

The LORR1201 Obelix Mining PLC Solenoid Driver I/O Module combines PWM - controlled proportional outputs along with digital and analog inputs in a compact housing ideal for mobile mining equipment applications where installation space is limited.

The industry-standard CAN (Controller Area Network) connection provides a host PLC with the ability to control and monitor all outputs and inputs.

Uniquely Keyed Type A and Type B connectors to prevent incorrect machine installation.

- Module Type: Multi-channel Solenoid Driver
- **Supply Input 1:** 24VDC (+/- 10%) / 3 Watts (Max)
- **Supply Input 2:** 24VDC (+/- 10%) / 550 Watts (Max) (based on output loads)
- **Data Communications:** Obelix CAN (A2)
- Operating Temperature:  $-20^{\circ}$ C to  $70^{\circ}$ C
- Inputs: None
- Outputs: 22 x PWM Current-regulated Outputs (1 A Maximum)
- Connector 1: Obelix A2 (24VDC Input + CAN Bus)
- Connector 2: Obelix C30 (PWM Outputs and 24VDC PWM Supply Input)
- Connector 3: Obelix D30 (PWM Outputs and 24VDC PWM Supply Input)
- Connector 4: Obelix B47 (Inputs)

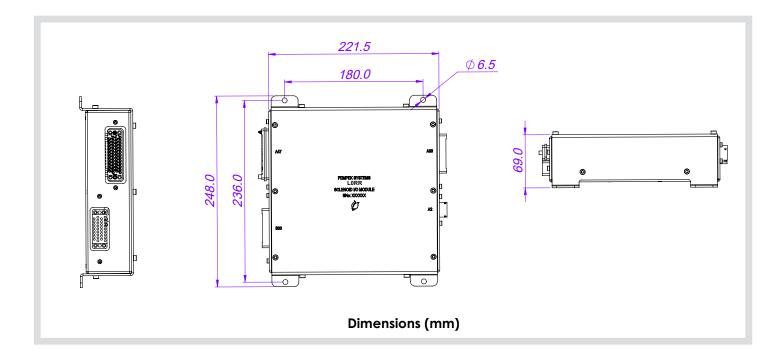


# **Typical Application**

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

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### **CONNECTOR A2**

| PIN  | Connector A2<br>Burndy Female<br>8 Way | Signal             |
|------|--|--------------------|
| A2-A | Supply Input                           | 24VDC Supply Input |
| A2-B | Supply Input                           | 24VDC Supply Input |
| A2-C | CAN A (Positive)                       | Communications     |
| A2-D | CAN A (Positive)                       | Communications     |
| A2-E | CAN A (Negative)                       | Communications     |
| A2-F | CAN A (Negative)                       | Communications     |
| A2-G | Termination Link 1 - 1                 | Communications     |
| A2-H | Termination Link 1 - 2                 | Communications     |



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### **CONNECTOR C30**

| DIN    | Commonday COO                   | C' ul               |
|--------|---------------------------------|---------------------|
| PIN    | Connector C30<br>V35 Female No. | Signal              |
| A30-A  | Solenoid 22 Positive            | 24VDC Switched      |
| A30-B  | Solenoid 21 Positive            | 24VDC Switched      |
| A30-C  | Solenoid 22 Negative            | 24VDC Return        |
| A30-D  | Solenoid 21 Negative            | 24VDC Return        |
| A30-E  | CAN Address Modifier 2          | 24VDC Digital Input |
| A30-F  | Solenoid 20 Positive            | 24VDC Switched      |
| A30-H  | CAN Address Modifier 1          | 24VDC Digital Input |
| A30-J  | Solenoid 20 Negative            | 24VDC Return        |
| A30-K  | CAN Address Modifier 0          | 24VDC Digital Input |
| A30-L  | Solenoid 19 Positive            | 24VDC Switched      |
| A30-M  | RS-232 Transmit                 | Communications      |
| A30-N  | Solenoid 19 Negative            | 24VDC Return        |
| A30-P  | RS-232 Receive                  | Communications      |
| A30-R  | Solenoid 18 Negative            | 24VDC Return        |
| A30-S  | RS-232 OVDC Reference           | Communications      |
| A30-T  | Solenoid 18 Positive            | 24VDC Switched      |
| A30-U  | Solenoid 1 Positive             | 24VDC Switched      |
| A30-V  | Solenoid 17 Negative            | 24VDC Return        |
| A30-W  | Solenoid 12 Negative            | 24VDC Return        |
| A30-X  | Solenoid 17 Positive            | 24VDC Switched      |
| A30-Y  | Solenoid 13 Positive            | 24VDC Switched      |
| A30-Z  | Solenoid 16 Negative            | 24VDC Return        |
| A30-AA | Solenoid 13 Negative            | 24VDC Return        |
| A30-BB | Solenoid 16 Positive            | 24VDC Switched      |
| A30-CC | Solenoid 14 Positive            | 24VDC Switched      |
| A30-DD | Solenoid 15 Negative            | 24VDC Return        |
| A30-EE | Solenoid 14 Negative            | 24VDC Return        |
| A30-FF | Solenoid 15 Positive            | 24VDC Switched      |
| A30-HH | Solenoid Supply 24VDC           | 24VDC Supply Input  |
| A30-JJ | Solenoid Supply 24VDC           | 24VDC Supply Input  |
| A30-KK | Solenoid Supply 24VDC           | 24VDC Supply Input  |
| A30-LL | Solenoid Supply 24VDC           | 24VDC Supply Input  |
| A30-MM | Solenoid Supply 24VDC           | 24VDC Supply Input  |
| A30-NN | Solenoid Supply 24VDC           | 24VDC Supply Input  |
|        |                                 |                     |





Image depict coding pins required



#### **CONNECTOR D30**

| PIN    | Connector D30          | Sian al             |
|--------|------------------------|---------------------|
| FIN    | V35 Female No.         | Signal              |
| B30-A  | Solenoid 33 Positive   | 24VDC Switched      |
| В30-В  | Solenoid 32 Positive   | 24VDC Switched      |
| B30-C  | Solenoid 33 Negative   | 24VDC Return        |
| B30-D  | Solenoid 32 Negative   | 24VDC Return        |
| B30-E  | CAN Address Modifier 2 | 24VDC Digital Input |
| B30-F  | Solenoid 31 Positive   | 24VDC Switched      |
| B30-H  | CAN Address Modifier 1 | 24VDC Digital Input |
| B30-J  | Solenoid 31 Negative   | 24VDC Return        |
| B30-K  | CAN Address Modifier 0 | 24VDC Digital Input |
| B30-L  | Solenoid 30 Positive   | 24VDC Switched      |
| B30-M  | RS-232 Transmit        | Communications      |
| B30-N  | Solenoid 30 Negative   | 24VDC Return        |
| B30-P  | RS-232 Receive         | Communications      |
| B30-R  | Solenoid 29 Negative   | 24VDC Return        |
| B30-S  | RS-232 OVDC Reference  | Communications      |
| B30-T  | Solenoid 29 Positive   | 24VDC Switched      |
| B30-U  | Solenoid 23 Positive   | 24VDC Switched      |
| B30-V  | Solenoid 28 Negative   | 24VDC Return        |
| B30-W  | Solenoid 23 Negative   | 24VDC Return        |
| B30-X  | Solenoid 28 Positive   | 24VDC Switched      |
| B30-Y  | Solenoid 24 Positive   | 24VDC Switched      |
| B30-Z  | Solenoid 27 Negative   | 24VDC Return        |
| B30-AA | Solenoid 24 Negative   | 24VDC Return        |
| B30-BB | Solenoid 27 Positive   | 24VDC Switched      |
| B30-CC | Solenoid 25 Positive   | 24VDC Switched      |
| B30-DD | Solenoid 26 Negative   | 24VDC Return        |
| B30-EE | Solenoid 25 Negative   | 24VDC Return        |
| B30-FF | Solenoid 26 Positive   | 24VDC Switched      |
| В30-НН | Solenoid Supply 24VDC  | 24VDC Supply Input  |
| B30-JJ | Solenoid Supply 24VDC  | 24VDC Supply Input  |
| B30-KK | Solenoid Supply 24VDC  | 24VDC Supply Input  |
| B30-LL | Solenoid Supply 24VDC  | 24VDC Supply Input  |
| B30-MM | Solenoid Supply 24VDC  | 24VDC Supply Input  |
| B30-NN | Solenoid Supply 24VDC  | 24VDC Supply Input  |
|        |                        |                     |





Image depict coding pins required



### **CONNECTOR B47**

| PIN              | Connector B47<br>V35 Female             | Signal                       |
|------------------|---|------------------------------|
| A47-A            | CAN ID0                                 | 0VDC Input                   |
| A47-B            | Module Supply                           | 24VDC Supply Input           |
| A47-C            | Module Supply Return                    | OVDC Supply Return           |
| A47-D            | Quadrature Encoder A - Counter1         | 24VDC Input                  |
| A47-E            | CAN ID1                                 | 0VDC Input                   |
| A47-F            | Quadrature Encoder A – Counter2         | 24VDC Input                  |
| A47-H            | 0VDC CAN ID Reference                   | 0VDC CAN ID                  |
| A47-J            | Quadrature Encoder B – Counter3         | 24VDC Input                  |
| A47-K            | CAN ID2                                 | 0VDC Input                   |
| A47-L            | Quadrature Encoder B – Counter4         | 24VDC Input                  |
| A47-M            | INP2 – Digital Input                    | 24VDC Input                  |
| A47-N            | INP1 – Digital Input                    | 24VDC Input                  |
| A47-P            | INP4 – Digital Input                    | 24VDC Input                  |
| A47-R            | INP3 – Digital Input                    | 24VDC Input                  |
| A47-S            | INP6 – Digital Input                    | 24VDC Input                  |
| A47-T            | INP5 – Digital Input                    | 24VDC Input                  |
| A47-U            | INP8 – Digital Input                    | 24VDC Input                  |
| A47-V            | INP7 – Digital Input                    | 24VDC Input                  |
| A47-W            | INP10 – Digital Input                   | 24VDC Input                  |
| A47-X            | INP9 – Digital Input                    | 24VDC Input                  |
| A47-Y            | INP12 – Digital Input & Pulse Counter 2 | 24VDC Input                  |
| A47-Z            | INP11 – Digital Input & Pulse Counter 1 | 24VDC Input                  |
| A47-a            | AN2 – Analog Input                      | 4-20mA Input                 |
| A47-b            | AN1 – Analog Input                      | 4-20mA Input                 |
| A47-c            | AN4 - Analog Input                      | 4-20mA Input                 |
| A47-d            | AN3 – Analog Input                      | 4-20mA Input                 |
| A47-e            | AN6 – Analog Input                      | 4-20mA Input                 |
| A47-6            | AN5 – Analog Input                      | 4-20mA Input                 |
| A47-1<br>A47-h   | AN8 - Analog Input                      | 4-20mA Input                 |
| A47-11           | AN7 – Analog Input                      | 4-20mA Input                 |
| A47-J            | AN10 – Analog Input                     | 4-20mA Input                 |
| A47-K<br>A47-m   | AN9 – Analog Input                      | 4-20mA Input                 |
| A47-111<br>A47-n | - · · · · · · · · · · · · · · · · · · · | ·                            |
|                  | AN12 – Analog Input                     | 4-20mA Input                 |
| A47-p            | AN11 – Analog Input                     | 4-20mA Input                 |
| A47-r<br>A47-s   | AN14 – Analog Inpu                      | 4-20mA Input                 |
|                  | AN13 – Analog Input                     | 4-20mA Input                 |
| A47-t<br>A47-u   | AN16 – Analog Input                     | 4-20mA Input<br>4-20mA Input |
| A47-0<br>A47-v   | AN15 – Analog Input                     | •                            |
| A47-V<br>A47-W   | AN18 – Analog Input                     | 4-20mA Input<br>4-20mA Input |
| A47-w<br>A47-x   | AN17 – Analog Input                     | 110VAC Neutral               |
| A47-x<br>A47-y   | Supply Input                            | 24VDC Supply Output          |
| A47-y<br>A47-z   | Analog Supply Output                    |                              |
| A47-Z<br>A47-AA  | DGI2 - Digital Input                    | 110VAC Input<br>110VAC Input |
| A47-AA<br>A47-BB | DGI1 - Digital Input                    | 110VAC Input                 |
|                  | DGI4 - Digital Input                    |                              |
| A47-CC           | DGI3 - Digital Input                    | 110VAC Input                 |
| A47-DD           | DGI6 - Digital Input                    | 110VAC Input                 |
| A47-EE           | DGI5 - Digital Input                    | 110VAC Input                 |
| A47-FF           | DGI8- Digital Input                     | 110VAC Input                 |
| A8-HH            | DGI7 - Digital Input                    | 220VAC Digital Input         |





Image depict coding pins required

Datasheet-LORR1201