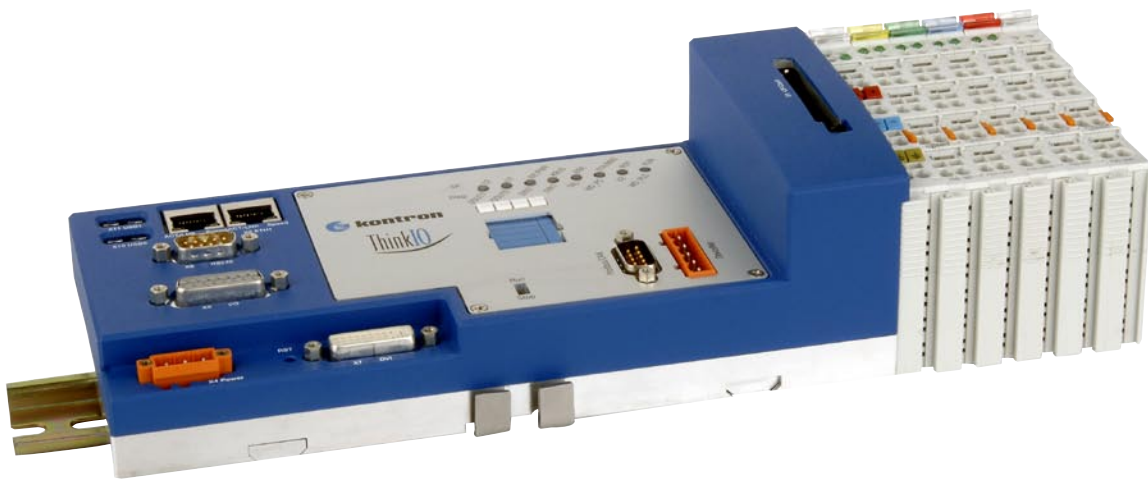


» ThinkIO-P «



powered by
Intel® Pentium® M

Rugged DIN Rail PC

- » Intel® Pentium® M technology in compact and robust package even for harsh environments
- » Flexible interfacing and communication
- » Versatile Industrial PC or SoftPLC platform

ThinkIO-P

Rugged DIN Rail PC

The ThinkIO-P is a powerful, flexible and scalable DIN Rail mount Industrial PC (IPC) or SoftPLC in a very compact and robust design for industrial applications, even in harsh environments. The extended temperature

version is a suitable platform for train, ship or industrial applications where 0°C...+55°C standard temperature range is insufficient.

Product Characteristics

Complete PC	Pentium® M technology with sophisticated graphic capabilities 2x Ethernet 2x USB 2.0 RS232 DVI-I Compact Flash as mass storage	
Robust Design	Aluminum chassis EMC class B design Passive cooling, no fan, no ventilation slots Soldered components No rotating mass storage Extended temperature version -40°C...+70°C 1.0 GHz, 256MB RAM, Flash -20°C...+70°C with field bus option -20°C...+60°C with WAGO-I/O option	
Embedded real-time Linux BSP	Linux 2.4/RTAI or 2.6/RT-preempt patch kernels Distribution independent Command line tool chain included Configuration via web browser (network, security, backup, clock, graphics) DHCP, BootP, DNS, SNTP, ftp, telnet, http Remote update	 
Windows XP embedded BSP	Componentized version of XP Professional Tailored memory size Run-time image creation with Windows Embedded Studio	
Industrial Features	Onboard: <ul style="list-style-type: none"> - Discrete I/O, opto-isolated - Watchdog, relay output - Battery backed SRAM and RTC WAGO-I/O-SYSTEM 750/753 (option) <ul style="list-style-type: none"> - 1, 2, 4 or 8 channels in one clamp module - Digital and analog I/O - Special clamps, e.g. AS-I, RS232, RS485, ... - Ship certification - 0°C...+55°C, several available: -20°C...+60°C - 753 series <ul style="list-style-type: none"> - Connection part removable from electronics - Rewiring possible - Increased maintainability Field bus (option) <ul style="list-style-type: none"> - Profibus DP master/slave - CANopen master/slave - DeviceNet master/slave - Field bus configuration SyCon® 	  
SoftPLC CoDeSys	Operating system: Linux 2.4/RTAI "Ready to run": preinstalled Linux on target ThinkIO-P Complete development environment for Windows 95/98/ME/NT 4.0/2000/XP host systems IEC 61131-3 compliant Integrated <ul style="list-style-type: none"> - Target Visualization - Web Visualization - Profibus, CANopen configuration - WAGO-I/O configuration - OPC server - Modbus TCP/UDP - USB touch driver (DMC) for Kontron panels 	

Technical Information

Computing Core

Processor	Intel® Celeron® M 600 MHz / 1 GHz, 512 kByte L2
	Intel® Pentium® M 1.4 GHz, 2 MByte L2
Chipset	855GME + ICH4

Memory

DDR-SDRAM	256 MByte standard, 1 GByte max.
CF onboard	128/512 MByte, 2 GByte standard
CF external	Socket type I+II
Non volatile memory	1 MByte standard, 2 MByte max., battery backed

System I/O (fix)

Ethernet	2x 10/100 Base-TX
USB	2x USB 2.0
Serial	1x RS232 with all handshake signals
Digital In	2x opto-isolated, with hysteresis
Digital Out	2x opto-isolated, over current and inverse polarity protected
Watchdog	1x relay output (max. 32 V DC/1 A)
DVI-I	1x panel link, VGA via adaptor
Real-time Clock	1x high precision crystal (+-5ppm @ 25°C / -0.04ppm / °C²) battery backed
Status LEDs	8x tri-colored
Run / stop	1x switch
Reset	1x button
Battery replacement	gold cap backup

WAGO-I/O (optional)

Interface	1x right side connection to Wago-I/O-System 750 / 753
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Field bus (optional, one at the time only)

Profibus-DP	1x DSUB-9 female
CANopen	1x DSUB-9 male
DeviceNet	1x 5 pin connector

Software Packages

BSP	Windows XP embedded, embedded real-time Linux 2.4/RTAI or 2.6/RT-preempt patch kernels
IEC 61131-3	CoDeSys SoftPLC on operating system Linux 2.4/RTAI

Environmental

Power consumption, typ.	nom. 24 V DC (-25% / +30%), 17 W (600 MHz), 24 W (1.4 GHz), 16 W (1.0 GHz)
Construction	Aluminum, passive cooling, no fan
Mounting	DIN Rail TS 35
Temperature Operating	0° C to 55° C, extended temperature (see page 2 for details)
Compliance	CE, IP20, shock: EN60068-2-27 (15 g), vibration: EN60068-2-6 (4 g) emission: EN55022 / B, EN61000-6-3, DNV SFC class B, FCC part 15 class B, immission: EN55024, EN61000-6-2
Weight	approx. 1100 gr.
Dimensions (w x h x d)	224 mm x 100 mm x 70 mm 236 mm x 100 mm x 70 mm (with WAGO-I/O interface module)
MTBF (Mil, 30°, GB)	94.000 h ... 80.000 h (dependent on field bus and WAGO-I/O configuration)

Ordering Information

	CPU/RAM	Flash	Field bus	WAGO-I/O	License
TIOP	- C2 600MHz, 256 MByte	1 128 MByte	- A1A no field bus	1 no WAGO-I/O	- B no license, order BSP separately
	- P2 1.4 GHz, 256 MByte	3 512 MByte	- B1A Profibus master	2 with WAGO-I/O, end clamp included	- C CoDeSys including Target visualization Web visualization
	- E2 1.0 GHz, 256 MByte, extended temperature (see page 2)	5 2 GByte recommended for XP embedded	- C1A Profibus slave		
	- P4 1.4 GHz, 1 GByte		- D1A CANopen master		
			- E1A CANopen slave		
			- F1A DeviceNet master, only with BSPs		
			- G1A DeviceNet slave, only with BSPs		

Ordering Information

Article	Order-No.	Description
LIN-BSP-THINKIO-P	31006	Linux 2.4/RTAI BSP, distribution independent
LIN-BSP-THINKIO-P	30757	Embedded real-time Linux 2.6 BSP with RT-preempt patch, distribution independent
WXP-BSP-THINKIO-P	31046	BSP for XP Embedded Studio, 2 GB flash onboard or ext. CF card recommended
THINKIO-SYCON	28234	Field bus configuration tool for Profibus DP, CANopen, DeviceNet necessary for BSP field bus development
THINKIO-P-PLC-DEV-WIN	31276	CoDeSys development environment for Windows host systems
THINKIO-W-...	...	WAGO-I/O, please ask for available clamps
CP-ADAP-DVI-CRT	24368	DVI to CRT adaptor
CP-ADAP-DVI-CRT	28807	DVI-I to DVI and CRT adaptor for dual head usage
TIO-SURGE-HOLDUP	37305	24 V surge filter module with 10 ms holdup time, GL and EN50155 compliant

Note:
CoDeSys and Visualization can only be ordered together with hardware as a runtime license needs to be installed.
It is not possible to order CoDeSys or Visualization separately or afterwards.
Manuals are provided with software packages on DVD and are also downloadable from www.kontron.com/thinkio.
Information on WAGO-I/Os can be obtained from www.wago.com.

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