

netRAPID 90

Ready-to-solder netX90 Design - fully tested and preloaded



Ultra compact multiprotocol solution
- in 15 x 32 mm halfsize netRAPID format



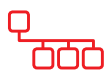
Scalable embedded platform in different memory options
- including Cortex M4 application processor



Can be preloaded with customer application
- in Hilscher automated production process even in lot size 1



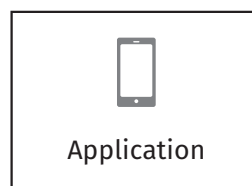
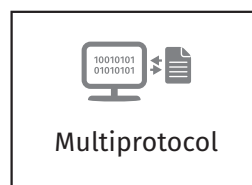
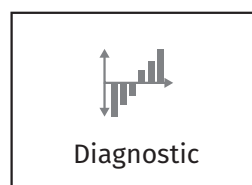
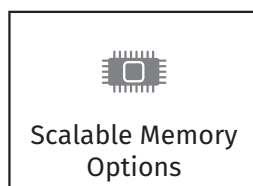
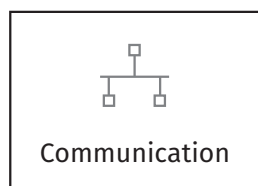
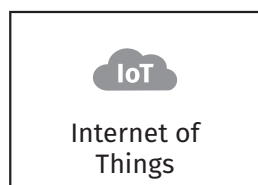
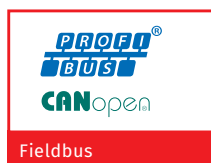
Energy efficient design with low power dissipation
- for extended temperature range up to 80°C



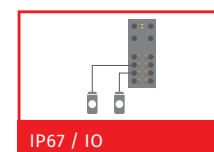
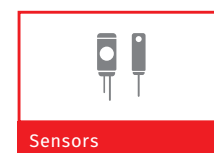
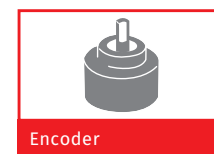
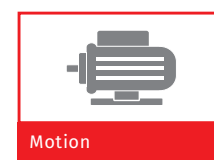
For all Industrial Ethernet, Fieldbus and IIoT standards
- supported in one hardware design



COMMUNICATION



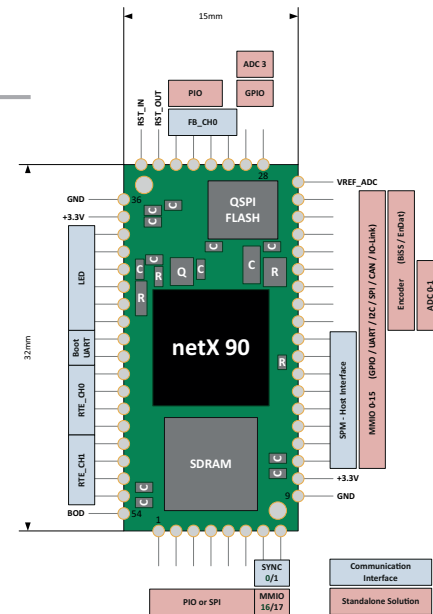
APPLICATION



netRAPID 90 - Scalable embedded platform

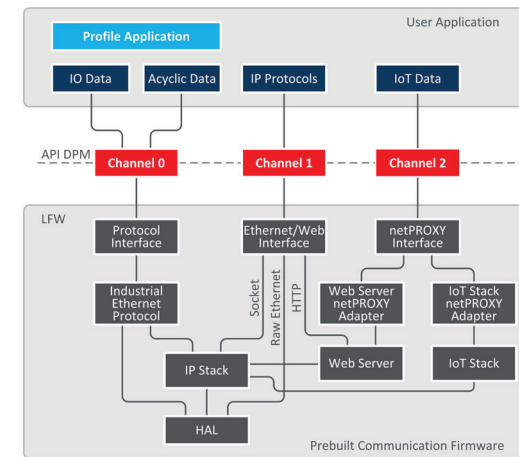
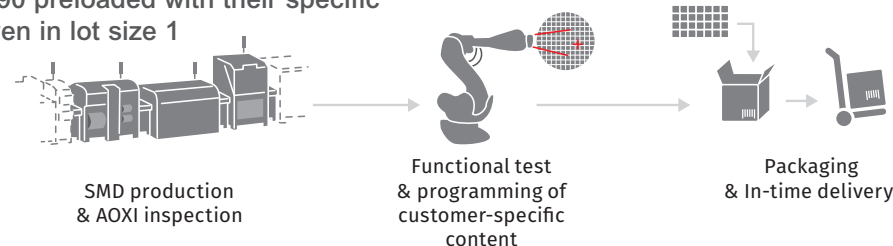
Companion or Standalone Solution

- ▶ 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 netX90 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
- ▶ OEMs can receive netRAPID 90 preloaded with their specific content and ready-to-use – even in lot size 1



Common software application interface

- ▶ Based on Hilscher's Platform strategy a common software API is offered
- ▶ Access from either an external host processor or the internal host application
- ▶ Three separate channel for Cyclic/Acyclic Real-Time Ethernet data, TCP socket / raw Ethernet interface and IIoT data via OPC UA or MQTT

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
 - ▶ Basic communication functionality using netX90 internal memory
 - ▶ Full featured with focus on maximum functionality using external memory

EtherCAT[®] EtherNet/IP[™]

PROFINET[®] OPC UA[®] MQTT[®]

Three good reasons to choose netRAPID 90

1

Ready-to-use netX90 design

Fully tested netX90 design ensures a fast time to market without development risk

For rapid prototyping without time-consuming iteration process in the development phase

2

Reduced design and production costs

PCB complexity and costs are encapsulated, that the baseboard can be done in cost-effective 4 to 6 layer design

Can be preloaded with customer specific content to reduce production effort

3

Modular & scalable platform

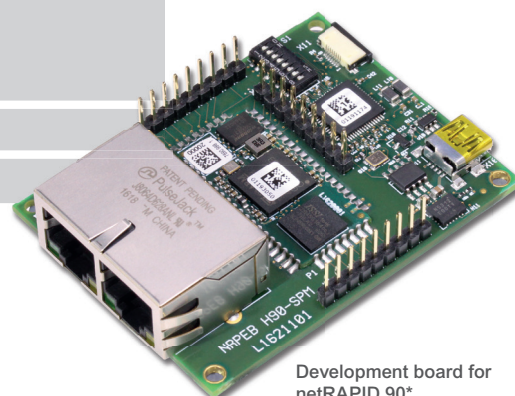
Different memory options for different applications in a single baseboard design

Well prepared for new emerging technologies and latest netX chip technologies

Technical Data / Product Overview

Technical Data	Parameter	Value
	Communication Interface	EtherCAT, EtherNet/IP, PROFINET, 2x Ethernet 100 BASE-TX, OPC UA, MQTT
	Host Interface	50 MHz SPI-Slave
	Diagnostic Interface	Ethernet, UART Rx/D/TxD
	LED	SYS-System (RUN/RDY), COM-Status 0/1 (COM 0/1), Ethernet-Status Link, Activity (LINK RX/TX)
	Supply Voltage	3,3 V
	Operating Temperature	-20°C ... +80°C (planned)
	Dimensions (L x W x H)	32 x 15 x 4 mm
	Contacting / Pinout	54 solder contacts 1 mm with 1,5 mm grid
	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
	CE Sign	Yes
	RoHS	Yes

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



Development board for
netRAPID 90*
*example

Overview	Product Name	Part Number	Brief Description
	NRP H90-RE	7690.100	Internal Flash and RAM only
	NRP H90-RE\F8D8	7690.102	Equipped with 8MB SQI Flash and 8 MB SDRAM
	NRPEB H90-RE	7600.320	Evaluationboard equipped with NRP H90-RE\F8D8

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