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       DATS Communications Protocol - DATS22X/DATS II 1.0 – updated March 2001

Set your terminal emulator to communicate at 1200 baud, N,8,1.
The following commands are available to analyze the DATS from the command prompt
on your PC using terminal emulation software:
RUN, LIST, PRINT X, GOTO 9000, GOTO 10000, CONTINUE
During program execution, the following commands are available:
CNTRL C - halts program execution (if multiple DATS connected, all DATS on line
respond!)


To obtain the current data string:
you send          "a"                     DATS sends  !
you send          "#"                     DATS sends  0
                                          followed by:
data delimiter
85594.98          hours since JAN 85
25.6              water temperature (C or F)
31.22             block temperature (C or F)
-25.19            auxiliary 1 (percent)
74.94             auxiliary 2 (percent)
2.51              flow velocity (ft or m/s)
124               ac voltage (VAC)
28.93             wall temperature (C or F)
4.1E-4            heat transfer resistance(hr ft^2 deg F/ Btu)
450               heater power (btu/hr or W)
5.0E-5            data storage interval (hr)
2.5               flow set point (ft or m/s)
455               heat set point (btu/hr or W)
0                 heat/wall flag
-24.99            auxiliary 3 (percent)
47.55             auxiliary 4 (percent)


To set the control variables:
you send          "a"               DATS sends  !
you send          "@1.8,0,500"
where 1.8 = flow velocity set point (ft/s or m/s)
 0 = heat/wall flag, (0=heat flux, 1=wall temp)
 500 = heat flux set point (btu/hr or watts)


To initialize the data storage interval:
you send          "a"               DATS sends  !
you send          "$.25,0"
where .25 = data storage interval,  0 = storage flag


To dump stored data:
you send          "a"               DATS sends  !
you send          "%0"
where 0 dumps data up to the previous dump point (old flag setting)
1 resets the internal flag and dumps no data (start new experiment)
2 dumps the entire contents of memory (resets the data flag in memory).


Data captured from a manual dump (using 0 or 2 above) can be imported to a
spreadsheet but it needs to be parsed as it is in one long string (see TSI_?).


This information current for DATS I and II systems manufactured JAN 91 to
Present, std EPROM software,97d-1193.doc  TSI_950/TSI_DATS_Comm_protocol
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