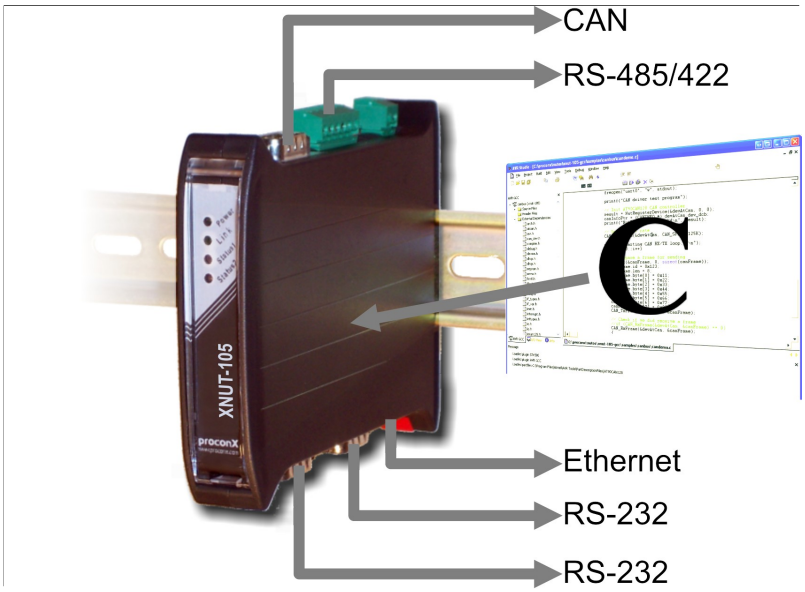
XNUT-105

Programmable Communication Gateway and Protocol Converter with CAN & Ethernet

Customizable Protocol Converter & Ethernet Gateway

Features

- Reliable design suitable for Industrial Automation applications
- Cost effective and flexible solution
- Industrial form factor
- Programmable in C
- Nut/OS Real-Time Operating System with TCP/IP stack
- GNU gcc compiler toolchain
- Convenient program upload via Ethernet TFTP Bootloader for fast development cycle
- Two RS-232 or RS-485 ports or one RS-422 port
- CAN interface
- Ethernet interface
- DIN rail mountable
- 10-30V DC power supply
- Watchdog
- 128 KB Flash ROM
- 32 KB RAM
- 4 KB EEPROM
- User controllable Status LEDs



XNUT-105, the Ethernet DIN rail Single Board Computer with special features for **Networking** and **Communication** tasks enables you to develop your own IP based control and protocol conversion application based on Nut/OS within a few hours.

The board has been specifically designed for communication tasks such as **Monitoring & Controlling** serial devices, gathering sensor data, **Gateway Applications** and **Protocol Conversion**. Utilize a **CAN** interface, two serial ports which are software configurable as **RS-232**, **RS-485** or **RS-422** and the **Ethernet** port to build gateways and web servers. All ports are supported by Nut/OS drivers and system calls.

Target Markets:

- Industrial Automation
- Factory Automation
- Building Automation
- Transportation
- SCADA Systems
- Research Institutes

Possible Applications:

- Protocol Converter
- Fieldbus Gateways
- Distributed Control Systems
- Remote Control & Monitoring
- Data Concentrator
- PLC interconnection
- Alarm monitoring
- Data logger
- Networked sensors
- Embedded web servers

XNUT-105

Order Information

Model Number	Configuration
XNUT-105 – 0 0 0	XNUT-105 device with Ethernet, CAN, RS-232, RS-485/RS-422 interfaces in DIN rail enclosure
XNUT-105 - __ __ __	XNUT-105 device with the following options and interfaces: **0:** no Option **1:** External 64 KiByte EEPROM **2:** Battery buffered Real Time Clock **3:** EEPROM and Real Time Clock **0:** 2 x RS-232 & RS-485/RS-422 fitted **0:** DIN rail enclosure (black)

Specifications

Development Tools

- *Nut/OS* RTOS and embedded TCP/IP stack
- *XNUT Library* for on-board hardware support
- *WinAVR* gcc compiler and C run-time library
- Ethernet TFTP Bootloader
- Optional *AVRStudio* IDE & source level debugger
- Optional *SPDuo* low-cost programmer
- Optional *AVR JTAGICE mkII* programmer/debugger

Connectivity

- IEEE 802.3i 10BASE-T Ethernet (half-duplex) RJ-45 socket
- ISO 11898 CAN interface DE9M w/ CiA DS-102 pinout
- Two serial ports, software configurable as:
  - 1 EIA-232-F DTE DE9M w/ EIA-574 pinout RXD, TXD, RTS, CTS, DCD, RI signals
  - 1 EIA-232-F DTE DE9M w/ EIA-574 pinout RXD, TXD signals
  - 2 EIA-485-A 2-wire A-, B+ signals
  - 1 EIA-422 RD+, RD-, TD+, TD- signals
- IEEE 1149.1 compliant JTAG interface w/ 10 pin header

CPU

- *Atmel AT90CAN128 AVR* micro controller
- 12 MIPS processing speed
- Full CAN 2.0A & 2.0B controller w/ 15 message objects & time stamping
- Programmable Watchdog timer
- Brown-out detection
- *Realtek RTL8019AS* NIC
- Optional battery buffered *DS1307* Real Time Clock
- LED indicators for Power, Ethernet Link and two bi-colour Status

Memory

- 128 KiByte program memory
- 32 KiByte static RAM for data
- 4 KiByte EEPROM
- optional 64 KiByte EEPROM

Protection

- 10 kV ESD protection on RS-232/485/422 ports
- 6 kV ESD protection on CAN port
- 1.5 kV galv. isolation on Ethernet

Power Requirements

- 10-30 V DC, 750 mW
- 30 mA typical @ 24 V DC

Environment

- 0° to 60° C / 32 to 140 °F operating temperature
- -25° to 80° C / -13 to 185 °F storage temperature
- 10 to 95% humidity, non-condensing

Form Factor / Enclosure

- Self-extinguishing PC/ABS (UL 94-V0)
- 35 mm DIN rail mountable
- IP 20 / NEMA 1
- 101 x 22.5 x 120 mm / 3.98 x 0.886 x 4.72 in
- 0.13 kg / 0.287 lbs

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DSXNUT105-0801