

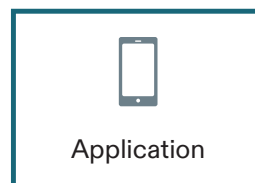
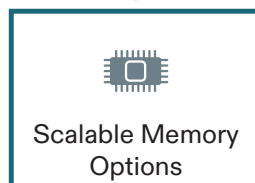
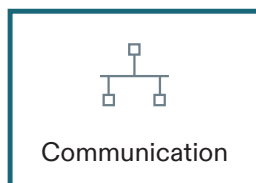
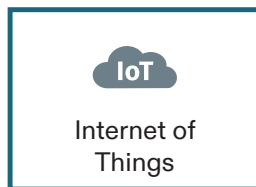
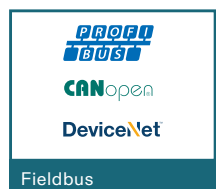
netRAPID 90

Ready-to-solder netX 90 Design – fully tested and preloaded

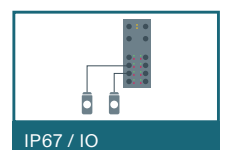
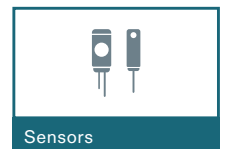
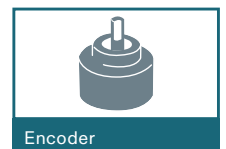
- Ultra compact multiprotocol solution
 - in 15 × 32 mm halfsize netRAPID format
- Scalable embedded platform in different memory options
 - including Cortex M4 application processor
- Can be preloaded with customer application
 - in Hilscher automated production process even in lot size 1
- Energy efficient design with low power dissipation
 - for extended temperature range up to +85°C
- For all Industrial Ethernet, Fieldbus and IIoT standards
 - supported in one hardware design



COMMUNICATION



APPLICATION

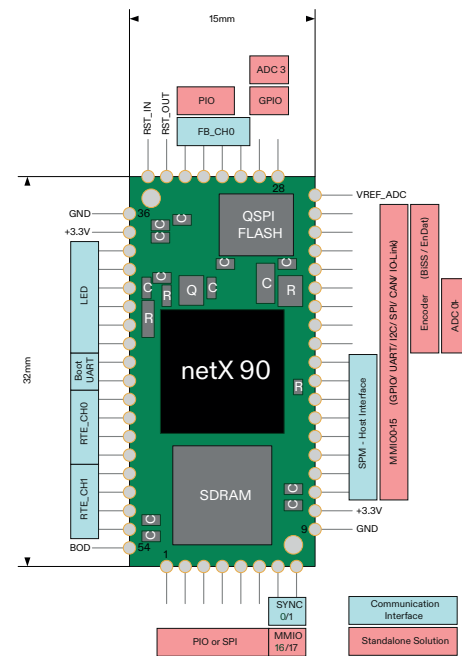


→ QR Code Link: netRAPID 90
 Service-Hotline: +49 (0) 6190 9907-90
www.hilscher.com

Scalable embedded platform – netRAPID 90

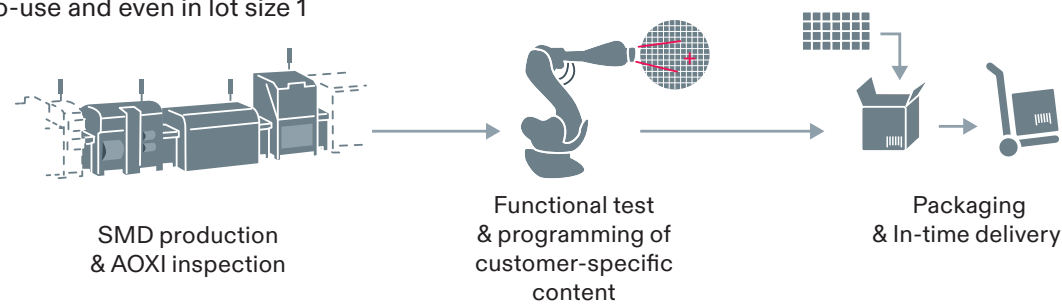
Companion or Standalone Solution

- Scalable embedded platform with different flash and SDRAM memory options
- Companion solution with 50MHz SPI host interface for communication only
- Standalone solution using the two integrated ARM® Cortex®-M4 processor cores of netX 90 to separate communication from application tasks
- Rich set of on-chip peripherals for Motion, Encoder, Sensors or IO-Link applications (I2C, SPI, UART, CAN, ADC, BiSS, EnDat, IO-Link)



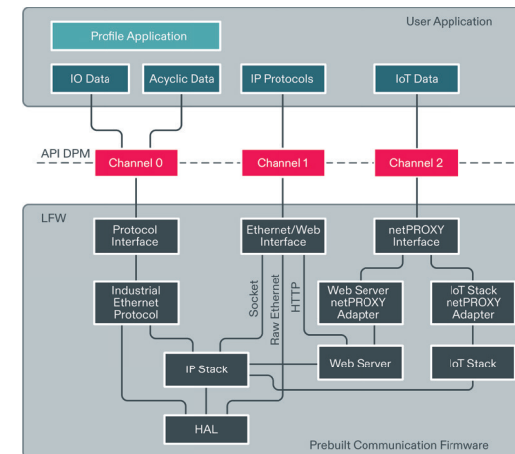
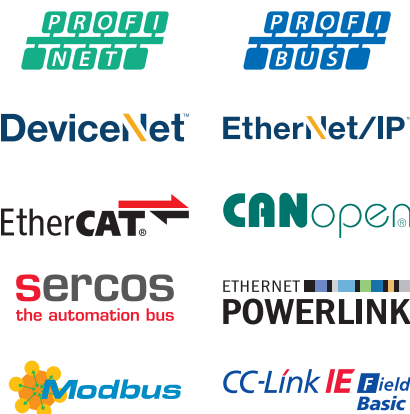
Preloaded in lot size 1

- netRAPID 90 will fully be tested, preloaded and packed in trays via an autonomous robot cell
- During the automated production process the communication stack as well as the customer application can be loaded
- Device manufacturers can receive netRAPID 90 preloaded with their specific content – ready-to-use and even in lot size 1



Industrial Ethernet, Fieldbus and IIoT protocols

- Supports all leading Real-Time Ethernet Slave, Fieldbus Slave and designated IIoT protocols in one hardware design
- Including standard IT functions, like integrated WebServer, raw Ethernet or TCP socket interface
- Different Software packages for different use cases and memory options are offered
 - Basic communication functionality using netX 90 internal memory
 - Full featured communication functionality using external memory on netRAPID 90



Common software application interface

- Based on Hilscher's Platform strategy a common software API to the application is offered
- Access from either an external host or the netX 90 integrated ARM® Cortex® M4 application processor
- Three separate channel for cyclic/acyclic Real-Time Ethernet data, TCP socket / raw Ethernet interface and IIoT data via OPC UA or MQTT are offered

Three good reasons to choose netRAPID 90

Ready-to-use netX 90 design

- Fully tested netX 90 design ensures a fast time to market without development risk
- Rapid prototyping without time-consuming iteration process in the development phase
- No demanding BGA production and qualification process

Reduced design and production costs

- PCB complexity is encapsulated in netRAPID 90 and does not affect the baseboard design
- Can be preloaded with customer specific content, which reduces production effort and costs
- No time consuming and costly part obsolescence management

Modular & scalable platform

- Different memory options for different applications in a single baseboard design
- Well prepared for new emerging technologies like security or OPC UA @ TSN*

* 100 MBit



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Product Information

Technical Data

Technical Data

Operating Temperature

-20°C ... +85°C (without airflow)

Supply Voltage

+3.3 V

Dimensions (L x W x H)

32 × 15 × 4 mm

Communication Interface

EtherCAT, EtherNet/IP, PROFINET, OpenModbus, POWERLINK, CC-Link IE Field Basic, PROFIBUS, DeviceNet, CANopen, Sercos, 2x Ethernet 100 BASE-TX, OPC UA, MQTT

Host Interface

50 MHz SPI-Slave

Diagnostic Interface

Ethernet, UART Rx/D/TxD

Technical Data

Contacting / Pinout

54 solder contacts 1 mm with 1,5 mm grid

LED

SYS-System (RUN/RDY), COM-Status 0/1 (COM 0/1), Ethernet-Status Link, Activity (LINK RX/TX)

Emission

EN 55011

Immunity

EN 61000-4-3, DIN EN 61000-4-6, Surge - IEC 61000-4-5, Burst - IEC 61000-4-4, ESD - IEC 61000-4-2

Certification

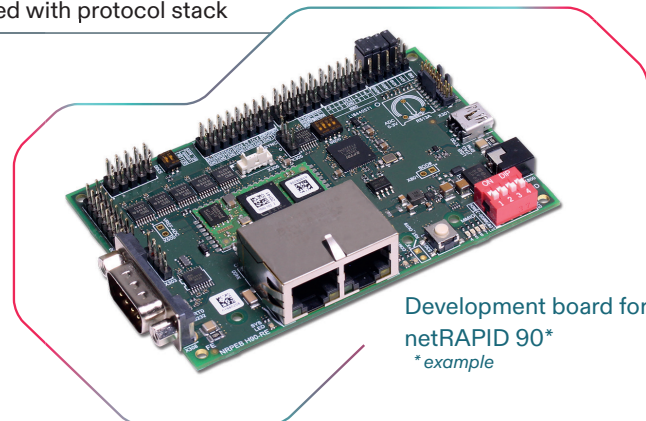
CE Sign, RoHS, UKCA

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

Product Overview

NRPEB H90	7600.320	Evaluationboard equipped with 1x NRP H90\F8D8
NRP H90\F8D8 (SAMPLE)	7693.102	Box with 2x NRP H90\F8D8 samples, No software loaded
NRP H90 (BOX)	7691.100	Box with 10x NRP H90 using Internal Flash and RAM only, No software loaded
NRP H90 (BOX) /PNS /ECS /EIS /PLS /OMB /CCIBS /S3S /DPS /DNS /COS	7691.xx0 *	Box with 10x NRP H90 using Internal Flash and RAM only, Preloaded with protocol stack
NRP H90\F8D8 (BOX)	7691.102	Box with 10x NRP H90\F8D8 equipped with 8 MB SQI Flash and 8 MB SDRAM, No software loaded
NRP H90\F8D8 (BOX) /PNS /ECS /EIS /PLS /OMB /CCIBS /S3S /DPS /DNS /COS	7691.xx2 *	Box with 10x NRP H90\F8D8 equipped with 8 MB SQI Flash and 8 MB SDRAM, Preloaded with protocol stack
NRP H90 (TRAY)	7692.100	Tray with 56x NRP H90 using Internal Flash and RAM only, No software loaded
NRP H90 (TRAY) /PNS /ECS /EIS /PLS /OMB /CCIBS /S3S /DPS /DNS /COS	7692.xx0 *	Tray with 56x NRP H90 using Internal Flash and RAM only, Preloaded with protocol stack
NRP H90\F8D8 (TRAY)	7692.102	Tray with 56x NRP H90\F8D8 equipped with 8 MB SQI Flash and 8 MB SDRAM, No software loaded
NRP H90\F8D8 (TRAY) /PNS /ECS /EIS /PLS /OMB /CCIBS /S3S /DPS /DNS /COS	7692.xx2 *	Tray with 56x NRP H90\F8D8 equipped with 8 MB SQI Flash and 8 MB SDRAM, Preloaded with protocol stack

* Protocol related part number for preloaded NRP H90



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