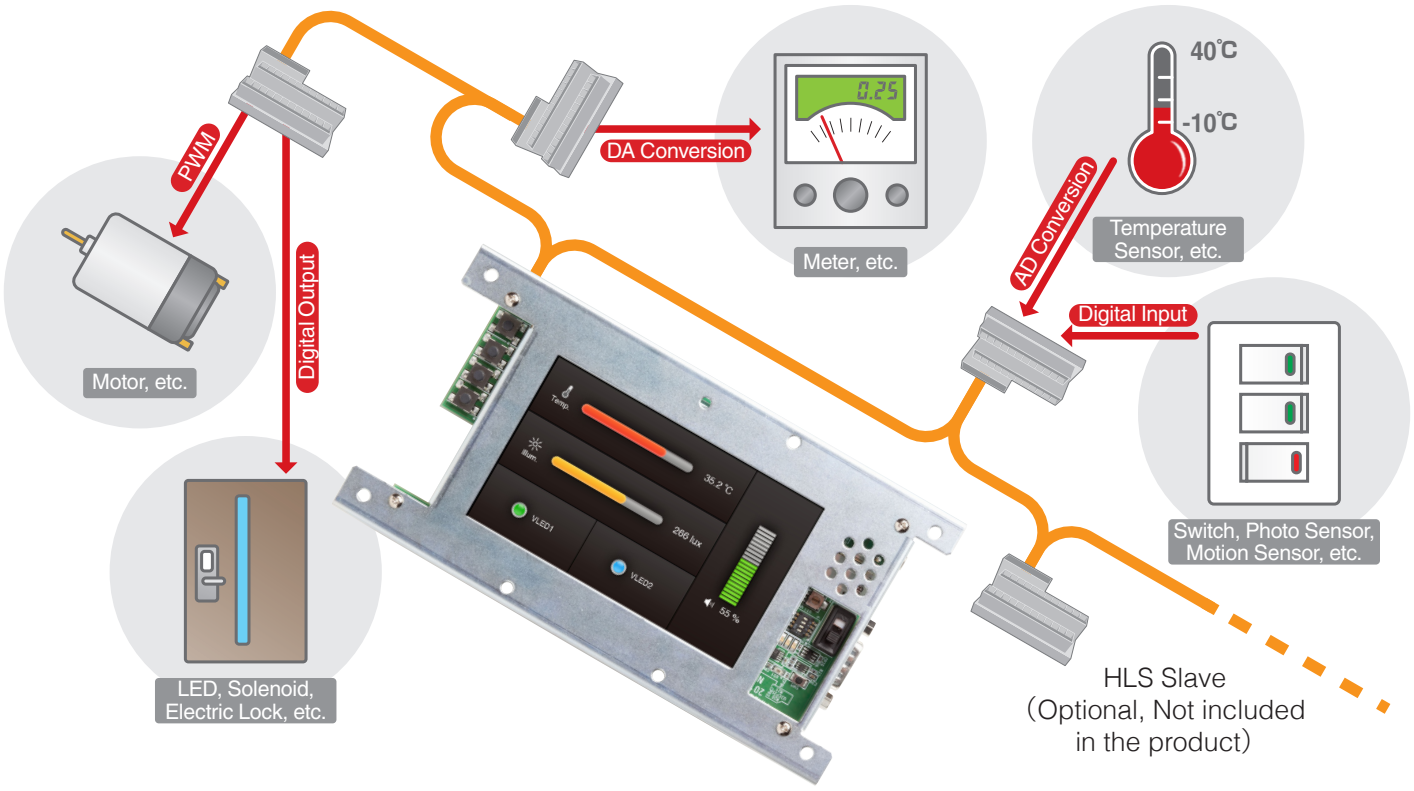
Best Real-Time Controller
for Industrial Equipment

Teacontroller

T-Kernel 2.0®



- ●Serial Interface for Switching RS232C/TTL Level
- ●HLS Remote I/O supporting Multipoint Digital or Analog I/O Units
- ●Insulated GPIO by Photo Coupler
- ●Wake on LAN(※), Multiple Boot Devices
- ●User Interface by Touch Panel and GUI Middleware
- ●Safety Design for Industrial Use

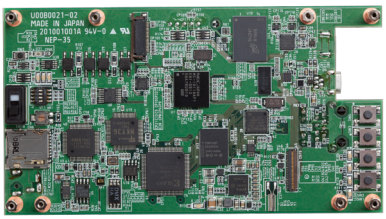
(※) The driver is not included.

With Touch Panel LCD	Standard Price(Tax not included)	85,000yen
Without Touch Panel LCD	Standard Price(Tax not included)	65,000yen

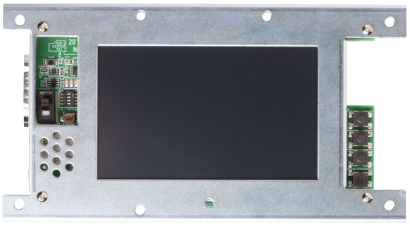
Features of "Teacontroller"

- ●Two channels of UART are available. Each channel can switch UART into RS232C level or TTL level.
- ●The host function of 2-wire HLS field network is available. Teacontroller can be used for a large-scale control by cascade connections of HLS based devices like digital I/O, D/A, A/D and motor control terminals.
- ●Thanks to the insulated DIO(4-Input, 4-Output) by photo coupler, you can connect lines to Teacontroller by commercial general-purpose connectors.
- ●You can boot the system by various devices such as the built-in Flash ROM, eMMC and microSD card. You can power up the multiple controllers via LAN at the same time(※1).
- ●LCD with a force sensitive touch panel can be used for your embedded system with User Interface. GUI middleware is also included.
- ●The lockable connectors are used for power supply. (The DC power supply receptacle is also equipped, which is handy for developers.)
- ●Teacontroller includes the software development kit for the real-time and control OS "T-Kernel 2.0", I/O drivers for multiple interfaces and sample applications.

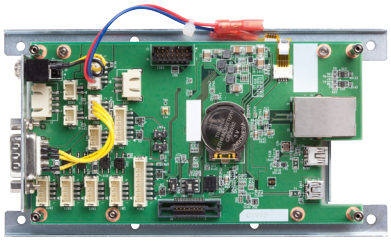
（※1）The driver is not included.



Upper side of CPU board



Upper side of CPU board with LCD



Back side of CPU board with LCD

Product Specification of "Teacontroller"

Software

Target-side Software	
T-Monitor	PMC T-Monitor
T-Kernel	PMC T-Kernel 2.0
T-Kernel Extension	PMC T-Kernel Extension (process management, file management, etc)
Device drivers	microSD, LAN, USB 2.0 (for Host), Serial, RTC, KB/PD, Screen(LCD), Touch panel, USB-HID class, USB mass storage class, etc.
Middleware	PMC T-Shell(GUI middleware), Micro Script(Visual language),Development tools including CLI, Utilities, etc.
HLS related software	DIO driver, sample program
Host(Windows)-side Software (※2)	
SDK	Eclipse for PMC T-Kernel ・GNU C/C++ compiler (designed for T-Kernel) ・GDB (source-level debugger) ・ANSI C Library, T-Kernel Library, sample sources, etc.

（※2）We have confirmed that the above host-side software run on Windows XP SP3, Windows Vista(only 32-bit version), Windows 7(32-bit/64-bit version) and Windows 8(64-bit version).GNU development environment with no GUI runs on Linux. We have checked the operation on Ubuntu 8.04.

Hardware

【CPU board】

CPU	Renesas Electronics EMMA Mobile1-D (ARM11 Core,500MHz)
Flash ROM	32MB（NOR Flash）
RAM	64MB (CPU built-in)
eMMC	4GB, It can be used for the secondary storage.
JTAG-ICE I/F	for Kyoto Microcomputer Co., Ltd.'s PARTNER-Jet
Power supply	DC +5V, AC adapter
Dimensions	CPU board: 137mm×75mm (not including protrusions) Metallic frame: 161mm×87mm (not including protrusions)
RoHS	Compliant
I/O Interfaces	
microSD slot	1 slot
LAN	10/100BASE-T, RJ-45 connector
USB-OTG (※4) (※5)	supporting USB 2.0, mini-AB connector
USB-UART (※6)	mini-B connector
Serial (※3) (※7) ×2	RS-232 or CMOS level shift
Insulated I/O(※7)×4 bits	insulated GPIO by photo coupler
Sound (※4) (※7)	Microphone-in, Speaker-out
HLS (※7)	High-speed Link System
Others	Chip LED×4, PUSH Switch×4, illuminance sensor, temperature sensor, camera module (optional)

（※3）One piece of DSUB 9-pin connector (for Serial) is attached.
（※4）Software such as drivers are not included.
（※5）You need a USB cable with USB mini-A connector for connecting USB devices such as mouse, keyboard, USB mass storage. The attached device driver supports functions for USB-Host, not supporting functions as USB-Function.
（※6）This can be used for debugging console by connecting USB of PC for development.You need a USB cable with USB mini-B connector.
（※7）Box-type substrate connectors on the CPU board are used.

【LCD board】

LCD	4-inch, TFT color, 800×480 dots
Touch panel	Resistance film

Options

PMC Task Tracer for T-Kernel
Standard Price(Tax not included) 20,000yen

I-right/TK Standard Price(Tax not included) 20,000yen

PMC Device Control Server
Standard Price(Tax not included)100,000yen

Qt GUI Library Please contact PMC Sales Division

Reference Books and Related Information

T-Kernel Standard Handbook Ken Sakamura (Ed.)

T-Kernel Kumikomi Programing Kyokasho
(A Practical Guide to T-Kernel Embedded Programing)
Ken Sakamura (Ed.)

Jissen TRON Kumikomi Programming
(A Practical Guide to T-Kernel Embedded Programming for beginners) Ken Sakamura (Ed.)

TRONWARE
(TRON bimonthly magazine, scheduled to be continued)

μITRON 4.0 Standard Guidebook

All books and magazines listed above are described in Japanese,published by Personal Media Corporation.

※T-Kernel Standard Handbook is only available by Print on demand. Other books are provided with Printed Books and eBooks.

T-Engine Solution by Personal Media Corporation
http://www.t-engine4u.com/en/

T-Engine Forum
http://www.t-engine.org/

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