Owner's Manual

Programmable Transmission Sensor
P/N ASM4108, ASM4109, ASM4110

(ASM4108 shown)

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MANUAL P/N EI4108
Revision 5/10/05

ELECTRICAL CONNECTIONS

Some sensor models may require you to install the required connector to fit your motorcycle wiring harness. Use a proper “W” crimping tool to crimp the appropriate terminals onto each wire. Insert the wires into its respective connector into the proper positions using the information below:

Sensor Wire Color	Function	AMP Position	Deutsch Position
RED	POWER	1	A
GREEN	SIGNAL	2	B
BLACK	GROUND	3	C

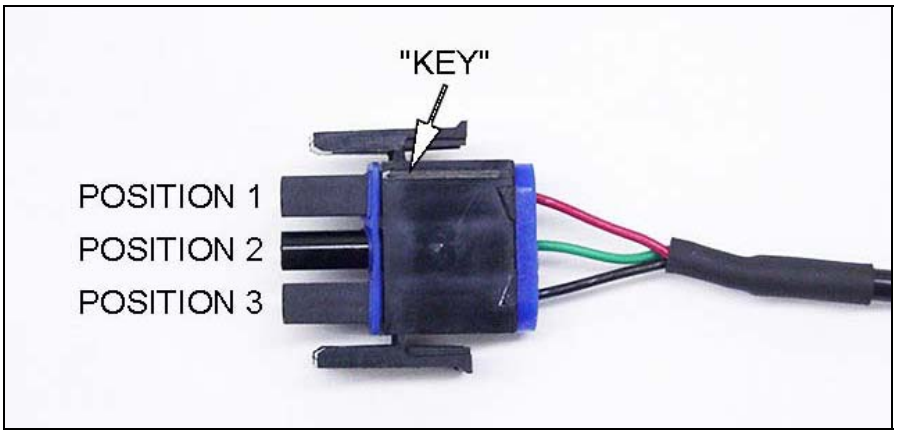


Figure 1—AMP connector electrical connections

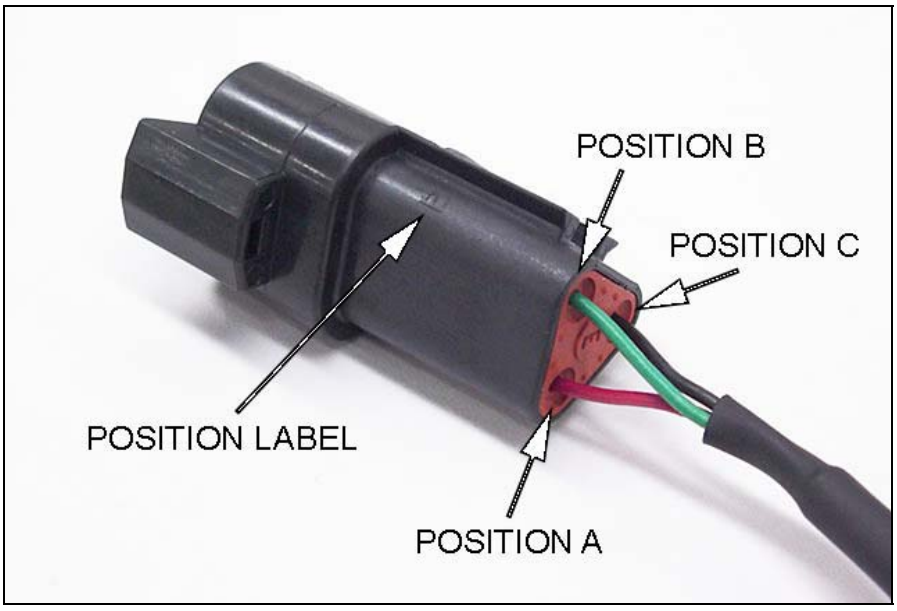


Figure 2—Deutsch connector electrical connections

CALCULATING SENSOR ERROR

The transmission sensor is programmable to apply a percentage error to the gear tooth signal, which feeds the speedometer. The range of correction is from –50% through +50%. You program the sensor by telling it how much error there is between the signal and the true speed of the bike.

Example 1 *You replaced your 64-tooth rear pulley with a 72-tooth rear pulley. Now the speedometer reads **faster** than true speed (because the engine is spinning faster than before at the same speed). The error is "positive." To find out how much, use the following equation:*

$$PositiveError = \left(\left(\frac{NewPulleyToothCount}{OldPulleyToothCount} \right) - 1 \right) * 100$$

Using the numbers from this example:

$$PositiveError = \left(\left(\frac{72}{64} \right) - 1 \right) * 100 = 12.5\%$$

(In other words, divide 72 by 64, subtract 1, and multiply by 100.

Rounding up, we arrive at an error of 13%. You must tell the programmable sensor that it is off by 13% for proper speedometer operation.

Example 2 *You replaced your 28-inch tall tire with a 29-inch tall tire. Now the speedometer reads **slower** than true speed (because the engine is spinning slower than before at the same speed). The error is "negative." To find out how much, use the following equation:*

$$NegativeError = \left(\left(\frac{OldTireHeight}{NewTireHeight} \right) - 1 \right) * 100$$

Using the numbers from this example:

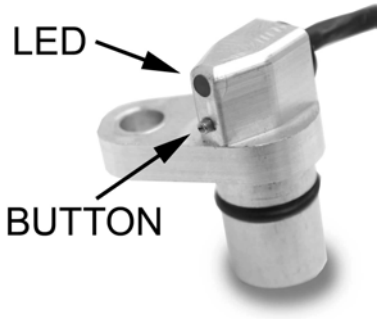
$$NegativeError = \left(\left(\frac{28}{29} \right) - 1 \right) * 100 = -3.4\%$$

(In other words, divide 28 by 29, subtract 1, and multiply by 100.

Rounding down, we arrive at an error of -3%. You must tell the programmable sensor that it is off by -3% for proper speedometer operation.

PROGRAMMING THE TRANSMISSION SENSOR

Once determined, the error can be programmed into the sensor via the pushbutton and LED.



1. To enter “program mode,” hold down the button with the power off.

2. Power the sensor up with 9-12 volts across the red and black wires while holding the button down. The LED will begin to blink slowly.

3. To input a *positive* error, release the button while the LED is *on*. Likewise, to enter a *negative* error, release the button while the LED is *off.*

4. The LED will begin to blink rapidly. This indicates that the sensor is ready to accept a new value.

5. To input the error, push the button once for each percentage of error.

    - To enter the 13% error from example 1, push the button 13 times. The LED will blink each time the button is pushed, then it will resume flashing

6. After the last button action occurs, the sensor will continue to flash for several seconds. After which it will burn the new value into memory.

7. To ensure that the proper value has been programmed, the sensor will echo back the programmed value using the LED. This echo sequence starts immediately after the rapid LED flashing stops.

    - For positive values, the LED will blink once for each percent of error. Using our error from example 1, the LED will blink 13 times, and then go dark.
    - For negative values, the LED will blink on for a long period before blinking once for each percent of error. Using our error from example 2, the LED will blink one long pulse before blinking 3 times. The LED will then go dark.

8. Your sensor is now ready for use!