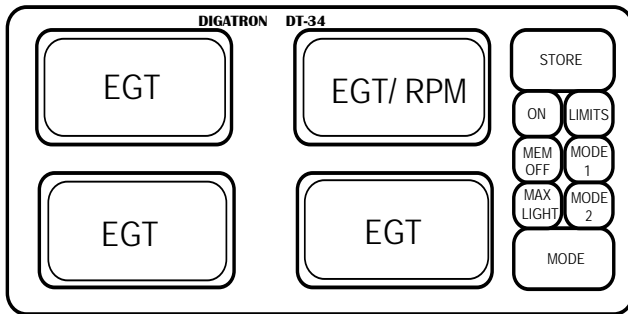


# OPERATING INSTRUCTIONS    MODEL DT-34SN2

## INSTRUMENT CONFIGURATION



## POWER ON

To turn the instrument on, press the **ON** button. The instrument will turn on after a 2 second delay.

## SETTING FUNCTION LIMITS

The first thing to do before putting your instrument into service is to set the function operating limits. This will allow the instrument to give the driver a visual warning when any of the inputs exceed the limits you have set. *Limits should not be set to such an extreme that engine damage occurs before the driver can react to the problem.* To set the limits, use the following procedure. Turn the instrument on by pressing the **ON** button. Then, press the **LIMITS** button and hold for approximately 2 seconds. This will put the instrument into the **SET LIMITS** mode of operation, which is indicated by a flashing display. The non flashing displays will show their currently set limits.

To *increase* any limit by the minimum amount quickly press and release the **MAX** button. To *decrease* the limit, quickly press and release the **MEM** button. To increase or decrease the limits by a large amount, press and hold either the **MAX** or the **MEM** button until the approximate limit value is reached. When finished setting the first limit, press and release the *white* **MODE** button to move to and set the next limit. Repeat the procedure outlined above to set the remaining limits.

**Temperature limits** should be set to a level *high enough for normal operation but not so high that engine damage occurs* before the driver can respond to a problem.

**Note:** The EGT limits for the two left hand displays cannot be set separately. The limit you set in the upper left display will be the limit for *both* left displays.

The **TACH limit** will be the last limit set before exiting the set limits mode. The **TACH Limits** require the setting of *two* separate parameters. The first setting is the *maximum RPM* limit for safe engine operation. The second setting is the **TACH calibration number** required to display the correct engine RPM. Set the RPM limit exactly as previously outlined.

Then press the **MODE** switch to move to Tachometer calibration.

The instrument will show a number between 1 and 21 in the Tach display. The instrument divides the tach input signal by this number in order to display RPM correctly.

Find the correct calibration number for your sled as follows:

Determine the number of poles in the lighting coil you are connecting to and *divide* this number by two. Set the tach calibration to this number.

Common settings:

2 cylinders	set at 2 or 4
3 cylinders	set at 3 or 6
4 cylinders	set at 4 or 6

If you are unsure of the exact TACH calibration number, experiment. For example, if the calibration number is set at "2" and the RPM reading is double what it should be, set the calibration number at "4". Alternately, if the RPM reading is half of the correct value, decrease the calibration number to half it's original value.

To **SAVE** the current limits and to exit the "**SET LIMITS**" mode, press the **STORE** button.

Your instrument is now set up and ready for use.

## MODE BUTTONS

During operation the **MODE** buttons are used to change from the primary function to the secondary function in the display having two functions. The large *white* **MODE** button and the button marked **MODE 1** can both be used. The button marked **MODE 2** is *not* used on this instrument. When the instrument is first turned on, the primary function is displayed. The secondary function operates in the background until one of the mode buttons is pressed.

The *white* **MODE** button is also used when *Setting Limits* and *TACH Calibration*, or in conjunction with the **MAX** button to operate the **BACKLIGHT**.

## STORE SWITCH

Each time (Up to 3 times) the **STORE** button on the instrument or the optional **REMOTE STORE** switch is pressed the current reading for each sensor input is stored in the instruments memory. The instruments' displays will flash briefly indicating a successful store of information. This instrument contains enough memory to store three complete sets of sensor input readings. After three sets of readings are stored, additional attempts to store information will be ignored

In addition to these user stored readings, a set of **maximum** readings for this “power on” period are stored automatically for each sensor input.

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### MAXIMUM RECALL

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The **MAX** button is used to display the **maximum** reading each function has reached. Storage of these readings takes place automatically and requires no input from the user.

To display these readings, before turning the instrument off, hold down the **MAX** button. The maximum readings will be displayed in each window until the button is released.

Alternating with the maximum reading in one of the displays will be the percentage of battery life remaining.

**NOTE:** If your instrument has a display with a secondary function, to see the stored readings you must first switch to that function with the **MODE** switch and *then* press the **MAX** button.

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### MEMORY RECALL

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The **MEM** button is used to recall the readings you have stored in memory using either the optional **REMOTE STORE** switch or the **STORE** button on the instrument.

To recall the first set of readings you have stored, press and release the **MEM** button. The contents of the first memory will be displayed and the *left* decimal point in a lower display will flash, indicating memory one.

Press **MEM** again for the second set of readings which will be indicated by the *middle* decimal point.

A third press of **MEM** will bring up the last set of stored readings, indicated by the *right* decimal point.

Press **MEM** once more to return to normal display mode.

**NOTE:** If your instrument has a display with a secondary function, to see the stored readings press the **MODE** switch while in the **MEMORY RECALL** function.

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### BACKLIGHTS


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To turn the optional Backlighting on or off, press and hold the *white* **MODE** button, and the **MAX** button simultaneously for approximately 2 seconds.

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### DISPLAY of OVERLIMIT/ OVERRANGE

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**OVERLIMIT** conditions are indicated by  alternating with the reading in the display where the **OVERLIMIT** condition occurs.

**OVERRANGE** conditions are indicated by  in the display where the **OVERRANGE** condition occurs.

This condition can also be caused by a bad or disconnected sensor.

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### WARNING INDICATOR LIGHT

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The optional **WARNING LIGHT** provides the following information to the user.

1. Flashes constantly when any of the *limits* you have set are exceeded. Flashing will stop when the **OVERLIMIT** condition falls below the **SET LIMIT**.

2. Flashes once when the **STORE** button on the instrument is pressed to store data. No flash when either of these buttons is pressed indicates the memory is full.

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### BATTERY LIFE

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The batteries in your instrument provide power only when the motor is *not* running. This is to allow you to set limits and calibration without starting your motor or to check your stored readings up to ten minutes after your motor has been turned off.

A fresh set of AA alkaline batteries will last for about 120 hours of operation with the motor *off*. Heavy duty batteries will last approximately half as long. As outlined under the **MAX RECALL** heading, the instrument will display the percentage of battery life remaining. The instrument will also warn you of a low battery condition by displaying “**lo b**” in one of the displays.

When your motor is running all power for your instrument is supplied by the lighting coil.

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### POWER OFF

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
This instrument will turn itself off automatically approximately ten minutes after the engine is shut off. You may also turn the instrument off manually by pressing the **MEM** button and the *white* **MODE** button at the same time.

Any stored data will be lost at the moment the power is turned off. Record or view all stored information before turning the instrument off.

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### ELECTRICAL INTERFERENCE

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If the instrument encounters excessive electrical interference it will display three vertical decimal points  in the TACH display. This indicates that the stored data could be invalid. This can also indicate an incorrect instrument or sensor installation.

A large noise spike can cause the limits and calibration to reprogram themselves. If your instrument appears to be doing strange things, put it in the “SET LIMITS” mode and check to see that the limits and calibration are still where you set them.

If you have any questions about the operation of your instrument please call. One of our technicians will be happy to help you.

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