

## Features

- **Intelligent Digital SCR Drive**
  - 110V Control Logic Supply
  - 240V RMS Drive Supply
  - Variable output to 300V in voltage mode
  - Variable output to 400A<sup>peak</sup> in current mode
  - Forward & Reverse Motor Control
  - Full Digital Signal Processor Control
  - True Closed Loop Control.
  - Embedded Thermal Overload Protection.
  - Embedded Phase Imbalance Protection.
  - Embedded Phase Loss Protection.
- **Embedded Diagnostics**
  - Reports 3-Phase Line Voltage & Current.
  - Shaft Encoder support for RPM measurement.
  - External Temperature Measurement via two wire PT100 support.
  - Internal Temperature Measurement.
- **Embedded 110VAC Relay Output**
  - 1 x N/C 110VAC Relay for Transformer Contactor isolation control. (Designed for in-series wiring)
  - Microprocessor Controlled.
- **CAN Network**
  - Opto-Coupler Isolation.
  - CAN 2.0B Compatible.
- **Operates -10°C to +85°C**
  - All industrial components.
- **Heavy Duty Enclosure**
  - Electroless Nickel Plated Mild Steel.
  - Alodined Aluminium Heat Transfer Base.
  - Rugged Construction.

## Description

The LOMR 3-Phase 45kW SCR Drive is a precision drive module designed to support industrial DC drive applications without the need for external DC contactor or overload module support. By utilizing a rugged communications interface and advanced DSP technology, these drives represent the avant-garde in SCR DC drive technology.



## Obelix

Industrial 3-Phase  
45kW SCR DC Drive

Type LOMR



## 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](http://www.pempek.com.au)



## Typical Applications

- Continuous Bolter/Miners
- Continuous Haulage
- Mobile Bolters
- Mobile Roof Supports
- Remote Control Scoops
- Remote Control Loaders
- Any industrial DC Motor application within power specification

## Ordering Information

Part Number	Description
L0MR0101	ID500 45kW 3-Phase SCR Drive
H0MR0101	Connector Assembly A2 Extender
H0MR0201	Connector Assembly 39A
H0MR0301	Connector Assembly 39B
H0MR0401	Connector Assembly 40
H0MR0501	Connector Assembly 39A/39B Cross-Over
H0MR0601	Connector Assembly A2 Daisy
H0MR0701	Connector Assembly 38A (Plug Identifier)
H0MR0801	Connector Assembly 38B (Plug Identifier)

## Interface Description

The Type L0MR SCR Drive 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

<b>Connector 38A Burndy Female 12 Way</b>		
<b>PIN</b>	<b>Description</b>	<b>Signal</b>
38A-A	Select Input ID2	Link
38A-B	Select Input ID0	Link
38A-C	Select Input - Encoder QEP Type	Link
38A-D	Select Input - Encoder CLK-DIR Type	Link
38A-E	RTD Positive	RTD Supply Output
38A-F	Encoder Supply	5VDC
38A-G	Encoder Q1 or Directional	Signal
38A-H	Encoder Q2 or CLK	Signal
38A-J	Select Input 0V	Link
38A-K	Select Input ID1	Link
38A-L	RTD Negative	RTD Supply Return
38A-M	Encoder 0V	0VDC

<b>Connector 39A Burndy Female 4 Way</b>		
<b>PIN</b>	<b>Description</b>	<b>Signal</b>
39A-A	Transformer Contactor Relay Supply (A)	110VAC Active
39A-B	-	-
39A-C	-	-
39A-D	Transformer Contactor Relay Supply (A)	110VAC Neutral

<b>Connector 39B Burndy Female 4 Way</b>		
<b>PIN</b>	<b>Description</b>	<b>Signal</b>
39A-A	Transformer Contactor Relay Supply (B)	110VAC Active
39A-B	-	-
39A-C	-	-
39A-D	Transformer Contactor Relay Supply (B)	110VAC Neutral

<b>Connector 40 Burndy Female 4 Way</b>		
<b>PIN</b>	<b>Description</b>	<b>Signal</b>
40A-A	-	-
40A-B	Auxiliary Supply	110VAC Active
40A-C	-	-
40A-D	Auxiliary Supply	110VAC Neutral

<b>Connector 40 Burndy Female 4 Way</b>		
<b>PIN</b>	<b>Description</b>	<b>Signal</b>
40A-A	-	-
40A-B	Auxiliary Supply	110VAC Active
40A-C	-	-
40A-D	Auxiliary Supply	110VAC Neutral



## Wiring Assignments Continued

Connector A2 Burndy Female 8 Way		
PIN	Description	Signal
A2-A	CAN Supply Input	24VDC
A2-B	CAN Supply Input	0VDC
A2-C	CAN HIGH	Communications
A2-D	CAN HIGH	Communications
A2-E	CAN LOW	Communications
A2-F	CAN LOW	Communications
A2-G	Termination Link1-1	Link
A2-H	Termination Link1-2	Link

Connector BUSS Terminals		
PIN	Description	Signal
A	Three-Phase Supply Input	240VAC RMS
B	Three-Phase Supply Input	240VAC RMS
C	Three-Phase Supply Input	240VAC RMS
S1	Motor Field Coil	Field
S2	Motor Field Coil	Field
A1	Motor Armature	Variable to 300VDC <sup>Directional</sup>
A2	Motor Armature	Variable to 300VDC <sup>Directional</sup>



## Electrical Characteristics

Supply	
<b>Voltage</b> Control	110VAC
<b>Tolerance</b> Control	±30%
<b>Wattage</b> Control	25W
<b>Voltage Input</b> Drive	240VAC RMS
<b>Tolerance</b> Drive	±30%
<b>Voltage Output</b> Drive	300VDC
<b>Current</b> Drive	400A peak
<b>Wattage</b> Drive	45kW nominal

Relay Outputs	
<b>Installed</b>	2
<b>Voltage</b>	110VAC

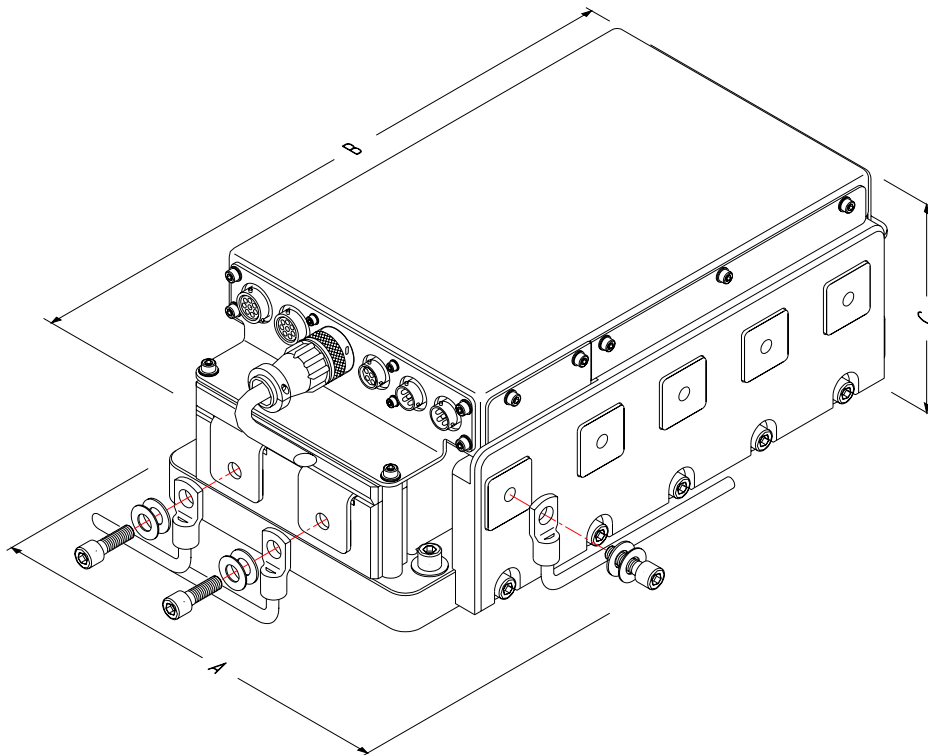
PT100 Inputs	
<b>Installed</b>	1

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

Environmental	
<b>Operating Temperature</b>	Minus 20°C to +85°C
<b>Humidity</b>	T.B.A.
<b>MTBF</b>	T.B.A.



# Mechanical Characteristics



Dimension	Measurement	Description
A	230	Width
B	425	Length
C	142	Height

## Notes

- All dimensions are in millimetres.

## Material

- Enclosure is Electroless nickel plated mild steel.
- Facia is stainless steel.
- Buss bars are plated copper.

## Mass

- 24.5kg (53.9lb)