Quickly identify problems relating to network power, data errors and excessive bandwidth consumption for your DeviceNet network ▲

Diagnostic Tools

Live-Network Validation and Troubleshooting

Imagine diagnostic tools that can cut downtime; that can limit – even prevent production loss resulting from network failure, and can help anticipate potential problems. Woodhead diagnostic tools let you respond instantly to network faults, enabling a control engineer or floor electrician to swiftly isolate and diagnose a fault source. Quickly identify problems relating to network power, data errors and excessive bandwidth consumption. Woodhead diagnostic tools help electricians, automation engineers, and system integrators certify new DeviceNet industrial network installations, speed DeviceNet maintenance and repairs, and prevent plant automation downtime by predicting faults ▲

Features:



NetMeter

Certifies proper network operation
- **Measures 677 key network parameters**
- **Compares with DeviceNet specification**

Battery-powered
- **Save readings for the experts**

Accelerates fault troubleshooting
- **AutoSearch finds all bad network parameters**
- **Full traffic and error analysis by node address**
- **Power quality, shield voltage, signal quality**

Prevents network downtime by predicting faults
- **Opens and shorts**
- **Incorrect topology**
- **Bad nodes**
- **Bad termination**
- **Improper shield connection**
- **Intermittent problems**
- **Excessive scan rate**
- **Common mode voltage**



PowerMonitor

Monitors DeviceNet power quality at any cable junction
- **Green light—good working DeviceNet voltage level**
- **Red light—voltage is too high — Check power supply**
- **Blue light—voltage is too low — Cabling is too long or the DeviceNet node is loading down the network**
- **Yellow light—excessive noise — Check for bad wiring connections or noise sources too close to the network**

NetMeter for DeviceNet

NetMeter cuts troubleshooting time from hours to seconds, by providing the technical detail a DeviceNet troubleshooting expert needs. Yet it simplifies and summarizes, allowing a DeviceNet novice to effectively identify and diagnose network problems. NetMeter uses a patented integrated intelligence technique to summarize multiple DeviceNet bus operational variables into a single health index. To a floor electrician, it's a "guru-in-a-box", providing a detailed reading of network performance. It summarizes DeviceNet bus health by displaying a happy face icon, indicating a healthy network; a sad face, indicating a serious problem; or a neutral face, indicating nominal performance (a good indication to repair things before they actually fail). NetMeter then walks the user through each fault condition and its source. Or it can record key operating parameters for offline review. The NetMeter can be certified against test measurement standards per ISO guidelines allowing you to truly certify your network ▲

PowerMonitor for DeviceNet

PowerMonitor monitors DeviceNet power quality at any cable junction. To install, simply replace a "T" or "in-line" connector with a PowerMonitor. Green lights indicate a good working DeviceNet voltage level. A red light shows that the voltage is too high – check the power supply. A blue light warns that the voltage is too low – your cabling is too long or the DeviceNet node is loading down the network. And a yellow light indicates excessive noise – check for bad wiring connections or noise sources too close to the network ▲

LED Termination Resistor

Termination resistors are required on each end of the truck line in a DeviceNet installation. Woodhead provides both male and female terminators; the correct installation depends on which gender is required on the end of your truck line. The LED Termination Resistor also allows you to determine and confirm the correct polarity. The green LED is hooked up to V+ and V-. A red LED indication is the result of an incorrect (polarity) installation ▲

Power Tap

Power taps allow power to be quickly connected to the network. It distributes power to two 4A networks by providing a means to quickly and simply connect one power source. By separately fusing the two segments each of the two sections can be independently diagnosed. In addition the LEDs provided on the power tap tell if each of the segments has the correct polarity connected. A male connection on the drop power connection insures safe installation by not having live power on the connection from the power supply. A green LED indication tells you the power is correctly connected while a red LED clearly indicates reverse polarity ▲

Woodhead

Features: continued



LED Termination Resistor

Determines and confirms the correct polarity of a DeviceNet network

- **Green LED is hooked up to V+ and V-**
- **Red LED indication is the result of an incorrect (polarity) installation**



Power Tap

Quickly connect power to a DeviceNet network

- **Provides LED status indication of power and correct polarity connection for simple diagnostics**

Hardware Specifications

NetMeter

Power supply
- 7V-30V (90mA @ 7V, 60mA @ 11V, 30mA @ 24V)
- Battery 2 x AA Alkaline (for offline review of stored measurements)

Environment
- 0 – 40C

Connectors
- DeviceNet Standard "Sealed Micro"
- Adapter cable included for DeviceNet Standard "Sealed Mini"
- New connections available

Baud Rates Supported
- 125K, 250K, 500K (auto-detect)

Analog Range
- Bus Power 0 to 25V with over/under range indication
- Bus Signal –5 to 10V with over/under range indication

PowerMonitor

Power supply
- 7 – 30Vdc, 50mA

Environment
- 0 – 60C

Connectors
- DeviceNet Standard "Sealed Mini"

Low Voltage Threshold
- 12.4V (minimum)

"OK" Voltage Threshold
- 12.96V – 24.78V

High Voltage Threshold
- 25.3V (maximum)

Glitch Threshold
- 1.26V (16mS rise time), 0.67V (1mS rise time)

Ripple Threshold
- 1.5V p-p 20-250Hz, 2.6V p-p 10-20Hz

LED Termination Resistor

Phosphur bronze contacts for maximum reliability
Available in both male and female versions
Sealed Mini-change form factor

Power Tap

Connects power supply to DeviceNet trunk line in convenient plug/play fashion
Easily replaceable fuses to protect bus and connected components from excessive current
Sealed Mini-change form factor
Available in a variety of versions for maximum flexibility

Ordering Information

Part No.	Description
DN-MTR	NetMeter for DeviceNet
DN-MTR-BAG	NetMeter carrying case
DN-MTR-CAL	NetMeter ISO Calibration
DN3020PM-1	PowerMonitor - "T" (left male to right female)
DN3020PM-3	PowerMonitor - "T" (left female to right male)
115011A-PM-1	PowerMonitor - "In-line" (left male to right female)
115011A-PM-3	PowerMonitor - "In-line" (left female to right male)
DN150L	LED Termination Resistor (female mini-change)
DN100L	LED Termination Resistor (male mini-change)
DN-PT1	Power Tap (female/male)
DN-PT2	Power Tap (female/female)
DN-PT3	Power Tap (male/female)

 © Woodhead L.P. 2003 All rights reserved. DW200325