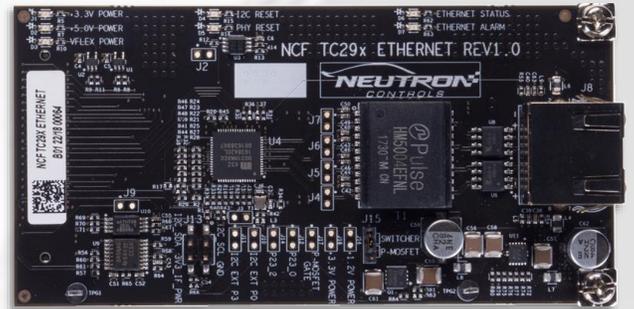




Designed by Engineers for Engineers

ETHERNET 10BASE-T / 100BASE-TX MODULE

Designed for rapid network connectivity prototyping this Ethernet 10BASE-T/100BASE-TX Module supplied with a complete software stack, allowing instant connection of AURIX™ CPU to a network node through MII (Media Independent Interface).

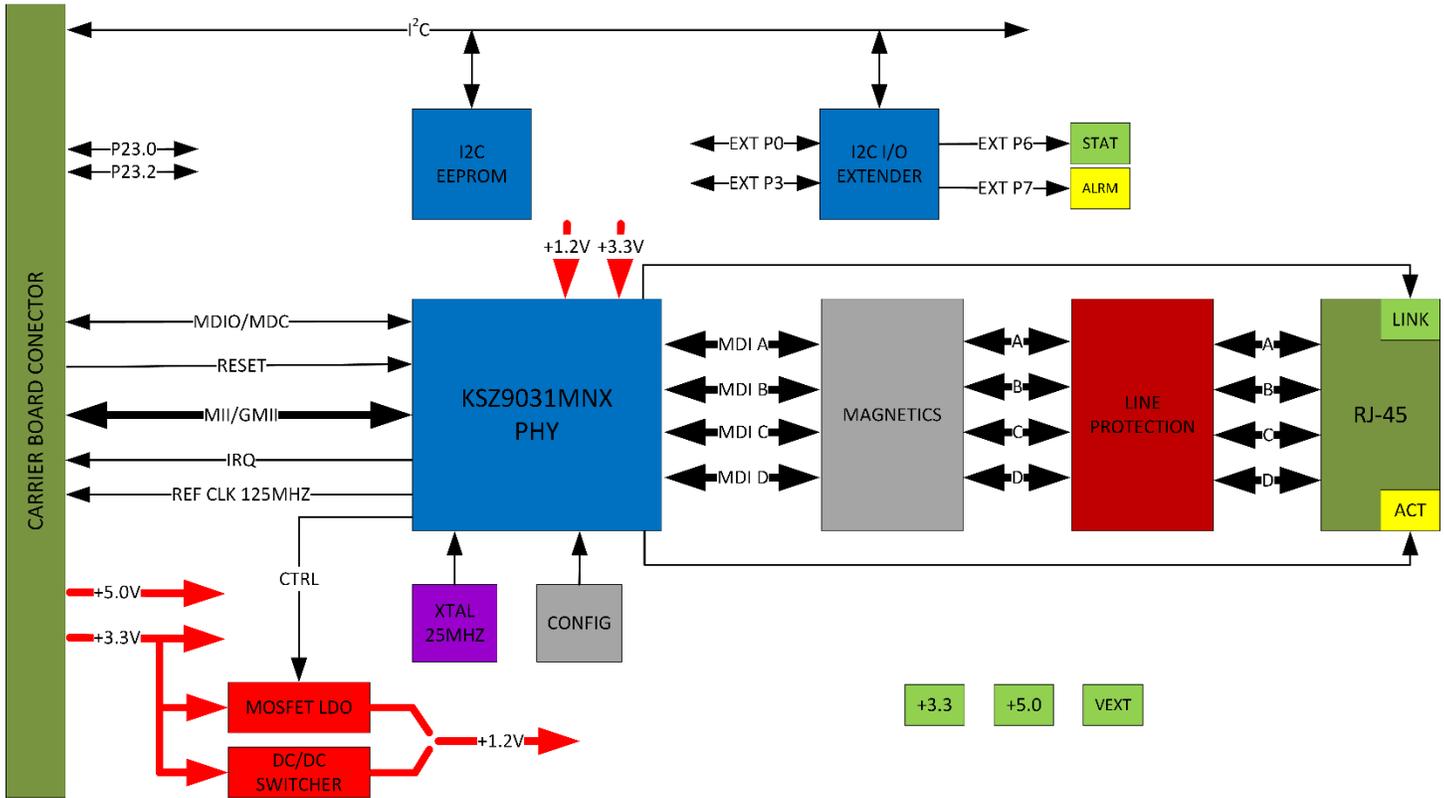


Overview

- The Module is based on KSZ9031MNX PHY from Microchip, a completely integrated triple-speed (10BASE-T/100BASE-TX/1000BASE-T) Ethernet physical layer transceiver, for transmission and reception of data on standard CAT-5 unshielded twisted pair (UTP) cable. This module makes the transition to 1Gbps networking easy as it supports the GMII (Gigabit Media Independent Interface) interface as well.
- The MDI (Media Dependent Interface), sometimes called "Line Interface" of the Module supports 1Gbps (1000BASE-T) interface natively and 10BASE-T/100BASE-TX as subset of it.
- The Module generates all necessary clocks and auxiliary supplies needed to run it locally and provides 125MHz reference clock output. A convenient 2mm grid allows all MII and system interface signals to be easily probed on the Carrier board side.
- Module software ports in and provides drivers for the LwIP stack, FreeRTOS and embedded MAC for all AURIX™ platforms supporting Ethernet.

Features

- Integrated triple-speed (10BASE-T/100BASE-TX / 1000BASE-T) Ethernet physical layer for transmission and reception of data on standard CAT-5 unshielded twisted pair (UTP) cable
- MDC/MDIO Management Interface for PHY Register Configuration
- Interrupt (IRQ) driven or poll based PHY status update
- Auto-Negotiation to Automatically Select the Highest Link-Up Speed (10/100/1000 Mbps) and Duplex (Half/Full)
- Energy-Detect Power-Down Mode and Power-Saving Modes
- Rugged Line side circuit protection with automotive grade magnetics
- RJ-45 built-in "Link" and "Activity" LED as well as "Status" and "Alarm" LED under s/w control.
- 2 optional General-purpose Input/Output (GPIO) control signals
- On-board I2C EEPROM for system and user configuration storage
- Option of using MOSFET based LDO controlled by PHY or switching DC/DC regulator for local +1.2V supply
- System and alternative hardware reset control



Compatibility

- The Module has been designed to work with AURIX™ Base Carrier Development Platform

Ordering Information

- Module Part Number: **RDL-ITFETH-001**
- Supplier: Neutron Controls, 350 Palladium Drive, Suite 102 Ottawa, Ontario, Canada K2V 1A8

