

HOW TO COMMUNICATE WITH THE ROADWATCH SENSOR HEAD

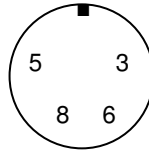
Here is the information you requested concerning communicating with the RoadWatch Sensor Head. Any monitor emulator or RS232 connection software can be used to communicate with the sensor head. Typically we use HyperTerminal.

Commands to talk to the RoadWatch Sensor

The commands described below only work when communicating directly to the Sensor. This means making an adapter to connect the Sensor to the RS232 port. In addition, 8V must be supplied to the Sensor. The connector on the sensor cable is shown below.

Standard 4 pin Male DIN connector (we use Regal Electronics 4131-4-M connector on our cables).

Pin-out looking at connector:



pin 3 +8VDC, ± 150 mV, 70 mV max ripple.
pin 8 ground
pin 5 RS232 data to Sensor
pin 6 RS232 data from Sensor

Baud: 9600; Data bits: 8; Stop bits: 1; Parity: none;
Hardware handshake: none.

The following commands can be sent to the Sensor Head

Reset: * This resets the Sensor Head. Use this command to bring back the prompt. The Sensor will respond with >.

Send one set of data: T Each time this command is sent to the Sensor responds with the following ASCII characters representing the Hexadecimal signed value:

%Q AAAA RRRR CCCC:cc(cr/lf)

AAAA is the air temperature (in ASCII hex, times 8).
RRRR is the road temperature (in ASCII hex, times 8).
CCCC is the internal temperature (in ASCII hex, divided by 2) – typically ignored.
cc is the checksum.

Send one set of data: C 9 This is the same as the T command above except the internal temperature, CCCC, only is transmitted.

Send data continuously R 9 This is the same as the C 9 command except that the sets of data repeat until the reset command is sent. Each data set has CR/LF. The update rate is not precisely timed. After each data set, the sensor loop restarts. The data rate is fast enough that a computer slower than a 486 66mhz could loose data.

Don't use commands: The following commands will modify the EEPROM. They should not be used: B, E, F, G, Y.