

Features

- **Embedded Thermistor Module**
 - 16 Thermistor / RTD Inputs
 - Microprocessor Controlled
- **CAN Network**
 - Opto-Coupler Isolation
 - CAN 2.0B Compatible
- **Operates -10°C to +85°C**
 - All industrial components
- **Heavy Duty Enclosure**
 - Electro Nickel Plated
 - Rugged Construction

Description

The LOLH Industrial Thermistor Module is of the Obelix genus designed to support multiple Thermistor or RTD inputs. Software configuration permits simultaneous support of Thermistor and RTD transducers.



Obelix

Industrial Thermistor Module

Type LOLH



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Typical Applications

- Continuous Bolter/Miners
- Continuous Haulage
- Long Wall Shearers
- Mobile Bolters
- Mobile Roof Supports
- Remote Control Scoops
- Remote Control Loaders
- Any industrial power supply application

Ordering Information

Part Number	Description
L0LH0201	Industrial Thermistor Module (DBT)
L0LH0301	Industrial Thermistor Module (VAB)
H0LH0101	Connector Assembly A16 (2.2 metres)

Interface Description

The Type L0LH Thermistor Module utilizes industrial connectors that are unique when configured for use with the Obelix Control System via type, gender or keying physically preventing improper installation.



Wiring Assignments

Connector A2 Burndy Female 8 Way		
PIN	Description	Signal
A6-A	Supply Input	24VDC Supply Input
A6-B	Supply Input	0VDC Supply Input
A6-C	CAN (Positive)	Communications
A6-D	CAN (Positive)	Communications
A6-E	CAN (Negative)	Communications
A6-F	CAN (Negative)	Communications
A6-G	Termination Link 1 – 1	Termination Link Input
A6-H	Termination Link 1 – 2	Termination Link Input

Connector A16 V35 Male 34 Way		
PIN	Description	Signal
A14-A	Supply Input	12VAC Active
A14-B	Supply Input	12VAC Neutral
A14-C	Thermistor Input 1 (A)	18VDC Supply
A14-D	Thermistor Input 1 (B)	18VDC Return
A14-E	Thermistor Input 2 (A)	18VDC Supply
A14-F	Thermistor Input 2 (B)	18VDC Return
A14-H	Thermistor Input 3 (A)	18VDC Supply
A14-J	Thermistor Input 3 (B)	18VDC Return
A14-K	Thermistor Input 4 (A)	18VDC Supply
A14-L	Thermistor Input 4 (B)	18VDC Return
A14-M	Thermistor Input 5 (A)	18VDC Supply
A14-N	Thermistor Input 5 (B)	18VDC Return
A14-P	Thermistor Input 6 (A)	18VDC Supply
A14-R	Thermistor Input 6 (B)	18VDC Return
A14-S	Thermistor Input 7 (A)	18VDC Supply
A14-T	Thermistor Input 7 (B)	18VDC Return
A14-U	Thermistor Input 8 (A)	18VDC Supply
A14-V	Thermistor Input 8 (B)	18VDC Return
A14-W	Thermistor Input 9 (A)	18VDC Supply
A14-X	Thermistor Input 9 (B)	18VDC Return
A14-Y	Thermistor Input 10 (A)	18VDC Supply
A14-Z	Thermistor Input 10 (B)	18VDC Return
A14-AA	Thermistor Input 11 (A)	18VDC Supply
A14-BB	Thermistor Input 11 (B)	18VDC Return
A14-CC	Thermistor Input 12 (A)	18VDC Supply
A14-DD	Thermistor Input 12 (B)	18VDC Return
A14-EE	Thermistor Input 13 (A)	18VDC Supply
A14-FF	Thermistor Input 13 (B)	18VDC Return
A14-HH	Thermistor Input 14 (A)	18VDC Supply
A14-JJ	Thermistor Input 14 (B)	18VDC Return
A14-KK	Thermistor Input 15 (A)	18VDC Supply
A14-LL	Thermistor Input 15 (B)	18VDC Return
A14-MM	Thermistor Input 16 (A)	18VDC Supply
A14-NN	Thermistor Input 16 (B)	18VDC Return



CAN Definitions

RX				
Message	Byte	Type	Mask	Description
0x0700 ¹	1	UINT8	N/A	Input 1 Configuration ²
	2	UINT8	N/A	Input 2 Configuration
	3	UINT8	N/A	Input 3 Configuration
	4	UINT8	N/A	Input 4 Configuration
	5	UINT8	N/A	Input 5 Configuration
	6	UINT8	N/A	Input 6 Configuration
	7	UINT8	N/A	Input 7 Configuration
	8	UINT8	N/A	Input 8 Configuration

RX				
Message	Byte	Type	Mask	Description
0x0708 ³	1	UINT8	N/A	Input 9 Configuration
	2	UINT8	N/A	Input 10 Configuration
	3	UINT8	N/A	Input 11 Configuration
	4	UINT8	N/A	Input 12 Configuration
	5	UINT8	N/A	Input 13 Configuration
	6	UINT8	N/A	Input 14 Configuration
	7	UINT8	N/A	Input 15 Configuration
	8	UINT8	N/A	Input 16 Configuration

TX				
Message	Byte	Type	Mask	Description
0x0040 ⁴	1	UINT8	N/A	Software Revision
	2	INT8	N/A	Temperature -55°C (-67°F)..+125°C(+257°F)
	3	UINT8	N/A	-
	4	UINT8	N/A	-
	5	UINT8	N/A	-
	6	UINT8	N/A	-
	7	UINT8	N/A	-
	8	UINT8	N/A	-

¹ Plus Internal PCB ID

² Configuration Values : 0x00 = Input NOT Used, 0x01 = RTD, 0x02 = Thermistor.

³ Plus Internal PCB ID

⁴ Plus Internal PCB ID



CAN Definitions Continued

TX				
Message	Byte	Type	Mask	Description
0x0060 ⁵	1	UINT8	N/A	Thermistor/RTD 1 Value
	2	UINT8	N/A	Thermistor/RTD 2 Value
	3	UINT8	N/A	Thermistor/RTD 3 Value
	4	UINT8	N/A	Thermistor/RTD 4 Value
	5	UINT8	N/A	Thermistor/RTD 5 Value
	6	UINT8	N/A	Thermistor/RTD 6 Value
	7	UINT8	N/A	Thermistor/RTD 7 Value
	8	UINT8	N/A	Thermistor/RTD 8 Value

TX				
Message	Byte	Type	Mask	Description
0x0068 ⁶	1	UINT8	N/A	Thermistor/RTD 9 Value
	2	UINT8	N/A	Thermistor/RTD 10 Value
	3	UINT8	N/A	Thermistor/RTD 11 Value
	4	UINT8	N/A	Thermistor/RTD 12 Value
	5	UINT8	N/A	Thermistor/RTD 13 Value
	6	UINT8	N/A	Thermistor/RTD 14 Value
	7	UINT8	N/A	Thermistor/RTD 15 Value
	8	UINT8	N/A	Thermistor/RTD 16 Value

Thermistor / RTD Values

When inputs are configured as 'Thermistor', 0..239 = 0..5000ohms.

When inputs are configured as 'RTD', 0..255 = 0..200°C.

CAN Address Modifiers

There are multiple variants of the LOLH module permitting multiple modules per single configuration. This is determined by internal links which provide additional CAN address modifiers.

For example, LOLH Module 1 would support CAN Address 0x0700 whilst LOLH Module 2 would support CAN Address 0x0701 and so on. Up to four modules per configuration are supported.

⁵ Plus Internal PCB ID

⁶ Plus Internal PCB ID



Electrical Characteristics

Supply	
Voltage Output	12VAC
Wattage Output	T.B.A.

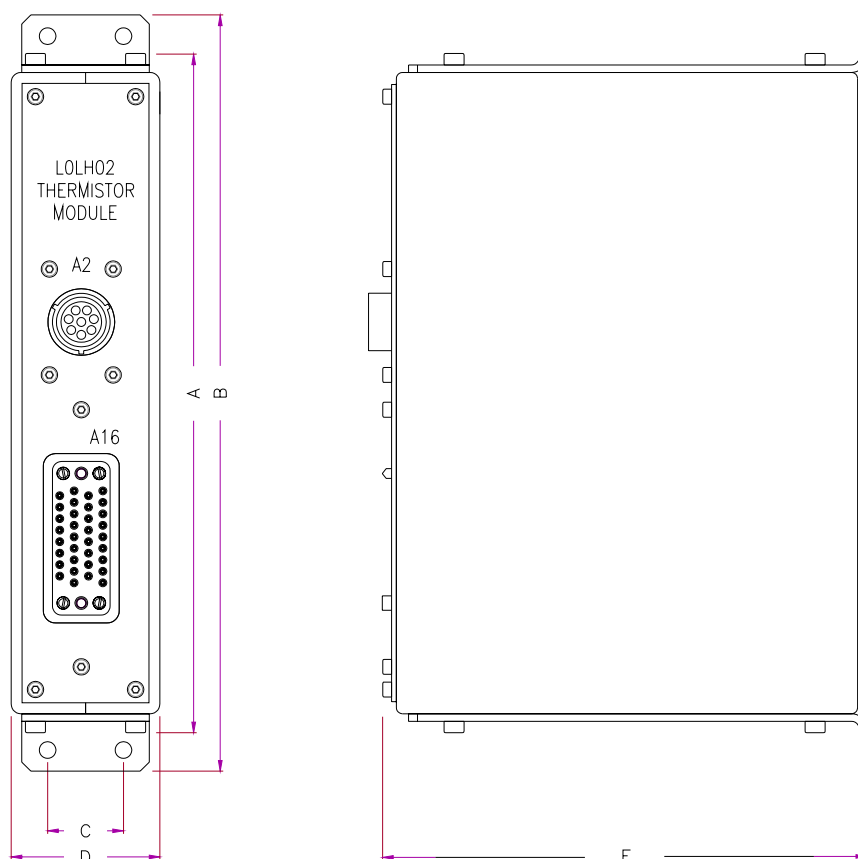
Thermistor Inputs	
Installed	16
Voltage	18VDC
Minimum Voltage	T.B.A.
Maximum Voltage	T.B.A.

Communications	
Interface	CAN 2.0B
Throughput	500kbs (Supports Autobaud)
Protocol(s)	Message Oriented
Medium	Copper

Environmental	
Operating Temperature	Minus 20°C to +85°C
Humidity	T.B.A.
MTBF	12,000 hours



Mechanical Characteristics



Dimension	Measurement	Description
A	236	Height Mounting Centre
B	250	Height
C	25	Width Mounting Centre
D	50	Width
E	160	Depth

Notes

- All dimensions are in millimetres.

Material

- Enclosure is Electroless nickel plated mild steel.
- Facia is stainless steel.
- Mounting brackets are stainless steel.

Fasteners

- M5 x 10mm x 4
- M4 x 10mm x 8
- M3 x 10mm x 10

Mass

- 2.5kg (5.5lb)