



**SENSOR CONNECTIONS**

PIN	SYMBOL	DESCRIPTION
A	+E	+Excitation
B	+S	+Signal
C	-E	-Excitation, TEDS Return
D	-S	-Signal
E	TEDS_IO	TEDS Data
F	24_OUT	24V Output

PIN	SYMBOL	DESCRIPTION
G	GND_OUT	Ground
H	5_OUT	5V Output
J	-V	-V and -mA Amplified Input Connections
K	+V	+V and +mA Amplified Input Connections
L	PLEAD	Leading pulse from sensor
M	PLAG	Lagging pulse from sensor

**NOTES**

The IHH500 is set to recognize TEDS automatically upon startup if this function is available.

This function must be enabled under the TEDS DATA menu.

Sensor cable shield connections should be grounded on one end, either the sensor side or the instrument side, to avoid potential ground loops.

Shield should be connected to cable clamp of binder cable assembly when connecting on instrument side.

For more information on TEDS see section 6.8 of the IHH500 manual.

More information on setting up and editing a sensor profile can be found in section 6.1 of the IHH500 manual.



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## CREATING A SENSOR PROFILE

1. Connect the sensor cable to the IHH500 sensor port and turn on the IHH500 by pressing the POWER button in the lower right corner.
  - a. During the power up of the IHH500 an internal auto calibration will be performed.
  - b. Next, a screen showing the current selected channel, serial number, sensor type, and sensor sensitivity will briefly be displayed.
  - c. The normal operating screen will now be displayed with the updated peak, tracking, valley, selected channel, gross/tare mode, and sampling rate (samples per second).
2. Press the red MENU button to enter into the IHH500 main menu.
  - a. The menu mode is controlled by the red arrow keys and red command words.
3. Using the red Enter button select SENSOR PROFILE.
4. Using the red down arrow key followed by the red Enter button select NEW CHANNEL.
5. Using the red left and right arrow keys followed by the red Enter button set the number for the sensor channel to be created.
  - a. Channel 01 is a calibrated reference channel, set in the IHH500 at the factory, and cannot be overwritten or selected during a sensor profile setup.
6. Using the red Enter button select SENSOR CONFIGURATION.
  - a. Each step in this menu must be completed before moving on to the next step.
7. Using the red left and right arrow keys followed by the red Enter button set the sensor type.
  - a. Sensor type is usually listed on the sensor calibration certificate by output and can be:
    - FULL BRIDGE for mV/V output sensors.
    - BRIDGE & PULSE for mV/V output sensors with encoder.
    - VOLTAGE OUTPUT for amplified voltage output sensors.
    - VOLTAGE & PULSE for amplified voltage output sensors with encoder.
    - CURRENT OUTPUT for amplified current output sensors.
    - CURRENT & PULSE for amplified current output sensors with encoder.

\* For more information on sensor type see section 6.1.3.1 of the IHH500 manual.
8. Using the red down arrow key followed by the red Enter button select DIRECTION.
  9. Using the red left and right arrow keys followed by the red Enter button set the sensor direction type.
    - a. UNI-DIRECTION is used for sensors with one direction of output such as compression only.
    - b. BI-DIRECTION is used for sensors with two directions of output such as compression and tension.
 

\*For more information on sensor direction see section 6.1.3.2 of the IHH500 manual.
  10. Using the red down arrow key followed by the red Enter button select UNIT SELECTION.
  11. Using the red up and down arrow keys followed by the red Enter button select the type of output to be measured by the sensor.
  12. Using the red left and right arrow keys followed by the red Enter button select the engineering units to correspond with the measured output of the sensor.
 

\* For more information on selectable engineering units see section 6.1.3.3.1 of the IHH500 manual.
  13. Using the red down arrow key followed by the red Enter button select SENSOR CAPACITY.
  14. Using the red left and red right arrow keys select the digit to be changed. Using the red up and down arrow keys set the value for the selected digit that corresponds to the sensors full capacity. Use the red ENTER button to save the value.
    - a. The decimal place can be set by first changing the decimal to a number and then changing another selected digit into a decimal.
    - b. The sensor's full capacity is usually listed on the sensor calibration certificate.
  15. Setup SENSITIVITY (+)
    - a. Using the red down arrow key followed by the red Enter button select SENSITIVITY (+).
      - The sensitivity (+) will be the positive mV/V output for bridge type sensors and the maximum positive voltage output for amplified sensors.
      - The output of the sensor is usually listed on the sensor calibration certificate.
      - For current output sensors, +/- Sensitivity is not available. CALIBRATION must be used for current output sensors. See step 19 below.

\* For more information on sensitivity see section 6.1.3.5 of the IHH500 manual.



- b. Using the red left and red right arrow keys select the digit to be changed. Using the red up and red down arrow keys set the value for the selected digit that corresponds to the sensors sensitivity (+) and use the red ENTER button to save the value.
- The decimal place can be set by first changing the decimal to a number and then changing another selected digit into a decimal.
16. Setup SENSITIVITY (-)
- a. Using the red down arrow key followed by the red Enter button select SENSITIVITY (-).
- SENSITIVITY (-) can only be selected if BI- DIRECTIONAL was selected earlier.
  - The sensitivity (-) will be the negative mV/V output for bridge type sensors and the maximum negative voltage output for amplified sensors.
  - The output of the sensor is usually listed on the sensor calibration certificate.
  - For current output sensors, +/- Sensitivity is not available. Calibration must be used for current output sensors.
- b. Using the red left and red right arrow keys select the digit to be changed. Using the red up and red down arrow keys set the value for the selected digit that corresponds to the sensors sensitivity (-) and use the red ENTER button to save the value.
- The decimal place can be set by first changing the decimal to a number and then changing another selected digit into a decimal.
17. Using the red down arrow key followed by the red Enter button select CALIBRATION if a live calibration, where a load is to be placed on the sensor, is desired. Otherwise, CALIBRATION can be skipped by pressing the red down arrow key.
- a. Press the red Enter button to select Zero load (+) and proceed to the input screen.
- b. With no load on the sensor, press the red Enter button to capture the Zero load (+) reading.
- c. Press the red down arrow key followed by the red Enter button to select FullScale (+) and proceed to the input screen.
- d. With the full load on the sensor, which results in the full positive output, press the red Enter button to capture the FullScale (+) reading.
- e. Press the red down arrow key followed by the red Enter button to select Zero load (-) and proceed to the input screen.
- The direction must be set to Bi-Directional for a – input in CALIBRATION.
- f. With no load on the sensor, press the red Enter button to capture the Zero load (-) reading.
- g. Press the red down arrow key followed by the red Enter button to select FullScale (-) and proceed to the input screen.
- The direction must be set to Bi-Directional for a – input in CALIBRATION.
- h. With the full load on the sensor, which results in the full negative output, press the red Enter button to capture the FullScale (-) reading.
18. Using the red down arrow key followed by the red Enter button select PULSE / ROTATE.
- a. The PULSE / ROTATE menu is selectable only for profiles that specify PULSE as the sensor type.
- b. Typical FUTEK settings are 360 and 60.
19. Using the red left and red right arrow keys select the digit to be changed. Using the red up and red down arrow keys set the value for the selected digit that corresponds to the encoder Pulse counts. Use the red ENTER button to save the value.
- a. The default value is set to 360.
- b. See section 6.1.3.8 of the IHH500 manual for more information on PULSE / ROTATE.
20. Using the red down arrow key followed by the red Enter button select SERIAL NUMBER.
21. Using the red left and red right arrow keys select the digit to be changed. Using the red up and red down arrow keys set the value for the selected digit that corresponds to the sensor's serial number. Use the red ENTER button to save the value.
22. Press the red Back button to exit the NEW CHANNEL setup and return to the SENSOR PROFILE menu.
23. Using the red down arrow key followed by the red ENTER button select SAVE CHANGES to save and create current sensor profile.
24. Press the red Back button to exit the SENSOR PROFILE menu and return to the IHH500 main menu.
25. Press the red Back button to exit the IHH500 menu and return to the normal operation screen.
26. The normal operating screen will now be displayed with the current peak reading, sensor output, valley reading, selected channel, gross or tare mode, and samples per second (sps).
- a. Press the Display button to display additional information from encoder when available.

**Drawing Number: SP1187**

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