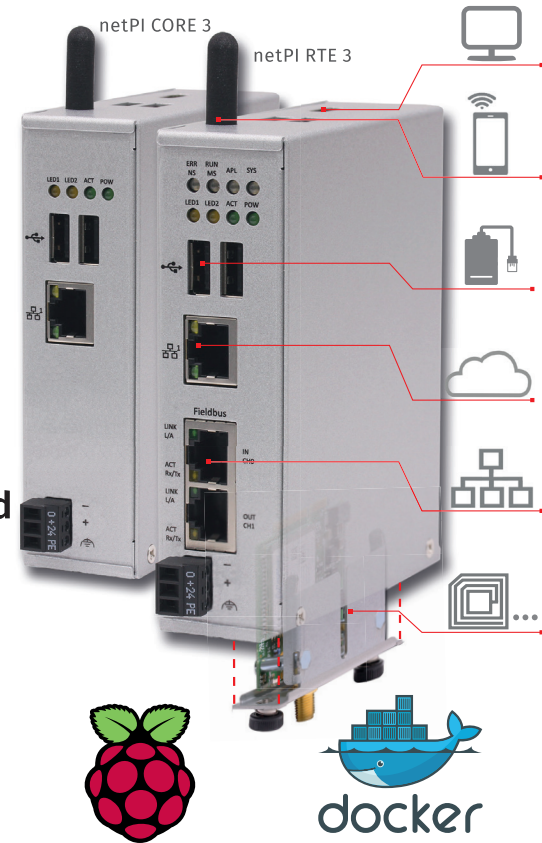


netPI

Industrialized Raspberry Pi as Open Edge Connectivity Ecosystem

- 💡 **Multi-protocol Industrial Ethernet support**
- 💡 **Web GUI maintained Docker ecosystem**
- 💡 **-20 - 60°C ambient air, full CPU speed up to 50°C**
- 💡 **Replaceable industrial suited 8/32 GB microSD card**
- 💡 **Expandable with additional networking modules**
- 💡 **CE, FCC, UL, KCC, RED certified, MTBF available**



Hardened design for industrial use

The netPI is an industrial suited Raspberry Pi 3B custom design made to run any applications of the IT/OT Edge, Integrated Industry and Automation business. With the powerful 1.2 GHz quad-core ARM CPU the platforms are ready-made for any demanding Cloud, Industry 4.0 and Industrial Internet of Things (IIoT) projects.

Onboard WLAN IEEE 802.11 b/g/n and Bluetooth 4.1 and four USB 2.0 A ports are supported. An expansion slot at the bottom accepts extension modules made for advanced networking such as RS232, RS485, CAN, digital I/Os and others or own custom boards. A maintenance free hardware real-time clock ensures clocking during power outages for 7 days.

The model netPI RTE 3 includes Hilscher's multiprotocol SoC netX additionally implementing Industrial Ethernet networks such as PROFINET, EtherCAT, EtherNet/IP and more as a slave/device over two additional RJ45 ports. This model also supports an auxiliary ferroelectric memory (FeRAM) with high endurance for data to be rewritten billions of times non-volatile.

To meet the EMC standards EN 55011 and IEC 61000 netPI is housed in a robust metal chassis while the PCB consists two layers more (GND and PE) compared to a standard Raspberry Pi 3B. By default the device are delivered with preloaded software on a 8/32 GB industrial suited memory card.

The netPI software is based on a AppArmor-secured Yocto Linux distribution meeting the aspects of the IEC 62443 cybersecurity standard for automation and control systems. By default features such as high assurance boot, account management, user authentication, event auditing, https communication and integrity-checked software updates only and many more are supported.



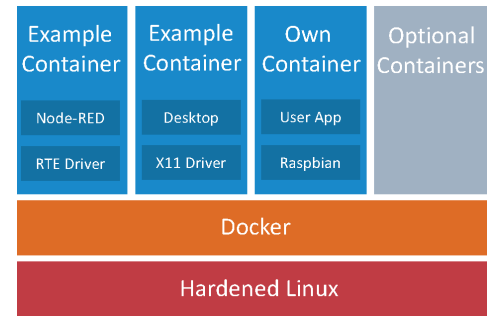
PRODUCT INFORMATION

TECHNICAL DATA

Deploy containerized software securely with Docker

On netPI additional software can be deployed in containers only using the pre-installed Docker engine and its web GUI. Containers and enclosed apps run isolated, always the same on compatible platforms and are not able to compromise the system's security. A standard Raspberry Pi with Docker can be used for netPI container developments, software suitability tests or containerizing existing applications.

Images of containers can be pulled onto netPI from any sources like a standard Pi or from private/public registries for execution in industrial environments. netPI container examples such as Node-RED, a Desktop, MQTT broker and many more are provided on Docker Hub, a public distribution platform for containers, under the registry at <https://hub.docker.com/r/hilschernetpi> for immediate pull and use.



Technical Data

Temperature Operating: -20 °C ... +60 °C Storage: -40 °C ... +85 °C	Processors BCM2837 1.2 GHz 4 x core (full clock speed up to 50°C), netX 51	Indicators 2 Pi standard, 2 user defineable and 4 netX (RTE 3 only) LEDs
Dimensions (L x W x H) 105 x 35 x 140 mm	Ethernet Interface 1x RJ45 10/100 Mbit/s	Certification CE, FCC, IC, KCC, UL, RED, calculated MTBF
Weight 400 g	Ethernet Interface, industrial 2x RJ45 10/100 Mbit/s (RTE 3 only)	RAM 1 GB LPDDR2 RAM, 8 KB FeRAM (RTE 3 only)
Power supply +19.2 ... +28 VDC, 3-pin screw terminal, pitch 3.81 mm, AWG 16	Additional connectivity 4x USB 2.0 A (max. load 1 A), 1x HDMI, 1x Wifi/BT (fixed antenna)	EMC EN 55011:2009, IEC 61000-6-2:2005, EN 61131-2
Power consumption min. 4.2 W (no USB load), max. 9 W (USB load 1 A max.)	Memory microSD card, MCL 8 GB (364 TBW), SLC 32 GB (1920TBW)	Operating system Yocto based 32-Bit Linux distribution, AppArmor secured
Enclosure 1 mm lacquered steel plate, top hat rail-mountable, IP20	Real-time clock Maintenance free, 7 days capacitor buffered	Preloaded software Management web GUI, Docker CE engine, Portainer Docker GUI

Note: All technical data may be changed without further notice.

Article Overview

NIOT-E-NPI3-51-EN-RE	1321.428	netPI RTE 3 with Industrial Ethernet, web forum supported
NIOT-E-NPI3-EN	1321.438	netPI CORE 3, web forum supported
NIOT-E-NPI3-51-EN-RE\32HE	1321.502	netPI RTE 3, 32GB with Industrial Ethernet, web forum supported
NIOT-E-NPI3-EN\32HE	1321.511	netPI CORE 3, 32GB web forum supported
NIOT-E-NPIX-RS232	1322.012	RS232 serial communication extension module
NIOT-E-NPIX-RS485	1322.011	RS485 serial communication extension module
NIOT-E-NPIX-4DI4DO	1322.040	4x digital inputs / 4x digital outputs extension module
NIOT-E-NPIX-RCAN	1322.063	CAN 2.0 A/B extension module
NHAT 52-RE	7775.000	HAT module for Raspberry Pi netX/netPI developments over 40 pin GPIO header

Hilscher News: hilscher.com

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