EE3064 - Connections for DC Motor Experiment  
(Exps. 2-4)

**Step 1:** Identify the following connectors on the DC motor:

1. “Motor” - this is the voltage input to the motor. The input voltage **should not exceed** ±6 V.

2. “Tach” - tachometer (velocity) output

3. “S1&S2” - potentiometer (position) output - you can use either one of the two connectors marked “S1&S2”. The potentiometer output is in the range ±5V.

**Step 2:** Identify the following connectors on the Universal Power Module (UPM).

1. “To load” - this is the voltage output of the power amplifier in the UPM.

2. “S1&S2”, “S3” - the six-pin connectors receive the signals from potentiometer and tachometer on the motor setup. The colored test points located above the six-pin connectors are used to monitor the signals from the potentiometer and tachometer.

3. “+” and “-” terminals of the power amplifier in the UPM - the input from the signal source (signal generator/data acquisition board) should be connected to “+” terminal. Do not connect anything to the “-” terminal. The ground of the signal source should be connected to the UPM ground terminal described next.

4. “GND” - UPM ground terminal located at the top left hand corner.
Step 3: Make the necessary connections depending on the experiment: The possible connections are described below.

*Connections between the motor setup and the UPM:*

1. “Motor” connector on motor setup to “To load” connector on UPM
2. “S1&S2” connector on motor setup to six-pin “S1&S2” connector on UPM
3. “Tach” connector on motor setup to six-pin “S3” connector on UPM

*Connections between the UPM and the signal source:*
The signal source could be either the signal generator or the output of the data acquisition board.

1. input signal from signal source to “+” terminal of power amplifier in UPM. Do not connect anything to “-” terminal of power amplifier.
2. ground of signal source to “GND” terminal of UPM

*Connections between the UPM and the measuring device:*
The measuring device could be either the oscilloscope or the input of the data acquisition board.

1. orange “S1” connector on UPM to one channel of measuring device
2. blue “S3” connector on UPM to another channel of measuring device
3. “GND” terminal on UPM to grounds of both channels of measuring device