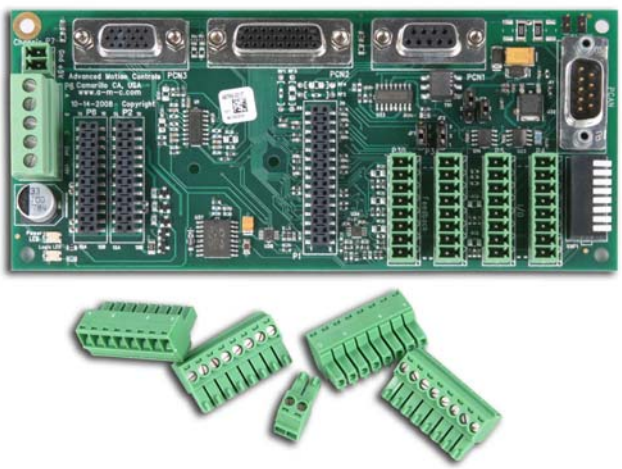
Description

The MC1XDZ01 mounting card is designed to host a DZ- or DZX-series Digiflex® Performance™ digital servo drive. This mounting card offers convenient quick-disconnect connectors (mating screw terminals included). The MC1XDZ01 can either be screw-mounted or attached to a standard DIN tray. The MC1XDZ01 is ideal for prototyping, as all the different drive models work with this single mounting card design.

Drive Compatibility

DZ (Standard Environment)	DZX (Extended Environment)
80 V Models	**80 V Models**
40A	15A
20A	8A
12A	



Features

- Mounts DZ- & DZX-Series DigiFlex® Perfomance™ Digital Servo Drives
- Single Axis Mounting Card
- Standard DIN Tray Dimensions
- On-board Signal Conditioning
- 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
- On-board CANopen Transceiver for CANopen Communication

DRIVES SUPPORTED

- DZCANTE-012L080
- DZCANTE-020L080
- DZCANTE-040L080
- DZRALTE-012L080
- DZRALTE-020L080
- DZRALTE-040L080
- DZXCANTE-008L080
- DZXCANTE-015L080
- DZXRALTE-008L080
- DZXRALTE-015L080

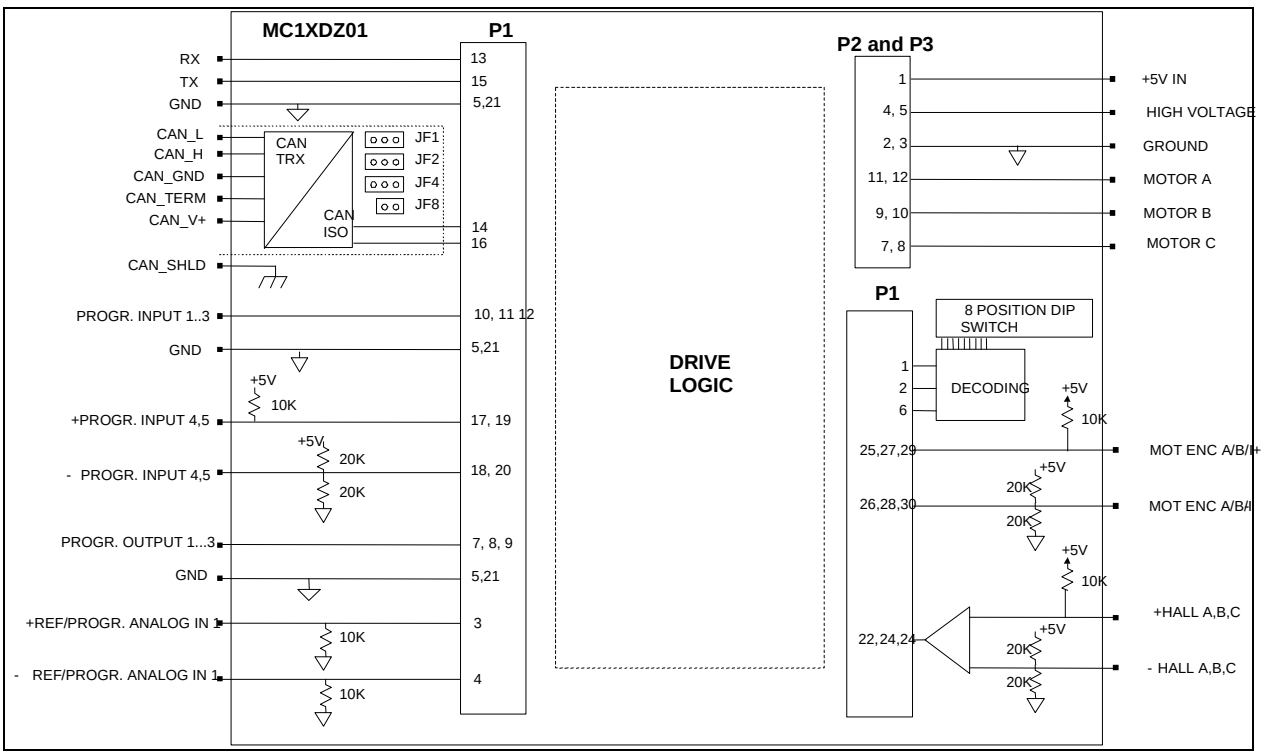
FEEDBACK SUPPORTED

- Incremental Encoder
- Hall Sensors

COMPLIANCES & AGENCY APPROVALS

- RoHS

BLOCK DIAGRAM & SPECIFICATION SUMMARY



Mechanical Specifications	
Mounting Signal Connector: P1	30-pin, dual-row, 2.54 mm pitch socket
Mounting Power Connector: P2	24-pin, dual-row 2.54 mm pitch socket
Mounting Power Connector: P3	24-pin, dual-row 2.54 mm pitch socket
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 screw terminal
Logic Power Connector: P7*	2-port, 3.5 mm spaced insert connector
Feedback Connector: P8A*	8-port, 3.5 mm spaced insert connector
Feedback Connector: P8B*	8-port, 3.5 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 2.84 x 0.77 inches
Weight (not including connectors and mounting hardware)	96 g (3.39 oz)

Notes

*Mating connectors included.

**Depth dimension is without mating connectors installed. The total depth with a DZ servo drive mounted on the card will be equivalent to the depth dimension of the servo drive (including pins). See specific drive datasheet mounting dimensions drawing for value.

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.

P3 – Mounting Power Connector
This connector mates directly to the drive. For pin functions refer to the drive datasheet.

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	PDO-1	Programmable digital output 1	O
6	PDO-2	Programmable digital output 2	O
7	PDO-3	Programmable digital output 3	O
8	GND	Ground	GND

P5 – Signal Connector

Pin	Name	Description	I/O
1	PDI-1	Programmable digital input 1	I
2	PDI-2	Programmable digital input 2	I
3	PDI-3	Programmable digital input 3	I
4	GND	Ground	GND
5	+PDI-4	Programmable differential digital input, or Step+/Step- or Aux Enc A+/A-	I
6	-PDI-4		I
7	+PDI-5	Programmable, differential digital input or Direction+/Direction - or Aux Enc B+/B-	I
8	-PDI-5		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

P8A – 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

P8B – 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

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	PDO-1	Programmable digital output	O
2	GND	Ground	GND
3	PDO-2	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	-PDI-5	Programmable, differential digital input or Direction - or Aux Enc B-	I
10	PDO-3	Programmable digital output	O
11	PDI-1	Programmable digital input	I
12	PDI-2	Programmable digital input	I
13	PDI-3	Programmable digital input	I
14	N/C	Not Connected	-
15	+5V OUT	5V output from 5V logic supply	O
16	GND	Ground	GND
17	+PDI-4	Programmable differential digital input, or Step+ or Aux Enc A+	I
18	+PDI-5	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	-PDI-4	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 DZC…. RS485 is only available on the DZR….	RS232	CAN	RS485
JF2		RS232	CAN	RS485
JF3	Place holder for spare jumpers. No functionality.	-	-	-
JF4	For use with DZC… only. Select to power the CAN interface internally from an on-board power supply or externally from CAN_V+ (12V) of the PCAN connector.	DZR…	External CAN supply (DZC…)	Internal CAN supply (DZC…)
JF5	Place holder for spare jumpers. No functionality.	-	-	-
JF8	For use with DZC… only. Selects drive to be the terminating node in a CAN network.	DZR… or non-terminating node	Terminating node	-

DIP Switch Functions

CAN & RS-485 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

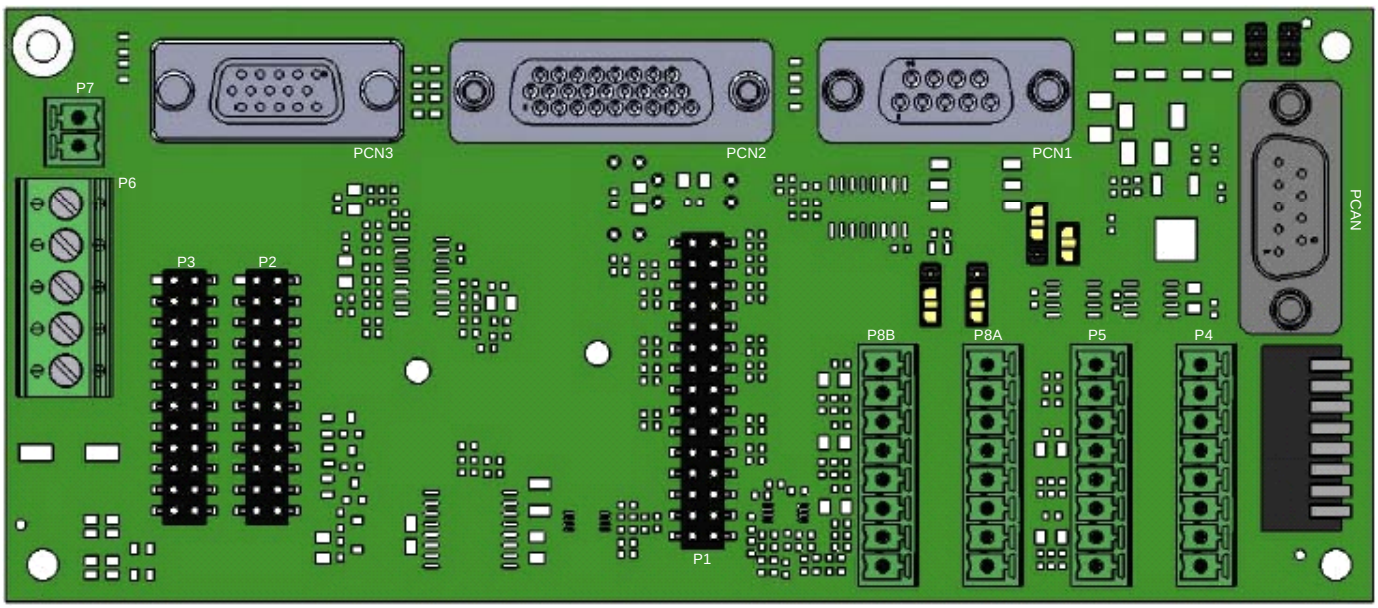
CAN Bus & RS-485 Bit Rate Settings

Bit Rate (bits/sec)		SW7	SW8
CAN	RS-485		
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

LED Functions

The MC1XDZ01 contains LEDs that indicate DC Power and Logic power supply status. The LEDs will light up when power is applied to P6-Power Connector and P7-Logic Power Connector.

CONNECTOR INFORMATION

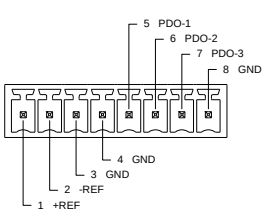


P1 – Mounting Signal Connector	
Connector Information	30-pin, dual-row, 2.54 mm pitch header
Mating Connector Example	No mating connector required. Mate directly to drive.

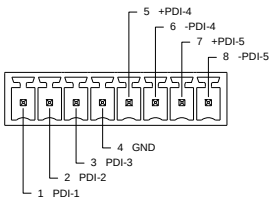
P2 – Mounting Power Connector	
Connector Information	24-pin, dual-row, 2.54 mm pitch header
Mating Connector Example	No mating connector required. Mate directly to drive.

P3 – Mounting Power Connector	
Connector Information	24-pin, dual row, 2.54 mm pitch header
Mating Connector Example	No mating connector required. Mate directly to drive.

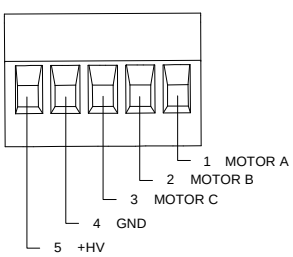
P4 – Signal Connector	
Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



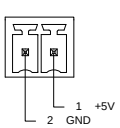
P5 – Signal Connector	
Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



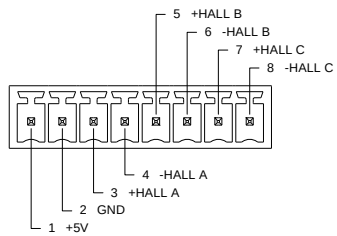
P6 – Power Connector	
Connector Information	5-port, 5.08 mm spaced screw terminal
Mating Connector Example	Not Applicable



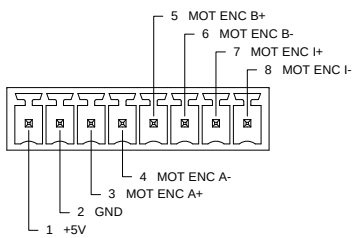
P7 – Logic Power Connector	
Connector Information	2-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840366



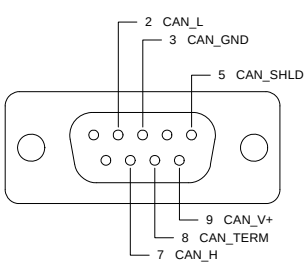
P8A – Feedback Connector	
Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



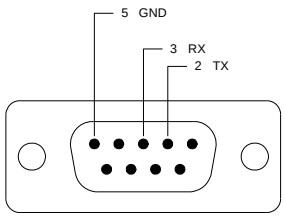
P8B – Feedback Connector	
Connector Information	8-port, 3.5 mm spaced insert connector
Mating Connector Example	Phoenix Contact: P/N 1840421



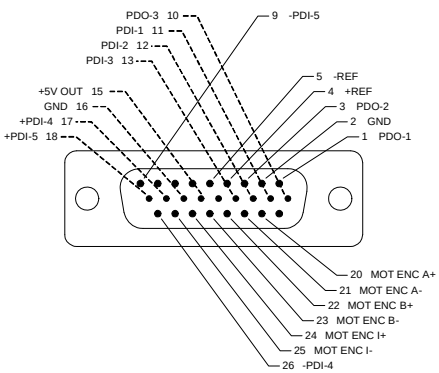
PCAN – CAN Communication Connector	
Connector Information	9-pin, male D-sub
Mating Connector Example	AMP: Plug P/N 205203-3; Housing P/N 748677-1; Terminals P/N 745253-6 (loose) or 745253-2 (strip)



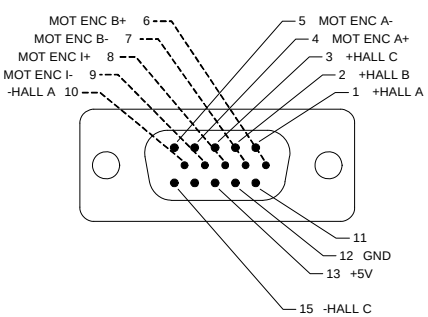
PCN1 – RS232 Communication Connector	
Connector Information	9-pin, female D-sub
Mating Connector Example	AMP: Plug P/N 205204-4; Housing P/N 748677-1; Terminals P/N 5-66507-7 (loose) or 3-66507-0 (strip)



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)

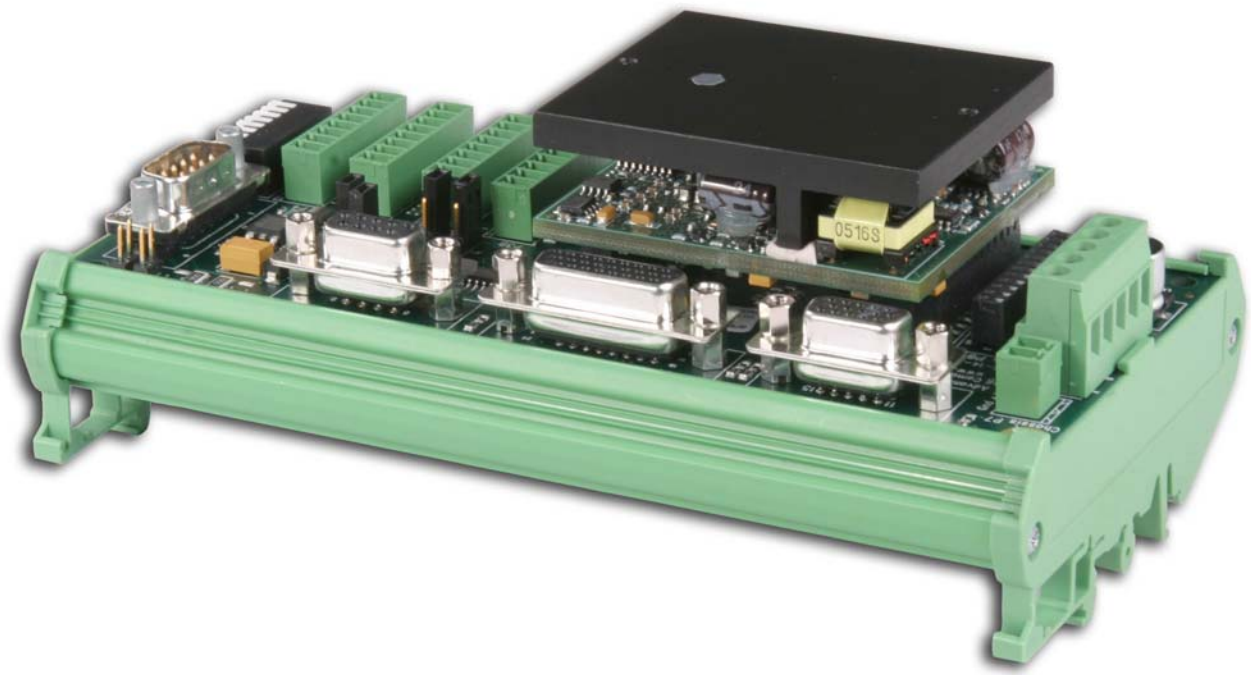


PCN3 – Feedback Connector	
Connector Information	15-pin, high-density, female D-sub
Mating Connector Example	AMP: Plug P/N 748365-1; Housing P/N 748677-1; Terminals P/N 748333-4 (loose) or 748333-2 (strip)



HARDWARE NOTES

The MC1XDZ01 mounting card is designed for easy installation and integration by means of quick disconnect screw-terminals and the ability to easily slide into a standard sized DIN mounting tray. The photo below shows a DZ-series amplifier installed onto the MC1XDZ01, which is inserted in a DIN mounting tray, with included mating connectors shown alongside (amplifier and mounting tray not included with MC1XDZ01 mounting card).



DIN MOUNTING TRAY EXAMPLE:

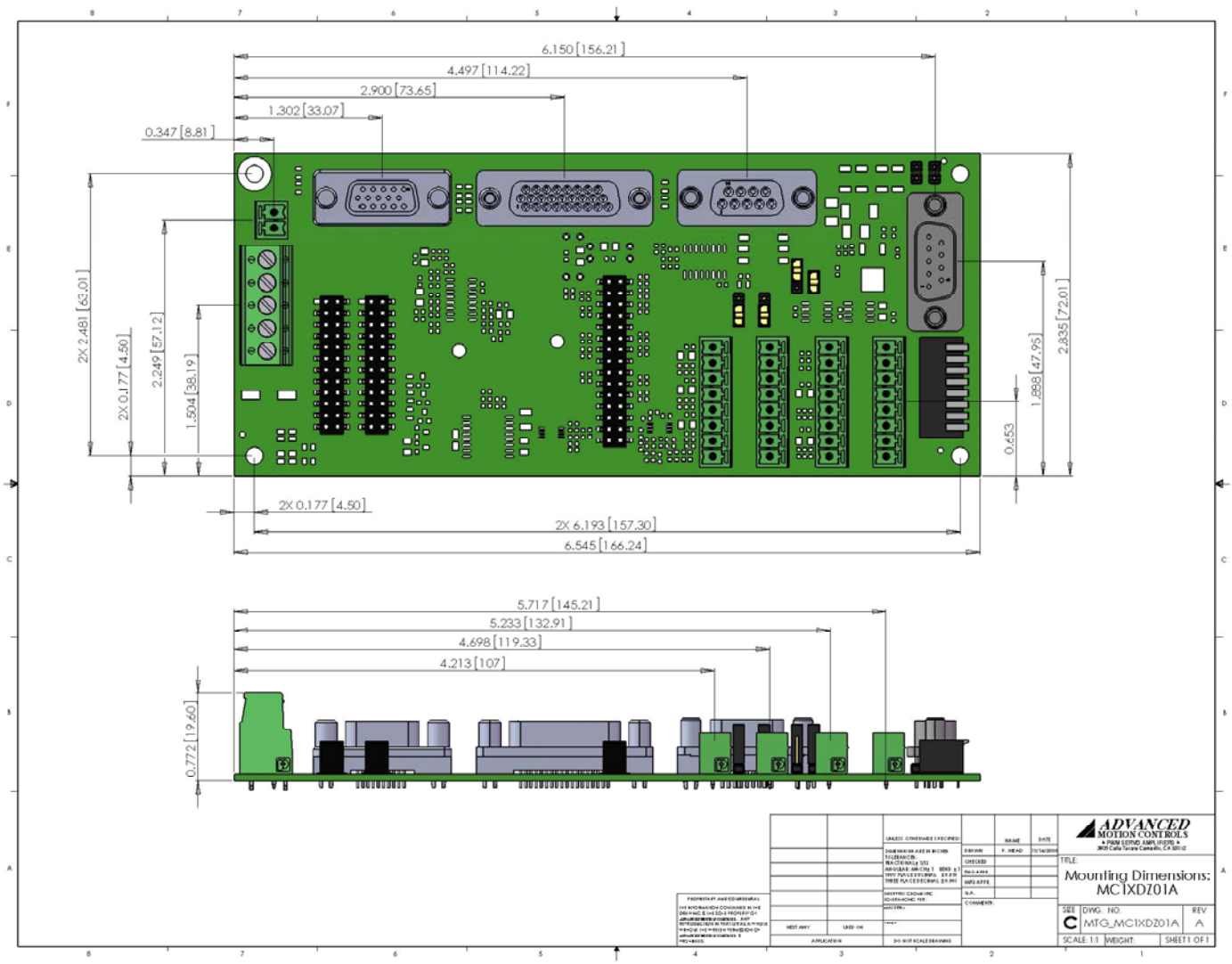
Manufacturer: Phoenix Contact ®

INCLUDED CONNECTORS:

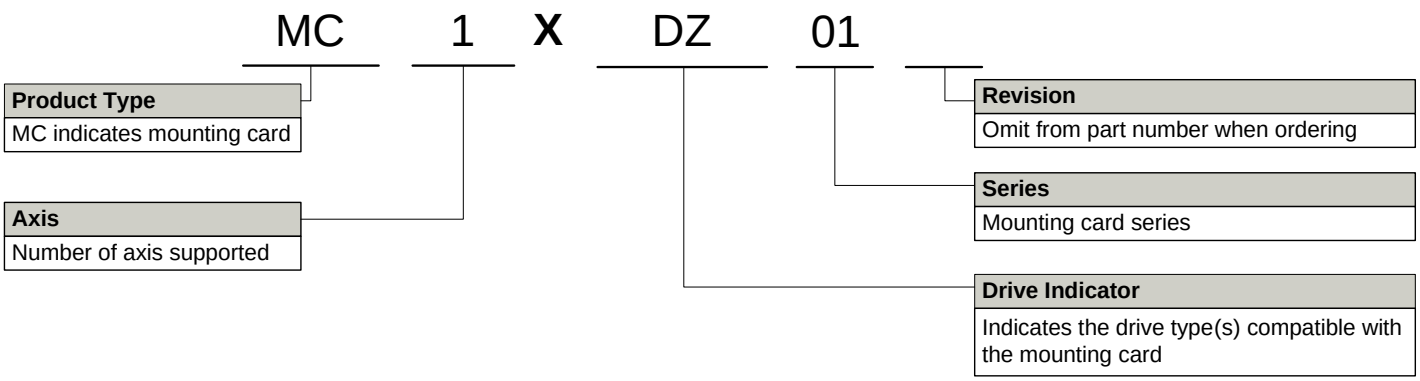
Manufacturer: Phoenix Contact ®

2-position 3.5 mm spaced plug terminal (1 quantity, manufacturer part number: 1840366)
8-position 3.5 mm spaced plug terminal (4 quantity, manufacturer part number: 1840421)

MOUNTING DIMENSIONS



PART NUMBERING INFORMATION



All servo drive accessories listed in the selection tables of the website are readily available, standard product offerings. However, additional features and/or options are available for select drives and other possibilities can be made available for OEMs with sufficient volume requests. Feel free to contact Applications Engineering for further information and details.