

# ISO-MOD DATALOGGER

- Location Number 1-30,000 [16 total locations]
- INTERVAL 1-30,000 seconds
- DURATION 1-30,000 hours

The 200,000 points are in 30,000 point "pages". The maximum, unattended number of points that can be collected is 30,000. Beyond 30,000 requires changing to another memory location.

The standard configuration for the TFXP includes a powerful 200,000 point data logger/electronic strip-chart recorder. The logger can be configured in a couple of different ways to match user applications. The logger stores time-stamped, high resolution (16-bit) data at user selected intervals ranging from 1 to 30,000 (8.33 hours) seconds. Configuration of and data retrieval from the logger can be accomplished in one of two ways:

Via the DataLink software utility and the serial DB9 interface cable included with the logger. Data can be accessed by connecting the cable to the logger, which is located in the pocket on the front faceplate of the instrument.

See the TFXP manual for details regarding operation of the DataLink and UltraLink software utilities.

There are three configuration parameters to enter for datalogger operation:

**Note:** Some computers will not send 5 volts through the serial cable to power the datalogger. In this case power the datalogger with the SPC wall transformer.

- FILE NUMBER/LOCATION
- INTERVAL
- DURATION

## LOGGING INTERVAL

The datalogger has an integral battery-powered clock/calendar. To synchronize the datalogger clock to the PC clock, click the clock icon, then click OK.

The TFXP and the datalogger module can be used to monitor and store data on up to 16 different locations. These locations are identified by the FILE NUMBER/ LOCATION that is assigned. The datalogger will not write over an existing file. Existing data files will need to be uploaded and then erased from the logger before new data can be written into the space. Uploading and storing of datalogger files is completed using the DataLink software utility. See the TFXP manual for details regarding operation of the DataLink and UltraLink software utilities.

From the DATALOG OPERATION menu, adjust the time INTERVAL between readings. INTERVAL values between 1 and 30,000 seconds are acceptable.

For reference there are:  
60 seconds in 1 minute

300 seconds in 5 minutes  
 1,800 seconds in 30 minutes  
 3,600 seconds in 1 hour  
 30,000 seconds in 8.33 hours

Table 1 describes some typical configurations of the INTERVAL and DURATION times with what the expected data samples collected count will be.

<b>Example No.</b>	<b>INTERVAL Seconds</b>	<b>DURATION Hours Operated</b>	<b>Points Collected</b>
1	1	24 (1 day)	86,400
2	10	168 (7 days)	60,480
3	60 (1 min)	720 (30 days )	43,200
4	300 (5 min.)	8,760 (1 yr)	105,120
5	1,800 (30 min.)	8,760 (1 yr)	17,520
6	3,600 (1 hr.)	8,760 (1 yr)	8,760
7	18,000 (5 hr.)	26,280 (3 yr)	17,520

**Table 1**

If the TFXP is going to be left unattended, logging flow data, for extended periods of time, the DURATION time can be configured to stop logging after the DURATION of time has passed. DURATION is configured in hours and values between 1 and 30,000 hours are acceptable.

Files will save to an Excel spreadsheet by highlighting the file and clicking the "save" icon.

## **DATALOG MAINTENANCE**

Datalog maintenance permits files to be deleted from the data logger module. The menu contains three options for deleting files: delete the last file that was generated, delete the first file that was generated or delete all of the files on the logger.

### **TO START DATALOGGER:**

1. From Data Screen press MENU
2. From menu - down arrow to Datalog Operation - press SELECT - Indicator will say "Datalog Present Yes"
3. Down arrow - accept Datalog Location ID number shown or choose other number between 1 and 30,000. This number will appear in the "name" column on the computer screen before data is downloaded.
4. Down arrow - accept number shown or choose other number for Datalog Interval (seconds) between 1 and 30,000.
5. Down arrow - Choose Datalog Duration (hours) between 1 and 30,000.
6. Press EXIT - indicator will say Datalog Start Datalog? - press YES, Indicator will return to the Menu screen.
7. Press EXIT to return to Data Screen.

## **TO CONFIRM THAT DATALOGGER IS RUNNING:**

1. From Data Screen press MENU
2. From menu - down arrow to Datalog Operation - press SELECT - Indicator will say "Datalogger is running"
3. Press CANCEL, then EXIT, to return to the data screen.

## **TO STOP DATALOGGER:**

1. From data screen press MENU
2. From menu - down arrow to Datalogger Operation - press SELECT - Indicator will say "Datalogger Is Running".
3. Press STOP
4. Indicator will say "Stop Datalog Are you sure?"
5. Press YES - takes you back to Menu Screen
6. Press EXIT to return to Data Screen.

To log data for up to 15 additional pipes repeat the above procedure.

## **NOTES:**

Datalogger must be stopped before downloading data. If datalogger is not stopped before downloading data an erroneous file will be recorded on the datalogger.

Serial cable should not be connected to the datalogger while datalogger is running. If serial cable is connected to the datalogger while datalogger is running error message 3007 will appear on the display and you will lose some data.

When looking at the display on your computer screen just before downloading data, the important column is the one entitled "points". This column shows the number of points recorded. For example, if 10 seconds were chosen for interval and 2 hours were chosen for Duration, the number of points would be 720. Columns entitled Used Pages, Start Page, Total Pages, and Oldest Page, are non-functional and should be disregarded.

Datalogger is a 200,000 point data logger. A point is each time the datalogger logs data. If you program interval as 10 seconds, and time as 2 hours, that is 720 points. Datalogger holds 200,000 points in one file, or 12,500 points in 16 files, or any other combination that equals 200,000 points. If datalogger is full (200,000 points), and more files need to be recorded, than some or all files will have to be deleted to make room for the additional data.

Files will save to an excel spreadsheet by highlighting the file and clicking the "save" icon.

"Excel" spread sheet will only accept 64,000 points so "Excel" will not accept data greater than 64,000 points. If data is greater than 64,000 points it must be downloaded to "Word Pad". Then 64,000 points can be copy-pasted to "Excel" in one file, and the remaining points can be copy-pasted to a second file. The Save command saves the file as a \*.csv file, not an \*.xis. The \*.csv file can be opened in WordPad and cut into pieces (cut and pasted into different files). From

WordPad you will need to press Open and then in the file structure selection you will need to tell it to open "all file types".

### **CONVERTING DATA TO AN EXCEL SPREAD SHEET:**

1. Click on chart wizard.
2. Under the standard types tab, click on chart type (probably line).
3. Click on chart sub type (probably first category in upper left).
4. Click on next, program will automatically select data.
5. Click on next.

Data that appears in title box is Flow meter serial number, Datalogger serial number, Datalogger software number, and max flow value programmed into flow meter. Replace this data with whatever name you want to give to your chart.

6. Name X axis "Time".
7. Name Y axis "GPM" or whatever value was programmed in the flow meter.
8. Select the Axes tab.
9. Select Category
10. Select Next.
11. Select as new sheet
12. Select Finish.

The title on top of chart will show whatever you typed in the title box. The tab will show value programmed into datalogger as location. The title on right hand of screen will show:

1. The flow meter serial number
2. The datalogger serial number
3. The datalogger software number
4. The maximum flow value programmed into flow meter.

# **TFXP Menu Map – Datalog Operation (8/04)**

## **#2**

- 1) Datalog Present (Choice)
  1. Yes
  2. No
- 2) Datalog Location (Value)
  1. 1 to 256
- 3) Datalog Interval (Value) ((Sec))
  1. 1 to 30,000
- 4) Datalog Duration (Value) ((Hours))
  1. 1 to 30,000
- 5) When you press the Exit Key the TFXP will ask:  
Start Datalog (Choice)
  1. Yes
  2. No

# TFXP Menu Map – Datalog Maintenance (8/04)

## #3

- 1) Erase All (Choice)
  1. Yes
  2. No
- 2) Erase First (Choice)
  1. Yes
  2. No
- 3) Erase Last (Choice)
  1. Yes
  2. No