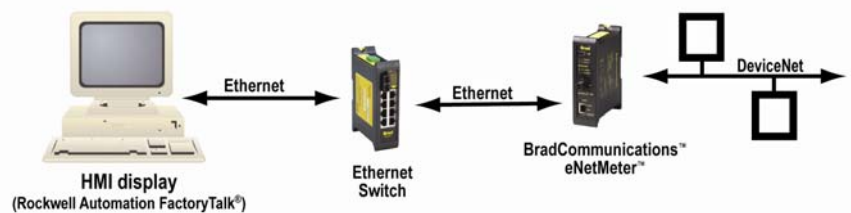# eNetMeter™ for DeviceNet

Diagnostic tool

Features

- **Continuously monitors a DeviceNet network in a passive state**

- **Provides feedback to an EtherNet/IP™ master or one of three methods to a personal computer (PC) residing on Ethernet**
  - ▶ **NetAlytix™ software**
  - ▶ **DLL interface**
  - ▶ **OPC server**

- **High-speed sampling of network parameters**
  - ▶ **Signals are sampled millions of times per second providing extremely accurate values**

- **Information captured includes:**
  - ▶ **Overall network status and measurements**
  - ▶ **Individual node status and measurements**
  - ▶ **Detailed measurements of power (V+, V-), signal (CANH, CANL) and shield parameters**
  - ▶ **Common mode voltage for entire network and each node**
  - ▶ **Minimum / maximum and average values**

- **Warning and Fault flags indicate when a value has exceeded a set tolerance (levels are customizable)**

- **NetAlytix software enables fast device setup or USB port allows configuration without a PC**

- **Compact design with DIN rail or panel mount option for quick and easy installation**

Overview

BradCommunications™ 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 read directly by an EtherNet/IP™ master. Optionally, data can be accessed through BradCommunications NetAlytix™ software, a DLL interface or an OPC server.

HMI display (Rockwell Automation FactoryTalk®) — Ethernet — Ethernet Switch — Ethernet — BradCommunications™ eNetMeter™ — DeviceNet

eNetMeter DN provides extremely accurate measurements of the network parameters using high-speed sampling. By comparing acceptable baseline measurements of a "good" network, it can predict imminent failures down to individual devices. Measurements can be used in such a way, that when an OPC status tag is analyzed and is found to be outside the acceptable limits, steps can be taken to repair the system prior to any downtime.
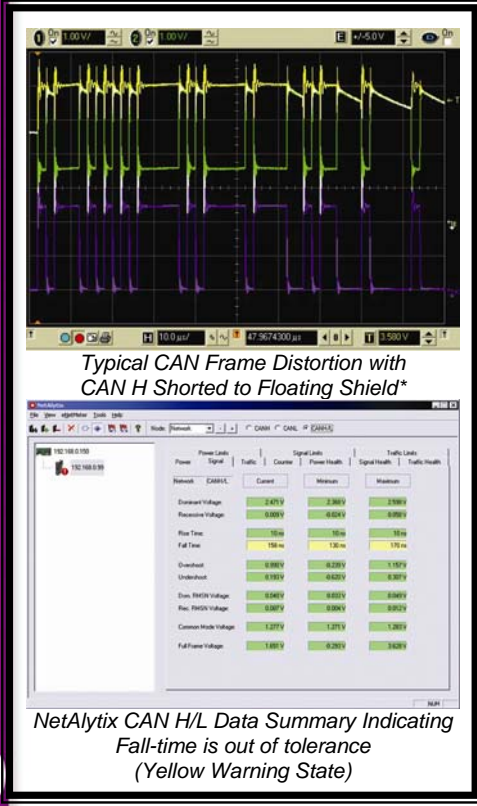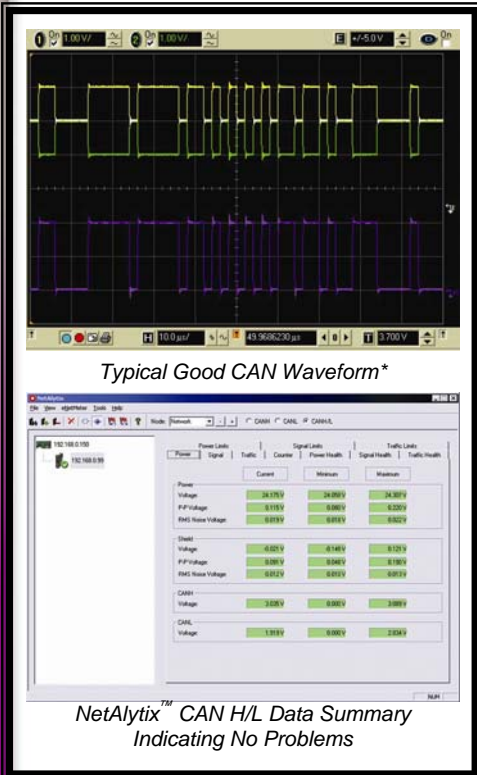
eNetMeter DN can be used to diagnose current faults on a non-functioning network through the measurement of hundreds of network parameters. This can minimize downtime by pinpointing the node or location of the fault. The data can also be stored to historian software for future analysis. This is useful for companies typically involved with batching applications including pharmaceutical, food & beverage. If a problem occurs with a specific batch, the historical data can be viewed to see if any network problems occurred during the same time frame. This allows the company to then make any necessary adjustments to prevent re-occurrences from happening in the future.

Software Tools

eNetMeter™ for DeviceNet

Typical Good CAN Waveform*

NetAlytix™ CAN H/L Data Summary Indicating No Problems

Typical CAN Frame Distortion with CAN H Shorted to Floating Shield*

NetAlytix CAN H/L Data Summary Indicating Fall-time is out of tolerance (Yellow Warning State)

* Signal captures were obtained using a digital storage oscilloscope on a typical DeviceNet network.

Specifications

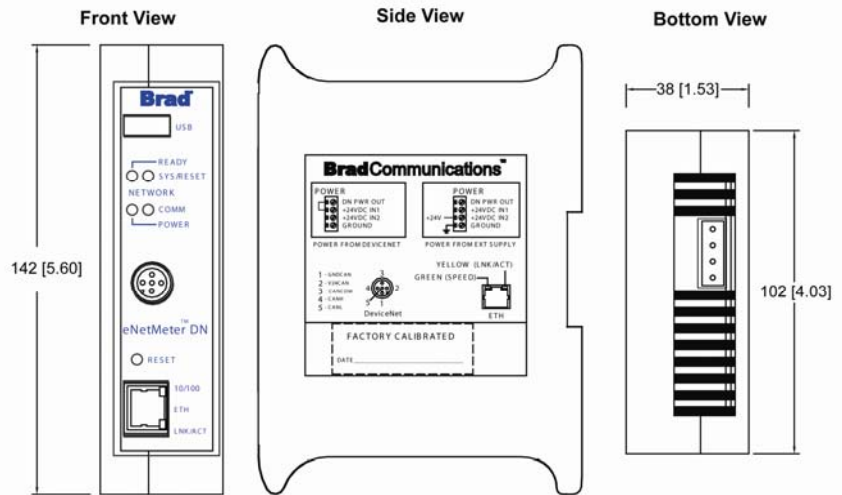| Hardware:	
Diagnostic LEDs & Control	Ready, System/Boot, Power & Comm; Reset (recessed)
Operating Temperature	0 to 60°C
Storage Temperature	-5 to 75°C
Humidity	5% to 95% non-condensing
RoHS Compliant	Yes
Approvals	CE, cULus (pending)
Enclosure	IP10
Mounting	DIN rail or panel (screw) mounted
USB	USB 2.0 master, for transfer/storage of configuration parameters
Network Specifications:	
Protocols	DeviceNet, EtherNet/IP for reading data
Cable	DeviceNet: compatible with target network Ethernet: Cat 5e shielded
Connector	Ethernet : RJ45 ; DeviceNet : 5-pole M12 Micro-Change® Auxiliary power : screw terminal
DeviceNet Power	M12 Micro-Change 5-pole threaded connector - 11 to 25 VDC, 250 mA (typical @ 24 VDC)
Isolation	500 V
Data Rate	DeviceNet: 125K, 250K and 500K baud; Ethernet: 10/100 M baud

Ordering Information

SAP Material Number	Catalog Number	Product Description
1120080008	SST-ENM-DN1	eNetMeter™ DN diagnostic tool for DeviceNet
1120080011	SST-NAS-DN1	NetAlytix™ software for eNetMeter DN (includes full application, DLL/API, OPC Server)❶

❶ NetAlytix Lite software is included with eNetMeter DN to allow setting of the IP address, parameter configuration, and other basic commissioning tasks.

Dimensions : mm [inches]