TB-111: M12 (12 mm) Connector Option

The economical M12 style connector offers a smaller profile than some other connectors , and offers sealing up to IP69K.

Figure 1

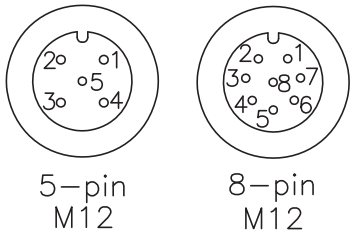
At left, the 5-pin M12 connector. At right, an 8-pin M12 connector

Economical, compact and uniform, the M12 (12 mm) style of connectors allow for a flexible installation of encoders in many applications. The M12 connectors' associated cordsets have a tighter bend radius, allowing for versatility in their application.

The cordsets are also universal for each pinout. That is, the same 5-pin cordset will work with any Accu-Coder™ encoder with a 5-pin M12 connector; the same is true for the 8-pin M12 connector and cordset. The M12 connectors offer 5-pin or 8-pin options (see Figure 1, right), and each pin on a given connector has the same function (see Figure 2, below).

Most motion control applications include sensors or other detectors in addition to encoders. Quite often these devices – for example, limit switches, proximity switches, etc. – also have M12 (12 mm) style connectors. Since all the 3-pin, 4-pin, and 5-pin cordsets are compatible with the 5-pin connector on the Accu-Coder™, you can stock fewer cordsets to cover multiple motion control devices, making this option even more cost effective.

Figure 2



Connector View

Two types of cordsets are available for use with Accu-Coder™ encoders: Non-CE and CE (*Conformité Européenne*[1]). For Non-CE cords, the shield ***is not connected*** to the coupling nut on the encoder end of the cable, and it is grounded on the controller end. For CE cordsets the shield ***is connected*** to the coupling nut on the encoder end of the cable, and it is also grounded on the controller end, which results in improved noise suppression and immunity. Despite this advantage, EPC recommends that the CE cordset is only used when the application requires it in order to avoid harmful grounding loops. When using a CE cordset take special caution to ensure proper machine bonding and grounding.

If you have additional questions, please contact EPC Technical Services at 800-366-5412 or email techsupport@encoder.com.

M12 CONNECTOR PINOUT AND FUNCTIONS

	8-PIN			3-PIN, 4-PIN, 5-PIN		
Connector	Incremental Function	SSI Absolutes Function	Conductor	Incremental Function	CANopen Absolutes Function	Conductor
Pin 1	Data A	Ground (GND)	White	+VDC	CAN_{GND} / shield	Brown
Pin 2	+VDC	+VDC	Brown	Data B	+VDC	White
Pin 3	Data A'	SSI CLK+	Green	Common	Ground (GND)	Blue
Pin 4	Data B	SSI CLK-	Yellow	Data A	CAN_{High}	Black
Pin 5	Data B'	SSI DATA+	Gray	Data Z	CAN_{Low}	Gray
Pin 6	Data Z	SSI DATA-	Pink	---	---	---
Pin 7	Common	PRESET	Blue	---	---	---
Pin 8	Data Z'	DIR	Red	---	---	---
Connector Shell	Case	Shield**	Bare*	Case	---	Bare*

**Side Exit - housing; End Exit - N/C

NOTE: This table should only be used for cordsets supplied by Encoder Products Co.

[1] Please see Technical Bulletin TB-100: *When to Choose the CE Mark*