

EDGE-DL/NG-TP002

Data Logger / Network Gateway

Product Description

The Entek EDGE series Data Logger and Network Gateway (DL/NG) provides reliable logging of process or sensor data. The data is stored in a compatible file format and is available for easy download from a local web page. The DL/NG includes a web server that provides a user interface for configuration of the device and retrieval and management of logged data files. The unit is powered by standard instrumentation power sources (ie. nom 12 - 24 VDC), and includes an ethernet port for connection to a local or private network. Custom application logic is provided for various sensor or input types and configurations, and for the required data and file formats. A USB memory stick can optionally be inserted for external storage and retrieval of data.

Custom Application Code Description

- INPUT 1 - Pulse input from Pulse Flow Meter (0-1000 Hz)
- INPUT 2 - Gate input from Valve (100 msec min)
- INPUT 3 - Trigger input for Analog 1 (rising edge OFF to ON)
- INPUT 4 - Trigger input for Analog 2 (rising edge OFF to ON)

While gate (IN2) input signal is active, pulses on IN1 input are accumulated (pulse count).

A falling edge transition (active to inactive) on gate signal (IN1) will write total pulse count (and calculated Volume) to data log file and will clear total pulse count.

Analog values are recorded by a rising edge (inactive to active) transition on the corresponding trigger input or by time INTERVAL or voltage THRESHOLD setting.

File format: Standard Data Format (.CSV)

Status LED pulse indicates data point recorded. Status LED on indicates CPU is writing to USB memory device.

Specifications

Main Processor: Cortex ARM7 Quad Core 64 bit 900MHz
 Memory: 1 GB
 USB ports: 4 x USB 2
 Program Memory and Data Storage: 32 GB Flash
 Network: 10/100 Ethernet Port
 Optional: 802.11n Wireless Lan

Secondary I/O Processor: ARM Cortex M0 32 bit 48MHz
 A-D resolution: 12 bit SAR 1Msps

Supply Voltage: 8 to 30 VDC @ 1500ma

Input Type (discrete): Current (sink or source) Opto-Isolated
 Input Current : 35ma max (per input)
 Input Impedance: 960 ohm

Input Type (analog voltage): 0-10V Differential
 Input Impedance: 100k ohm

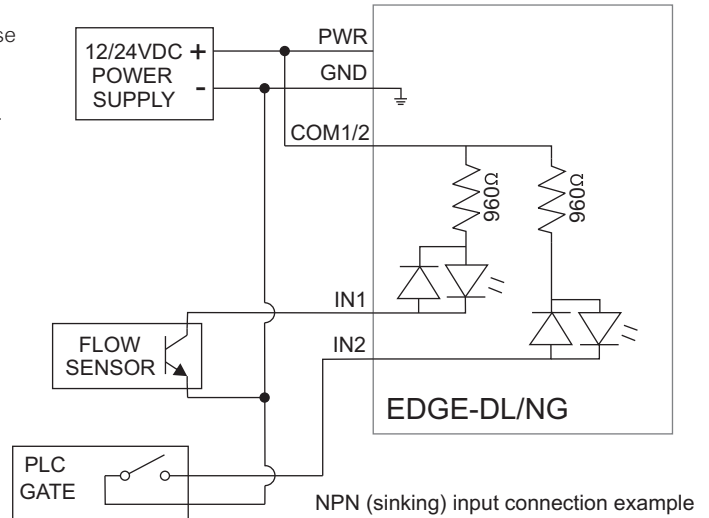
Input Type (analog current option): 4-20 ma
 Input Impedance: 50 ohm

Operating Temp. Range; -25 to 80 C



EDGE-DL/NG-TP002

Connection Diagram



Ordering Information

EDGE-DL/NG- [] [] [] [] [] - [] [] - []

MODEL		OPTIONS		REVISION	
TP001	Gated Flow Sensor / FlowWorks Data Format	Blank	No Options	Blank	No Revision
TP002	Gated Flow Sensor / 2xAnalog / Standard Data Format	WF	Wi-Fi (801.11n)	01	REV 1
		A1	1 x 4-20ma/1 x 0-10V		
		A2	2 x 4-20ma		
		A3	2 x 0-10V		

These devices are NOT to be used in applications where malfunction or mis-operation could result in human injury or death including Emergency Stop or Safety functions or where loss of data, or inaccurate data could result in any loss, including financial or otherwise. The manufacturer is not liable or responsible for any loss or damage which may occur, including incidental, direct, indirect or consequential.

EDGE Data Logger / Network Gateway Quick Startup Guide

Power Connection:

Connect 8-30 VDC (min 1.5A) CLEAN DC power supply to PWR/GND terminals.

Input Connection:

INPUTS 1 & 2 share a common connection. INPUTS 3 & 4 also share a common connection.

All Inputs are bidirectional allowing the common to be connected to either +pwr for sinking input source or allowing the common to be connected to GND for sourcing input device.

COM1/2 is independent of COM 3/4.

INPUT 1 receives the pulse output from the Flow sensor. Pulses are counted on each transition of INPUT 1.

INPUT 2 is the gating signal from the PLC. When INPUT 2 is active, pulses will be counted (accumulated) from the Flow Sensor.

When INPUT 2 transitions to off (inactive), the total pulses counted will be written to the log file.

ANA1+ and ANA1- are the differential input signals for analog channel 1.

Similarly, ANA2+ and ANA2- are the differential input signals for analog channel 2.

For connection of a single ended voltage source, connect the ANA- signal to your analog signal ground and connect the voltage signal to the ANA+ input.

Every time an off to on (inactive to active) transition occurs on IN3, the voltage value at ANA1 is recorded in the log file.

Similarly, every time an off to on (inactive to active) transition occurs on IN4, the voltage value at ANA2 is recorded in the log file.

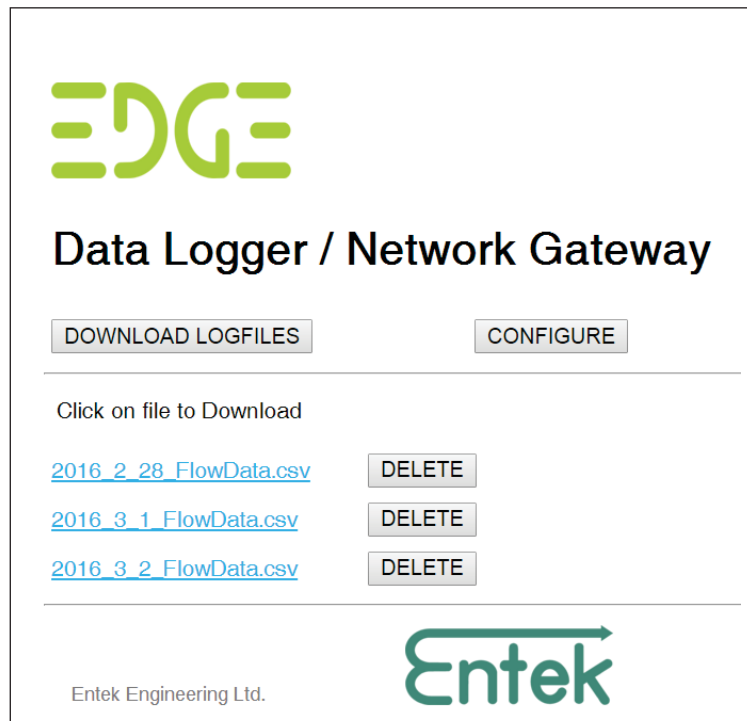
A Positive THRESHOLD setting results in ANA value recorded into log file at set time INTERVAL only when ANA voltage is above THRESHOLD setting.

A negative THRESHOLD setting results in ANA value recorded only when ANA voltage is below THRESHOLD setting.

An INTERVAL setting of 0 disables recording of ANA by INTERVAL or THRESHOLD method.

Network Connection and Configuration:

- 1) Connect network cable to RJ45 port.
- 2) EDGE-DL/NG-TP001 is configured to automatically obtain an IP address from the network DHCP server (ie. router) (consult factory if a fixed IP address is required)
- 3) Use IP search utility such as IPSCAN (ex. angryip.org) on a network connected PC or the DHCP (router) to determine the assigned IP address (the device will list as ENTEK_EDGE_DLNG or hostname: edge.local).
- 4) Using Google Chrome, browse to the device address using the IP address obtained above and default port address of 3000 (type: `xxx.xxx.xxx.xxx:3000` into the address bar of the browser) or use the local hostname for the device <http://edge.local:3000>
The main page should display - see sample image below.




EDGE

Data Logger / Network Gateway

[DOWNLOAD LOGFILES](#) [CONFIGURE](#)

Click on file to Download

2016_2_28_FlowData.csv	DELETE
2016_3_1_FlowData.csv	DELETE
2016_3_2_FlowData.csv	DELETE

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Downloading Files:

- 1) The list of available files should be displayed on the main web page.
In order to download a file, click on the filename. The file should immediately download to the browser.
You may then copy the file to your hard drive, or open it using notepad or any text file editor.
You may also import it into a spreadsheet program such as Excel since it is a .CSV file already.
- 2) Once a file has been downloaded, you may choose to delete the file from the Datalogger.
Click on the DELETE button next to the filename. A popup confirmation should appear to confirm that you wish to delete the file.
Deleting a file is permanent, so ensure that you have successfully downloaded the file before deleting it.
It is recommended that files be deleted once they are downloaded in order to ensure that the DataLogger does not run out of file storage space. Files will automatically be deleted if they are more than 1 year old.
- 3) Click the refresh button on the browser to make sure the list of files is up to date, especially after deleting a file.

Configuration:

- 1) Click on the CONFIGURE menu button to display the Configuration Web page.
- 2) Click on the SCAN INPUTS button to test the current status of the input signals.
Note: This can be useful for troubleshooting a connection at the device.
- 3) Click on the GET TIME button to confirm the battery backed real time clock in the DataLogger is functioning correctly.
(The clock is automatically updated on startup using a remote network time server - if an internet connection is available)
- 4) Set the CLIENT ID and SITENAME settings as desired.
These are used as a header in the data files to help identify the source of the data - especially in the case where multiple devices are used.
After making any changes to the CLIENT ID or SITENAME, click the SAVE SETTINGS button to save them to the DataLogger memory.
- 5) Set the SCALE FACTOR for the units of VOLUME you wish to record.
This value represents the pulses per unit volume for the connected flow sensor.
Please refer to the flow sensor specification sheet to obtain this value.
It can be calculated for any units desired (ex. Litres, Gallons, etc.)
- 6) If a different TCP PORT address or IP address is required, change this setting.
Then click RESTART to save the new settings and re-boot.
RESTART must be clicked in order for the new TCP PORT address to take effect.
Make sure after re-starting that you re-direct your browser to the new port/IP address, or the web page will no longer be visible. The netmask can be included with the IP address.
Example: 192.168.1.100/24 is the same as 192.168.1.100/255.255.255.0

NOTES:

Your EDGE-DL/NG should provide many years of reliable service. However, like any computing device, care must be taken to ensure certain operating conditions are met as follows:

- Do not power off the unit while writing to a file - in other words, ensure that the GATE signal is removed (open) first.
- Avoid connecting the unit to a noisy or unstable power supply.
- A UPS or uninterruptible supply is recommended in order to help avoid both conditions.
- Do NOT remove the micro SD card while the unit is operating. The SD card contains critical system files that will cause the unit to crash and may corrupt the contents of the card if removed while running.



Data Logger / Network Gateway

FILE MANAGER

Datalogger Inputs

Input 1 -> CNT clock: 0
Input 2 -> CNT gate: 0
Input 3 -> ANA1 trigger: 1
Input 4 -> ANA2 trigger: 0
Analog 1 -> ANA1 value (mv): 1.36
Analog 2 -> ANA2 value (mv): 6.57

SCAN INPUTS

Network Settings

After changing TCP Settings -> click RESTART, then browse to new IP:PORT address:

TCP Port:

use DHCP:

These settings are only used if DHCP is NOT selected:

IP address includes SUBNET MASK code (example: 192.168.1.1/24)

TCP Address:

TCP Routers:

TCP DNS:

RESTART

Datalogger Settings

ClientID:

Sitename:

Enter pulses per measurement unit - example: pulses/litre:

CNT Scale:

Enter Analog SCALE and OFFSET values ((RAW x SCALE) - OFFSET):

Set THRESHOLD value +ve for above and -ve for below

Set THRESHOLD = 0 for INTERVAL only

Set INTERVAL = 0 to disable

ANA1 Scale:

ANA1 Offset:

ANA1 Threshold (volts):

ANA1 interval (seconds):

ANA2 Scale:

ANA2 Offset:

ANA2 Threshold (volts):

ANA2 interval (seconds):

Datalogger Time Clock

Wed May 10 2017 01:37:36 GMT-0700 (Pacific Daylight Time)

Firmware Version: 2.03
