

HLT100C-MP150 HIGH LEVEL TRANSDUCER INTERFACE MODULE

This product (HLT100C-MP150) has been discontinued. The [AMI100D](#) can replicate some, but not all features of the HLT100C-MP150. To interface high level output transducers, users are recommended to upgrade to an [MP160 Data Acquisition Unit](#).

The HLT100C-MP150 module is used to interface all high level output transducers to the MP150 System or IPS100C Isolated Power Supply.

! Newer HLT100C “Rev 2” units, shipped with MP160 Systems and indicated “Rev 2” on the part number/barcode label, cannot physically be used with MP150+UIM combination or an IPS100C.

The HLT100C-MP150 module provides 16 input and 2 output channels. The HLT100C-MP150 is similar in function to the UIM100C Universal Interface Module, but it also provides power to the transducer when making a connection.

High level output transducers and adapters connect to the HLT100C-MP150 via standard 6 pin RJ11 type connectors. Transducers and adapters that presently require the HLT100C-MP150 module are:

TSD109	C/F: Tri-axial Accelerometers
TSD111A	Heel/Toe Strike Transducer
TSD115	Variable Assessment Transducer
TSD116	A/B/C: Switches and Markers
TSD150	A/B: Active Electrodes
INISO	Input Signal Isolator
OUTISO	Output Signal Isolator
DTU100	Digital Trigger Unit (MRI Synchronization)
NIBP-MRI	Noninvasive Blood Pressure for MR

Alternatively, the HLT100C-MP150 module can be used to connect mains powered external equipment to the MP System when the system also connects to electrodes attached to humans.

IMPORTANT USAGE NOTE

To provide the maximum in subject safety and isolation, use electrically isolated signal adapters to connect mains powered external equipment (i.e., chart recorders, oscilloscopes, etc.) to the MP System. Use the INISO adapter to connect to MP analog system inputs and the OUTISO adapter to connect to analog system outputs.

HARDWARE SETUP

- **See also:** setup notes for external devices and channel contention issues.

Connect the Digital and Analog cables from the MP150 directly to the HLT100C-MP150, then connect the UIM100C to the HLT100C-MP150. The HLT100C-MP150 module must be connected on the left side of the UIM100C module. This allows the use of other amplifier modules with the UIM100C while the HLT100C-MP150 is connected.

High level output transducers (e.g., TSD109 Tri-Axial Accelerometer) or active electrodes (e.g., TSD150A Active Electrode) connect via the 16 analog RJ11 jacks on the front of the HLT100C-MP150. Up to 16 analog channels can be used at the same time, as long as there are no other analog channels in use by the UIM100C module or by other BIOPAC modules.

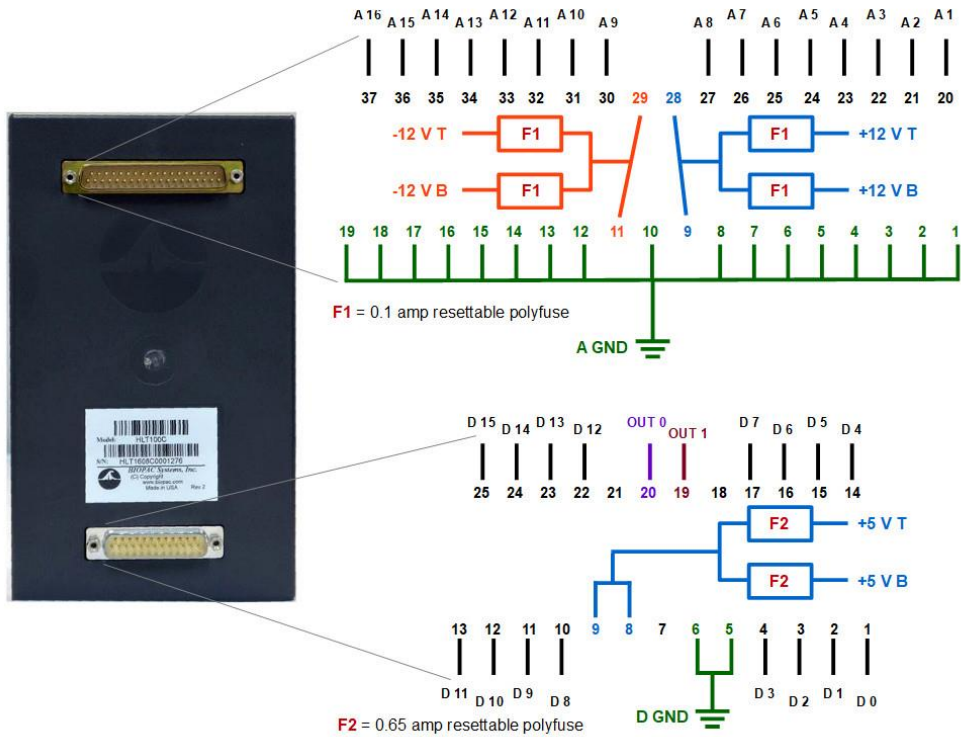
Note If active electrodes are used, it may be necessary to attach a single ground lead to the UIM100C via the GND A terminal on the back of the module.

IMPORTANT!

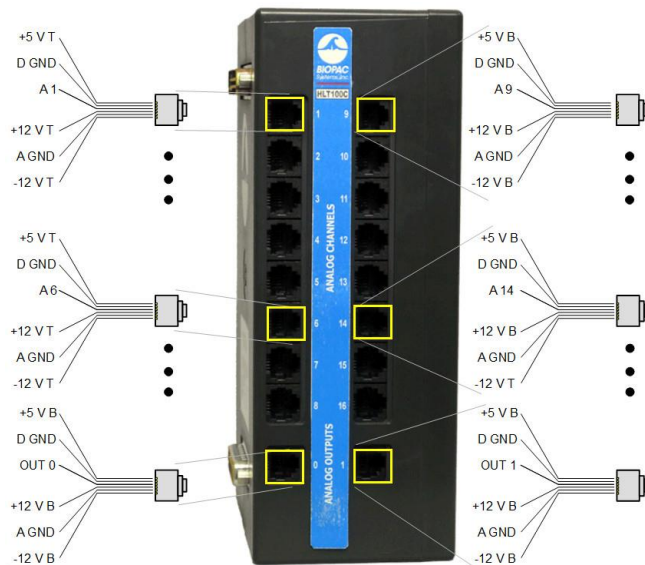
If contention exists, the channel data will be corrupted. For example, if four channels [Ch.1-4] were in use by the UIM100C, then only 12 channels [Ch. 5-16] could be used by the HLT100C-MP150.

HLT100C-MP150 SPECIFICATIONS

- Transducer Inputs: 16 channels (front panel) – RJ11 jacks
- System D/A Outputs: 2 channels (front panel) – RJ11 jacks
- Isolated Power Access: ±12 V, +5 V @ 100 ma (via all RJ11 jacks)
- Weight: 540 grams
- Dimensions: 7 cm (wide) x 11 cm (deep) x 19 cm (high)
- Pin-outs:



DSUB37 and DSUB25 Connectors



6-Position Modular Jacks

INTERFACE MODULE CONNECTION

When connecting the analog output sourcing from external devices to the MP150 or MP100, channel contention must be considered. To connect external device outputs to the MP150 or MP100:

- **Non-human subjects or only collecting data from external devices**—If the MP System is only collecting signals from non-human subjects (via MP system amplifier modules) or if the MP System is only collecting data from external devices:
 - Connect external device output signal to an unused **UIM100C** input channel (1-16)
- **Human subjects**—If the MP System is collecting signals from human subjects (via MP system amplifier modules), it's important to isolate the external device output signal from the MP System input.
 - Connect external device output signal to an unused **HLT100C-MP150** input channel (1-16) via **INISO**.



HLT100C-MP150 UIM100C

Channel contention issues

1. If an analog channel is used on the UIM100C or HLT100C-MP150, make certain that two external devices do not use the same analog channel.
2. If amplifier modules are connected to the MP System then those amplifier modules must be set to a channel which is not used by external devices plugged into the UIM100C or HLT100C-MP150.

For example:

Two external device outputs are connected to the MP150 system. Device one is a Noninvasive Blood Pressure (NIBP) monitor and device two is an Electronic Scale. In addition, an ECG100C module is attached to the MP150 System and is being used to measure the electrocardiogram. All devices are connected to a human subject.

In this case, to fully isolate the human subject:

- Both the NIBP monitor and the Electronic scale outputs should be connected to the MP150 inputs via the HLT100C-MP150, using one INISO for each input channel.
- The ECG100C should be snapped directly to the MP150 System and connected directly to the subject with the appropriate leads and electrodes.
- Assuming the NIBP is connected via INISO to HLT100C-MP150 channel 1 and the Electronic Scale is connected via INISO to HLT100C-MP150 channel 2, then the ECG100C amplifier must be set to a channel between 3-16.
 - The ECG100C can't use Channels 1 and 2 because both of these channels are being used by other devices.

If additional instruction or a special cable is required to connect the MP System to the device, please contact a BIOPAC Systems, Inc. applications engineer at support@biopac.com.