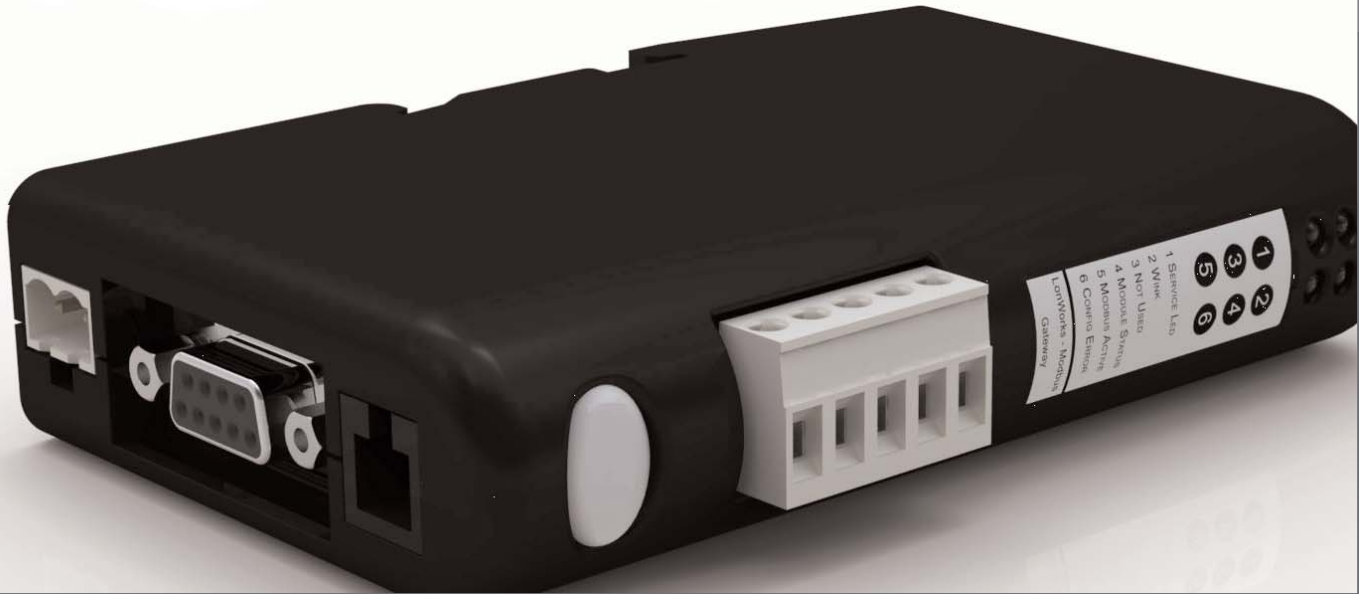


# Fire



DATA  
SHEET

## Analogue EC700 Modbus EC700

**COOPER**

EC700 Modbus is part of the InfraLINK range of network infrastructure components from Infranet Partners.

All EC700 Modbus 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 DF6000 / CF3000 fire system interface board.

EC700 Modbus has three communications ports for LonWorks, Serial and Programming connections. The serial port is capable of either RS232 or RS485 (2-wire) communications.

### Benefits and Features

- > 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.
- > Software configurable to RS232, RS422 (4-wire) or RS485 (2-wire) communications.
- > Compact design for easy installation.
- > Six multi-function LED indicators for instant status diagnostics.



## Technical Specifications

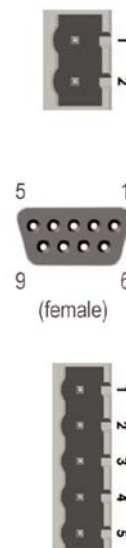
<b>Model</b>	EC700
<b>Description</b>	LonWorks Transceiver FT-X1 (Smart Transceiver), TP/FT-10 (for use on free topology twisted pair channel)
<b>Baudrate</b>	78 kbit/s
<b>Connections</b>	1 x 2-pole Wieland connector
<b>Supply Voltage / Mains Connector</b>	24V DC $\pm$ 10% 50Hz
<b>Current Consumption</b>	Max 280 mA on 24V Typically 100 mA
<b>Serial Communications</b>	Modbus RTU Slave
<b>Transceiver</b>	RS232 / 422 (4-wire) / 485 (2-wire)
<b>Baud Rate</b>	Configurable up to 57.6 kbits/s
<b>Connector</b>	DSUB-9 female connector
<b>Environmental</b>	IP20. operating temperature 0°C to +55°C / non-operating temperature -5°C to +85°C
<b>EMC Certification</b>	CE marked, UL & cUL conformance
<b>Physical</b>	
<b>Dimensions (L x W x H)</b>	120mm x 75mm x 27mm / 4.72 x 2.95 x 1.06"
<b>Weight</b>	150g

## Installation



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

Pin	Description			
1	+24 dc			
2	GND			
Pin	Description	RS232	RS422	RS485
1	+5V	✓	✓	✓
2	RS232 Rx	✓		
3	RS232 Tx	✓		
4	not connected			
5	Ground	✓	✓	✓
6	RS422 Rx+		✓	
7	RS422 Rx-		✓	
8	RS485 + / RS422 Tx+		✓	
9	RS485 - / RS422 Tx-		✓	
Pin	Description			
1	Shield			
2	-			
3	-			
4	Net B			
5	Net A			



## Coopers LonWorks BMS Interface to Modbus Address 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
<b>UNVT_panel_data is split into individual field elements for easy access to data.</b>				
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
nvoTxTypeId	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.

\*\* nvoBuffOvr (Modbus Input 45) 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 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.

## Product Codes

LonWorks Transceiver	EC700
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