pre-decoding of 8 address ranges
- vector register
- large matrix field with surrounding track for GND/Vcc
- 8 user definable LEDs available at the front panel

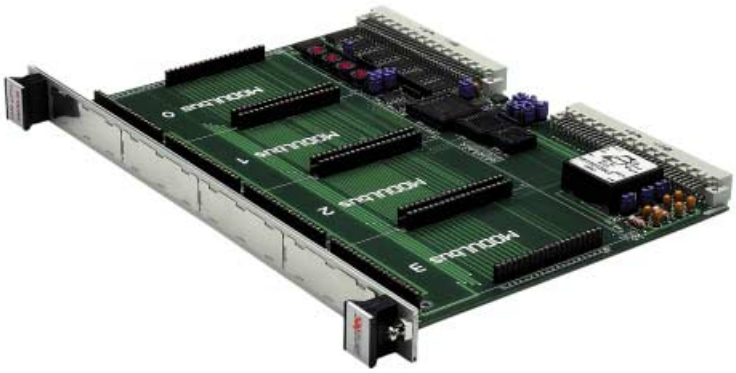


CUSTOM DESIGN

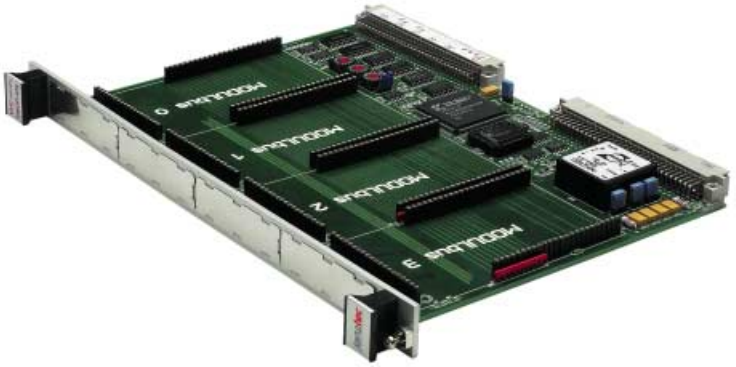
MODULbus

The Mezzanine Standard









General

The MODULbus I/O concept is a system independent flexible modular input/output solution for industrial applications. It consists of a carrier board for the specific host computer bus system (VMEbus, CompactPCI, ISA, PCI) and a range of more than 50 different I/O modules with MODULbus interface to the carrier board. Using the MODULbus I/O concept, the system integrator is able to develop computer systems with flexible configurations for application in industrial environments, small and low-cost solutions for e.g. test and measurement purpose can also easily be designed.

Technical

As a mezzanine bus, the MODULbus using synchronous bus timing offers 16 data lines (for high data transfer) and 8 address lines. Socket application is provided by an enable signal. Full interrupt and power fail handling is provided on the MODULbus.
In addition to the standard READ/WRITE and power fail/system restart procedures, a DMA access can be used for fast data transfer with a transfer rate of more than 10 MBit/s. The physical layout and dimensions of the MODULbus I/O modules are shown in the technical drawing.

MODULbus+

The MODULbus+ extension to the MODULbus standard is created to add new features like more address space, easy identification and user-bussed signals for ”module to module handshaking”. The MODULbus+ extensions is designed to be electrically forward and backward compatible to the MODULbus standard. ▶

Intelligent VMEbus I/O Controller

VMOD-32

- double Eurocard form factor (6U)
- A32/24/16:D16/08 VMEbus master; A24:D16/08 slave interface
- switchable bus width for short, standard and extended VMEbus-I/O
- VMEbus master/slave operation
- 3 MODULbus I/O sockets, 4 additional sockets with VMOD-IX expansion board (8 TE solution)
- front panel and P2 connection of MODULbus I/O lines
- MC68332 MCU with 21 MHz (programmable)
- on-board system controller with first slot detection
- interrupt handler IRQ 1-5
- interrupt generator any 1 of 7
- up to 4 MB DRAM
- up to 1 MB EPROM
- up to 1 MB FLASH EPROM
- up to 1 MB dual-ported battery buffered SRAM
- battery buffered realtime clock with 2 kB SRAM
- RS232 serial ports
- periodic interrupt timer (internal to MC68332)
- watchdog timer (internal to MC68332)
- DC/DC converter to supply analog modules

6U/3U Mezzanine Carrier for MODULbus I/O

VMOD-IO

- double Eurocard form factor (6U) with VMEbus interface
- non-intelligent carrier board for MODULbus I/O
- A16/A24:D16 VMEbus slave interface
- 4 plug-in sockets for MODULbus I/O
- different interrupt vector for each MODULbus socket
- jumper selectable interrupt level
- 2 kB short I/O or standard-address range
- needs only one VMEbus slot
- front panel and P2 connection for I/O lines
- on-board DC/DC converter to supply analog modules optionally available

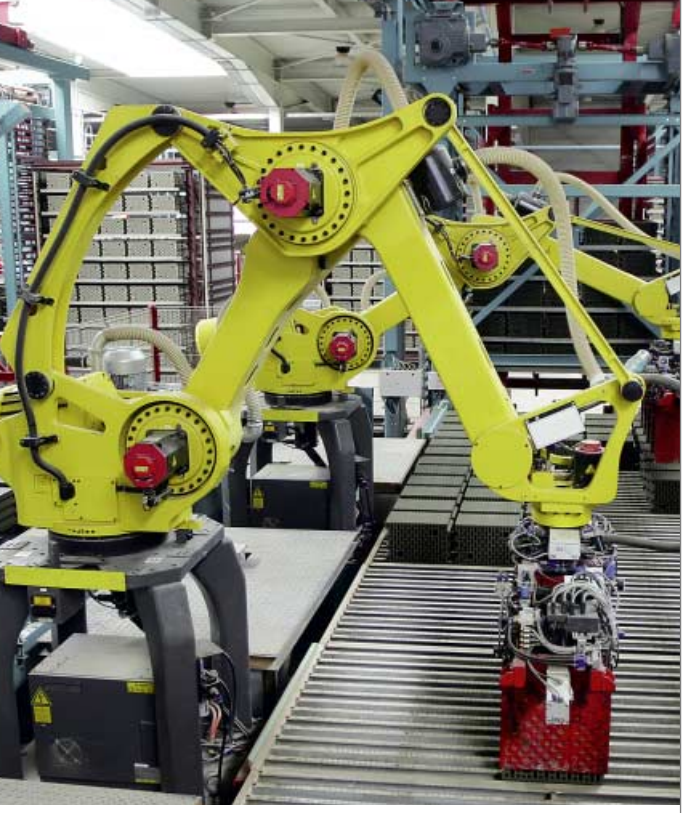
VMOD-3U

- single Eurocard form factor (3U) with VMEbus interface
- non-intelligent carrier board for MODULbus I/O
- A24/16:D16 VMEbus slave interface
- 1 plug-in socket for MODULbus I/O
- jumper selectable interrupt level 1-7 and vector-interrupt
- 512 byte short I/O or standard addressing
- needs only one VMEbus slot
- front panel connection for I/O lines
- on-board DC/DC converter to supply analog modules optionally available

6U VME64 Mezzanine Carrier for MODULbus I/O

VMOD-IO2

- double Eurocard form factor (6U) with VMEbus interface
- non-intelligent carrier board for MODULbus I/O
- A16/D16, A24/D16 and A32/D16 VMEbus slave interface
- 4 sockets for MODULbus I/O
- MODULbus+ extension
- performance improvement through write buffer
- VME64x compliant CR/CSR for software board detection and address decoder configuration
- BAR register can be loaded by geographical addressing or auto slot identification software configuration of the boards run-time
- parameters (without jumpers) programmable IRQ level and IRQ vector
- for each module interrupt masking for each module
- modules can be individual reset by software
- software configuration of MODULbus clock
- access time configuration via software
- needs only one VMEbus slot
- front panel and P2 connection for I/O lines
- on-board DC/DC converter to supply
- analog modules optionally available



CUSTOM DESIGN

MODULbus
The Mezzanine Standard









Software Support
The MODULbus hardware platforms and I/O modules are supported by a wide range of software products. The most common real time operating system VxWorks, OS-9 and pSOS+ for the VMEbus and CompactPCI based carrier boards offers a development system level as well as target applications. Software drivers for VxWorks, OS-9, pSOS+, Linux, QNX and Windows NT/2000 are available for the corresponding non-intelligent platforms supporting all I/O modules. Thus, system integration of the complete MODULbus product family is simplified and system integration costs are reduced to a minimum. All software drivers are offered including documentation and at a low price. Please request additional information.

Simple to use
All this together makes the difference in the MODULbus concept. High functionality, simple to use and short design-in phases save important development time and guarantee a shorter time gap between design idea and end-product.

PCI Carrier Boards

MOD-PCI

- non-intelligent PCI carrier board with two MODULbus+ sockets
- extended height short form factor
- 32 bit PCI 2.2 target interface (PLX 9030)
- 3.3V / 5V PCI interface
- only one PCI-bus slot occupied
- front panel connector of MODULbus socket 0 available at PCI bus bracket
- I/O connector of MODULbus socket 1 available on 16-pin flat cable connector at PCI-bus bracket
- interrupt sharing between the modules (each interrupt is individually maskable)
- supports MODULbus+ identification mechanism
- optional on board DC/DC converter to supply analog modules

MOD-PCI4

- non-Intelligent PCI-bus carrier board with four MODULbus+ sockets
- extended height long form factor
- 32 bit PCI 2.1 target interface (PLX 9052)
- 5V PCI interface
- only one PCI slot occupied
- front panel connector of MODULbus socket 0 available at ISAbus bracket
- I/O connector of MODULbus socket 1 available on 16-pin flat cable connector at ISA bracket
- I/O connector of MODULbus sockets 2 and 3 are available at 20-pin flat cable headers
- interrupt sharing between the modules (each interrupt is individually maskable)
- supports MODULbus+ identification mechanism
- supports MODULbus+ user IO signals, which can also be linked to other MOD-PCI4 boards through a link connector
- optional on board DC/DC converter to supply analog modules

CompactPCI Carrier Boards

CMOD-IO

- by using the VMOD-ICAN3 host system does not need to handle the high interrupt CMOD-IO
- 6U CompactPCI non-intelligent carrier board for MODULbus
- 32 bit PCI 2.2 target interface (PLX 9030)
- 3.3V / 5V PCI interface
- single slot double euro card form factor
- 4 sockets for MODULbus I/O
- needs only one CompactPCI slot
- interrupt sharing between the four modules (interrupts individually maskable)
- supports MODULbus+ identification mechanism
- supports MODULbus+ user interconnect signals
- front panel connection of I/O signals
- rear panel connection of I/O signals via CompactPCI J4 connector
- optional on board DC/DC converter to supply analog modules

CMOD-3U

- 3U CompactPCI non-intelligent carrier board for MODULbus
- 32 bit PCI 2.2 target interface (PLX 9030)
- 3.3V / 5V PCI interface
- 1 socket for MODULbus I/O
- needs only one CompactPCI-slot
- interrupt sharing between the four modules (interrupts individually maskable)
- supports MODULbus+ identification mechanism
- front panel connection of I/O signals
- optional on board DC/DC converter to supply analog modules



CUSTOM DESIGN

MODULbus

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Digital I/O Modules

VMOD-BE8

- 8 independent opto-isolated inputs
- input voltage 24V
- interrupt by pattern recognition logic
- status display for each input
- input filters optionally
- software drivers for various operating systems available

VMOD-BE20

- 20 independent opto-isolated inputs
- each input line is isolated from each other
- input voltage 12V / 24V / 48V
- input low pass filters
- software drivers for various operating systems available

VMOD-BA5

- 8 independent outputs
- 24V / 0.5A opto-isolated
- short circuit protected
- load connected to ground
- status display for each output
- interrupt-generation on short circuit
- software drivers for various operating systems available

VMOD-BA20

- 20 independent opto-isolated outputs
- output voltage 12V / 24V / 48V
- output current max. 1.0A
- high side or low side switching capabilities
- software drivers for various operating systems available

VMOD-TTL

- 20 bit TTL I/O
- optionally opto-isolated I/O
- single 4 bit and double 8 bit I/O channels
- I/O software configurable per channel
- max. 48 mA open collector outputs
- 16 bit counter/timer internally or externally controlled
- interrupt on change of input state or input pattern
- high side or open collector switching capabilities
- software drivers for various operating systems available

VMOD-REL

- 8 relay outputs
- output characteristics 250V (AC), 110V (DC), 3A max.
- output power 30W, 60 VA
- isolation voltage (coil/contact) 1.500V
- LED state display for each output channel
- double size module
- software drivers for various operating systems available



CUSTOM DESIGN

MODUL*bus*
The Mezzanine Standard









Analog Input Modules

VMOD-8E8 / VMOD-8E16

- 16 single-ended or 8 differential analog inputs
- 8 bit ADC with integrated Sample & Hold
- input ranges 0 – 5V, 0 – 10V, ±2.5V, ±5V, ±10V
- sampling rate max. 1 MHz (conversion time 1 µs)
- interrupt by end-of-conversion
- 8 bit binary code format
- software drivers for various operating systems available

VMOD-12E4

- 4 analog inputs
- 12 bit resolution
- sampling rate max. 333 kHz (conversion time 3 µs)
- simultaneous conversion with 4 ADC (so no time-gap of measured data)
- input voltage ranges ±5V, ± 10V, 0 – 10V
- cascadable with common trigger
- single-stage buffer for each channel
- low pass filter
- software drivers for various operating systems available

VMOD-12E16

- 16 single-ended or 8 differential analog inputs
- 12 bit resolution
- linearity error max ± 1/2 LSB
- gain error max. ± 1/2 LSB (for amplification factor 1)
- selectable input voltage ranges: ±5V, ±10V, 0 –10V
- optional: current input 0 – 20mA
- programmable amplification 1, 10, 100, 1000 or 1, 2, 4, 8
- input section opto-isolated optionally
- programmable interrupt on end-of-conversion
- sampling rate max. 167 kHz (conversion time 15 µs)
- software drivers for various operating systems available

VMOD-16E4

- 4 fast and independent analog inputs
- 16 bit resolution
- conversion time 3 µs with simultaneous conversion (4 ADCs)
- input ranges: 0-10V, ±10V, 0-5V, ±5V
- external conversion trigger (MODULbus+ or DSUB)
- trigger out (MODULbus+ or D-SUB) to cascade with other modules
- timer for self triggered conversion
- FIFO of 127 words
- interrupt can be generated when configurable threshold has been reached.
- software drivers for various operating systems available







CUSTOM DESIGN

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The Mezzanine Standard



Analog Output Modules

VMOD-8A4 / VMOD-8A8

- 4 or 8 independent analog output channels
- 8 bit resolution per channel
- output voltage ranges selectable: ± 10V, 0 – 10V, ± 5V, 0 – 5V, ± 2.5V, 0 – 2.5V
- 10mA output current per channel
- double buffered input interface with one common load DAC command
- software drivers for various operating systems available

VMOD-12A2 / VMOD-12A4

- high precision analog output module
- 2 or 4 independent channels
- 12 bit resolution and linearity
- sampling rate max. 100 kHz (conversion time 10 µs)
- ±5V, ±10V, 0 – 5V, 0 – 10V output voltages
- 25mA max. drive capability
- drives large capacitive loads
- simultaneous loading of output channels
- binary code format
- power-up to zero volts
- opto-isolated outputs optionally
- software drivers for various operating systems available

VMOD-12A8

- high precision analog output module
- 8 independent channels
- 12 bit resolution and linearity
- sampling rate max. 333 kHz (conversion time 3 µs)
- output voltages ±10V, 0 – 10V
- max. 25mA output current
- double-buffered digital inputs
- software drivers for various operating systems available

VMOD-16A1 / VMOD-16A2

- high precision analog output module
- 2 independent channels
- 16 bit resolution and linearity
- sampling rate max. 111 kHz (conversion time 9 µs)
- output voltages ±5V, ±10V, 0 – 10V
- 25mA max. drive capability
- drives large capacitive loads
- simultaneous loading of output channels
- binary code format
- power-up to zero volts
- software drivers for various operating systems available

Serial Modules

VMOD-SIO2

- 2 independent opto-isolated serial channels RS232/V.24 (VMOD-SIO2/A) or
- 2 independent opto-isolated serial channels RS485 (VMOD-SIO2/B) or
- 2 independent opto-isolated serial channels RS422 (VMOD-SIO2/C)
- baud rate up to 38.4 kBaud
- supports TxD, RxD, RTS and CTS signals
- Zilog SCC Z8530
- software drivers for various operating systems available

VMOD-SIO4

- 4 independent serial channels RS232/V.24 (VMOD-SIO4/A) or
- 4 independent opto-isolated serial channels current loop (VMOD-SIO4/B) or
- 1 serial channel RS422 (VMOD-SIO4/C)
- baud rate up to 38.4 kBaud
- supports TxD, RxD, RTS, CTS, DCD and DTR signals
- Zilog SCC Z8530
- software drivers for various operating systems available



CUSTOM DESIGN

MODULbus

The Mezzanine Standard







Interfacing Modules

VMOD-CEN

- 20 bit TTL-I/O
- optionally opto-isolated I/O
- single 4 bit and double 8 bit I/O channels
- I/O software configurable per channel
- max. 48 mA open collector outputs
- 16 bit counter/timer internally or externally controlled
- interrupt on change of input state or input pattern
- software drivers for various operating systems available

Communication Modules

VMOD-ICAN3

- intelligent high performance SJA1000 CAN controller
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- optionally opto-isolated CAN interface
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available

VMOD-FCAN

- Intel 82527 Full CAN controller
- supports CAN protocol V2.0A and V2.0B
- optionally opto-isolated CAN interface
- ISO/DIS 11898
- 9-pin D-SUB connector
- software drivers for various operating systems available



CUSTOM DESIGN

MODULbus

The Mezzanine Standard









Counter/Special Modules

VMOD-INC2

- 3-axis evaluation on one module
- 3 independent 24 bit counters with 1-, 2-, or 4-times evaluation
- interrupts on reference positions
- programmable counter modes for frequency or event counting and pulse width measuring
- differential RS422 and TTL-compatible inputs
- optionally opto-isolated
- software drivers for various operating systems available

Communication Modules

VMOD-COM

- communication procedure 3964(R)
- messaging interface between host and firmware through software driver
- enables applications on the host to communicate with another station on the serial line connections
- serial data communication according to 3964(R) protocol
- software drivers for various operating systems available

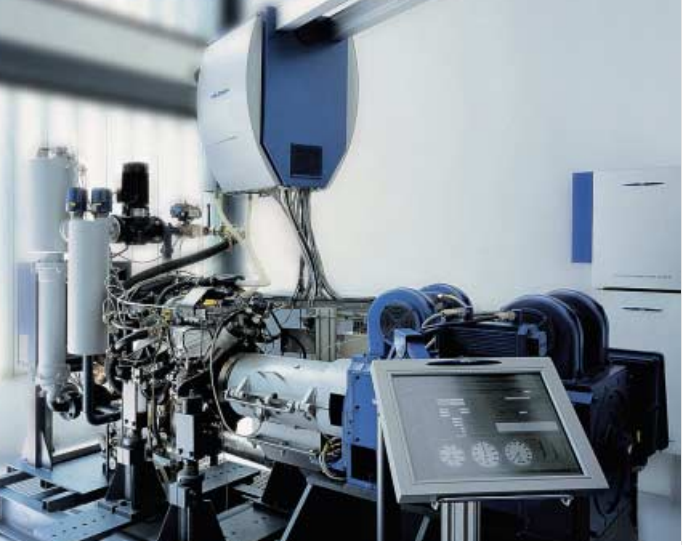
VMOD-PROF

- usable as slave to Profibus-DP
- SPC3 interface
- possible broadcast messages of 256 I/Os within one cycle
- baud rate up to 12 MBaud
- baud rate selected automatically by the module
- software drivers for various operating systems available

Motion Controller Modules

VMOD-MTC2

- all functions for motor controlling of DC servo motors
- programmable digital PID filter
- velocity, target position and filter parameters may be changed during motion
- quadrature encoder interface with index pulse input
- 12 bit D/A converter
- 32 bit position, velocity and acceleration registers
- programmable host interrupts
- software drivers for various operating systems available



CAN

Industrial Communication

Good communication is very important nowadays - not just in real life, but also in machines, plant and complex industrial applications from a wide range of industries. This applies especially if error-free transmission of data is required due to more and more compact construction and the necessity for more performance in the case of distributed systems. For this reason, Janz Tec AG also places great value on innovative and sophisticated technology in the Industrial Communication business sector. The InCom products developed in-house enable the control systems for your machines, plan and systems to be kept at the highest level.

Real time-capable, open standard, future-proof!

CANopen is an exceptionally popular bus system used in automation technology which proves its advantages in many sectors day after day. The CANopen interfaces used by Janz Tec AG are available for many differing system architectures such as ISA/PCI, CompactPCI, VMEbus, PCcard (PCMCIA), PMC, PC/104 and others. You will receive software support and libraries with standardised APIs for Windows, Linux, QNX, VxWorks and other operating systems. In addition to the highest quality, you can also profit from extensive product support for your special application area. ▶

Overview of CAN Host Interfaces

		CAN-PCI
System Architecture	PCI	X
	PCI-Express	
	CompactPCI, 3U	
	CompactPCI, 6U	
	VMEbus, 3U	
	VMEbus, 6U	
	PC/104 (16 Bit)	
	PC/104L+ (32 Bit)	
	PCMCIA	
	USB	
	PMC	
CAN Controller	Philips SJA1000	X
	Opto-Isolation	X
No. of Channels	1	X
	2	X
	3	o. R.
	4	o. R.
CAN Communication/ Hardware	MC68332	X
	RISC	
	PowerPC405GP	
CAN Communication/ Software	Basic CAN	X
	(CAN 2.0A) 11 Bit Identifier	X
	(CAN 2.0B) 29 Bit Identifier	X
	CANopen	X
Memory	RAM	256 kB
	DPRAM	64 kB
	FLASH	256 kB
Physical Connection	CAN Hi-Speed (ISO/DIS11898-2)	X
	9-pin D-SUB	X
	Customer Specific Connectors	o. R.
	Copper based Connection	X
	Fibre Optic Connection	o. R.
Operating System Support	Windows 2000/XP	X
	Windows CE.net 5.0	
	Linux	X
	QNX	X
	VxWorks	X
	OS-9	o. R.

CAN Host Interfaces

CAN-PCI2	CAN-PCIL	CAN-PCIeL	CAN-PCIH	CAN-104	CAN-104L	CAN-104L+	CANcard	CAN-USB	CAN-PMC2	CPCI-CAN	CAN-CP3	CAN-CP6	CAN-VME3	CAN-VME6/K2
X	X		X											
		X												
											X			
										X		X		
													X	
														X
				X	X									
						X								
							X							
								X						
									X					
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	o. R.	X	X	X		X	X		X	X	X	X
X	X	X	X	X	X	X	X		X			X		X
									X	X		X		X
		X	X						X	X		X		X
X				X			X			X	X	X	X	X
								X						
			X						X					
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
256 kB			64 MB	256 kB			512 kB	64 kB	64 MB	256 kB	256 kB	256 kB	256 kB	256 kB
64 kB				64 kB			128 kB			64 kB	64 kB	64 kB	64 kB	64 kB
256 kB			1 MB	256 kB			512 kB	128 kB	4 MB	512 kB	256 kB	256 kB	256 kB	256 kB
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.			o. R.	o. R.	o. R.	o. R.	o. R.	o. R.
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.			o. R.	o. R.	o. R.	o. R.	o. R.	o. R.
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X			X	X								
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	o. R.	o. R.	o. R.	X	o. R.	X	o. R.	X	X	X	X	X
X	o. R.	o. R.	o. R.	X	o. R.	o. R.	o. R.	o. R.	X	X	X	X	X	X
o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.	o. R.

X: Standard Availability o. R.: On Request



INDUSTRIAL COMMUNICATION

CAN











Industrial Ethernet and the term real-time Ethernet, summarize the various Ethernet standards for networking equipment in industrial environments.

Janz Tec embedded PC systems offer control systems with CoDeSys and the connection to real-time Ethernet, a single, powerful communication basis for the entire automation industry. CoDeSys supports the following real-time Ethernet:

- EtherCAT
- PROFINET
- EtherNet/IP

By using Janz Tec emCONTROL machine controllers based on CoDeSys and "Industrial Ethernet" standards, high-performance control systems that allow fast accesses and short cycle times, can be realized. Did you ever think that good communication can be so simple?. You can find out more details about the services offered by Janz Tec AG in the Industrial Communication sector during a personal consultation.

CAN PCI/PCIexpress Connections

CAN-PCIH

- intelligent PCI CAN field bus controller
- local intelligence with IBM PowerPC 405
- PCI interface with bus master capabilities
- 1 MB Flash
- 64 MB local memory
- 2 SJA1000 CAN controller for 2 independent CAN/CANopen channels
- 2 additional CAN interfaces can be field installed via the extension kit for CAN-PCIH
- optionally opto-isolated CAN interfaces
- ISO/DIS 11898
- 9-pin D-SUB connector (2 channel solution)
- ICANOS firmware on-board
- CANopen optionally available

CAN-PCI2

- CAN host interface for PCI systems intelligent high performance CAN field bus adapter
- PCI standard height short form factor
- compatible to intelligent CAN-PCI board CAN-PCI/K2
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- 3.3V and 5V PCI interface
- up to 2 SJA1000 CAN controller for 2 independent CAN channels
- optionally opto-isolated CAN interfaces
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available

CAN-PCI/K2

- intelligent CAN host interface based on VMOD-ICAN3 and MODULbus carrier board MOD-PCI for PCI systems
- intelligent high performance CAN controller SJA 1000
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- optionally opto-isolated CAN interface
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available

CAN-PCIL

- CAN field bus controller for PCI-bus systems
- short form factor
- 32 bit PCI 2.2 target interface
- 3.3V and 5V PCI interface
- only one PCI-bus slot occupied
- up to 2 CAN interfaces with SJA1000 CAN controllers
- 11bit ID and 29bit ID CAN specifications supported
- ISO/DIS 11898, optionally opto-coupled
- 9-pin D-SUB connector for each CAN interface at PCI bracket

PCIeL

- CAN fieldbus controller for PCIexpress bus systems
- PCIe short form factor
- 1x PCIe 1.1 target interface
- Up to 4 CAN interfaces with SJA1000 CAN controllers
- 11 bit ID and 29 bit ID CAN specifications supported
- ISO 11898-2, optionally opto-coupled
- 9-pin D-SUB connector for 2 CAN interface at PCI bracket
- 2 additional CAN interfaces can be field installed via extension kit



INDUSTRIAL COMMUNICATION

CAN







Intelligent CAN Connection for PC/104 Systems

CAN-104

- intelligent high performance CAN field bus controller
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- up to 2 SJA1000 CAN controller for 2 independent CAN channels
- optionally opto-isolated CAN interfaces
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available

Non-intelligent CAN Connection for PC/104(+) Systems

CAN-104L(+)

- non-intelligent and low cost CAN controller
- up to 2 CAN 2.0b interfaces with SJA1000 CAN controllers
- 11 bit ID and 29 bit ID CAN specifications supported
- ISO/DIS 11898
- optionally opto-isolated
- isolation barrier 500V (optionally)
- 9-pin D-SUB connector for each CAN interface at front panel, optionally pin header
- on-board line termination 120G; enabled by software
- two diagnostic LEDs (green/yellow) per channel
- 32 Bit PCI slave only board
- 5V PCI interface
- 33 MHz bus clock frequency
- power requirements +5 V (±5 %), max. 140mA
- operating temperature range 0 … +70 °C
- non-operating temperature range -20 °C … +80 °C
- humidity 0 … 80 %, non-condensing
- dimensions (w x d) 90 x 95mm, like PC/104+ specification
- weight approx. 100 g

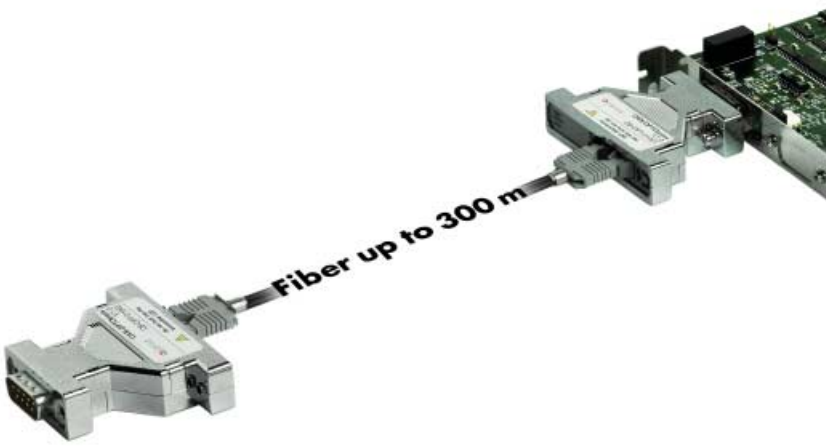




INDUSTRIAL COMMUNICATION

CAN





CAN Connection for PCcard (PCMCIA)

CANcard

- CAN host interface for PCcard (PCMCIA) systems (Type II)
- intelligent high performance CAN field bus adapter
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB DP-Flash
- two SJA1000 CAN controller
- 16 bit PCcard interface (PCMCIA)
- two 15-pin IO connectors for attachment of external transceiver cables and debugging features
- Xilinx Spartan FPGA for user specific application, optional
- optional FPGA is configured by local processor with a program that is stored in the DP-Flash
- ICANOS firmware on-board
- optionally CANopen available
- software drivers for various operating systems available
- bus line termination software-switchable 120 Ω (Ohm) resistor in external transceiver cable
- transceiver cable must be ordered separately for each channel
- opto-isolation in transceiver cable

CAN Connection for USB Ports

CAN-USB

- CAN to USB connection
- SJA1000 CAN controller
- 128 kB Flash for firmware
- up to 64 kB SRAM
- firmware upgrade over USB
- CAN interface refers to ISO/DIS 11898, opto-isolation
- 9-pin D-SUB male connector
- plug 'n' play
- software controlled termination of CAN line
- bus powered device, no AC adaptor necessary
- dimensions (w x d x h) 55 x 55 x 20 mm
- software drivers for Windows 2000/XP and Linux
- four diagnostic LEDs
- optional rail-mounting

CAN Connection for Fiber Optic

CAN-OPTOkit

- fiber optic link between a CAN host interface and a copper based CAN network
- for isolated and noise immune link
- requires Janz CAN host interface without internal transceiver
- permissible network length is determined by the optical and electrical delays
- network length can be arbitrarily divided into copper or fiber cable length
- ISO/DIS 11898
- 9-pin D-SUB connector
- max. length of optical Link 40 m (POF cable) and 300 m (HCS cable)
- total bus length (optical + copper) 70 m/500 KBit to 520 m/125 KBit



INDUSTRIAL COMMUNICATION

CAN









Modular CAN Connection for VME

CAN-VME3/K2 (for 3U)
CAN-VME6/K2 (for 6U)

- intelligent CAN host interface based on VMOD-ICAN3
- MODULbus carrier board VMOD-3U (for 3U systems) or VMOD-IO (for 6U systems)
- intelligent high performance CAN controller SJA 1000
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- optionally opto-isolated CAN interface
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available

Modular CAN Connection for CompactPCI

CAN-CP3/K2 (for 3U)
CAN-CP6/K2 (for 6U)

- intelligent CAN host interface based on VMOD-ICAN3
- MODULbus carrier board CMOD-3U (for 3U systems) or CMOD-IO (for 6U systems)
- intelligent high performance CAN controller SJA 1000
- local intelligence with MC68332
- 256 kB SRAM, 16 bit wide
- 64 kB DPRAM, 16 bit wide
- 512 kB Flash
- optionally opto-isolated CAN interface
- ISO/DIS 11898
- 9-pin D-SUB connector
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available



INDUSTRIAL COMMUNICATION

CAN





High-Performance CAN Connection for 6U CompactPCI

CPCI-CAN

- up to 4 intelligent CAN channels
- compatible to well-known VMOD-ICAN3
- 32 bit PCI 2.2 target interface (PLX 9030)
- 3.3V and 5V PCI interface
- single slot double Euro-Card format (6U)
- diagnostic LEDs on front panel
- front panel connection of CAN interfaces
- back panel connection of CAN interfaces via CompactPCI J4 connector

Intelligent CAN Connection for PMC Sockets

CAN-PMC2

- intelligent PMC CAN field bus controller
- local intelligence with IBM PowerPC 405 GP
- PCI interface with DMA capabilities
- 1 MB Flash
- 64 MB SDRAM
- up to 4 SJA1000 CAN controller for 4 independent CAN channels
- optionally opto-isolated CAN interfaces
- ISO/DIS 11898
- 9-pin D-SUB connector (1 or 2 channel solution)
- 25-pin D-SUB connector (4 channel solution)
- all I/Os are available at front and at Rear I/O
- ICANOS firmware on-board
- CANopen optionally available
- software drivers for various operating systems available



INDUSTRIAL COMMUNICATION



EtherCAT®

EtherCAT Master Control System

EtherCAT is characterized by outstanding performance, very simple wiring and openness for other protocols. EtherCAT sets new standards where conventional fieldbus systems reach their limits: 1,000 I/Os in 30µs, optionally twisted pair cable or optical fiber and, thanks to Ethernet and Internet technologies, optimum vertical integration. With EtherCAT, the costly Ethernet star topology can be replaced with a simple line structure – no expensive infrastructure components are required.

Where other real-time Ethernet approaches require special interface hardware in the controller, for EtherCAT masters the on-board Ethernet port is sufficient. EtherCAT is versatile: master-to-slave, slave-to-slave and master-to-master communication is supported. Safety over EtherCAT is available.

EtherCAT makes Ethernet down to the I/O level technically feasible and economically sensible. Full Ethernet compatibility, internet technologies even in very simple devices, maximum utilization of the large bandwidth offered by Ethernet, outstanding real-time characteristics at low costs are outstanding features of this network.

CoDeSys V3 EtherCAT IEC 61131-3 Master Library

- Powerful real-time ethernet fieldbus solution
- Makes internet technologies available at the I/O level (Standard Ethernet cables and standard low cost connectors)

EtherCAT Field Bus Integration and Configuration directly in CoDeSys

- Configuration of EtherCAT master and slave parameters
- Mapping of I/O channels to IEC variables
- Online diagnostic monitoring of parameter- and I/O channel values

Advantages of the emPC-M + CoDeSys V3

- emPC-M series are flexible regarding performance and included components. User can choose out of different types – from Intel Atom up to Intel Core2Duo technology.
- The emPC-M series has two build in ethernet ports, one dedicated for the EtherCAT master functionality and the second port provides the connectivity to your LAN.
- CoDeSys also offers a completely integrated operating and monitoring solution. The standard interfaces for a basic connection to external visualization tools for example via OPC are also supported by CoDeSys.

Industries

Industrial computer systems are used in a wide variety of industries. Well-known companies from the machine building and plant engineering, power and energy, transportation, the medical and the automotive sectors are all part of Janz Tec AG's customer base. They all profit from almost 30 years of experience and the individual solutions provided by the company from Paderborn.



Machine building and Plant engineering
Whether it's control systems for process technology equipment, electrical automation, measuring in testing technology, robotics or the use of machine tools – Janz Tec AG offers future-oriented solutions to a wide range of sectors in the capital goods industry, for example machine and plant engineering.



Power and energy
The call for regenerative forms of energy, which are characterised by a high degree of environmental-friendliness, is becoming louder and louder especially due to the current events such as the reactor catastrophe in Fukushima, Japan. Janz Tec AG is also focusing on the power and energy sector with its forward-looking products.



Transportation
German industry is worldwide technology leader in many areas of the transportation sector. Thanks to its innovative and individually-aligned products, Janz Tec AG also plays a part in providing systems which meet the requirements on efficient and environmentally-friendly solutions.



Medical
Medical uses high-quality, reliable and complex systems. Janz Tec AG develops precisely-tailored, high-availability computer systems and electronic components for these applications.



Automotive
Germany is considered to be one of the most important automotive locations worldwide with its leading car manufacturers such as Daimler, BMW, AUDI and VW in addition to a huge base of subcontractors. Janz Tec AG is a supplier to various sectors of the automotive sector with individual computer systems and electronic assemblies.

International

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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.

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