

Features

- **Embedded 24VDC Solenoid Outputs¹**
 - 30 x Discreet Outputs
 - 6 x Proportional Outputs
 - Switched Coil Supply & Return
 - Multi-Stage Diagnostic Monitoring
 - Sequential Switching Redundancy
 - Microprocessor Controlled
- **Embedded Proximity Inputs**
 - 16 x 24VDC Proximity Inputs
 - Microprocessor Sampling
- **Embedded Counters Inputs**
 - 4 x Counter Inputs
 - 2 x Configurable Count Inputs
 - 20Hz to 6.5KHz
 - Quadrature Configurable.
- **Embedded Analog Inputs**
 - 12 x 4-20mA Inputs
 - Microprocessor Sampling
- **Embedded Digital Inputs**
 - 8 x 110VAC Digital Inputs
 - Microprocessor Sampling
- **CAN Network**
 - Opto-Coupler Isolation
 - CAN 2.0B Compatible
- **Operates -10°C to +85°C**
 - All industrial components
- **Heavy Duty Enclosure**
 - Electroless Nickel Plated
 - Rugged Construction

Description

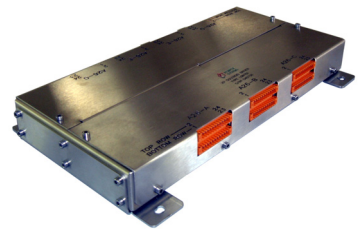
The L0NT Industrial Solenoid I/O Module is of the Obelix genus designed to directly support 24VDC Rexroth Solenoid applications, 30 discreet and 6 proportional, with integral support for spool proximity detection. Additional analog and digital input support make for a highly integrated I/O module.



Obelix

Industrial Solenoid Module

Type L0NT



Pempek Systems

Australia HQ

Unit 3 / 13 Hoyle Ave

Castle Hill NSW 2154

Phone + (612) 9634 2540

Fax + (612) 9894 0379

USA

640 Bizzell Drive

Lexington KY 40510

Phone + (859) 252 4439

Fax + (859) 252 4641

Web www.pempek.com.au

¹ Single Fault Tolerant



Typical Applications

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

Ordering Information

Part Number	Description
LONT0101	Generic Industrial Solenoid Module (Rexroth 24VDC) #1
LONT0201	Generic Industrial Solenoid Module (Rexroth 24VDC) #2
LONT0301	Generic Industrial Solenoid Module (Rexroth 24VDC) #3
LONT0401	Generic Industrial Solenoid Module (Rexroth 24VDC) #4
LONT0501	Generic Industrial Solenoid Module (Rexroth 24VDC) #5
LONT0601	Generic Industrial Solenoid Module (Rexroth 24VDC) #6
LONT0701	Generic Industrial Solenoid Module (Rexroth 24VDC) #7
LONT0801	Generic Industrial Solenoid Module (Rexroth 24VDC) #8

Interface Description

The Type LONT Solenoid 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.

Each module in the series is allocated a unique connector prefix for schematic reference purposes. For example, LONT0101 is allocated prefixes **A26-A**, **A26-B** whilst LONT0201 has **B26-A** and **B26-B** etc.



Wiring Assignments

L0NT Solenoid Module MAIN Connector A26A (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Solenoid #1 Supply	24VDC Output
3	Solenoid #1 Return	24VDC Return
5	Solenoid #3 Supply	24VDC Output
7	Solenoid #3 Return	24VDC Return
9	Solenoid #5 Supply	24VDC Output
11	Solenoid #5 Return	24VDC Return
13	Solenoid #7 Supply	24VDC Output
15	Solenoid #7 Return	24VDC Return
17	Solenoid #9A Supply ²	24VDC Output
19	Solenoid #9A Return	24VDC Return
21	Solenoid #10A Supply	24VDC Output
23	Solenoid #10A Return	24VDC Return

L0NT Solenoid Module Connector A26A (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Solenoid #2 Supply	24VDC Output
4	Solenoid #2 Return	24VDC Return
6	Solenoid #4 Supply	24VDC Output
8	Solenoid #4 Return	24VDC Return
10	Solenoid #6 Supply	24VDC Output
12	Solenoid #6 Return	24VDC Return
14	Solenoid #8 Supply	24VDC Output
16	Solenoid #8 Return	24VDC Return
18	Solenoid #9B Supply	24VDC Output
20	Solenoid #9B Return	24VDC Return
22	Solenoid #10B Supply	24VDC Output
24	Solenoid #10B Return	24VDC Return

² Solenoids Designated xA / xB can only be operated exclusively. For example, outputs 9A or 9B can be energised independently but not simultaneously.



Wiring Assignments Continued

L0NT Solenoid Module Connector A26B (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Solenoid #11A Supply	24VDC Output
3	Solenoid #11A Return	24VDC Return
5	Solenoid #12A Supply	24VDC Output
7	Solenoid #12A Return	24VDC Return
9	Solenoid #13A Supply	24VDC Output
11	Solenoid #13A Return	24VDC Return
13	Solenoid #14A Supply	24VDC Output
15	Solenoid #14A Return	24VDC Return
17	Solenoid #15A Supply	24VDC Output
19	Solenoid #15A Return	24VDC Return
21	Solenoid #16A Supply	24VDC Output
23	Solenoid #16A Return	24VDC Return

L0NT Solenoid Module Connector A26B (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Solenoid #11B Supply	24VDC Output
4	Solenoid #11B Return	24VDC Return
6	Solenoid #12B Supply	24VDC Output
8	Solenoid #12B Return	24VDC Return
10	Solenoid #13B Supply	24VDC Output
12	Solenoid #13B Return	24VDC Return
14	Solenoid #14B Supply	24VDC Output
16	Solenoid #14B Return	24VDC Return
18	Solenoid #15B Supply	24VDC Output
20	Solenoid #15B Return	24VDC Return
22	Solenoid #16B Supply	24VDC Output
24	Solenoid #16B Return	24VDC Return



Wiring Assignments Continued

L0NT Solenoid Module Connector A26C (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Solenoid #17A Supply	24VDC Output
3	Solenoid #17A Return	24VDC Return
5	Solenoid #18A Supply	24VDC Output
7	Solenoid #18A Return	24VDC Return
9	Solenoid #19A Supply	24VDC Output
11	Solenoid #19A Return	24VDC Return
13	Solenoid #1A Proportional Supply	24VDC PWM Output
15	Solenoid #1A Proportional Return	24VDC PWM Return
17	Solenoid #2A Proportional Supply	24VDC PWM Output
19	Solenoid #2A Proportional Return	24VDC PWM Return
21	Solenoid #3A Proportional Supply	24VDC PWM Output
23	Solenoid #3A Proportional Return	24VDC PWM Return

L0NT Solenoid Module Connector A26C (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Solenoid #17B Supply	24VDC Output
4	Solenoid #17B Return	24VDC Return
6	Solenoid #18B Supply	24VDC Output
8	Solenoid #18B Return	24VDC Return
10	Solenoid #19B Supply	24VDC Output
12	Solenoid #19B Return	24VDC Return
14	Solenoid #1B Proportional Supply	24VDC PWM Output
16	Solenoid #1B Proportional Return	24VDC PWM Return
18	Solenoid #2B Proportional Supply	24VDC PWM Output
20	Solenoid #2B Proportional Return	24VDC PWM Return
22	Solenoid #3B Proportional Supply	24VDC PWM Output
24	Solenoid #3B Proportional Return	24VDC PWM Return



Wiring Assignments Continued

L0NT Solenoid Module Connector A26D (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Counter Supply (1 & 2)	24VDC Supply
3	Counter 1	0Hz - 5KHz Pulses
5	Counter 2	0Hz - 5KHz Pulses
7	Counter Supply (3 & 4)	24VDC Supply
9	Counter 3	0Hz - 5KHz Pulses
11	Counter 4	0Hz - 5KHz Pulses
13	CAN Low	Communications
15	CAN Low	Communications
17	CAN High	Communications
19	CAN High	Communications
21	Termination Link	Communications
23	Termination Link	Communications

L0NT Solenoid Module Connector A26D (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Analog Input 1	4-20mA Input
4	Analog Input 2	4-20mA Input
6	Analog Input 3	4-20mA Input
8	Analog Input 4	4-20mA Input
10	Analog Input 5	4-20mA Input
12	Analog Input 6	4-20mA Input
14	Analog Input 7	4-20mA Input
16	Analog Input 8	4-20mA Input
18	Analog Input 9	4-20mA Input
20	Analog Input 10	4-20mA Input
22	Analog Input 11	4-20mA Input
24	Analog Input 12	4-20mA Input



Wiring Assignments Continued

L0NT Solenoid Module Connector A26E (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Proximity Input #1 Supply	24VDC Supply
3	Proximity Input #1 Input	24VDC Input
5	Proximity Input #1 Return	24VDC Return
7	Proximity Input #2 Supply	24VDC Supply
9	Proximity Input #2 Input	24VDC Input
11	Proximity Input #2 Return	24VDC Return
13	Proximity Input #3 Supply	24VDC Supply
15	Proximity Input #3 Input	24VDC Input
17	Proximity Input #3 Return	24VDC Return
19	Proximity Input #4 Supply	24VDC Supply
21	Proximity Input #4 Input	24VDC Input
23	Proximity Input #4 Return	24VDC Return

L0NT Solenoid Module Connector A26E (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Proximity Input #5 Supply	24VDC Supply
4	Proximity Input #5 Input	24VDC Input
6	Proximity Input #5 Return	24VDC Return
8	Proximity Input #6 Supply	24VDC Supply
10	Proximity Input #6 Input	24VDC Input
12	Proximity Input #6 Return	24VDC Return
14	Proximity Input #7 Supply	24VDC Supply
16	Proximity Input #7 Input	24VDC Input
18	Proximity Input #7 Return	24VDC Return
20	Proximity Input #8 Supply	24VDC Supply
22	Proximity Input #8 Input	24VDC Input
24	Proximity Input #8 Return	24VDC Return



Wiring Assignments Continued

L0NT Solenoid Module Connector A26F (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Proximity Input #9 Supply	24VDC Supply
3	Proximity Input #9 Input	24VDC Input
5	Proximity Input #9 Return	24VDC Return
7	Proximity Input #10 Supply	24VDC Supply
9	Proximity Input #10 Input	24VDC Input
11	Proximity Input #10 Return	24VDC Return
13	Proximity Input #11 Supply	24VDC Supply
15	Proximity Input #11 Input	24VDC Input
17	Proximity Input #11 Return	24VDC Return
19	Proximity Input #12 Supply	24VDC Supply
21	Proximity Input #12 Input	24VDC Input
23	Proximity Input #12 Return	24VDC Return

L0NT Solenoid Module Connector A26F (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Proximity Input #13 Supply	24VDC Supply
4	Proximity Input #13 Input	24VDC Input
6	Proximity Input #13 Return	24VDC Return
8	Proximity Input #14 Supply	24VDC Supply
10	Proximity Input #14 Input	24VDC Input
12	Proximity Input #14 Return	24VDC Return
14	Proximity Input #15 Supply	24VDC Supply
16	Proximity Input #15 Input	24VDC Input
18	Proximity Input #15 Return	24VDC Return
20	Supply Input	24VDC Supply Input
22	Supply Input Return	0VDC Return
24	Supply Input Return	0VDC Return



Wiring Assignments Continued

L0NT Solenoid Module Connector A26G (Bottom) – Klippon 12 Pin Female		
PIN	Description	Signal
1	Digital Input Reference	110VAC Neutral
3	Digital Input 2	110VAC Input
5	Digital Input 4	110VAC Input
7	Digital Input 6	110VAC Input
9	Digital Input 8	110VAC Input
11	Supply Input Return	0VDC Return
13	Supply Input Return	0VDC Return
15	Supply Input Return	0VDC Return
17	Supply Input Return	0VDC Return
19	Supply Input Return	0VDC Return
21	Supply Input Return	0VDC Return
23	Supply Input Return	0VDC Return

L0NT Solenoid Module Connector A26G (Top) – Klippon 12 Pin Female		
PIN	Description	Signal
2	Digital Input 1	110VAC Input
4	Digital Input 3	110VAC Input
6	Digital Input 5	110VAC Input
8	Digital Input 7	110VAC Input
10	-	-
12	Supply Input	24VDC Supply Input
14	Supply Input	24VDC Supply Input
16	Supply Input	24VDC Supply Input
18	Supply Input	24VDC Supply Input
20	Supply Input	24VDC Supply Input
22	Supply Input	24VDC Supply Input
24	Supply Input	24VDC Supply Input



CAN Definitions

RX ³ 500ms				
Message	Byte	Type	Mask	Description
0x0790	1	UINT8	0x01	Solenoid 1 (0 = OFF, 1 = ON)
			0x02	Solenoid 2 (0 = OFF, 1 = ON)
			0x04	Solenoid 3 (0 = OFF, 1 = ON)
			0x08	Solenoid 4 (0 = OFF, 1 = ON)
			0x10	Solenoid 5 (0 = OFF, 1 = ON)
			0x20	Solenoid 6 (0 = OFF, 1 = ON)
			0x40	Solenoid 7 (0 = OFF, 1 = ON)
			0x80	Solenoid 8 (0 = OFF, 1 = ON)
	2	UINT8	0x01	Solenoid 9A ⁴ (0 = OFF, 1 = ON)
			0x02	Solenoid 9B (0 = OFF, 1 = ON)
			0x04	Solenoid 10A (0 = OFF, 1 = ON)
			0x08	Solenoid 10B (0 = OFF, 1 = ON)
			0x10	Solenoid 11A (0 = OFF, 1 = ON)
			0x20	Solenoid 11B (0 = OFF, 1 = ON)
			0x40	Solenoid 12A (0 = OFF, 1 = ON)
			0x80	Solenoid 12B (0 = OFF, 1 = ON)
	3	UINT8	0x01	Solenoid 13A (0 = OFF, 1 = ON)
			0x02	Solenoid 13B (0 = OFF, 1 = ON)
			0x04	Solenoid 14A (0 = OFF, 1 = ON)
			0x08	Solenoid 14B (0 = OFF, 1 = ON)
			0x10	Solenoid 15A (0 = OFF, 1 = ON)
			0x20	Solenoid 15B (0 = OFF, 1 = ON)
			0x40	Solenoid 16A (0 = OFF, 1 = ON)
			0x80	Solenoid 16B (0 = OFF, 1 = ON)
	4	UINT8	0x01	Solenoid 17A (0 = OFF, 1 = ON)
			0x02	Solenoid 17B (0 = OFF, 1 = ON)
			0x04	Solenoid 18A (0 = OFF, 1 = ON)
			0x08	Solenoid 18B (0 = OFF, 1 = ON)
			0x10	Solenoid 19A (0 = OFF, 1 = ON)
			0x20	Solenoid 19B (0 = OFF, 1 = ON)
			0x40	-
			0x80	Solenoid Supply (1=ENABLE, 0 =DISABLE)
	5	UINT8	N/A	Proportional Output #1
	6	UINT8	N/A	Proportional Output #2
	7	UINT8	N/A	Proportional Output #3
	8	UINT8	N/A	Proportional Control Byte

³ **RX** indicates that these messages are to be received by the module.

⁴ Solenoids Designated xA / xB can only be operated exclusively. For example, outputs 9A or 9B can be energised independently but not simultaneously.



RX 500ms				
Message	Byte	Type	Mask	Description
0x0798	1	UINT8	N/A	Pulse Counter 1 – Count Control Byte
	2	UINT8	N/A	Pulse Counter 3 – Count Control Byte
	3	UINT8	N/A	-
	4	UINT8	N/A	-
	5	UINT8	N/A	-
	6	UINT8	N/A	-
	7	UINT8	N/A	-
	8	UINT8	N/A	-

Count Control Byte: 0x00 = Clear, 0x01 = Count UP, 0x02 = Count Down, 0x03 = Count Stop
(See Message 0x0368)



CAN Definitions Continued

Proportional Output Definition (Message 0x0790)

Value	Description
0	Output OFF
1-100	Output = 360mA – 800mA (Normal)
101-120	Output = 805mA – 890mA (Overdrive)

Proportional Control Definition (Message 0x0790)

Mask	Description
0x01	1 = Prop.#1A is Enabled : 0 = Prop.#1B is Enabled
0x02	1 = Prop.#2A is Enabled : 0 = Prop.#2B is Enabled
0x04	1 = Prop.#3A is Enabled : 0 = Prop.#3B is Enabled
0x08	PWM Hold Current (Bit 0)
0x10	PWM Hold Current (Bit 1)
0x20	PWM Hold Current (Bit 2)
0x40	PWM Hold Current (Bit 3)
0x80	Clear Latched Fault (1 = CLEAR, 0 = NORMAL)

PWM Hold Current

Bits 0x08 through 0x40 generate 16 possible values, relative to a selectable percentage, for PWM hold current. This value is applied to maximize coil life post two seconds of 100% pull-in activation signal. This is applied to Discreet Solenoids 1 through 30 ONLY.

Value range is, in Base 2, 0bx0000xxx = 83% through 0bx1111xxx = 53%.

CAN Definitions Continued

TX ⁵ 200ms				
Message	Byte	Type	Mask	Description
0x0338	1	UINT8	N/A	Software Version Primary Processor
	2	UINT8	N/A	PCB Status
	3	UINT8	0x01	CAN Address Modifier (Bit 0)
			0x02	CAN Address Modifier (Bit 1)
			0x04	CAN Address Modifier (Bit 2)
			0x08	-
			0x10	-
			0x20	-
			0x40	-
			0x80	-
	4	UINT8	N/A	Solenoid PWM Hold Current Feedback (%)
	5	UINT8	N/A	24VDC Supply Input (LSB)
	6	UINT8	N/A	24VDC Supply Input (MSB) (0-1023 = 30690mV)
	7	UINT8	N/A	Total Current (LSB)
	8	UINT8	N/A	Total Current (MSB) (0-1023 = 10230mA)

⁵ TX indicates that these messages are transmitted by the module.



CAN Definitions Continued

TX 25ms				
Message	Byte	Type	Mask	Description
0x0340	1	UINT8	0x01	Solenoid 1 Feedback Status (0 = OFF, 1=ON)
			0x02	Solenoid 2 Feedback Status (0 = OFF, 1=ON)
			0x04	Solenoid 3 Feedback Status (0 = OFF, 1=ON)
			0x08	Solenoid 4 Feedback Status (0 = OFF, 1=ON)
			0x10	Solenoid 5 Feedback Status (0 = OFF, 1=ON)
			0x20	Solenoid 6 Feedback Status (0 = OFF, 1=ON)
			0x40	Solenoid 7 Feedback Status (0 = OFF, 1=ON)
			0x80	Solenoid 8 Feedback Status (0 = OFF, 1=ON)
	2	UINT8	0x01	Solenoid 9 Feedback Status (0 = OFF, 1=ON)
			0x02	Solenoid 10 Feedback Status (0 = OFF, 1=ON)
			0x04	Solenoid 11 Feedback Status (0 = OFF, 1=ON)
			0x08	Solenoid 12 Feedback Status (0 = OFF, 1=ON)
			0x10	Solenoid 13 Feedback Status (0 = OFF, 1=ON)
			0x20	Solenoid 14 Feedback Status (0 = OFF, 1=ON)
			0x40	Solenoid 15 Feedback Status (0 = OFF, 1=ON)
			0x80	Solenoid 16 Feedback Status (0 = OFF, 1=ON)
	3	UINT8	0x01	Solenoid 17 Feedback Status (0 = OFF, 1=ON)
			0x02	Solenoid 18 Feedback Status (0 = OFF, 1=ON)
			0x04	Solenoid 19 Feedback Status (0 = OFF, 1=ON)
			0x08	Solenoid 20 Feedback Status (0 = OFF, 1=ON)
			0x10	Solenoid 21 Feedback Status (0 = OFF, 1=ON)
			0x20	Solenoid 22 Feedback Status (0 = OFF, 1=ON)
			0x40	Solenoid 23 Feedback Status (0 = OFF, 1=ON)
			0x80	Solenoid 24 Feedback Status (0 = OFF, 1=ON)
	4	UINT8	0x01	Solenoid 25 Feedback Status (0 = OFF, 1=ON)
			0x02	Solenoid 26 Feedback Status (0 = OFF, 1=ON)
			0x04	Solenoid 27 Feedback Status (0 = OFF, 1=ON)
			0x08	Solenoid 28 Feedback Status (0 = OFF, 1=ON)
			0x10	Solenoid 29 Feedback Status (0 = OFF, 1=ON)
			0x20	Solenoid 30 Feedback Status (0 = OFF, 1=ON)
			0x40	-
			0x80	Solenoid Power Supply Status (0 = ON, 1=OFF)
	5	UINT8	0x01	Proximity Input 1 (0 = OFF, 1 = ON)
			0x02	Proximity Input 2 (0 = OFF, 1 = ON)
			0x04	Proximity Input 3 (0 = OFF, 1 = ON)
			0x08	Proximity Input 4 (0 = OFF, 1 = ON)
			0x10	Proximity Input 5 (0 = OFF, 1 = ON)
			0x20	Proximity Input 6 (0 = OFF, 1 = ON)
			0x40	Proximity Input 7 (0 = OFF, 1 = ON)
			0x80	Proximity Input 8 (0 = OFF, 1 = ON)
	6	UINT8	0x01	Proximity Input 9 (0 = OFF, 1 = ON)
			0x02	Proximity Input 10 (0 = OFF, 1 = ON)
			0x04	Proximity Input 11 (0 = OFF, 1 = ON)
			0x08	Proximity Input 12 (0 = OFF, 1 = ON)
			0x10	Proximity Input 13 (0 = OFF, 1 = ON)
			0x20	Proximity Input 14 (0 = OFF, 1 = ON)
			0x40	Proximity Input 15 (0 = OFF, 1 = ON)
			0x80	-



CAN Definitions Continued

TX 25ms				
Message	Byte	Type	Mask	Description
0x0340	7	UINT8	0x01	Digital Input 1 (0 = OFF, 1 = ON)
			0x02	Digital Input 2 (0 = OFF, 1 = ON)
			0x04	Digital Input 3 (0 = OFF, 1 = ON)
			0x08	Digital Input 4 (0 = OFF, 1 = ON)
			0x10	Digital Input 5 (0 = OFF, 1 = ON)
			0x20	Digital Input 6 (0 = OFF, 1 = ON)
			0x40	Digital Input 7 (0 = OFF, 1 = ON)
			0x80	Digital Input 8 (0 = OFF, 1 = ON)
	8	UINT8	N/A	Solenoid PWM Hold Current Voltage Error Status

TX 25ms				
Message	Byte	Type	Mask	Description
0x0348	1	UINT8	N/A	Analog Input 1 (LSB)
	2	UINT8	N/A	Analog Input 1 (MSB) (0-1023 = 0-25.9mA)
	3	UINT8	N/A	Analog Input 2 (LSB)
	4	UINT8	N/A	Analog Input 2 (MSB) (0-1023 = 0-25.9mA)
	5	UINT8	N/A	Analog Input 3 (LSB)
	6	UINT8	N/A	Analog Input 3 (MSB) (0-1023 = 0-25.9mA)
	7	UINT8	N/A	Analog Input 4 (LSB)
	8	UINT8	N/A	Analog Input 4 (MSB) (0-1023 = 0-25.9mA)

TX 25ms				
Message	Byte	Type	Mask	Description
0x0350	1	UINT8	N/A	Analog Input 5 (LSB)
	2	UINT8	N/A	Analog Input 5 (MSB) (0-1023 = 0-25.9mA)
	3	UINT8	N/A	Analog Input 6 (LSB)
	4	UINT8	N/A	Analog Input 6 (MSB) (0-1023 = 0-25.9mA)
	5	UINT8	N/A	Analog Input 7 (LSB)
	6	UINT8	N/A	Analog Input 7 (MSB) (0-1023 = 0-25.9mA)
	7	UINT8	N/A	Analog Input 8 (LSB)
	8	UINT8	N/A	Analog Input 8 (MSB) (0-1023 = 0-25.9mA)

TX 25ms				
Message	Byte	Type	Mask	Description
0x0358	1	UINT8	N/A	Analog Input 9 (LSB)
	2	UINT8	N/A	Analog Input 9 (MSB) (0-1023 = 0-25.9mA)
	3	UINT8	N/A	Analog Input 10 (LSB)
	4	UINT8	N/A	Analog Input 10 (MSB) (0-1023 = 0-25.9mA)
	5	UINT8	N/A	Analog Input 11 (LSB)
	6	UINT8	N/A	Analog Input 11 (MSB) (0-1023 = 0-25.9mA)
	7	UINT8	N/A	Analog Input 12 (LSB)
	8	UINT8	N/A	Analog Input 12 (MSB) (0-1023 = 0-25.9mA)



CAN Definitions Continued

TX 25ms				
Message	Byte	Type	Mask	Description
0x0360	1	UINT8	N/A	Proportional Feedback #1A
	2	UINT8	N/A	Proportional Feedback #1B
	3	UINT8	N/A	Proportional Feedback #2A
	4	UINT8	N/A	Proportional Feedback #2B
	5	UINT8	N/A	Proportional Feedback #3A
	6	UINT8	N/A	Proportional Feedback #3B
	7	UINT8	N/A	-
	8	UINT8	N/A	-

TX 25ms				
Message	Byte	Type	Mask	Description
0x0368	1	UINT8	N/A	Software Revision Auxiliary Processor
	2	UINT8	N/A	Temperature -55°C (-67°F)..+125°C(+257°F)
	3	UINT8	N/A	Pulse Counter 1 – Count ^{LSB} (0-65535)
	4	UINT8	N/A	Pulse Counter 1 – Count ^{MSB}
	5	UINT8	N/A	Pulse Counter 3 – Count ^{LSB} (0-65535)
	6	UINT8	N/A	Pulse Counter 3 – Count ^{MSB}
	7	UINT8	N/A	-
	8	UINT8	N/A	-

TX 250ms				
Message	Byte	Type	Mask	Description
0x0380	1	UINT8	N/A	Pulse Counter 1 ^{LSB} (0-5000Hz)
	2	UINT8	N/A	Pulse Counter 1 ^{MSB}
	3	UINT8	N/A	Pulse Counter 2 ^{LSB} (0-5000Hz)
	4	UINT8	N/A	Pulse Counter 2 ^{MSB}
	5	UINT8	N/A	Pulse Counter 3 ^{LSB} (0-5000Hz)
	6	UINT8	N/A	Pulse Counter 3 ^{MSB}
	7	UINT8	N/A	Pulse Counter 4 ^{LSB} (0-5000Hz)
	8	UINT8	N/A	Pulse Counter 4 ^{MSB}

Counter Notes

Pulse Counter 1 & Pulse Counter 3 serve as the input reference for the fields "Pulse Counter 1 – Count" and "Pulse Counter 2 – Count" as defined in message 0x0368. These 'Count' fields are accumulated ticks generated by the respective pulse counter activity and are NOT time scaled. Each 'Count' field can be configured via the control byte as defined in Message 0x0798.

CAN Address Modifiers

There are multiple variants of the L0NT module permitting up to four modules per single configuration. This is determined by application of internal jumpers to CAN Address Modifier Inputs. (Typically, modification of these settings is Factory recommended only)



Electrical Characteristics

Supply	
Voltage Module	24VDC Nominal
Wattage MIN	5W
Wattage MAX	12W
Voltage Solenoids	24VDC Nominal
Wattage MIN	0W
Wattage MAX	240W

Solenoid Outputs	
Installed	30 Redundant Discreet
Voltage	24VDC
Minimum Voltage	24VDC
Maximum Voltage	24VDC
Installed	6 Redundant Proportional
Voltage	24VDC
Minimum Voltage	24VDC
Maximum Voltage	24VDC

Proximity Inputs	
Installed	15
Voltage	24VDC
Minimum Voltage	24VDC
Maximum Voltage	24VDC

Digital Inputs	
Installed	8
Voltage	110VAC
Minimum Voltage	75VAC
Maximum Voltage	130VAC

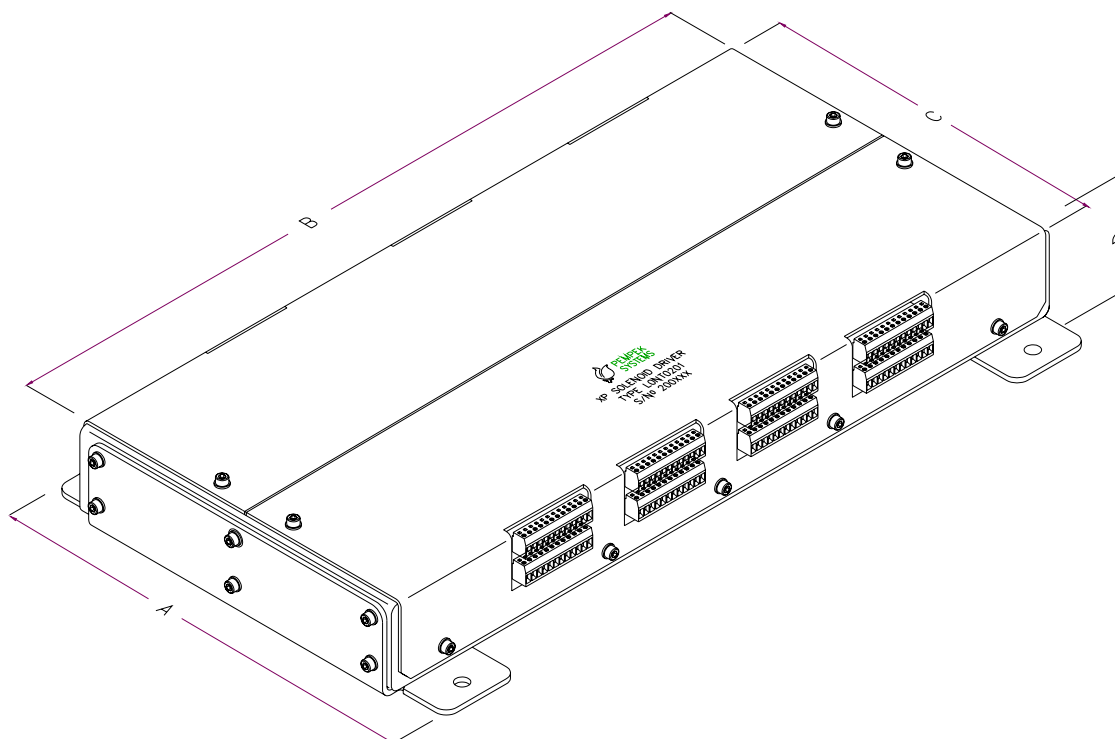
Analog Inputs	
Installed	12
Type	4-20mA
Scale	10-Bit

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	222	Mounting Flange Width
B	390	Length
C	181	Width
D	60	Height

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 24

Mass

- 3.5kg (7.7lb)