NC8900 – Net Controller DIN rail model
Datasheet

Description

Net Controller connects equipment with serial communication (RS232/RS422/RS485) to a standard Ethernet network with TCP/IP protocol (LAN, WAN, Internet, Intranet).

The communication is fully transparent. Ethernet TCP/IP is a very well developed network technology. Advantages like simpler integration is obtained since Ethernet TCP/IP is such a widespread standard.

By using existing networks instead of own serial cables or telephony connections for modems, the cost is reduced by simpler installation, maintanance and lower operating costs.

Net Controller is a general and independent product which is easy to integrate into existing systems. Different system configurations can be obtained by using one or several *Net Controllers*.

Net Controller NC8900 is a DIN rail model with screw terminal block for the connections.

System configurations (examples)

♦ **Serial point-to-point connection over networks**. Connect serial ports over networks (LAN, WAN, Internet, Intranet) using a *Net Controller* on each end. Existing own equipment can be connected without being modified.

♦ **As a dial-up modem over networks**. Connect own equipment intended for modem to a network by replacing every modem by a *Net Controller* that simulates modem connection and where the phone number is replaced by an IP address in the AT command.

♦ **Remote control of own equipment over networks**. With a terminal program, e.g. Telnet in the computer, own equipment can be remotely controlled over networks by placing a *Net Controller* at the equipment.

♦ **Web**. Use *Net Controller* for applications over Internet. E.g. show/control/configure own equipment with serial port over networks.

Properties

♦ Microprocessor controlled access bridge
  - Flash memory for easy update

♦ Two serial ports with RS232/RS422/RS485
  - Selectable data formats and speed, 600-19200 bps
  - Serial server with or without serial protocol
  - Simuation of modem with AT commands

♦ Ethernet IEEE 802.3 10Mbps, 10Base-T
  - TCP/IP protocol
  - Handles routing for divided network with netmask
  - A standard Gateway

♦ Power
  - 12V AC or 12/24/48V DC, Max 150mA

♦ DIN rail modell, 23w x 75h x 110d mm

♦ Configuration program for parameters
  - Terminal program via the serial port
  - Web browser over the network

♦ Diagnostics
  - LED green: Power and Program has started
  - LED yellow: Communication on the network
  - LED yellow (2): Communication on respective serial port
  - Trace log for print of events

Net Controller NC8900

Function

Each *Net Controller* has its own IP address with an own TCP port number for respective serial port.

Connects automaticallly on received serial data. Disconnects automatically on no data (timeout).

Data communication is fully transparent.

Serial ports with control signals for flow and modem control.

Simulates modem with AT commands, enabling connecton of equipment intended for modem.

Handles routing with netmask och Gateway for divided network.

TCP/IP compatible for standard applications such as Ping and Telnet.

All parameters such as addresses, TCP ports, data format och speed, can be configured with web browser or terminal program via serial port.

Download of program to Flash memory from computer via serial port, for easy update.

Web

The own equipment can be shown/controlled/configured via Internet.

Net Controller can be configured via Internet and different web browsers.

Customization

Net Controller can be customized both with own functions and special interfaces. Typical functions can be protocol, encrypting, polling, etc

Central applications can when needed be customized or developed regarding functionality for the own equipment and the *Net Controller*. *Net Controller* is TCP/IP compatible with tools such as e.g. Visual Basic, C++ and Winsock.

Net Controller can also be customized for embedding.

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Technical data

Microprocessor controlled access bridge with 16 bits Intel 80C186EB processor
Flash memory 512 KB for easy software update
Data memory 256 KB SRAM for stack and buffers

Low power architecture with 5V logic

Ethernet IEEE 802.3, 10Mbps, 10Base-T, RJ45 connector

Watchdog for surveillance and restart on errors

Power indicator P with green LED to indicate power and program has started

Traffic indicator T with yellow LED to indicate network communication (TD/RD)

Two serial indicators 1 and 2 with yellow LED to indicate communication on respecive serial port

TCP/IP protocol with support for protocols ARP, IP, ICMP, TCP and HTTP

Serial port-1 RS232/RS422/RS485, flow control and modem signals
Serial port-2 RS232
Selectable data format and speed 600-19200 bps
Serial server with or without serial protocol
Screw terminal block

Power supply 12/24V AC or 12/24/48V DC, max 150mA
Screw terminal block

Physical dimensions (mm) 23w x 75h x 110d, Weight 118g

Ambient temperature 5-50°C/operating, -40-80°C/storage
Relative humidity 5-95% none-condensing

Mounted on DIN rail

CE approved, conforms to the directive for electromagnetic compatibility according to EMC

RJ45 connector for serial port (*Net Controller* is DCE)

Serial port-1 RS232	Serial port-2 RS232
1. GND	7. GND
2. >RD	8. >RD
3. <TD	9. <TD
4. >DSR	
5. >CTS	
6. <RTS	

Serial port-1 RS232 Modem (Serial port-2 not available)
1. GND
2. >RD
3. <TD
4. >DSR
5. >CTS
6. <RTS
8. >DCD (Modem)
9. <DTR (Modem)

Serial port-1 RS485 4-wire/2-wire (Serial port-2 available)
2. T+
3. R+/T+
5. T-
6. R-/T-

Power supply

Screw term. block	AC	DC
10 AC/DC-	0V	0V
11 AC/DC+	12/24V AC	12/24/48V DC
12 P-GND	Prot. ground	Prot. ground