# S2N2E Gateway - Transparent N2 Bus to Ethernet Gateway

Overview

The S2N2E Gateway is an interface device that acts as a Communication Bridge between a local Johnson Controls' Metasys N2 Communication Bus (N2 Bus) and multiple remotely connected N2 Buses and N2 Compatible field devices. These multiple N2 Buses/Devices can be located across the city, country, or even the World providing that they have access to a TCP/IP Ethernet connection (i.e. Corporate Intranet, Internet, etc).
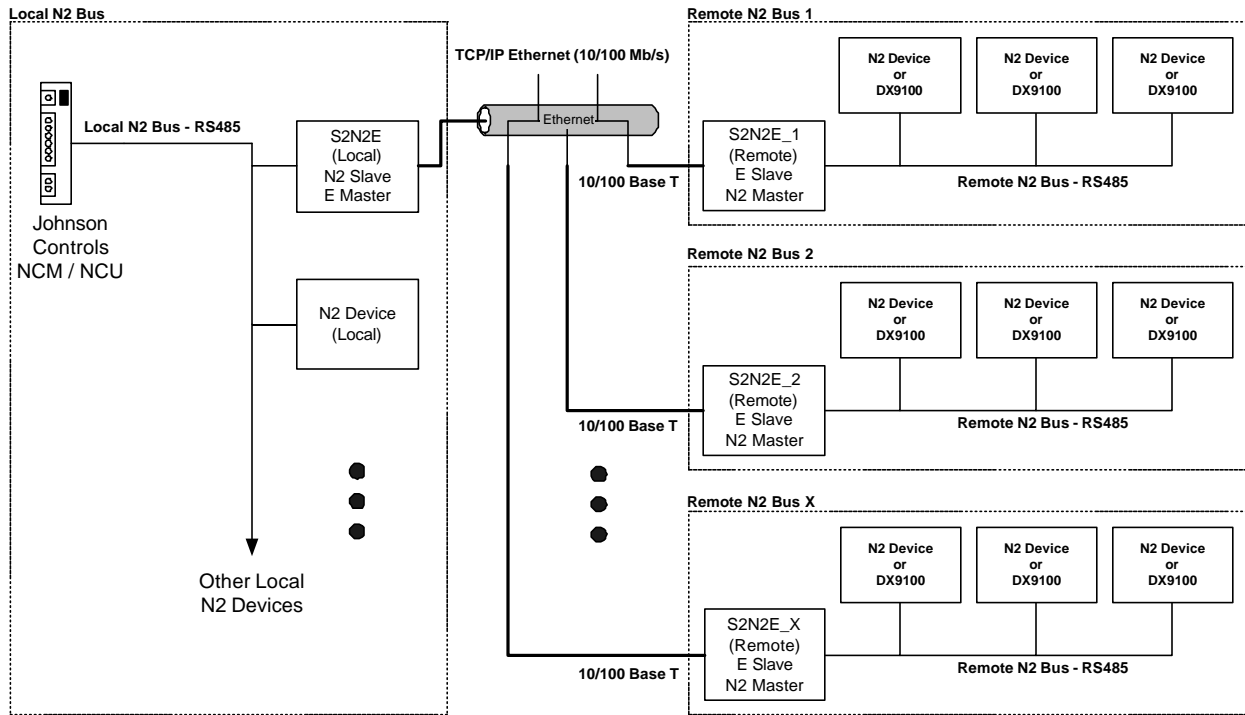
Connection

The S2N2E bridges the Ethernet connection transparently to both the NCM and the remote N2 devices. Two S2N2E devices are required (minimum configuration) where one device (local) acts as a N2 slave/Ethernet Master and the other (remote) an Ethernet Slave/N2 Master. The total link is transparent to the Metasys Operating Software, the local NCM, and the remotely connected N2 devices. Thus, remote N2 devices can be monitored and controlled by Metasys/NCM as if they were locally connected.

Configuration

Configuration and use of the S2N2E gateway is a quick and easy process. First, the Ethernet TCP/IP network data and the remote N2 devices are added to the master and slave S2N2E Gateways using the S2N2E's PC-based configuration software (or via a dumb terminal). Next, the remote N2 device data points are added to Metasys in the same manner as if the N2 device/data point were locally connected. The system is now configured.

Specifications

Data Interfaces

N2 Bus
   3-Pin Terminal- RS-485
Ethernet Interface
   RJ-45 - 10 / 100 Mb/s
   TCP/IP Protocol
Diagnostic Port
   RJ12 - RS-232C Serial

Diagnostic Indicators

General
   AC/DC Power In, Vcc1, Vcc2, Alive
Ethernet
   Rx, Link, Collision, Activity, 10 Mb/s Full/Half, 100 Mb/s Full/Half
N2 Bus
   Rx/Tx Communication Activity

S2N2E Device Support

S2N2E Gateway Master
   Ten (10) S2N2E Slaves
S2N2E Gateway Slave
   Three (3) N2 Supported Devices

N2 Protocol Support

Maximum Supported N2 Devices
   Thirty (30)
Maximum N2 Objects
   100 AIs, 100 AOs, 100 BIs, 100 BOs, 256 Internal Floats, 256 Internal Integers, 100 Internal Bytes
Supported N2 Devices
   UNT, VAV, AHU
   DX9100 incl XP Modules
   VND
   Other devices pending

Power requirements

Model: S2N2E-18VAC
   12 - 18 V AC/DC 60 Hz @ 400 mA
Model: S2N2E-24VAC
   18 – 24 V AC/DC 60 Hz @ 400 mA

Environment

Temperature
   0 C to +60 C
Humidity
   10 - 95 % RH (non-condensing)
Dimensions:
   7.44"L x 3.94"W x 1.75" H
   18.9cm L x 10.0cm W x 4.4cm H
Mounting Options:
   DIN Rail

N2 Commands

Synch Time	Read /Write Binary Output	Override Analog Input
Poll Without/With Ack Messages	Read /Write Internal Parameter	Override Binary Input
Warm Start	Read /Write Analog Input Attributes Request	Override Analog Output
Identity Device Type	Read /Write Binary Input Attributes Request	Override Binary Output
Status Update Request	Read /Write Analog Output Attributes Request	Override Internal Parameter
Read /Write Analog Input	Read /Write Binary Output Attributes Request	Override Release Request
Read /Write Binary Input		Upload/Download Messages (In Test)
Read /Write Analog Output		

N2 Objects

Analog Inputs (100)	Binary Outputs (100)	Internal Bytes (100)
Binary Inputs (100)	Internal Floats (256)	
Analog Outputs (100)	Internal Integers (256)	

DX9100 Commands

Read / Write Single Item	Read / Write Single Configuration Data Base Word – Extended	Read / Write a Configuration Data Base Block – Extended
Read / Write Single Item – Extended	Read / Write Functional Modules Block	Read a Block of Consecutive Items
Command Mode	Read / Write a Configuration Data Base Block	Read a Block of Consecutive Items - Extended
Read / Write Single Configuration Data Base Word		

DX9100 Items (All DX9100 Items are supported)

General Control Modules	Analog Output Module (1 to 2, 9 to 10)	Extension Module (1 to 8)
Programmable Modules (1 to 12)	Auxiliary Analog Output (11 to 14)	Time Schedule (1 to 8)
Analog Input Module (1 to 8)	Digital Output Module (3 to 8)	Optimal Start/Stop Module (1 to 2)