



**ELMAR**  
REAL-TIME  
FRAMEWORK

**ELMAR Evaluation Board netX 90 and AMD® Zynq® UltraScale™**

The evaluation board provides a powerful and flexible development platform for rapid-prototyping purposes and can be customized to meet the requirements in industrial environments. The combination of the Hilscher netX 90 and an AMD® Zynq® UltraScale™ together on one PCB with high-speed interlink makes it unique.



**POWER SUPPLY, MECHANICAL DATA**

Nominal voltage	2x 24 V DC, galvanically isolated
Permissible voltage range	19.2 V to 28 V DC
Max. power input (excl. peripheral power)	<40 W (1.7 A @24 V DC)
Max. power input (incl. peripheral power)	<100 W (4.2 A @24 V DC)
Protection	Reverse polarity and overvoltage
Connector	Pluggable terminal block, Ø 5.5 mm/WR-TBL (AWG16-26)
PCB Dimensions	200 mm x 170 mm x 20 mm
PCB Weight	Approx. 0.2 kg
Attachment	Hex Spacer
Enclosure	on request

**CHIPSET 1 – Hilscher netX 90 ARM® 32-bit RISC**

Communication	Cortex®-M4 @100 MHz MPU
Application	Cortex®-M4 @100 MHz MPU & FPU
Operating System	freeRTOS or bare metal

**CHIPSET 2 – AMD® Zynq® Ultrascale+™ MPSoC**

Processing System	2x Cortex®-R5F @500 MHz* 4x Cortex®-A53 @1200 MHz*
Programmable Logic	192K Logic Cells* 728 DSP Slices*
Operating System	Linux, freeRTOS, bare metal

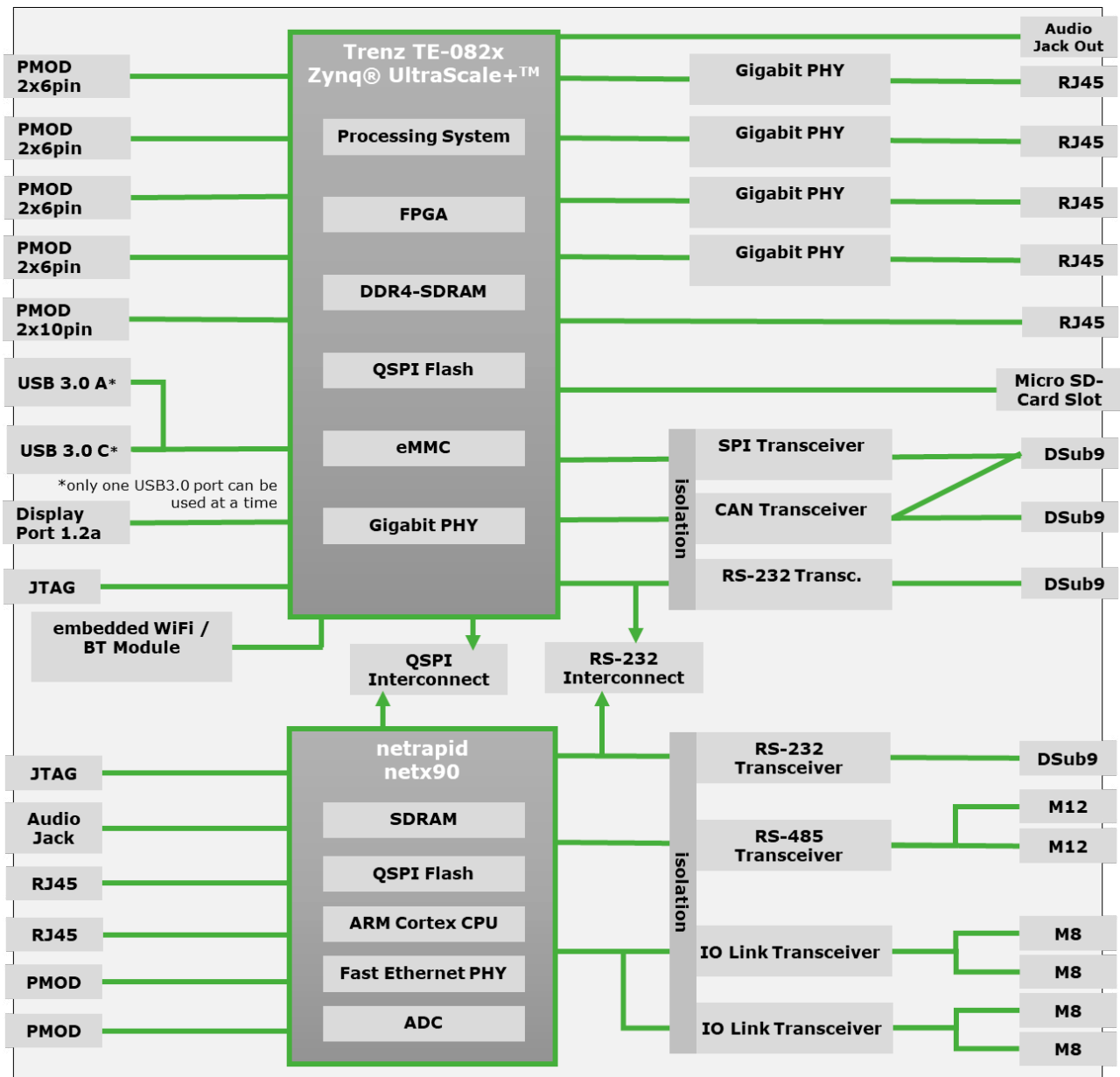
**INTERFACES netX 90**

Serial	1x RS-232 (D-sub 9pin)
PMOD	2x 12 pin (2.54 mm)
Encoder Interface	1x BiSS-C (M12) or 1x EnDat 2.2 (M12)
IO-Link Interface	4x IO-Link v1.1.3 (M8)
Ethernet / PROFINET	2x 100 Mbps (RJ45)
Device function	PROFINET IO device
Transfer rate	100 Mbps
Update rate	≥1 ms (RT, adjustable)
PROFINET IO version	2.42 / 2.43
Supported protocols	SNMP, LLDP
Supported MIBs	MIB2
Real-time class	RT_CLASS_1
Netload class	II
Conformance class	B

**INTERFACES Ultrascale+™**

Ethernet	1x PS Gb RGMII Ethernet (RJ45) 4x PL Gb RGMII Ethernet (RJ45)
Serial	1x RS-232, 2x CAN, 1x SPI, 1x I2C, 1x USB 3.0 (A or C)
PMOD	4x 12 pin (2.54 mm) 1x 20 pin & 1x 12 pin (2 mm)
Memory Card	Micro-SD (& HW-Boot option)
Wireless	Wi-Fi (802.11b/g/h) Bluetooth 4.2 (2.4GHz, BR/EDR)
Video	DisplayPort 1.2a

BLOCK DIAGRAM



Note:

\* Values indicate the maximum supported characteristics. Please refer to AMD® document XMP104 for more details.

The information contained herein is for informational purposes only and is subject to change without notice.