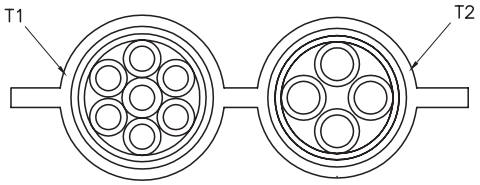
Connecting the MFA-CCV6 in a vacuum chamber to a Newport controller

Although the MFA-CCV6 motorized linear stage is vacuum compatible, the SUB-D25M connector supplied with the stage is **not** vacuum compatible or intended for use in a vacuum environment. Therefore, **customers are responsible** for cutting the supplied cable into 2 sections and making connections to a vacuum feedthrough/bulkhead coupling to connect the MFA-CCV6 stage to a Newport controller. This note describes the steps for this procedure.

1. Cut the supplied cable into 2 sections.

   The cable consists of 2 bundles, "T1" and "T2". T1 contains 7 wires and T2 contains 4 wires, as shown in this cross-section:



   Each wire's bundle, color, function, wire gauge and pin # on the SUB-D25M connector is described in this table:

Bundle	Color	Function	AWG	SUB-D25M Pin #
T1	Green	Ground	39	22
T1	Brown	+5V Supply	39	21
T1	Black	Encoder Phase B	39	20
T1	Violet	Encoder Phase A	39	19
T1	Grey	Negative Limit	39	18
T1	Pink	Positive Limit	39	17
T1	Blue	Origin	39	13
T2	White	+ Motor	26	5
T2	Orange	– Motor	26	7
T2	Red	+ Motor	26	6
T2	Green	– Motor	26	8

   Note: Both T1 and T2 bundles contain a green wire. Be sure to identify and distinguish each wire for appropriate connections.

2. Connect the flying leads of the cable section attached to the MFA-CCV6 (inside the vacuum chamber) to the feedthrough.

3. Connect the flying leads of the cable section attached to the SUB-D25M connector to the feedthrough portion outside the vacuum chamber. IMPORTANT: Keep the SUB-D25M connector attached to the cable. All EEPROM data is stored in the connector, allowing for quick detection of the stage without manual configuration.

4. Connect the SUB-D25M connector to the appropriate Newport controller.

For more information about the MFA Series Linear Stages, please see the MFA User's Manual.