TURBO RPM SENSOR INSTRUCTIONS

Overview:

The turbo speed sensor is a special sensor that can detect when the blades of a turbo, or the teeth of a flywheel pass by it. This sensor needs a special adapter box that will come with the sensor. Primary uses include: monitoring the turbo speed RPM, and determining the RPM of ignition-less engines by monitoring the teeth on the flywheel.

Part Numbers:

#8058   Turbo Speed RPM Sensor

Installation:

If installing into a turbo, please refer to your specific turbo instructions on how deep to install the sensor. If installing the sensor near an open rotating mass, using either the supplied Computech 90 degree bracket or a custom bracket, position the end of the sensor facing toward the target area with a 1/8" gap between the sensor and furthest target area.

Your turbo speed kit will also come with a small black RPM signal conditioning box. One side of the box should have an extension cable that will connect to your turbo speed sensor and should have an identical mating end. The other end of the box will have a 4 conducter wire that is not terminated on one end. This wire needs to be run to the DataMaxx Main Module and connected as following

Black Wire: "GND BLK"   id#29
White Wire: "INP WHT"   id#30
Red Wire: "12V RED"   id#31
Green Wire: "5V RED"   id#2 or id#6 or id#14 or id#18

Determine which RPM channel you have free that you are not using. The most common is the Inputshaft channel. Connect the white wire to the Main module "INP WHT" terminal (id #30), the black wire to "GND BLK" terminal (id #29), the green wire to any Analog 5V terminal and the red wire to "12V RED" terminal (id#31).

Calibration:

To calibrate the turbo RPM sensor, you will first need to know how many blades or teeth per revolution. Determine the amount of blades or teeth per revolution, then refer to the "Turbo Speed RPM Calibration Table" located below. This custom value will be entered in the calibration area as your Max Cal Value

Of Teeth:_____   Max Cal Value: _____

To Calibrate:
• Record a short 5 second test log file and download the log file correctly using the SD button.
• Select Edit, then Properties. You are now in the Channel Properties area.
• Find the channel where you physically installed the sensor, follow it to the right, and click on the finger pushing a red button.
• To the right of the "Type of Sensor" drop down list, select the calibration button again.
• Click on the "Calibration Builder" tab, and select the check box to "Use Calibration Builder" for this sensor.
• Change decimal points to 0.
• Change units to RPM.
• Change connectivity to Digital Frequency Sensor.
• Set Low Frequency to 0 and Low Reading to 0.
• Delete any text in Mid Frequency and Mid Reading.
• Set High Frequency to 1000 and High Reading to the value you wrote above as Max Cal Value (do not type in any commas).
• When you are done select OK, then OK again, and then "Send Config to DataMaxx".

For more information, please see "Initial Calibration" in the Software section.

Dip Switch Setting: C- ON

                                            D – ON

Testing:

Simply fire up the engine to test this sensor. If you have any complications, please call our technical support line at 301-884-5718.

Turbo RPM Sensor Calibration Table

Find the value for the number of blades and enter this into your sensors maximum calibration reading field.

# Of Blades	Max Cal Value	# Of Blades	Max Cal Value
1	7680000	51	150600
2	3840000	52	147680
3	2560000	53	144920
4	1920000	54	142240
5	1536000	55	139640
6	1280000	56	137160
7	1097160	57	134720
8	960000	58	132400
9	853320	59	130160
10	768000	60	128000
11	698200	61	125920
12	640000	62	123880
13	590760	63	121920
14	548560	64	120000
15	512000	65	118160
16	480000	66	116360
17	451760	67	114640
18	426680	68	112960
19	404200	69	111320
20	384000	70	109720
21	365720	71	108160
22	349080	72	106680
23	333920	73	105200
24	320000	74	103800
25	307200	75	102400
26	295400	76	101040
27	284440	77	99760
28	274280	78	98480
29	264840	79	97200
30	256000	80	96000
31	247760	81	94800
32	240000	82	93640
33	232720	83	92520
34	225880	84	91440
35	219440	85	90360
36	213320	86	89320
37	207560	87	88280
38	202120	88	87280
39	196920	89	86280
40	192000	90	85320
41	187320	91	84400
42	182840	92	83480
43	178600	93	82600
44	174560	94	81720
45	170680	95	80840
46	166960	96	80000
47	163400	97	79160
48	160000	98	78360
49	156720	99	77560
50	153600	100	76800