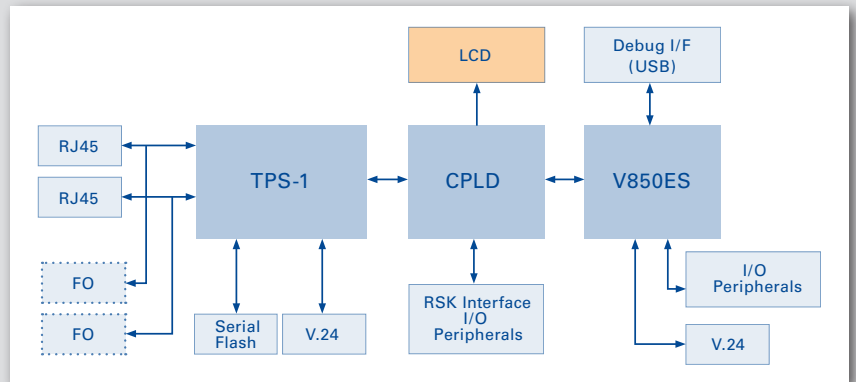


# YCONNECT-IT-TPS-1

## Solution Kit for TPS-1 PROFINET IRT Device Chip

The TPS-1 Solution Kit is an all-in-the-box evaluation tool for the TPS-1 PROFINET IRT device chip. It includes all required hard- and software for a simple PROFINET IRT network including demonstration programs and it serves as a starting point for customer's own developments.

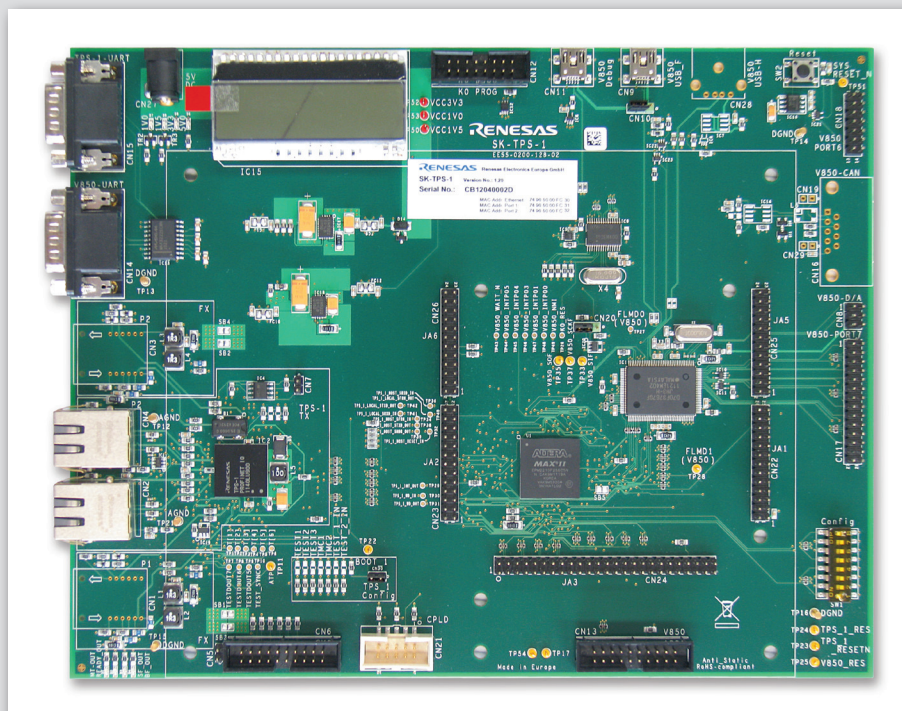


### Product Features

The major hardware components of the TPS-1 Solution Kit are the TPS-1 itself, a V850ES/JH3-H CPU as host and a CPLD that holds everything together. Though the CPLD is no requirement from system point of view it gives the flexibility to connect alternative CPUs or to operate the TPS-1 in the pure, no-host IO mode with the same board hardware.

On the network side the Solution Kit offers standard 100BASE-TX or optional FX connections; on the system side access to the TPS-1 is possible via its I/Os, via the V850ES and its built-in peripherals or via any other CPU that can be hooked on the starter kit board using the RSK interface. Additionally the Solution Kit is garnished with a multi-purpose LCD display and plenty of connectors and test points. The provided interfaces include UART, USB device, AD/DA and GPIOs that are configurable to alternative IO functions.

Like other Renesas Solution Kits the Y-CONNECT-IT-TPS-1 comes with a large software bundle. The motto for the SW-bundle for this kit is "everything needed for a PROFINET connection". Consequently the Solution Kit does not only contain a toolchain for the V850, but also the required PROFINET engineering tools.



## Board Features

- TPS-1 PROFINET IRT device chip as main component
  - » 100Base-TX interface; 100Base-FX optional
  - » GPIO interface to V850ES/RSK
- V850ES/JH3-H as host controller for TPS-1
- Supplementary 78K0  $\mu$ C for V850ES debug via USB
- CPLD to route the GPIO interface of TPS-1 to V850ES or RSK interface
- RSK interface to support other Renesas MCUs
- Serial Flash device for TPS-1 firmware and configuration data
- LCD module (12 x 2 character display) for general purpose
- V2.4 interfaces to TPS-1 and V850ES
- Power supply via USB port (basic configuration) or external
- Additional V850ES interfaces
- Additional V850ES interfaces
  - » USB function
  - » AD/DA
  - » PWM timer
  - » Configurable GPIO

## Included Software

- IRT-capable PROFINET device stack for TPS-1 supporting latest standard versions (PROFINET V2.3)
- PROFINET Controller SW on the PC
- PROFINET Configurator as engineering tool
- TPS-1 Firmware Updater for firmware updates in the field
- TPS-1 Configurator to define system specific settings like used interfaces, device and vendor IDs, MAC addresses
- Size-limited kickstart version of the IAR Workbench for programming and debugging of application SW on the V850
- Applilet SW for automatic generation of initialization code for the V850
- Renesas Flash Programmer SW

## Content of the Solution Kit

- TPS-1 Solution Kit board
- 2 CD-ROMs with software tools, program examples, documentation and videos
- USB, Ethernet and serial cables

## Order Code

- YCONNECT-IT-TPS-1

Further information available under [www.renesas.eu/automation](http://www.renesas.eu/automation)

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

