

EC700 Modbus Gateway



EC700 - Modbus Gateway

Overview

The modbus gateway (EC700) is part of the InfraLINK range of network infrastructure components from partners.

All of the modbus gateway (EC700) series gateways feature a robust hardware platform with high performance CPU and UART for fast communications without loss of data. When ordered with this part code (EC700), the LonWorks to modbus address mapping is pre-loaded and ready for use with the Cooper CF3000 fire system interface board.

The modbus (EC700) has 3 communications ports for LonWorks, serial and programming connections. The serial port is capable of either RS232 or RS485 (2-wire) communications.

Features

- High speed host processor with LonWorks Neuron communications co-processor
- Robust high speed UART for serial communications
- Compact design for easy installation
- 6 multi function LED indicators for instant status diagnostics

Benefits

- Saves time by allowing simple integration with 3rd party modbus BMS system
- Easy to install
- Din rail mounted

Translation

Network Variable	SNVT Type	Length (bytes)	Modbus Type	Modbus Address
nvoTxFireData	UNVT_panel_data	31	Input (16-bit)	1 - 16
nvoFireStatus64	SNVT_state_64	8	Input (16-bit)	17 - 20
nvoFireStatus	SNVT_state	2	Input (16-bit)	44
nvoFireStatus.b0	N/A		Discrete (1-bit)	1
nvoFireStatus.b1	Fire		Discrete (1-bit)	2
nvoFireStatus.b2	Loop/Detector Fault		Discrete (1-bit)	3
nvoFireStatus.b3	Pre-Alarm		Discrete (1-bit)	4
nvoFireStatus.b4	Panel Fault		Discrete (1-bit)	5
nvoFireStatus.b5	Network Fault		Discrete (1-bit)	6
nvoFireStatus.b6	N/A		Discrete (1-bit)	7
nvoFireStatus.b7	N/A		Discrete (1-bit)	8
nvoFireStatus.b8	Evacuate		Discrete (1-bit)	9
nvoFireStatus.b9	N/A		Discrete (1-bit)	10
nvoFireStatus.b10	N/A		Discrete (1-bit)	11
nvoFireStatus.b11	N/A		Discrete (1-bit)	12
nvoFireStatus.b12	Data Ready *		Discrete (1-bit)	13
nvoFireStatus.b13	FRE Active		Discrete (1-bit)	14
nvoFireStatus.b14	N/A		Discrete (1-bit)	15
nvoFireStatus.b15	N/A		Discrete (1-bit)	16
nviCommand	SNVT_count	2	Holding (16-bit)	1
UNVT_panel_data (split into individual field elements for easy access to data)				
nvoTxStatus	SNVT_count	2	Input (16-bit)	21
nvoTxStatusNum**	SNVT_count	2	Input (16-bit)	22
nvoTxAddress	SNVT_count	2	Input (16-bit)	23
nvoTxAnalogue	SNVT_count	2	Input (16-bit)	24
nvoTxZone	SNVT_count	2	Input (16-bit)	25
nvoTxLoop	SNVT_count	2	Input (16-bit)	26
nvoTxTypeld	SNVT_count	2	Input (16-bit)	27
nvoLocation	SNVT_str_asc	31	Input (16-bit)	28 - 43
nvoBuffOvr ***	SNVT_count	2	Input (16-bit)	45

Note: Command structure for nviCommand is:

- 0 = Not Used
- 1 = Next Alarm/Event
- 2 = Evacuate
- 3 = Silence
- 4 = Reset
- 5 = Clear Stats***

* Once the BMS has read all event data (modbus Input 21-43), it must signal to the EC700 that it is ready to process the next event by updating nviCommand (modbus holding 1) to a value of 1 (next alarm/event). The data ready bit is then reset to zero and only set back to 1 when a new alarm/event is available to be read by the BMS.

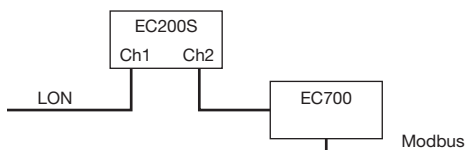
** nvoTxStatusNum = Fire = 0 x 0a : Device fault = 0 x 09 : Panel Fault = 0 x 19 : pre-alarm = 0 x 0d

*** nvoBuffOvr (Modbus Input 45) increments when the message queue in the Cooper LonWorks BMS interface is full while a new event arrives from a control panel. This can happen when the BMS does not process events over a period of time.

Default Serial Parameters:

Transceiver: RS485 2-wire
Communications: 19200 bits per second, 8 data bits, 1 stop bit, even parity.

Standard Connections



Technical Specification

Code	EC700
Description	Modbus Gateway - LonWorks Transceiver FT-X1 (Smart Transceiver), TP/FT-10 (use on free topology twisted pair channel)
Specification	
Baudrate	78 kbit/s
Connections	1 x 2-pole wieland connector
Supply Voltage / Mains Connector	24V dc ± 10% 50Hz
Current Consumption	Max 280mA on 24V dc (typically 100mA)
Serial Communications	Modbus RTU slave
Transceiver	RS232 / 422 (4-wire) / 485 (2-wire)
Baud Rate	Configurable up to 57.6 kbits/s
Connector	DSUB-9 female connector
Environmental	
Operating Temperature	0°C to + 55°C
Non Operating Temperature	-5°C to +85°C
Physical	
Dimensions (H x W x D)	120mm x 27mm x 75mm
Weight	150g
Ingress Protection	IP20
EMC Certification	CE marked, UL & cUL conformance

Product Codes

Code	Description
EC700	Modbus Gateway