

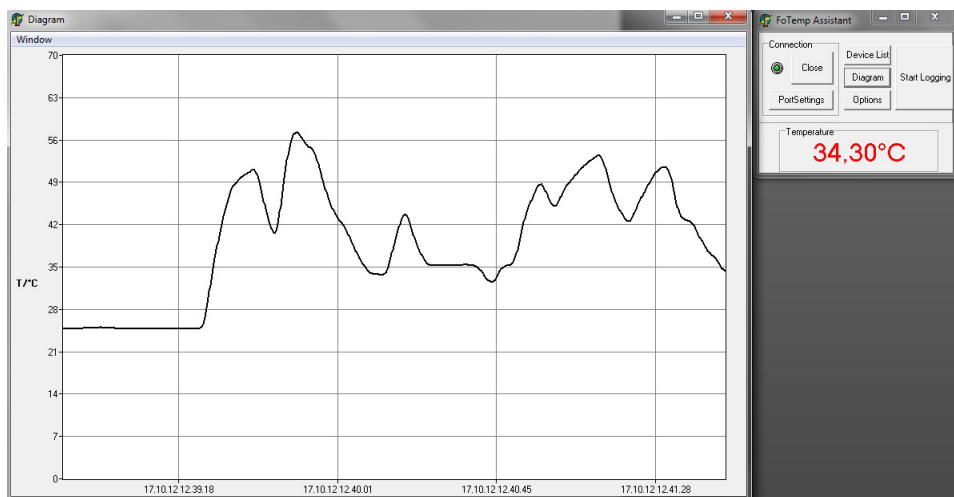


## FOTEMP-ASSISTANT

### Data Acquisition Software

The included software on all FOTEMP signal conditioners "FOTEMP-Assistant" allows the flexible graphical display and record of the temperature and temperature gradients. Via the interfaces of the measuring device a real-time visualization of the temperature and thus an excellent monitoring of the results are possible. The software is easy to use and has a user-friendly interface. Temperature deviations can be corrected via one point calibration. Minimum and maximum temperature limits can be set per channel. Stored data can also be exported to a Microsoft Excel file. "FOTEMP-Assistant" runs on Microsoft Windows operating systems.

For those wishing to write their own software, the following pages provide the ASCII command set for accessing data directly from a FOTEMP instrument.



**Sample Screen From FOTEMP-Assistant**

## Communication with FOTEMP-Devices

### General Serial Interface Conditions:

Baud rate: 57600 bps  
Data bits: 8  
Stop bit(s): 1  
Parity: None  
Flow control: None

In the following: **TERM** means Termination, it's always the combination of <CR> (\r, 0x13) and <LF> (\n, 0x0a)  
**STAT** means Status, fotemp always send a reply:  
„\*00“TERM → OK  
„\*FF“TERM → An error occurred  
**S16** 16-bit signed integer in hex-format

### PROCESS\_READ:

PC→Fotemp

Reply (Example):

„?01 01“ TERM	current temperature	„#01 1 256“ TERM STAT ^  ^    T in 1/10°C 1: new value
„?02“ TERM	current temperature of all channels	„#02 256 256 256 ...“ TERM STAT
„?0F“ TERM	Number of existing channels	„#0F 1“ TERM STAT
„?10“ TERM	Number of active channels	„#10 1“ TERM STAT
„?11“ TERM	Number of malfunctioning channels	„#11 0“ TERM STAT
„?12“ TERM	Current channel	„#12 1“ TERM STAT
„?20“ TERM	Error-count of all channels	„#20 0 0 0 0 ...“ TERM STAT
„?21“ TERM	Lamp current of all channels after a measurement	„#21 0 0 0 0 ...“ TERM STAT
„?22“ TERM	Lamp current of all channels during a measurement	„#22 0 0 0 0 ...“ TERM STAT
„?23“ TERM	Integration time of all channels	„#23 250 250 250 ...“ TERM STAT
„?24“ TERM	Bright value	„#24 0“ TERM STAT

„?30“ TERM	Data for external Display	„#30 000F6000F60000...“ TERM STAT
„?40“ TERM	Model name	„#40 46 4F 54 45 4D 50 ...“ TERM STAT
„?41“ TERM	Serial number	„#41 30 30 30 31 33 35 37“ TERM STAT
„?42“ TERM	FirmWare-Version (AVR)	„#42 31 2E 33 2E 31 31 2E 30 35“ TERM STAT
„?43“ TERM	DS2401 serial number	„#43 30 30 30 31 33 35 37“ TERM STAT
„?45“ TERM	Resolution of output value	„#45 10“ TERM STAT $\Delta = 1/10^{\circ}\text{C}$
„?50“ TERM	Smoothing of spectral raw data during calculation	„#50 8“ TERM STAT
„?51“ TERM	Rounding of the result	„#51 1“ TERM STAT $\Delta$ in $1/10\text{K}$
„?52“ TERM	Averaging of spectra	„#52 3“ TERM STAT
„?53“ TERM	Averaging of temperature	„#53 4“ TERM STAT
„?70“ TERM	Debug flags	„#70 4“ TERM STAT
„?71 N P“ TERM	Readout spectrum N: No. of Spectrum (1..3) P: Position of start of 256 values to be transfered	„#71 65265064F64E64...“ TERM STAT $\Delta$ 3 digits, w.o. space
„?72“ TERM	Debug variables	„#72 12 0 0 0 0 11 0 ...“ TERM STAT
„?73“ TERM	Last edge position	„#73 4D51“ TERM STAT
„?74 N“ TERM	Calibration points for Channel N	„#74 475A 03B6 4D46 00F0“ TERM STAT
„?75 N“ TERM	One point calibration for Channel N	„#75 0000“ TERM STAT
„?76“ TERM	Active calibration	„#76 1“ TERM STAT
„?80“ TERM	Operation temperature limit	„#80 FF38 015E“ TERM STAT $\Delta$ $\Delta$ Max. Temp.      Min. Temp.
„?81“ TERM	Analog output range	„#81 0000 012C“ TERM STAT
„?82“ TERM	Analog output coefficients	NOT IMPLEMENTED !
PROCESS_WRITE:		
„:10 N N“ TERM	N N 2 byte (=16 bit)	set active channels
„:11 N N“ TERM	„	set disturbed channels

„:20 C V“ TERM	C: channel, V: value	set error counter for channel C
„:21 C V“ TERM	„	set lamp current after measurement for channel C
„:22 C V“ TERM	„	~ during measurement
„:23 C V“ TERM	„	set integration time for channel C
„:41 30 30 31“ TERM		set Serial No. (z.B. 001)
„:50 V“ TERM	V: value	set smoothing
„:51 V“ TERM	„	set round
„:52 V“ TERM	„	set averaging of frames
„:53 V“ TERM	„	set averaging of temperature
„:70 V“ TERM		set debug flags
„:72 N V“ TERM	N: No. of debug var, V: value	set debug variables
„:75 C S16“ TERM		One point calibration („offset“)
„:76 V“ TERM	V: value	Set active calibration
„:80 S16 S16“ TERM		Set minimum and maximum operation temperature
„:81 S16 S16“ TERM		Set temperature to analog output relation