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TECHNOLOGY GROUP

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Brad® DeviceNet* Diagnostic Tools

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

112008 eNetMeter™ DN
112008 NetMeter®
130035 Power Monitor®
130035 LED Termination Resistor
130035 Power Tap

Live-Network Validation and Troubleshooting

Imagine diagnostic tools that can cut downtime resulting from network failure and can help anticipate potential problems. Molex diagnostic tools let you respond instantly to network faults, enabling a control engineer or electrician to swiftly isolate and diagnose a fault source. Quickly identify problems relating to network power, data errors and excessive bandwidth consumption. Molex diagnostic tools help certify new DeviceNet industrial network installations, speed DeviceNet maintenance and repairs and prevent plant automation downtime by predicting faults. Molex offers a number of DeviceNet diagnostic tools to minimize network downtime.

eNetMeter™ for DeviceNet

eNetMeter DN is a passive device that continuously monitors a DeviceNet network and sends the information over Ethernet to a PLC or PC monitoring system. The information can be used to proactively respond to out-of-tolerance parameters before network failure occurs. Optionally, data can be accessed through BradCommunications™ NetAlytix™ software, a DLL interface or an OPC server.
For additional details related to eNetMeter DN please, refer to the Molex/Brad datasheet, order number: DW2008250.



NetMeter® for DeviceNet

NetMeter cuts troubleshooting time 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. 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.



Power Monitor® for DeviceNet

Power Monitor monitors DeviceNet power quality at any cable junction. To install, simply replace a „T" or „in-line" connector with a Power Monitor. 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 of the trunk line in a DeviceNet installation. Molex provides both male and female terminators; the correct installation depends on which gender is required on the end of your trunk 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 light LED clearly indicates reverse polarity.™



*DeviceNet is a trademark of ODVA, Inc.

FEATURES

Brad® DeviceNet* Diagnostic Tools

112008 NetMeter®
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NetMeter®

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

Battery-powered
- Save reading 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



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 Monitor®

Monitors DeviceNet power quality at any cable junction
- Green light - good DeviceNet voltage level
- Red light - voltage is too high - Check power supply
- Blue light - voltage is too low - cabling is too long or some DeviceNet nodes are drawing too much current
- Yellow light - excessive noise - check for bad wiring connections or noise sources too close to the network



Power Tap

Quickly connect power to a DeviceNet network
- Provides LED status indication of power and correct polarity connection for simple diagnostics

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HARDWARE SPECIFICATIONS

Brad® DeviceNet* Diagnostic Tools

NetMeter®

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

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

Power Monitor®

Power supply
- 7V-30Vc, 50mA

Environments
- 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, 2.6 p-p 10-20Hz

112008 NetMeter®
130035 Power Monitor®
130035 LED Termination Resistor
130035 Power Tap

LED Termination Resistor
- Phosphor 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

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ORDERING INFORMATION

Engineering Number	Ordering Number	Description
DN-MTR (E)	1120080013	NetMeter for DeviceNet
DN-MTR-KIT (E)	1120080014	NetMeter Kit for DeviceNet (includes carrying case, PowerMonitor T & LED Termination Resistor)
DN-MTR-BAG	1120080003	NetMeter carrying case
DN-MTR-CAL	1120080004	NetMeter ISO calibration
DN3020PM-1	1300350060	PowerMonitor-"T" (left male to right female)
DN3020PM-3	1300350061	PowerMonitor-"T" (left female to right male)
115011A-PM-1	1300350007	PowerMonitor-"In-line" (left male to right female)
115011A-PM-3	1300350008	PowerMonitor-"In-line" (left female to right male)
DN150L	1300390072	LED Termination Resistor (female Mini-Change)
DN100L	1300390371	LED Termination Resistor (male Mini-Change)
DN-PT1	1300390390	Power Tap (female/male)
DN-PT2	1300390931	Power Tap (female/female)
DN-PT3	1300390393	Power Tap (male/female)

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