

Features

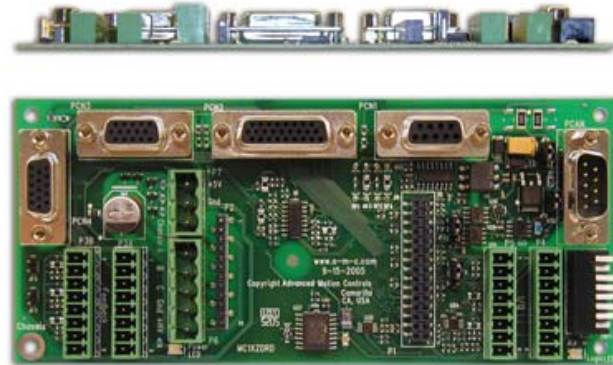
- ▲ Mounts ZDR or ZDCR drive
- ▲ Single axis mounting card
- ▲ All detachable connections
- ▲ On-board signal conditioning
- ▲ On-board CANopen transceiver for ZDCR drives
- ▲ On-board 8-position DIP switch for communication settings
- ▲ On-board jumpers for board configuration
- ▲ Both screw terminal and D-Sub connections for signal I/O
- ▲ Screw terminal mating connectors included
- ▲ Standard DIN tray dimensions

Inputs/Outputs

- Programmable analog reference input (12-bit resolution)
- 2 programmable differential digital inputs (Auxiliary Encoder or Step and Direction input)
- 3 programmable digital inputs
- 3 programmable digital outputs

Drive Compatibility

Drives Supported	ZDR300EE12A8LDC ZDCR300EE12A8LDC
Axis Supported	1

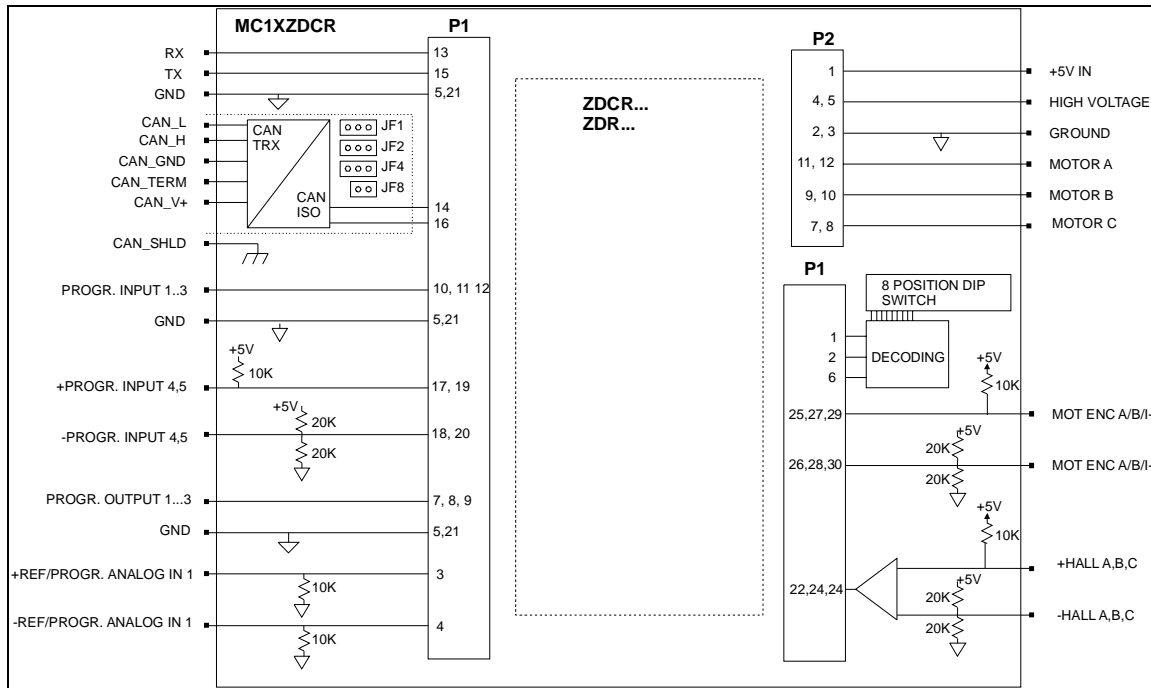


Accessories

Description

The MC1XZDCR mounting card is designed to host a ZDCR or ZDR Series DigiFlex® servo drive. This mounting card offers convenient quick-disconnect connectors (mating screw terminals included) and D-Sub connectors for easy interfacing. D-sub connectors are provided for compatibility with DR100EE and DX/DC200 series motor wiring configurations. A logic LED and power LED indicate supply status.

BLOCK DIAGRAM & SPECIFICATION SUMMARY



Mechanical Specifications	
Mounting Signal Connector: P1	30-pin, dual-row, 2.54 mm pitch socket
Mounting Power Connector: P2	12-pin, 2.54 mm pitch socket
Feedback Connector: P3A*	8-port, 3.5 mm spaced insert connector
Feedback Connector: P3B*	8-port, 3.5 mm spaced insert connector
Signal Connector: P4*	8-port, 3.5 mm spaced insert connector
Signal Connector: P5*	8-port, 3.5 mm spaced insert connector
Power Connector: P6*	5-port, 5.08 mm spaced insert connector
Logic Power Connector: P7*	3-port, 5.08 mm spaced insert connector
CAN Communication Connector: PCAN	9-pin, male D-sub
RS232 Communication Connector: PCN1	9-pin, female D-sub
Signal Connector: PCN2	26-pin, high-density, female D-sub
Feedback Connector: PCN3	15-pin, high-density, female D-sub
Size (L x W x H)	6.55 x 2.83 x 0.64 inches
Weight	(TBA)

Notes

* Mating connectors included.

PIN FUNCTIONS

P1 – Mounting Signal Connector

This connector mates directly to the drive. For pin functions refer to the drive datasheet.

P2 – Mounting Power Connector

This connector mates directly to the drive. For pin functions refer to the drive datasheet.

P3A – Feedback Connector

Pin	Name	Description	I/O
1	+5V	5V output from 5V logic supply	O
2	GND	Ground	GND
3	+HALL A	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
4	-HALL A	Leave open in case of single ended Hall sensors.	I
5	+HALL B	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
6	-HALL B	Leave open in case of single ended Hall sensors.	I
7	+HALL C	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
8	-HALL C	Leave open in case of single ended Hall sensors.	I

P3B – Feedback Connector

Pin	Name	Description	I/O
1	+5V	5V output from 5V logic supply	O
2	GND	Ground	GND
3	MOT ENC A+	Differential Encoder Input. For single ended encoder signals, leave the A-terminal open.	I
4	MOT ENC A-		I
5	MOT ENC B+	Differential Encoder Input. For single ended encoder signals, leave the B-terminal open.	I
6	MOT ENC B-		I
7	MOT ENC I+	Differential Encoder Input. For single ended encoder signals, leave the I-terminal open.	I
8	MOT ENC I-		I

P4 – Signal Connector

Pin	Name	Description	I/O
1	+REF	Differential reference signal input, 12-bit resolution. Can also be used as programmable analog input 1.	I
2	-REF		I
3	GND	Ground	GND
4	GND	Ground	GND
5	PDO1	Programmable digital output 1	O
6	PDO2	Programmable digital output 2	O
7	PDO3	Programmable digital output 3	O
8	GND	Ground	GND

P5 – Signal Connector			
Pin	Name	Description	I/O
1	PDI1	Programmable digital input 1	I
2	PDI2	Programmable digital input 2	I
3	PDI3	Programmable digital input 3	I
4	GND	Ground	GND
5	+PDI4	Programmable differential digital input, or Step+/Step- or Aux Enc A+/A-	I
6	-PDI4		I
7	+PDI5	Programmable, differential digital input or Direction+/Direction - or Aux Enc B+/B-	I
8	-PDI5		I

P6 – Power Connector			
Pin	Name	Description	I/O
1	MOTOR A	Motor phase A	O
2	MOTOR B	Motor phase B	O
3	MOTOR C	Motor phase C	O
4	GND	Ground	GND
5	+HV	DC motor power input. This input is used to supply power to the motor.	I

P7 – Logic Power Connector			
Pin	Name	Description	I/O
1	+5V	5V logic supply	I
2	GND	Ground	GND
3	CHASSIS	Connected to PCN1, PCN2, PCN3 shells	PE

PCAN – CAN Communication Connector			
Pin	Name	Description	I/O
1	N/C	Not connected	-
2	CAN_L	CAN_L bus line (dominant low)	I
3	CAN_GND	CAN ground	GND
4	N/C	Not connected	-
5	CAN_SHLD	CAN shield, connected to Chassis	PE
6	N/C	Not connected	-
7	CAN_H	CAN_H bus line (dominant high)	I
8	CAN_TERM	Termination. Connect to CAN_H for CAN bus termination (120 Ohm)	GND
9	CAN_V+	CAN external supply 7.5...24 VDC for isolated CAN interface	I

PCN1 – RS232 Communication Connector			
Pin	Name	Description	I/O
1	N/C	Not connected	-
2	TX/-TX	RS232: Transmit; RS485: -TX	O
3	RX/-RX	RS232: Receive; RS485: -RX	I
4	N/C	Not connected	-
5	GND	Signal ground	GND
6	+TX	RS485: +TX	O
7	N/C	Not connected	-
8	+RX	RS485: +RX	I
9	N/C	Not connected	-

PCN2 – Signal Connector			
Pin	Name	Description	I/O
1	PDO1	Programmable digital output	O
2	GND	Ground	GND
3	PDO2	Programmable digital output	O
4	+REF	Differential reference signal input, 12-bit resolution. Can also be used as programmable analog input 1.	I
5	-REF		I
6	N/C	Not Connected	-
7	N/C	Not Connected	-
8	N/C	Not Connected	-
9	-PDI5	Programmable, differential digital input or Direction - or Aux Enc B-	I
10	PDO3	Programmable digital output	O
11	PDI1	Programmable digital input	I
12	PDI2	Programmable digital input	I
13	PDI3	Programmable digital input	I
14	N/C	Not Connected	-
15	+5V OUT	5V output from 5V logic supply	O
16	GND	Ground	GND
17	+PDI4	Programmable differential digital input, or Step+ or Aux Enc A+	I
18	+PDI5	Programmable, differential digital input or Direction+ or Aux Enc B+	I
19	N/C	Not Connected	-
20	MOT ENC A+	Encoder Output (from connector P3B, PCN3), not buffered	O
21	MOT ENC A-		O
22	MOT ENC B+	Encoder Output (from connector P3B, PCN3), not buffered	O
23	MOT ENC B-		O
24	MOT ENC I+	Encoder Output (from connector P3B, PCN3), not buffered	O
25	MOT ENC I-		O
26	-PDI4	Programmable differential digital input, or Step- or Aux Enc A-	I

PCN3 – Feedback Connector			
Pin	Name	Description	I/O
1	+HALL A	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
2	+HALL B	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
3	+HALL C	Commutation sensor input. Can be used with single ended or differential Hall sensors.	I
4	MOT ENC A+	Differential Encoder Input. For single ended encoder signals, leave the A- terminal open.	I
5	MOT ENC A-		I
6	MOT ENC B+	Differential Encoder Input. For single ended encoder signals, leave the B- terminal open.	I
7	MOT ENC B-		I
8	MOT ENC I+	Differential Encoder Input. For single ended encoder signals, leave the I- terminal open.	I
9	MOT ENC I-		I
10	-HALL A	Leave open in case of single ended Hall sensors.	I
11	-HALL B	Leave open in case of single ended Hall sensors.	I
12	GND	Ground	GND
13	+5V	5V output from 5V logic supply	O
14	N/C	Not Connected	-
15	-HALL C	Leave open in case of single ended Hall sensors.	I

BOARD CONFIGURATION

Jumper Functions

Jumper	Description	Pins Connected		
		None	1-2	2-3
JF1	Communication interface selection. CAN is only available on the ZDCR. RS485 is only available on the ZDR.	RS232	CAN	RS485
JF2		RS232	CAN	RS485
JF3	Place holder for spare jumpers. No functionality.	-	-	-
JF4	For use with ZDCR only. Select to power the CAN interface internally from an on-board power supply or externally from CAN_V+ (12V) of the PCAN connector.	ZDR	External CAN supply (ZDCR)	Internal CAN supply (ZDCR)
JF5	Place holder for spare jumpers. No functionality.	-	-	-
JF8	For use with ZDCR only. Selects drive to be the terminating node in a CAN network.	ZDR or non-terminating node	Terminating node	-

DIP Switch Functions

CAN & RS232/RS485 Address Settings

Node-ID	SW1	SW2	SW3	SW4	SW5	SW6
Load from non-volatile memory	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
...
63	ON	ON	ON	ON	ON	ON

CAN Bus & RS232/RS485 Bit Rate Settings

Bit Rate (bits/sec)		SW7	SW8
CAN	RS232		
Load from non-volatile memory	Load from non-volatile memory	OFF	OFF
500K	9.6K	ON	OFF
250K	38.4K	OFF	ON
125K	115.2K	ON	ON

CONNECTOR INFORMATION

P1 – Mounting Signal Connector

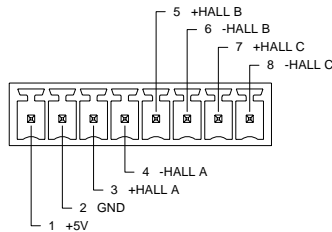
Connector Information	30-pin, dual-row, 2.54 mm pitch header
Mating Connector Example	No mating connector required. Mate directly to drive.

P2 – Mounting Power Connector

Connector Information	12-pin, 2.54 mm pitch header
Mating Connector Example	No mating connector required. Mate directly to drive.

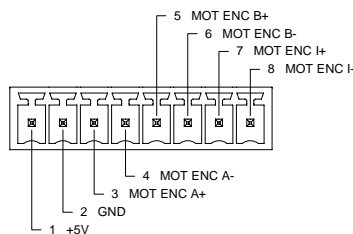
P3A – Feedback Connector

Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



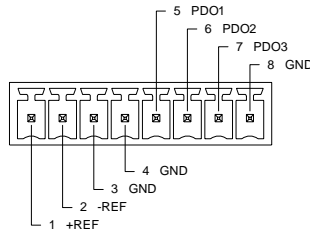
P3B – Feedback Connector

Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



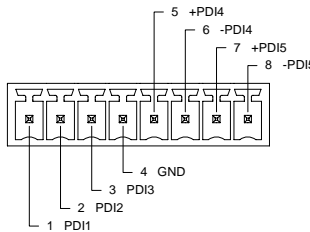
P4 – Signal Connector

Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



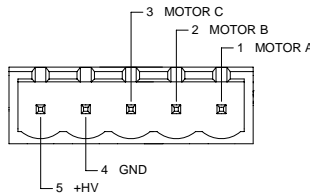
P5 – Signal Connector

Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



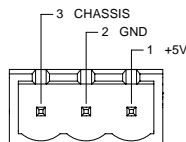
P6 – Power Connector

Connector Information	5-port, 5.08 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1757048or 1777316 (vertical screw terminal)



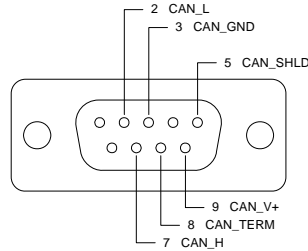
P7 – Logic Power Connector

Connector Information	3-port, 5.08 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1757022 or 1777293 (vertical screw terminal)



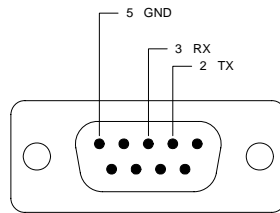
PCAN – CAN Communication Connector

Connector Information	9-pin, male D-sub
Mating Connector Example	AMP: Plug P/N 205203-3; Housing P/N 748677-1; Terminals P/N 745253-6 (loose) or 745253-2 (strip)



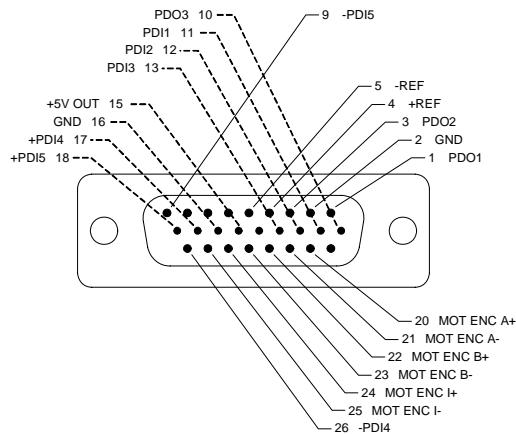
PCN1 – RS232 Communication Connector

Connector Information	9-pin, female D-sub
Mating Connector Example	AMP: Plug P/N 205204-4; Housing P/N 748677-1; Terminals P/N 5-66507-7 (loose) or 3-66507-0 (strip)



PCN2 – Signal Connector

Connector Information	26-pin, high-density, female D-sub
Mating Connector Example	AMP: Plug P/N 748365-1; Housing P/N 748677-2; Terminals P/N 748333-4 (loose) or 748333-2 (strip)



PCN3 – Feedback Connector

Connector Information	15-pin, high-density, female D-sub
Mating Connector Example	AMP: Plug P/N 748365-1; Housing P/N 748677-1; Terminals P/N 748333-4 (loose) or 748333-2 (strip)

