Universal Motion Interface

**NI UMI-7764**
- Universal motion wiring interface with single cable connection from motion controller
- Per-axis motion signal breakout
- Screw terminal connectors for encoder, limit, motion I/O, and motor driver signals
- Host bus +5 VDC monitor with built-in driver inhibit control
- Connectivity for third-party drive and motion components
- Encoder rates of 20 MHz

**Overview and Applications**
For connectivity to third-party power drives, use the National Instruments UMI-7764 interface. This product provides a comprehensive wiring and connection point for motion control and feedback signals. A single cable from the motion controller to the UMI carries input and output signals for all axes. By dividing these signals into per-axis and function-specific connections, the UMI interface simplifies integration of third-party drivers, amplifiers, encoders, limits, and I/O with NI controllers. The UMI-7764 works with up to 20 MHz quadrature encoder rates.

The UMI incorporates a host PC power monitor that inhibits the motion driver if the host PC loses power during motion control. The UMI monitors the +5 VDC from the PC and activates the inhibit signals if the voltage falls out of tolerance.

**Features**
Enhanced motion-specific features set the UMI apart from simple connector-only screw terminal blocks. Compatibility with both TTL and differential encoders, input filtering, host PC power monitoring, onboard inhibit functionality, and compact size make the UMI the ideal motion interface solution. The result is simplified wiring to third-party amplifier/driver and motor components. Refer to the motor drive section on page 630 for integrated amplifier, power supply, and connectivity solutions.

**Do you need a UMI for stepper motor drives?**
- **2 Phase**
  - NI Motor Drive
- **5 Phase**
  - UMI and Third-Party Motor Drive
- **Others**
  - UMI and Third-Party Motor Drive

**Do you need a UMI for servo motor drives?**
- **DC Brush**
  - NI Motor Drive
- **DC Brushless**
  - UMI and Third-Party Motor Drive
- **AC**
  - UMI and Third-Party Motor Drive
- **Others**
  - UMI and Third-Party Motor Drive

INFO CODES
For more information or to order products online, visit ni.com/info and enter: umi7764

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When interfacing to a third-party power drive and motor, it is important to consider the amount of current to drive the motor and the connectivity to a motor drive. National Instruments provides a wide selection of options for interfacing to motors. You can interface to 2-phase stepper motors with 4 A peak current using National Instruments power drives. In addition, you can control 5-phase stepper motors and other stepper motors outside the range of NI MID Series drives using National Instruments UMI interface and controllers. For DC-brush servo motors that need up to 10 A peak current, you can use National Instruments power drives and controllers. For DC brushless, AC, and other types of servo motors outside the range of NI MID Series drives, an NI UMI interface simplifies connections to the motor and controller.

Universal Motion Interfaces

Ordering Information
NI UMI-7764 .................................777978-02
Cable
SH 68-C68-S cable..........................186381-02

Some signals have compatibility defined as signal pass-through. This means the UMI-7764 may have passive filtering on these signals but will not affect the voltage range or current handling capability. Consult your motion controller specifications to determine the allowable voltage range and logic level compatibility of the signal.