Allen-Bradley

Control Interface Breakout Boards with 24V-to-5.2V Auxiliary Power Converter

Catalog Numbers 2090-U3CBB-DM44, 2090-U3CBB-DM12

About the Control Interface Breakout Boards

These boards provide discrete wire termination for signals on the CN1 I/O connector of Ultra3000 2098-DSD-005, 2098-DSD-010, and 2098-DSD-020 drives.

The 12-pin board (catalog number 2090-U3CBB-DM12) is intended for SERCOS drives but may be used in non-SERCOS applications with minimal I/O requirements.

Each board includes an isolated 24V-to-5.2V DC auxiliary power converter, which simplifies control power connections for Ultra3000 2098-DSD-005, 2098-DSD-010, and 2098-DSD-020 drives.
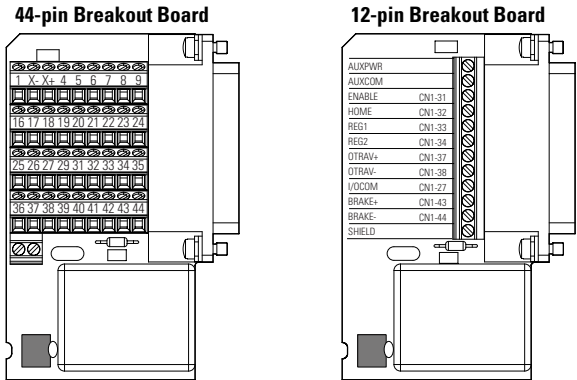
Refer to the Ultra3000 Digital Servo Drives Installation Manual, publication 2098-IN003, for additional information about these signals.
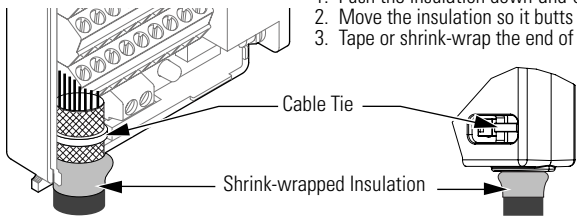
> ⚠ **ATTENTION:** These breakout boards contain electrostatic discharge (ESD) sensitive parts that can be damaged if you do not follow ESD control procedures. If you are unfamiliar with ESD control procedures, refer to Guarding Against Electrostatic Damage, publicaton 8000-4.5.2, or any other applicable ESD protection handbook.

Install the Control Interface Breakout Board

44-pin Breakout Board

12-pin Breakout Board

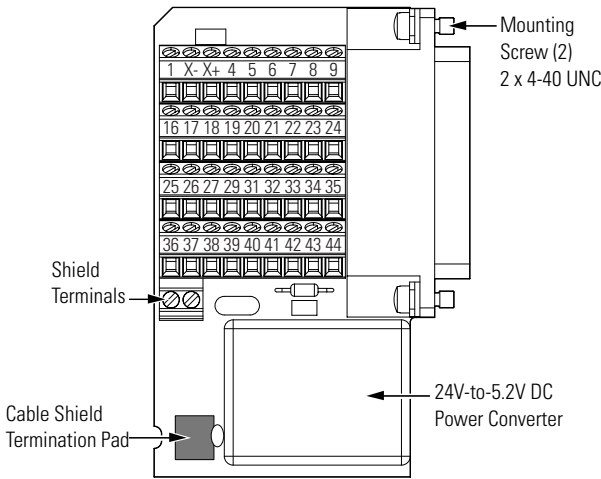|	
AUXPWR	
AUXCOM	
ENABLE	CN1-31
HOME	CN1-32
REG1	CN1-33
REG2	CN1-34
OTRAV+	CN1-37
OTRAV-	CN1-38
I/OCOM	CN1-27
BRAKE+	CN1-43
BRAKE-	CN1-44
SHIELD	

Follow these steps to form a compact connection.
1. Push the insulation down-and-over itself.
2. Move the insulation so it butts against the outside wall of cover.
3. Tape or shrink-wrap the end of the insulation to the cable.

Cable Tie

Shrink-wrapped Insulation

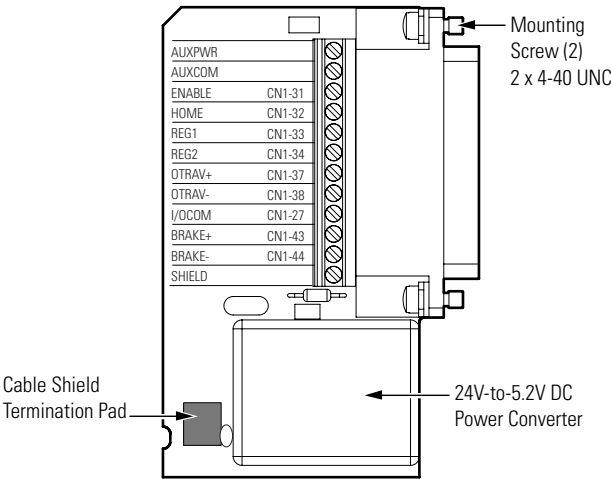| Attribute	2090-U3CBB-DM44, 2090-U3CBB-DM12
Cable diameter	12.7 mm (0.5 in.) max
Screw terminal wire size	0.06…1.31 mm^2 (30…16 AWG)
Recommended wire strip length	25…63 mm (1.0…2.5 in.)

Auxiliary power input
    Voltage
    Current
	18…30V DC
	400 mA max

Recommended torque
    Mounting screws
    Terminal screws
	0.40 N•m (3.5 lb•in)
	0.25 N•m (2.2 lb•in)

Connector Data

Catalog Number 2090-U3CBB-DM44

Mounting Screw (2) 2 x 4-40 UNC

Shield Terminals

24V-to-5.2V DC Power Converter

Cable Shield Termination Pad

Terminal	Signal
1	EPWR_5V
X– [1]	AUX_COM
X+ [1]	24V_AUX_PWR
4	AX+
5	AX–
6	BX+
7	BX–
8	IX+
9	IX–
16	AMOUT+
17	AMOUT–
18	BMOUT+
19	BMOUT–

Terminal	Signal
20	IMOUT+
21	IMOUT–
22	ACOM
23	AOUT
24	ILIMIT
25	CMND+
26	CMND–
27	IOCOM
29	IOPWR
31	INPUT1
32	INPUT2
33	INPUT3
34	INPUT4

Terminal	Signal
35	INPUT5
36	INPUT6
37	INPUT7
38	INPUT8
39	OUTPUT1
40	OUTPUT2
41	OUTPUT3
42	OUTPUT4
43	RELAY+
44	RELAY–
⏚	SHIELD
⏚	SHIELD

(1) The 24V DC auxiliary power source is connected to the X+ (positive) and X– (negative) terminals. Ground the supply elsewhere in the system, as X– is isolated from the drive chassis ground.

Catalog Number 2090-U3CBB-DM12

Connector Pin	Signal	
	SERCOS	**Non-SERCOS**
—	AUXPWR [1]	AUXPWR [1]
—	AUXCOM [1]	AUXCOM [1]
CN1-31	ENABLE	INPUT1
CN1-32	HOME	INPUT2
CN1-33	REG1	INPUT3
CN1-34	REG2	INPUT4

Connector Pin	Signal	
	SERCOS	**Non-SERCOS**
CN1-37	OTRAV+	INPUT7
CN1-38	OTRAV–	INPUT8
CN1-27	I/OCOM	I/OCOM
CN1-43	BRAKE+	RELAY+
CN1-44	BRAKE–	RELAY–
—	SHIELD	SHIELD

(1) The 24V DC auxiliary power source is connected to the AUXPWR (positive) and AUXCOM (negative) terminals. Ground the supply elsewhere in the system, as AUXCOM is isolated from the drive chassis ground.