EC700
Modbus Gateway

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

All of the modbus gateways feature a robust hardware platform with high performance CPU and UART for fast communications without loss of data. The LonWorks to modbus address mapping is pre-loaded and ready for use with the CF3000 fire system interface board.

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

Benefits

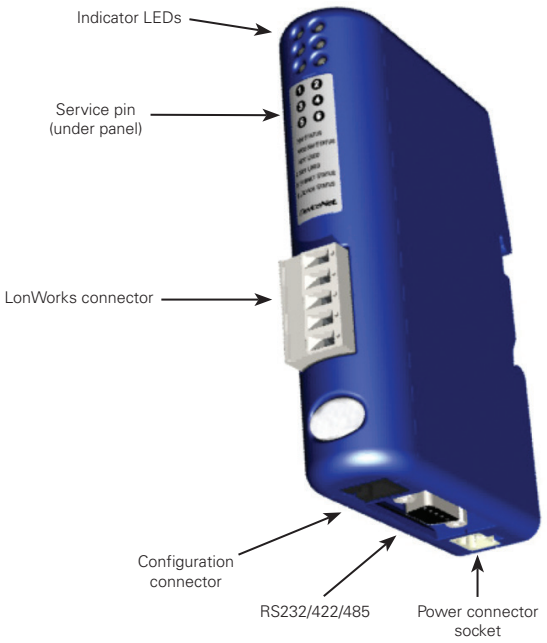
- High speed host processor with LonWorks Neuron communications co-processor
- Echelon Smart Transceiver for better immunity from magnetic and high frequency common mode noise
- Robust high speed UART for serial communications
- Compact design for easy installation
- 6 multi function LED indicators for instant status diagnostics
- Saves time by allowing simple integration with 3rd party modbus BMS system
- Easy to install
- Din rail mounted

Powering Business Worldwide

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 (L x H x W)	120mm x 27mm x 75mm
Weight	150g
Ingress Protection	IP20
EMC Certification	CE marked, UL & cUL conformance

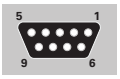
Installation



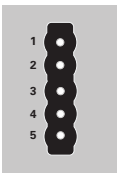
Installation

LED No.	Description	Colour	State	Function
1	LON Service	Green	Flashing Green	Unconfigured.
			Off	Configured
			Solid Green	Applicationless
2	LON Wink	Red	Off	Normal state
			Flashes Red	A Wink command is received
3	Not used	-		
4	Module Status	Green/Red	Solid Green	The module is working ok.
			Flashes Red	Software error, try a reset.
			Solid Red	Hardware error
5	Module Activity	Green/Red	Solid Red	No Modbus activity for 5 secs.
			Solid Green	After receiving a correct Modbus message
6	Config Error	Green/Red	Solid Green	Config good
			Flashes Red	No Config

Pin	Description
1	+24V dc
2	GND



Pin	Description	RS232	RS422	RS485
1	+5V	✓	✓	✓
2	RS232 Rx	✓		
3	RS232 Tx	✓		
4	Not connected			
5	Ground	✓	✓	✓
6	RS422Rx +		✓	
7	Rs422 Rx -		✓	
8	RS485 + / RS422 Tx +		✓	✓
9	RS485 - / RS422 Tx -		✓	✓



Pin	Description
1	Shield
2	-
3	-
4	Net B
5	Net A

Coopers BMS interface for Modbus:

Default Serial Parameters:

Transceiver: RS232, TX, RX, GND (Note NULL modem cable plus gender changer required for PC connection).

Communications: 9600 bits per second, 8 data bits, 1 stop bit, no parity.

Note: A PC configuration tool is available to change serial parameters.

Register Name	Length (bytes)	Modbus Type	Modbus Address
Control Registers			
Command *	2	Holding (16-bit)	1
Event Timer	2	Holding (16-bit)	2
Event Count **	2	Input (16-bit)	26
Buffer Overflow ***	2	Input (16-bit)	24
Fire Event Registers: The Coopers Fire Event has been split into a number of indivudual Modbus registers			
Command or Status	2	Input (16-bit)	1
Status Number	2	Input (16-bit)	2
Address	2	Input (16-bit)	3
Analogue	2	Input (16-bit)	4
Zone	2	Input (16-bit)	5
Loop	2	Input (16-bit)	6
Type Id	2	Input (16-bit)	7
Location	31	Input (16-bit)	Aug-23
Panel	2	Input (16-bit)	25

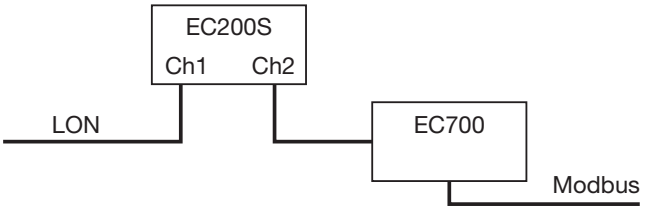
* Command (Holding Reg. 1)usage 0 = Not Used, 1 = Evacuate, 2 = Silence, 3 = Reset

** Event Count (Input Reg. 26) increments by one, each time a new Fire Event is presented on the Modbus Fire Event Registers. A BMS system can look for a Change Of Value (COV) on this register as a signal to read the Fire Event Registers.

*** Buffer Overflow (Input Reg. 24) increments when the message queue in the Coopers LonWorks BMS interface is full while a new event arrives from a fire panel. This can happen when Fire Events occur at a rate faster then the Event Timer for a prolonged time.

Note: The value of the Event Timer (Holding Reg. 2) is a 16-bit interger of 0-65535, where 1 = 0.1 seconds.

Standard Connections



Catalogue numbers

Description	Code
Modbus Gateway	EC700

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