# SBE 39-IM Temperature (& pressure) Recorder Reference Sheet

(see SBE 39-IM User's Manual for complete details)

## Sampling Modes

- **Polled** On command, 39-IM wakes up, takes one sample, and transmits data.
- **Autonomous** At pre-programmed intervals, 39-IM wakes up, samples, stores data in FLASH memory, and goes to sleep.
- **Combo** On command, the last Autonomous sampling data is transmitted.
- Averaging On command, the average of the Autonomous sampling data since the last request is calculated and transmitted.

#### Communication Setup Parameters

- 1. Double click on SeaTerm.exe.
- Once main screen appears, in Configure menu select SBE 39. Click on COM Settings tab in dialog box. Input:
  - Serial Port: COM1 through COM10 are available
  - Baud Rate: 1200, 2400, 4800, or 9600
  - Data Bits: 8
  - Parity: No Parity

- Mode: Inductive Modem
- Modem/RS-485 ID:

Pre-deployment testing: Automatically get ID Deployment with multiple 39-IMs: Prompt ID

# Deployment

- 1. Batteries:
  - A. Remove sensor end cap: Wipe dry housing/end cap seam. Unscrew end cap. Pull end cap and attached electronics out of housing. Wipe O-ring mating surfaces in housing with lint-free cloth.
  - B. Replace batteries: Use two 3.6 volt, AA lithium batteries (manufactured by Saft or Tadaran).

#### Do not use AA alkaline batteries.

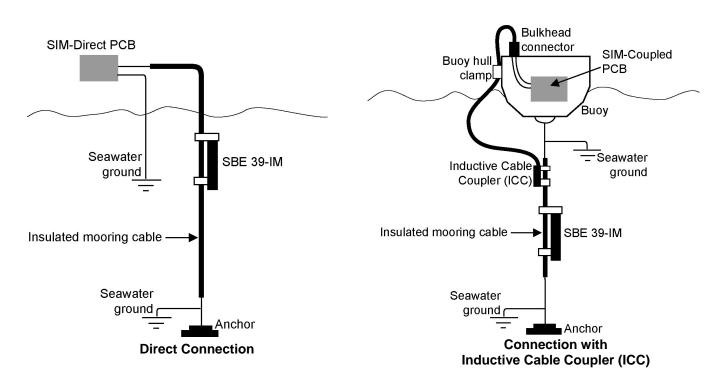
- C. Reinstall sensor end cap: Remove water from O-ring and mating surfaces with lint-free cloth. Inspect O-ring and mating surfaces for dirt, nicks, and cuts. Clean as necessary. Apply light coat of O-ring lubricant to O-ring and mating surfaces. Fit electronics into housing, and use a wrench to secure end cap to housing.
- 2. Attach 39-IM to insulated mooring cable with Sea-Bird mounting brackets. Install (optional) ICC on mooring cable.
- 3. SIM wiring and configuration:
  - A. Power Normal Setting: Power common to JP1 pin 1, 7-25 VDC to JP1 pin 2, jumper on J3.
  - B. Interface Connect I/O cable to JP2 and to computer serial port. RS-232: J1 pins 2 and 3, J2 pins 2 and 3, J4 no jumper.

RS-485: J1 pins 1 and 2, J2 pins 1 and 2, J4 jumper.

C. Inductive Cable Connection -With ICC: Connect ICC to JP4;

Without ICC: Connect mooring cable and seawater ground to JP4. *Instrument Setup and Lab Testing* – No jumper on J5.

D. Deployed Operation – Jumper J5



### Command Instructions and List (see manual for complete listing and detailed descriptions)

- ii in commands (!ii or #ii prefix, etc.) is the 39-IM ID (1 99).
- Input commands in upper or lower case letters and register commands by pressing Enter key.
- 39-IM sends ?CMD if invalid command is entered.
- If system does not return S> prompt after executing a command, press Enter key to get S> prompt.
- If new command is not received within 2 minutes after completion of a command, 39-IM returns to quiescent (sleep) state.
- If in quiescent (sleep) state, re-establish communications by clicking Connect on Toolbar or entering PwrOn to get S> prompt.

MMDDYY=x   x=mmddyy (all real-time clocks month day year). Must follow with HHMMSS=.   DDMMYY=x   x=ddmmyy (all real-time clocks how month year). Must follow with HHMMSS=.   x=hhmms (all real-time clocks how month year). Must follow with HHMMSS=.   MININGS=x   x=hhmms (all real-time clocks how month year). Must follow with HHMMSS=.   MININGS=x   x=hhmms (all real-time clocks how month year). Must follow with HHMMSS=.   MININGS=x   x=hmmdy (all real-time clocks how month year). Must follow with HHMMSS=.   MININGS=x	Function	Category	Command	Description
Status    Site	SIM	-	-	See 39-IM manual for SIM commands.
Status    Status   Side(CD   Display bardrowed usia.		_		
Biochit   Display hardware data		<u>_</u>	!iiGetSD	
Bigesties   Bige		Status	!iiGetCD	Display configuration data.
### (Tibelian Set Die of 10-099), Only 1M can be on line when setting (D or all IMs will have same ID. ### (Tibelian Development of the interment ID). ### (Tibelian Development ID). ###				Display hardware data.
### Set Diagnostics    Set Diagnostics   Set Diagnostics			!iiGetHostID	
BisethevieeD-man			ID?	Get ID (0-99).
Sex-SetDeviceID-sna   mare instrument Dick: instrument spring   market instrument				Set ID to ii (0-99). Only 1IM can be on line when setting ID or all IMs will have same ID.
SilectLowPorTx   Set 39-M streamstire voltage to power saving setting.		ID	!iiSetDeviceID=nn	nn= new instrument ID (ii= old instrument ID).
Setup   Setu			!Sx:SetDeviceID=nn	<b>nn=</b> <i>new</i> instrument ID (x= instrument serial number).
Setup   SilseGFullPwTN   Setup   SilseGfullP			!iiSetHostID=x	x= host ID, 4 – 64 character string.
Setup   Setu			!iiSetLowPwrTx	Set 39-IM's transmitter voltage to power saving setting.
Sister   S			!iiSetFullPwrTx	Set 39-IM's transmitter voltage to maximum signal strength.
Mindercontroller	39-IM	Setup	!iiSetGDataStr=x	<b>x</b> = string sent to acq microcontroller when <b>GData</b> received by comm microcontroller.
MMDDYY-x   x-mmddyy (all real-time clocks mouth day year). Must follow with HIIMMSS.	Comm		!iiSetGroupNumber=x	x= 39-IM group number. Group 0 is pre-defined as group of all instruments.
Global   G	Microcontroller		!iiStayOn	
Global   G	Commands		MMDDYY=x	x=mmddyy (all real-time clocks month day year). Must follow with HHMMSS=.
Global HIMMSS=x s-hhmmss (all real-time clocks hour minute second).  Grad at StayOn Command all II Ms to send command defined by iiiSetGDataStrs. Data held in buffer.  Get data iiiGata or Datain or Batain o			DDMMYY=x	
StayOn Command all IMs to reset counting for 2-minute timeout.  HiGG data Silibata or Datail or SilicetRepty Get data in buffer, Obtained with GData, from IM with ID-sil.  Send command defined by liSetGDataStre. Data held in buffer, Obtained with GData, from IM with ID-sil.  IITSTEST LiBetCableCoupler SiliCetBect Coupler or Silicet Coupler or SiliCetBect Coupler or		Global	HHMMSS=x	
StayOn Command all IMs to reset counting for 2-minute timeout.  HiGG data Silibata or Datail or SilicetRepty Get data in buffer, Obtained with GData, from IM with ID-sil.  Send command defined by liSetGDataStre. Data held in buffer, Obtained with GData, from IM with ID-sil.  IITSTEST LiBetCableCoupler SiliCetBect Coupler or Silicet Coupler or SiliCetBect Coupler or				Command all IMs to send command defined by !iiSetGDataStr=. Data held in buffer.
Set part   Signate   Send command defined by silksetGDataKtre. Data held in buffer.				
Get data   Silbata or Dataii or   Get data in buffer, obtained with GData, from IM with ID=ii.		Get data	· ·	
BiliGetReply   Get data in buffer, obtained with CData, from IM with ID=n.			!iiData or Dataii or	
Statis   SiEcholMx   x= string (24 characters maximum, letter and numbers only) to be echoed back to SIM.   SiFTYTest   Test line conditions.   SiFtestCableCompler   Test cable coupler in 39-JM.   SilicetVentCounters   Test cable coupler in 3			!iiGetReply	Get data in buffer, obtained with GData, from IM with ID=11.
Diagnostics   SiTx10		Diagnostics		x= string (24 characters maximum, letter and numbers only) to be echoed back to SIM.
Status  Status  Status  Status  Status  Status  Status  Status  #iiDS  #iiDS  Display status and setup.  #iiDateTime=x  #iiDMDYY=x  #iiDMDYY=x  #iiDMDYY=x  #iiDMDYY=x  #iiDMMYY=x  #iiDMMYY=x  #iiDMMS=x  #iiDMMY=x  #iiDMMMY=x  #iiDMMMMS=x  #iiIntraple contained down much year). Must follow with #iiHHMMS=.  #iiIntraple contained down much year). Must follow with #iiDMMMMS=.  #iiIntraple contained down much year.  #iiIntraple contained down much			!iiTxTest	
Status   FilibertCounters   Financial list of events (unexpected conditions and/or errors) and number of times they occurred.			!iiTestCableCoupler	Test cable coupler in 39-IM.
Status			!iiGetEventCounters	Transmit list of <i>events</i> (unexpected conditions and/or errors) and number of times they occurred.
Status			!iiResetEventCounters	
Setup  #iiMMDDY'sx x=ddmmyy (real-time clock day month year). Must follow with #iiHHMMSS=. #iiDMMYYsx x=ddmmyy (real-time clock day month year). Must follow with #iiHHMMSS=. #iiTNSampleNum=x x=2 Output sample number with data from !iiData and Dataii. x=0 or 1 (default): Date format dd mmmy yyyy. x=2: Date format mm-dd-yyyy. #ii(OS Place 39-IM in quiescent (sleep) state. Only accepted in Serial mode. x = interval between samples (10 - 30000 sec). #iiInterval=x x = interval between samples (10 - 30000 sec). #iiiInterval=x x = interval between samples (10 - 30000 sec). #iiiInterval=x x = sample number for first sample when logging begins. If 0, equivalent to #iiIntiLogging.  #iiiStartNow Start logging in 10 sec. Start logging in 10 sec. Start logging in #iiInterval sec. #iiStartMDDYY=x x = manddyyyyhhhmmss (delayed logging start month day year) Must follow with #iiStartHHMMSS=. #iiStartDDMMYY=x x = ddmmyy (delayed logging start month day year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=hmmss (delayed logging start month day year). Must follow with #iiStartHHMMSS=. #iiStartHHMMSS=x x=hmmss (delayed logging start hour minute second).  #iiStartHemMSS=x x=hmmss (delayed logging start hour minute second).  #iiStartHemMS=x x=hmmss (delayed logging start hour hour second).  #iiStartHemMS=x x=hmmss (delayed logging start ho		Status		Display status and setup.
Setup  #iiMMDDY'sx x=ddmmyy (real-time clock day month year). Must follow with #iiHHMMSS=. #iiDMMYYsx x=ddmmyy (real-time clock day month year). Must follow with #iiHHMMSS=. #iiTNSampleNum=x x=2 Output sample number with data from !iiData and Dataii. x=0 or 1 (default): Date format dd mmmy yyyy. x=2: Date format mm-dd-yyyy. #ii(OS Place 39-IM in quiescent (sleep) state. Only accepted in Serial mode. x = interval between samples (10 - 30000 sec). #iiInterval=x x = interval between samples (10 - 30000 sec). #iiiInterval=x x = interval between samples (10 - 30000 sec). #iiiInterval=x x = sample number for first sample when logging begins. If 0, equivalent to #iiIntiLogging.  #iiiStartNow Start logging in 10 sec. Start logging in 10 sec. Start logging in #iiInterval sec. #iiStartMDDYY=x x = manddyyyyhhhmmss (delayed logging start month day year) Must follow with #iiStartHHMMSS=. #iiStartDDMMYY=x x = ddmmyy (delayed logging start month day year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=hmmss (delayed logging start month day year). Must follow with #iiStartHHMMSS=. #iiStartHHMMSS=x x=hmmss (delayed logging start hour minute second).  #iiStartHemMSS=x x=hmmss (delayed logging start hour minute second).  #iiStartHemMS=x x=hmmss (delayed logging start hour hour second).  #iiStartHemMS=x x=hmmss (delayed logging start ho			#iiDateTime=x	x=mmddyyyyhhmmss (real-time clock month day year hour minute second).
Setup   #iiDDMNY=x   x=ddmmyy (real-time clock day month year), Must follow with #iiHHMMSS=, x=hhmmss (real-time clock hour minute second).				x=mmddyy (real-time clock month day year). Must follow with #iiHHMMSS=.
#iiIHMMSS=x x=hmmss (real-time clock hour minute second). #iiTrSsampleNum=x x=Y: Output sample number with data from !iiData and Dataii. #iiFormat=x x=0 or 1 (default): Date format dd mmm yyy. x=2: Date format mm-dd-yyyy. #iiQS Place 39-IM in quiescent (sleep) state. Only accepted in Serial mode.  #iiInitLogging Affer uploading data, send this before starting to log to make entire memory available for recording. If not sent, data stored after last sample. Equivalent to #iiSampleNum=0.  #iiSampleNum=x x= send ple number for first sample when logging begins. If 0, equivalent to #iiInitLogging.  #iiStartInterval sec.  #iiStartInterval #iiGetAvg Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle. Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetAvg Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLast Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLastRestart #iiGetLast Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiTSS Take sample, output tonverted data.  #iiTSS Take sample, output converted data.  #iiTSS Take sample, output tonverted data.  #iiTSS Take sample, output tonverted data.  #iiSLT Output converted data from last sample.  #iiSLT Output converted data from last sample.  #iiSLT Output aw data from last sample.  #iiSLT Output converted data from last sample.  #iiDDLe Upload data in ASCII from scan b to scan e.  #iiDDLe Upload data in ASCII from scan b to scan e.  #iiDDLe Upload data in ASCII from scan b to scan e.  #iiDDLe Upload data in ASCII from scan b to scan e.  #iiDDLe Upload data in ASCII from scan b to scan e.  #iiDDLe Upload data		Setup		
#iiTxSampleNum=x x=Y: Output sample number with data from !iData and Dataii. #iiFormat=x x=0 or 1 (default): Date format dd mmm yyyy. x=2: Date format mm-dd-yyyy. #iiQs Place 39-IM in quiescent (sleep) state. Only accepted in Serial mode.  #iiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between samples (10 - 30000 sec). #fiiInterval=x x = interval between sample when logging begins. If 0, equivalent to #iiIntLogging. Start logging in 10 sec. #fiiInterval=x x=mmddyyyyhhmmss (delayed logging start month day year hour minute second). #fiiInterval=x x=mmddyyyyhhmmss (delayed logging start month day year) Must follow with #fiiIntervalHMMSS=. #fiiInterval=x x=mmddyyyyhhmmss (delayed logging start down minute second). #fiiInterval=x x=mmddyyyyhhmmss (delayed logging start month day year) Must follow with #fiiInterval y=x=dmmy, (delayed logging start down minute second). #fiiInterval=x x=mmddyyyyhhmmss (delayed logging start month day year). Must follow with #fiiInterval=x x=mmddyyyhhmmss (delayed logging start down minute second). #fiiInterval=x x=mmddyyyhhmmss (delayed logging start month day year). Must follow with #fiiInterval=x x=mmddyyyhhmmss (delayed logging start month day year). Must follow with #fiiInterval=x x=mmddyyhmmys (delayed			#iiHHMMSS=x	x=hhmmss (real-time clock hour minute second).
##iiFormat=x			#iiTxSampleNum=x	x=Y: Output sample number with data from !iiData and Dataii.
#iiOS Place 39-IM in quiescent (sleep) state. Only accepted in Serial mode.  #iiInterval=x x = interval between samples (10 - 30000 sec).  #iiIntiLogging After uploading data, send this before starting to log to make entire memory available for recording. If not sent, data stored after last sample, Equivalent to #iiSampleNum=0.  #iiSampleNum=x x = sample number for first sample when logging begins. If 0, equivalent to #iiIntiLogging.  #iiStartNow   #iiStartInterval   Start logging in 10 sec.   Start logging in 10 sec.    #iiStartMmDDYY=x   **samplengthing   **samp			#iiFormat=x	
#iiInterval=x			#iiQS	
#iiInitLogging #iiSampleNum=x sample controller (Logging)  Autonomous Sampling (Logging)  Microcontroller Commands  Autonomous HiiStartHMMS=x #iiStartHMMS=x sample. When logging start month day year hour minute second).  #iiStartHMMDYY=x   x=mmddyyyhhmms (delayed logging start month day year). Must follow with #iiStartHMMSS=.  #iiStartHMMDYY=x   x=mmddyyyhhmms (delayed logging start month day year). Must follow with #iiStartHMMSS=.  #iiStartHMMS=x   x=hmmdy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHMMS=x   x=hmms (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiGetAvgRestart   Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle.  #iiGetLastRestart   Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLastRestart   Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLastRestart   Get and transmit last data. Do not reset logging time base.  #iiGetLastRestart   Get and transmit last data. Do not reset logging time base.  #iiTS   Take sample, output converted data.  #iiTS   Take sample, output raw data.  #iiTS   Take sample, output raw data from last sample. (then take new sample.  #iiSLT   Output converted data from last sample, then take new sample.  #iiSL   Output converted data from last sample.  #iiDbpe   Upload data in ASCII from scan b to scan e.  Data Upload   #iiDNx   Upload last x scans from memory, Do not need to send #iiStop before sending #iiDNx.  DB,n,be   Only if connected to internal RS-232 connector. Upload data in binary at baud in from scan b to e.		Sampling	#iiInterval=x	
#iiSampleNum=x x=sample number for first sample. Equivalent to #iiSampleNum=0.  #iiSampleNum=x x=sample number for first sample when logging begins. If 0, equivalent to #iiInitLogging.  #iiStartNow Start logging in 10 sec.  Start logging in #iiInterval sec.  #iiStartInterval #i			ш.т. ч.т.	
#iiStartNow   Start logging in 10 sec.   #iiResumeLogging or #iiInterval sec.   #iiStartInterval   #iiGetAvgRestart   Get and transmit average data, (re)start logging in (#iiInterval   2) sec, start next averaging cycle. Do not reset logging time base.   #iiGetLast   Get and transmit last data. Do not reset logging time base.   #iiGetNew   Get (take) and transmit new sample. Data not stored in FLASH memory.   #iiTS   Take sample, output converted data.   #iiTS   Take sample, output raw data.   #iiTSS   Take sample, output raw data.   #iiTSS   Take sample, output raw data.   #iiSLT   Output converted data from last sample, then take new sample.   #iiSLT   Output converted data from last sample, then take new sample.   #iiSLT   Output converted data from last sample, then take new sample.   #iiDDb,e   Upload data in ASCII from scan b to scan e.   Data Upload   #iiDNx   Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.   DB,n,b,e   Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiInitLogging	
Autonomous Sampling (Logging)  Autonomous Sampling (Logging)  Acq Microcontroller Commands  Autonomous Sampling (Logging)  Microcontroller Commands  Autonomous Sampling (Logging)  Missarth MDDYY=x x=mmddyyyhhmmss (delayed logging start month day year). Must follow with #iiStartHHMMSS=.  #iiStartDMMYY=x x=ddmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=hhmmss (delayed logging start tour minute second)  #iiGetAvgRestart Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle.  #iiGetLast Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLast Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiStT Output converted data from last sample, then take new sample.  #iiStTR Output converted data from last sample, then take new sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  Data Upload  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.				x= sample number for first sample when logging begins. If 0, equivalent to #iiInitLogging.
Autonomous Sampling (Logging)  Acq Microcontroller Commands  #iiStartInterval  #iiItInterval  #iiItInterv			#iiStartNow	Start logging in 10 sec.
Autonomous Sampling (Logging) Microcontroller Commands  Autonomous Sampling (Logging) Microcontroller Commands  Autonomous Sampling (Logging) Microcontroller Commands  MistartDateTime=x x=mmddyyyyhhmmss (delayed logging start month day year). Must follow with #iiStartHHMMSS=. x=ddmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start hour minute second)  MistartLater #iiStartLater   Start logging at delayed start time.  MiiGetAvgRestart   #iiGetAvgRestart   Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle. Do not reset logging time base.  #iiGetLast   Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLast   Get and transmit last data. Do not reset logging time base.  #iiGetNew   Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiTS   Take sample, output converted data.  #iiTSR   Take sample, output raw data.  #iiSLT   Output converted data from last sample, then take new sample.  #iiSLT   Output converted data from last sample, then take new sample.  #iiSLT   Output converted data from last sample, then take new sample.  #iiDb,e   Upload data in ASCII from scan b to scan e.  Data Upload   #iiDNx   Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e   Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.	Acq Microcontroller			Start logging in #iiInterval sec
Autonomous Sampling (Logging)  Microcontroller Commands  #iiStartMMDDYY=x x=mmddyy (delayed logging start month day year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow with #iiStartHHMMSS=. x=hhmmss (delayed logging start day month year). Must follow it #iiStartHMMS=.			#iiStartInterval	
Sampling (Loging)  Microcontroller Commands  Sampling (Loging)  MiStartHMMSS=x #iiStartHMMSS=x x=dmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=dmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=dmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=dmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiStartHHMMSS=x x=dmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.  #iiGetAvg Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle.  #iiGetLast Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output crowerted data.  #iiTS Take sample, output raw data.  #iiSLT Output converted data from last sample, then take new sample.  #iiSLT Output converted data from last sample, then take new sample.  #iiSLT Output converted data from last sample, then take new sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				
Microcontroller   Commands   MiiStartHHMMSS=x   x=ddmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=x   x=hhmmss (delayed logging start hour minute second)				
Microcontroller Commands				x=ddmmyy (delayed logging start day month year). Must follow with #iiStartHHMMSS=.
#iiGetAvgRestart Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle.  #iiGetLavg Get and transmit average data and start next averaging cycle. Do not reset logging time base.  #iiGetLastRestart Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSS Take sample, output raw data.  Polled Sampling #iiSLT Output converted data from last sample, then take new sample.  #iiSLT Output converted data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  Data Upload #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				, , , , , , , , , , , , , , , , , , ,
#iiGetAvg Get and transmit average data and start next averaging cycle. Do not reset logging time base.  #iiGetLastRestart Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLast Get and transmit last data. Do not reset logging time base.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  #iiTSS Take sample, store in FLASH memory, output converted data.  #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				66 6 7
#iiGetLastRestart Get and transmit last data, and (re)start logging in (#iiInterval / 2) sec.  #iiGetLast Get and transmit last data. Do not reset logging time base.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  #iiTSS Take sample, store in FLASH memory, output converted data.  Sampling #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiGetAvgRestart	Get and transmit average data, (re)start logging in (#iiInterval / 2) sec, start next averaging cycle.
#iiGetLast Get and transmit last data. Do not reset logging time base.  #iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  #iiTSS Take sample, store in FLASH memory, output converted data.  #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				
#iiGetNew Get (take) and transmit new sample. Data not stored in FLASH memory.  #iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  #iiTSS Take sample, store in FLASH memory, output converted data.  Sampling #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiGetLastRestart	
#iiStop Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.  #iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  Polled #iiTSS Take sample, store in FLASH memory, output converted data.  #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				
#iiTS Take sample, output converted data.  #iiTSR Take sample, output raw data.  Polled #iiTSS Take sample, store in FLASH memory, output converted data.  Sampling #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				
Polled   #iiTSR   Take sample, output raw data.				Stop logging or waiting to log. Press Connect on Toolbar to get S> prompt before entering this.
Polled Sampling  #iiTSS Take sample, store in FLASH memory, output converted data.  Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.		-		
Sampling #iiSLT Output converted data from last sample, then take new sample.  #iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDb,e Upload data in ASCII from scan b to scan e.  #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiTSR	Take sample, output raw data.
#iiSLTR Output raw data from last sample, then take new sample.  #iiSL Output converted data from last sample.  #iiDb,e Upload data in ASCII from scan b to scan e.  Data Upload #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiTSS	Take sample, store in FLASH memory, output converted data.
#iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  Data Upload #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.			#iiSLT	Output converted data from last sample, then take new sample.
#iiSL Output converted data from last sample.  #iiDDb,e Upload data in ASCII from scan b to scan e.  Data Upload #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				Output raw data from last sample, then take new sample.
Data Upload #iiDNx Upload last x scans from memory. Do not need to send #iiStop before sending #iiDNx.  DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				Output converted data from last sample.
DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.		· ·	#iiDDb,e	Upload data in ASCII from scan b to scan e.
DB,n,b,e Only if connected to internal RS-232 connector. Upload data in binary at baud n from scan b to e.				Upload last <b>x</b> scans from memory. Do not need to send <b>#iiStop</b> before sending <b>#iiDNx</b> .
	Ī	Coefficients		