

# PAC system MSX-Box-500 for the PCI bus



- Open and transparent Programmable Automation Controller system
- With free development tools
- Live DVD based on open source programs
- Real-time measurement system

## PAC systems

### Programmable Automation Controller

PAC systems are mainly used for industrial measurement and control or regulation tasks as well as for motion control.

They execute several tasks simultaneously and in a deterministic way.

#### Core features of a PAC system:

- Compact and robust design
- Programmable
- Standard Ethernet (TCP/IP)
- CPU board as system controller
- Different I/O modules

## Set course for freedom

Experience with the MSX-Box what freedom of decision-making really means:

- You select the components of your PAC system: The MSX-Box is based only on reliable standard technologies like for example PCI backplane. Freedom also means that you can use any of the numerous standard PCI I/O boards.
- You decide, whether and when to update your operating system: Using the real-time operating system Linux with RTAI extension, no need to take care of updates. Save time and money!
- You have free access to the software down to the kernel source code: You can make extensive system adaptations and realize your own optimized measurement system.

## Boost your applications

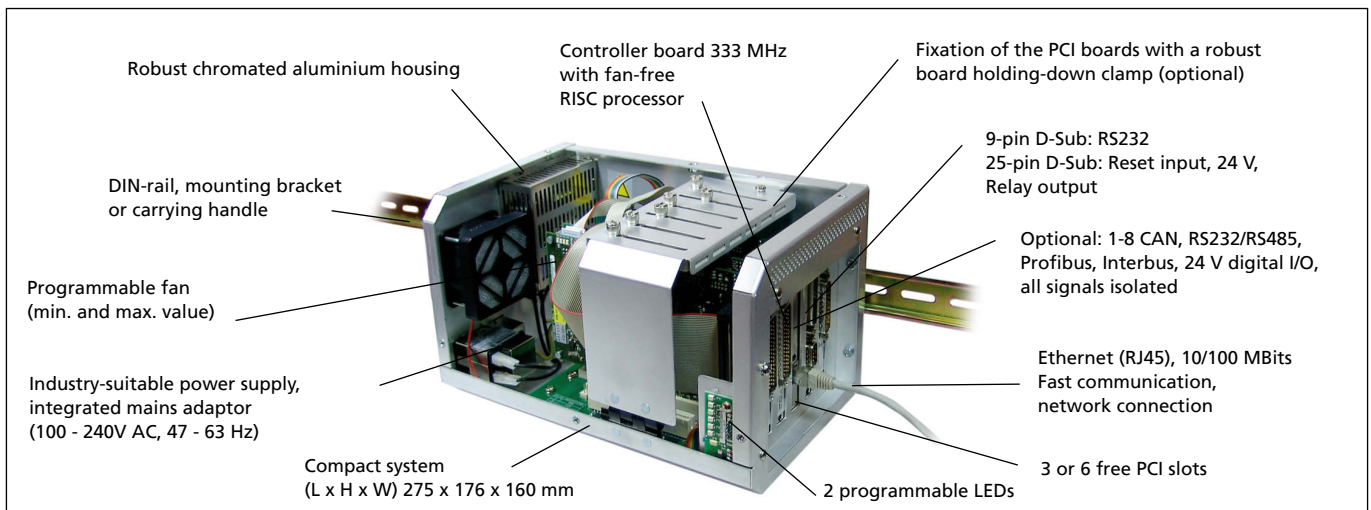
Working with the MSX-Box that fits to your needs will boost your measurement and control applications. The MSX-Box is supplied with development tools: You can realize even very complex tasks quite easily.

The most important advantage of a PAC system with such a transparent structure is that in case of emergency, you can react fast and efficiently.

Thanks to the long-term ADDI-DATA supply philosophy, you secure your investments for a long time.

Furthermore, the fact that the MSX-Box is supplied with free development tools limits the purchase price for serial equipment.

**Experience today how to realize your applications of tomorrow:**  
[www.msx-box.com](http://www.msx-box.com)





## MSX-Box-500

### PCI controller board

RISC processor:	64-bit MIPS, no fan
Clock:	333 MHz
Memory:	16 MB flash, 128 MB SDRAM, Option up to 256 MB
Installed OS:	Embedded RTAI Linux
Standard interfaces:	D-Sub 9-pin: 1 x RS232 D-Sub 25-pin: Reset input 24 V; „H“ active 1 x relay output, free prog., closing contact
Optional:	D-Sub 25-pin.: 1-8 CAN, Master/Slave, isolated 1 x RS232/RS485, isolated additional bracket: 1 x Profibus/Slave, isolated 2 x Interbus/Master, isolated 4 x dig. input, 24 V/10 mA, isolated 3 x dig. output, 24 V/200 mA, isolated
Dimensions:	PCI half-size board

### Mains supply unit

Input voltage:	100 V - 240 V, AC, 47-63 Hz (other voltage on request)
Output voltage:	5 VDC-40 W (max. 6 A) (other voltage on request)
Protection against:	Short circuit; overload, overvoltage
Connection:	2 m power cable

### ATX backplane with 5 PCI slots

PCI slots:	Total amount: 5 Reserved: 1 x PCI controller board 1 x PCI Ethernet board Free: for 3 additional PCI half-size boards
Compliance:	PCI specification PICMG rev. 2.1.

## MSX-Box-500

### PCI Ethernet board (RJ45)

Data transfer rate:	10/100 MBits
<b>Extensive software support</b>	
Free development tools (GNU Compiler, Cygwin, samples in source code), Knoppix Live DVD development environment	
<b>Housing</b>	
Material:	Chromated aluminium, colour RAL 5010 blue „Enzianblau“
Heat dissipation:	Through programmable fan
Temperature range:	0 - 50°C
Temperature monitoring:	Configuration at delivery 5 °C to 45 °C, min. and max. value programmable through software. The temperature value can be monitored. Resolution: 0.5 °C
Front openings:	For 5 PCI-boards and 1 bracket (MSX-Box-500)
Housing dimensions (L x H x W):	278 x 170 x 165 mm (MSX-Box-500)
Weight:	approx. 2 kg (standard MSX-Box system) MSX-Box-500
Status display:	5 LEDs, incl. 2 freely programmable

### Optional accessories

Board fixation:	Board holding-down clamp
Mounting possibilities:	<ul style="list-style-type: none"> <li>• DIN rail</li> <li>• Removable mounting bracket</li> <li>• Carrying handle</li> </ul>
Cable:	2 m Ethernet patch cable, shielded, RJ45 connector (PC ↔ MSX-Box)
Network card: MSX-ComboCard with additional functions:	<ul style="list-style-type: none"> <li>• 2 x PCI FireWire IEEE 1394, 1 x internal, 1 x ext. connection, data transfer rate up to 400 Mbps</li> <li>• 2 x PCI USB 2.0, 2 external, 1 x internal connection,</li> <li>• 1 x RJ-45 LAN, 10/100 Mbps connection</li> <li>• 1 x 5-pin female connector, 12 V</li> <li>• Network card PCI 10/100 Mbps, 10Base-T, 100Base-TX, IEEE802.3, 802.3 u protocol, recognition of data transfer rate 10 Mbps or 100 Mbps, data transfer rate 10 Mbps and 100 Mbps, Chipset Realtek RTL8139,</li> <li>• 32-bit PCI system</li> <li>• 5 V voltage</li> </ul>
Colours:	Other housing colours (according to RAL scale) and inscriptions (on request)

## Ordering information

**MSX-Box-500:** PAC system, incl. development tools (GNU compiler, Cygwin, source code samples, ...) and technical description, 5 PCI slots (incl. 2 slots reserved for controller and Ethernet board; 3 free PCI slots for half-size boards)

### Options

- MSX-256MB:** Memory extension up to 256 MB  
**MSX-485/ MSX-232:** 1-port serial interface, RS485 or RS232, optically isolated  
**MSX-Basis:** Basic equipment for options MSX-CAN, MSX-Profibus, MSX-IBS and MSX-DIO-IO  
**MSX-CAN-x:** 1/2/4/8 x CAN bus, master/slave, optically isolated  
**MSX-Profibus:** 1 x Profibus, slave  
**FB-Profibus:** 9-pin D-Sub female connector for the option MSX-Box Profibus (please order separately)  
**MSX-IBS-x:** 1/2 x Interbus-S, master  
**MSX-DIG-IO:** 4 digital inputs and 3 digital outputs, 24 V.  
 All extensions are isolated and include a ribbon cable with a 9-pin D-Sub male connector with bracket  
**MSX-RTSYNC:** for the synchronisation of several MSX-boxes (with time stamp)

### Accessories

- MSX-CLAMP-500/800:** Board holding-down clamp for board fixation  
**MSX-SCREW:** Wall mounting for MSX-Box-500  
**MSX-SCREW-800:** Wall mounting for MSX-Box-800  
**MSX-RAILDIN:** DIN rail mounting  
**MSX-GRIP:** Carrying handle  
**MSX-COMBOCARD:** Network card LAN / USB / Firewire connection  
**MSX-COMBOGIGA:** Network card Giga LAN / USB / Firewire connection  
**MSX-500-PS-12V/-24V:** Mains power supply unit 12 V DC or 24 V DC  
**ST ETH-2:** Ethernet patch cable 2 m, shielded, RJ45, between PC and MSX-Box  
**MSX-CBLRS232:** RS232 cable, 1.5 m – 9-pin.  
**On request:** Other housing colour or inscriptions on the front side