

## 7 Command list

### 7.1 Sensor Programming

		Entry	Output
Select meas. point Mxx (incl. input channel)		Mxx	
Select input channel Exx		Exx	
Ref. channel 1 Eb1, absolute	f1	Eb1	<b>B1:</b> b1
Ref. channel 1 Eb1, relative	f1	E-b1	-b1
Ref. channel 2 Eb2, absolute	f2	Eb2	<b>MX:</b> b2
Ref. channel 2 Eb2, relative	f2	E-b2	-b2
<b>Select Measuring Range</b>			
Pt100-1 4-conductor	-200.. 850°C	B01	P104
Pt100-2 4-conductor	-200.. 400°C	B03	P204
Pt100-3 4-conductor	0.. 65.000°C	B00	P304
Ni100 4-conductor	-60.. 240°C	B63	N104
Ntc type N	-50..125°C	B09	Ntc
NiCr-Ni (K) with CJ	-200..1370°C	B04	NiCr
NiCrSiI-NiSiI (N) with CJ	-200..1300°C	B34	NiSi
Fe-CuNi (L) with CJ	-200.. 900°C	B05	FeCo
Fe-CuNi (J) with CJ	-200..1000°C	B35	IrCo
Cu-CuNi (U) with CJ	-200.. 600°C	B06	CuCo
Cu-CuNi (T) with CJ	-200.. 400°C	B36	CoCo
PtRh10-Pt (S) with CJ	0..1760°C	B07	Pt10
PtRh13-Pt (R) with CJ	0..1760°C	B37	Pt13
PtRh30-PtRh6 (B) with CJ	+400..1800°C	B08	E118
AuFe-Cr with CJ	-270.. 60°C	B38	AuFe
Millivolt	-10..55mV	B10	mV
Millivolt 1	-26..26mV	B27	mV 1
Millivolt 2	-260..260mV	B28	mV 2
Volt	-2.6..2.6V	B11	VoIt
Diff. Millivolt	-10..55mV	B50	D 55
Diff. Millivolt 1	-26..26mV	B51	D 26
Diff. Millivolt 2	-260..260mV	B52	D260
Diff. Volt	-2.6..2.6V	B53	D2.6
Milliampere	32mA	B12	mA
Percent	4-20 mA	B13	%
Battery	0..25V	B14	Batt
Ohm	500W	B15	Ohm
Frequency	0..25000	B29	Freq
Pulses over meas. cycle	0..65000	B54	PULS
Digital	-65000..+65000	B55	DIGI
Infrared 1	0..200°C	B17	Ir 1
Infrared 4	-30..100°C	B61	Ir 4
Infrared 6	0..500°C	B62	Ir 6
Rotating vane, normal	0.3..20m/s	B30	S120
Rotating vane, normal	0.4..40m/s	B31	S140

Measuring Range		Entry	Output
Rotating vane, micro	0.5..20m/s	B32	S220
Rotating vane, micro	0.6..40m/s	B33	S240
Rotating vane, macro	0.1..20m/s	B24	L420
Water turbine, micro	0..5m/s	B25	L605
Dyn. pressure with TC	0.5..40m/s	B40	L840
Dyn. pressure with TC	0..90m/s	B41	L890
Rel. humidity, cap.	0..100%	B16	% rH
Rel. humidity, cap., with TC	0..100%	B42	HcrH
Rel. humidity, cap., with TC	0..100%	B56	H rH
Abs. humidity, cap., with PC	0..500g/kg	B43	H AH
Dew point, cap.	-25..100°C	B44	H DT
Vapour pressure, cap.	0..1050mbar	B59	H VP
Enthalpy, cap., with PC	0..400kJ/kg	B58	H En
Humid temperature	-50..100°C	B45	P HT
Rel. humidity, psychr., with PC	0..100%	B46	P RH
Abs. humidity, psychr., with PC	0..500g/kg	B47	P AH
Dew point, psychr., with PC	-25..100°C	B48	P DT
Vapour pressure, psychr., with PC	0..1050mbar	B49	P VP
Enthalpy, psychr., with PC	0..400kJ/kg	B57	P En
pH probe, with TC	Dim = pH/PH	B53	D2.6
Conductivity, with TC	0..20mS	B60	LF
CO <sub>2</sub> concentration	0..2.5%	B64	CO2
O <sub>2</sub> saturation, with TC and PC	0..260%	B65	O2-S
O <sub>2</sub> concentration, with TC	0..40mg/l	B66	O2-C
Digital input	0..100%	B70	Inp
<b>Function Channels</b>			
Difference	Eb1-Eb2	B71	Diff
Maximum value	of Eb1	B72	Max
Minimum value	of Eb1	B73	Min
Average value over time	of Eb1	B74	M(t)
Average value over meas. points	Eb2...Eb1	B75	M(n)
Sum over meas. points	Eb2...Eb1	B76	S(n)
Total pulse count	of Eb1	B77	S(t)
Pulses/print cycle	of Eb1	B78	S(P)
Thermal coefficient = MW(M02 <sub>1</sub> )/MW(M01 <sub>1</sub> -M00 <sub>1</sub> )		B79	q/dt
Wet-Bulb-Globe Temperature = 0.1M00 <sub>1</sub> +0.7M00 <sub>2</sub> +0.2M01 <sub>1</sub>		B02	WBGt
Alarm value	of Eb1	B80	Alrm
Measure value	of Eb1	B81	Mess
summing point temperature		B82	CJ
Number of average values	of Eb1	B83	n(t)
Volume flow m <sup>3</sup> /h = MW*(Mb1)QS		B84	Flow
Timer		B85	Time

CJ=Cold Junction Compensation, TC=Temp. Compensation, PC=Atmosph. Pressure Compensation

# Interface Command List for ALMEMO® Devices

Function	Entry	Output
<b>Change Multiplexer</b>	B-A	f1 Bxx M1
	C-A	f2 Bxx M2
	D-A	f3 Bxx M3
Difference	C-B	f4 Bxx M3
	D-B	f5 Bxx M5
<b>Output Function</b>	Meas. Value	f1 m0 Meas
	Difference	f1 m1 Diff
	Max Value	f1 m2 Max
	Min Value	f1 m3 Min
	Average Value	f1 m4 M(t)
	Alarm Value	f1 m5 Alm
<b>Set Element Flags</b>	Meas.Current <sup>1</sup> / <sub>10</sub>	f2 k(-)1 01
Emission and background temperat.	Infrared	f2 k(-)2 02
Activation bridge contact	Bridge	f2 k(-)3 04
Activation base value	Wall Moist. Level	f2 k(-)4 08
Deactivating the electrical isolation	Iso off	f2 k(-)5 10
without sensor breakage detection	Sensor Break.	f2 k(-)7 40
Analogue output 0/4-20mA	4-20mA	f2 k(-)8 80
<b>Dimension Change 'xy'</b>		f1 \$xy CR D
Meas. point name 'Name' (10 characters)		f2 \$Name CR COMMENT
Define atmospheric pressure sensor as reference		f2 \$*P xx CR *P
Define temperature sensor as ref. junct. comp.		f2 \$*J xx CR *J
<b>Scaling and Correction of Meas. Values</b>		
Base value		0(-)xxxxx BASE VAL
Factor		Fxxxxx FACTOR
Exponent		V(-)x EXP
Zero point correction	f1	0(-)xxxxx ZERO POINT
Slope correction	f1	Fxxxxx SLOPE CORR
* Nominal value	f1	qxxxxx
Limit value, max.		H(-)xxxxx GW-MAX
action alarm only		h0 AH: --
action scan of meas. values start		h1 S-
action scan of meas. values stop		h2 E-
*action scan of meas. values manually		h3 M-
*action set timer to zero		h4 Z-
action alarm relay x triggering	f1	hx -x
Limit value, min.		L(-)xxxxx LV-MIN
action alarm only		10 AL: --
action scan of meas. values start		11 S-
action scan of meas. values stop		12 E-
*action scan of meas. values manually		13 M-
*action set timer to zero		14 Z-
action alarm relay x triggering	f1	1x AL = -x

Function	Entry	Output
<b>Sensor Locking</b> none	f1 k0	VM: 0
Meas. range, element flags	f1 k1	1
Meas. range, zero point, slope	f1 k2	2
Meas. range, dimension	f1 k3	3
+ zero point, gain	f1 k4	4
+ base, factor, exponent	f1 k5	5
+ analogue output start-end	f1 k6	6
+ limit values	f1 k7	7
Sensor locking, final	f8 kx	x.
<b>Analogue Output</b> Start	a(-)xxxxx	ANA-START
Analogue output end	e(-)xxxxx	ANA-END
Print cycle factor	zxx	PF
Minimum Sensor Supply Voltage	uxx	UMIN
<b>Average Value Processing</b>		AVERAGE
Delete average mode	m0	----
continuously without output	m1	CONT
cyclic without output	m2	CYCL
continuously start to stop	m5	STSTOP
via individual measurements	m6	SINGLE
* Smoothing (number of averaged values xx)	f1 zxx	
* Cross-section for volume flow calculation in cm <sup>2</sup>	Qxxxxx	
<b>Delete Sensor Parameters</b>		
Deactivate meas. range, meas. point	C00	
Set measured value to zero (base value)	C01	
Set corrected measured value to zero (zero point), f1 adjustment	C01	
Delete maximum value	C02	
Delete minimum value	C03	
Delete average value	C14	
Base value	C06	
Factor	C07	
Exponent	V0	
Zero point correction	f1 C06	
Slope correction	f1 C07	
Limit value, max.	C08	
Limit value, min.	C09	
Analogue output start	C16	
Analogue output end	C17	

## 7.2 Device - Programming

	Entry	Output
Change baud rate (6=9600, 7=57600bd)	f1 bx	
Select device/module and output meas. values	Gxx	if scanned earlier
Select device/module and output meas. values	f1 Gxx	without scan
Device name, 40 characters at max.	f4 \$Device_Name	CR
*Comments text 1 (max. 21 characters)	f5 \$Text	CR
*Comments text 2 (max. 21 characters)	f6 \$Text	CR
*Menu title U1 (max. 16 characters)	f7 \$Text	CR
*Menu title U2 (max. 16 characters)	f8 \$Text	CR
*Menu title U3 (max. 16 characters)	f9 \$Text	CR
Enter locking code	cxxxx	
Enter atmospheric pressure in mbar	g0xxxx	
*Temperature compensation in 0.1°C	f1 gxxxx	
Hysteresis at alarm processing	Yxx	
Output relay control on/off	R0x / R-0x	
Output of analogue value defined	f9 a(-)xxxxx	
Output of analogue value from meas. channel	f9 E-00	
Ref. channel, absolute, for analogue output	f9 Exx	
Set number of channels at device (10,20,30,40)	f9 Mxx	3290-8, 5590
Set number of channels at scanner board	f8 Mxx	ES 5590-MF
Output module variant x	f9 kx	
<b>Operating Parameters</b>		CONFIG
60Hz Version	f6 k(-)1	F
Auto-delete measured values	f6 k(-)2	C
Ring memory	f6 k(-)3	R
Date, 4-digit year data (not V6)	f6 k(-)4	D
Deactivate printout of offnormal values (not V6)	f6 k(-)5	A
Signal giver turn off	f6 k(-)6	A
Switching off automatic function activation (2390-5/8)	f8 k(-)8	8
<b>Output Channel and Output Format</b>		
Measured values in list format	N0	
Measured values in column format	N1	n
Measured values in spreadsheet format	N2	t
<b>Process Control</b>		
Print cycle	Zhhmss	
Meas. cycle	Ihhmss	
with save	I+hhmss	
without save	I-hhmss	
Time	Uhhmss	
start time of measurement	f1 Uhhmss	
end time of measurement	f2 Uhhmss	
Date	dttrmjj	

start date of measurement	f1	dttmjj	
End date of measurement	f2	dttmjj	
* Measuring duration	f2	Zhhmss	

**Delete Device Parameters**

Memory		C04	
All measurement data and memory	f1	C04	
All measurement data		C18	
Print cycle		C11	
Meas. cycle		C12	
Time reset		C10	
start time	f1	C10	
end time	f2	C10	
Date		C13	
start date	f1	C13	
end date	f2	C13	

**Conversion Rate and Mode**

Conversion rate 3 M/s without scanning	f5	k0	003
Conversion rate 10 M/s without scanning	f5	k(-)1	010
Conversion rate : 50 M/s without scanning (option Q2)	f5	k7	W050
Continuous scan of measuring points	f5	k(-)2	C
Continuous saving	f5	k(-)4	S
Continuous output	f5	k(-)5	U

**Number input, activation**

**Single Measuring Value Output**

		<b>Meas.Cycle</b>	<b>Print Cycle</b>
without output	S0	00:00:00 X	00:00:00 X
save	S1/s	00:00:00 S	00:00:00 -
output	S1/s	00:00:00 -	00:00:00 U
output and saving	S1/s	00:00:00 S	00:00:00 U

**Cyclic Measuring Value Output**

in print cycle:		<b>Meas.Cycle</b>	<b>Print Cycle</b>
output	S2	00:00:00 -	hh:mm:ss U
output and save	S2	00:00:00 S	hh:mm:ss U
in measuring cycle: (limit value monitoring)			
output of offnormal values	S2	hh:mm:ss -	00:00:00 U
save of offnormal values	S2	hh:mm:ss -	00:00:00 S
save all meas. values and printout of offnorm. val.	S2	hh:mm:ss S	00:00:00 U
in measuring and print cycle: (limit value monitoring, average value processing)			
cyclic output and output of offnormal values	S2	hh:mm:ss -	hh:mm:ss U
as above, and save in meas. cycle	S2	hh:mm:ss S	hh:mm:ss U
Stop cyclic scan	X		

**\*Activating Functions on ALMEMO devices with graphics display**

Select row	iXX			
Select menu and function	Menü U1	Menü U2	Menü U3	
Limit value, maximum	f1 o00	f2 o00	f3 o00	
Limit value, minimum	f1 o01	f2 o01	f3 o01	
Basic value	f1 o02	f2 o02	f3 o02	
Factor	f1 o03	f2 o03	f3 o03	
Exponent	f1 o48	f2 o48	f3 o48	
Zero point correction	f1 o04	f2 o04	f3 o04	
Gain correction	f1 o05	f2 o05	f3 o05	
Analog start	f1 o06	f2 o06	f3 o06	
Analog end	f1 o07	f2 o07	f3 o07	
Range	f1 o08	f2 o08	f3 o08	
Maximum value	f1 o09	f2 o09	f3 o09	
Minimum value	f1 o10	f2 o10	f3 o10	
Average value	f1 o11	f2 o11	f3 o11	
Print cycle	f1 o12	f2 o12	f3 o12	
Measuring cycle	f1 o13	f2 o13	f3 o13	
Date, time-of-day	f1 o14	f2 o14	f3 o14	
Measured value, small	f1 o15	f2 o15	f3 o15	
Measured value, medium	f1 o16	f2 o16	f3 o16	
Measured value, large	f1 o17	f2 o17	f3 o17	
Measured value, bar chart	f1 o34	f2 o34	f3 o34	
Measured value, line graphics	f1 o35	f2 o35	f3 o35	
Averaging mode	f1 o18	f2 o18	f3 o18	
Conversion rate	f1 o19	f2 o19	f3 o19	
Print timer	f1 o20	f2 o20	f3 o20	
Measuring timer	f1 o21	f2 o21	f3 o21	
Count	f1 o22	f2 o22	f3 o22	
Number :	f1 o23	f2 o23	f3 o23	
Range, comments	f1 o24	f2 o24	f3 o24	
Diameter (mm)	f1 o25	f2 o25	f3 o25	
Cross-section (cm <sup>2</sup> )	f1 o26	f2 o26	f3 o26	
Volume flow (m <sup>3</sup> /h)	f1 o27	f2 o27	f3 o27	
Maximum, date and time-of-day	f1 o28	f2 o28	f3 o28	
Minimum, date and time-of-day	f1 o29	f2 o29	f3 o29	
Empty line	f1 o30	f2 o30	f3 o30	
Line	f1 o31	f2 o31	f3 o31	
Smoothing	f1 o32	f2 o32	f3 o32	
Memory free	f1 o33	f2 o33	f3 o33	
Device designation	f1 o36	f2 o36	f3 o36	
Comments text 1	f1 o37	f2 o37	f3 o37	
Comments text 2	f1 o38	f2 o38	f3 o38	
Menu title U1	f1 o39	f2 o39	f3 o39	
Menu title U2	f1 o40	f2 o40	f3 o40	
Menu title U3	f1 o41	f2 o41	f3 o41	
Locking mode	f1 o42	f2 o42	f3 o42	
Atmospheric pressure (mbar)	f1 o43	f2 o43	f3 o43	
Temperature compensation	f1 o44	f2 o44	f3 o44	
Nominal value	f1 o45	f2 o45	f3 o45	
Measuring time	f1 o46	f2 o46	f3 o46	
Measuring duration	f1 o47	f2 o47	f3 o47	
Exponent	f1 o48	f2 o48	f3 o48	

## 7.3 Data Output

Function	Entry	Output
<b>Memory Output to Interface</b>		
Memory capacity	f1 P04	MEMORY: S0500.3 F0312.4 S=total, F=Free
Number list	f1 P05	NUMBER: 01-001 01-002 02-001 .....
Activate number	n01-002	
Interval start time	f3	Uhhmmss
Interval end time	f4	Uhhmmss
Interval start date	f3	dtmmjj
Interval end date	f4	dtmmjj
Interval output	f3	P04
Start output	P04	MEMORY:
number		NUMBER: 12-001
date		DATE: 12.03.90
time and meas. value		12:30:00 01: +0012.0 °C NiCr Name
offnormal value (limit value)		02: !+0008.8 °C NiCr Water
exceeding of range		03: >+125.00 °C Ntc Motor Oil
Output of several modules	P-04	MODULE:01 00: +01.234 mV
Column format	N1 P04	12:30:00 01: +0012.0 °C 02: +0009.9 °C
Output of several modules	N1 P-04	MODULE:01 00: +01.234 mV
Spreadsheet format	N2 P04	MEMORY:
Number		"NUMBER: "; "12-001"
Memory programming		"ALMEMO"; "RANGE: "; "NiCr"; "NiCr"; : : : : : "8990-8"; "COMMENT: "; "Name"; "Water"; : : : : : :"LIM-MAX: "; 123.4; : : : : : :"LIM-MIN: "; 12; : : : : : "DATE: "; "TIME: "; "M01: °C"; "M02: °C"; : : : : : "12.03.90"; "12:30:00"; 12. ; 8.8; : : : : : "DATE: "; "TIME: "; "M01: °C"; "M02: °C"; "M0100: mV"; "M0201: %H"; : : : : :
Time and meas. values		
Output of several modules	N2 P-04	
Cancel output		X

# Interface Command List for ALMEMO® Devices

**Function                      Entry    Output**

## Scan Of Meas. Points and Output to Interface

Output channel interface    A1    (No longer required after V5)

**Start with Progr. Header** S3    AMR ALMEMO 8990-8  
 CH RANGE    LIM MAX    LIM MIN    OFFSET D FACTOR EXP AVG COMMENT  
 01: NiCr +0123.4    - - -    - - -    °C 1.0350 E+0    - - -    Name  
 02: NiCr    - - -    +0012.0    - - -    °C    - - -    E+0 CONT    Water  
 12: M(t)    - - -    - - -    - - -    °C    - - -    E+0    - - -    Avg(02)

cycles                      MEAS CYCLE:    00:00:30 S    S0500.3 F0312.4 A    W010C-SU  
 PRINT CYCLE:    00:10:00 U    9600 bd

start-end-time-date        START TIME:    00:07:00                      (if programmed)  
 END TIME:        18:30:00  
 END DATE:        02.01.92

## Start without Progr. Hdr S2

Number                      NUMBER:        123456                      (if active)  
 Date                        DATE:          12.03.90  
 Time and meas. value      12:30:00 01: +0012.0 °C NiCr Name  
 Offnorm. value (exceeding of limit val.)    02: !+0008.8 °C NiCr Water  
 Function channel average value              12: +0009.9 °C M(t) Avg(02)

Column format              N1 S2    12:30:00 01: +0012.0 °C 02: +0009.9 °C

Spreadsheet format        N2 S2    "DATE";"TIME";"M01: °C";"M02: °C";";;  
 "12.03.90";"12:30:00";12.;9,9

**Single Scan**              S1        "12.03.90";"12:30:00";12.;9,9  
 without time and date      s        ;;12.;9,9  
 several modules            G01 G... ;;123,4;25,2  
 output without scan        f1 G01 ;;123,4;25,2

**Stop Scan**                X

## Data Output to Interface

**Programming**            P15        AMR ALMEMO 8990-8  
 (all active channels)      CH RANGE    LIM MAX    LIM MIN    OFFSET D FACTOR EXP AVG.    COMMENT  
 01: NiCr    +0123.4 -0012.0 +0000.0 °C 1.0000 E+0    - - -    Temperature  
 MEAS. CYCLE:    00:00:30 S    S0500.3 F0312.4 AR    W010C-SU  
 PRINT CYCLE:    00:10:00 U    9600 bd IBM

(only input channel)      P00        01: NiCr +0123.4 -0012.0 +0000.0 °C 1.0000 E+0    - - -    Temperature

° Head by systems        P15        AMR ALMEMO 5590-3 MODULO0/00-02

extended                  f1 P15      CH ZERO    SLOPE    LM P FUNC CALOFS CALFA A-SART A-END    B1 MX EF AH AL CF UMIN  
 01: +0000.0 +1.0000 5. 1 MEAS +00000 32000 +0000.0 +1000.0-01 M1 -- S- E2 05 12.0

all parameters            f2 P15      CH RANGE    LIM MAX... LM P FUNC CALOFS CALFA A-SART A-END    B1 MX EF AH AL CF UMIN  
 01: NiCr    +0123.4... 5. 1 MEAS +00000 32000 +0000.0 +1000.0-01 M1 -- S- E2 05 12.0  
 MEAS. CYCLE:    00:00:30 S    S0500.4 F0312.4 A    W010C-SU  
 PRINT CYCLE:    00:10:00 U    9600 bd

only input channel        f2 P00      01: NiCr +0123.4... 5. 1 MEAS.VAL +00000 32000 +0000.0 +1000.0-01 M1 -- S- E2 05 12.0

all meas. values         P18        MS MEAS.VAL MAXIMUM MINIMUM AVG.        COUNT  
 01: +0023.0 +0025.0 +0019.0 +0022.0 99999

Function	Entry	Output	
<b>Device Parameters</b>	P19	DEVICE: G00 M40 A08 P10/40/00  A.Pressure: +01013. mb CJ-TEMP: +0023.5 °C U-SENSOR: ! 12.5 V HYSTERESIS: 10 CONFIG: FCRDAS-- -L-- B-1 a+12345  ALARM: -1-3 A1: DK0 Un A2: AK1	Device adr., Meas. points: all, active, primary, Meas. board, Scanner  LoBat and sensors voltage  Config: 60Hz, Clr Mv, Ring mem., Date, Alarm print off, Signal off Analogue: reference, output value Relay active DK/AA Output channel/-format DK/AA/EK/AK/EA/PS
<b>Single Sensor Param.</b>			
Locking	f1 P00	LOCKING:3	
Meas. val. of meas. chan.	p	01: +0023.5 °C	
Meas. val. of meas. chan.	P01	12:34:00 01: +0023.5 °C	
Maximum value	P02	MAXIMUM: 01: +0020.0 °C	
Minimum value	P03	MINIMUM: 01: -0010.0 °C	
Average value	P14	AVERAGE VAL: 01: +0017.8 °C	
Base value	P06	BASE: 01: -0273.0 °C	
Factor and exponent	P07	FACTOR: 01: +1.0350E-1	
Zero point adjustment	f1 P06	ZERO CORR: 01: -0000.7 °C	
Gain adjustment	f1 P07	SLOPE CORR: 01: +1.0013	
Limit value, max.	P08	LIM-MAX: 01: -0100.0 °C	
Limit value, min.	P09	LIM-MIN: 01: +0020.0 °C	
Analogue start	P16	ANALOG START:01: -0010.0 °C	
Analogue end	P17	ANALOG END: 01: +0040.0 °C	
* Averaging mode	P21	AVERAGING MODE: 01: CONT	
* Nr. of averaged values	P22	NUMBER OF AVERAGED VALUES : 01: 00178	
* Range	P24	RANGE: 01: NiCr	
* Cross-section	P26	CROSS-SECTION: 01:00078 cm2	
* Maximum time	P28	MAX TIME: 01: 12:32 01.02	
* Minimum time	P29	MIN TIME: 01: 12:32 01.02	
* Smoothing	P32	SMOOTHING: 01: 10	
<b>Single Device Param.</b>			
Number	P05	NUMBER: 123456	
Time	P10	TIME: 12:34:00	
Start time measurement	f1 P10	START TIME: 07:00:00	
End time measurement	f2 P10	END TIME: 17:00:00	
Start time interval	f3 P10	START TIME: 07:00:00	
End time interval	f4 P10	END TIME: 17:00:00	
Date	P13	DATE: 01.02.94	
Start date measurement	f1 P13	START DATE: 01.02.94	
End date measurement	f2 P13	END DATE: 02.02.94	
Start date interval	f3 P13	START DATE: 01.02.94	
End date interval	f4 P13	END DATE: 02.02.94	
Print cycle	P11	PRINT CYCLE: 00:01:30	
Output timer	f1 P11	PRINT TIMER: 00:01:23	

## Interface Command List for ALMEMO® Devices

```

Measuring cycle      P12  MEAS. CYCLE: 00:01:30
Measuring timer     f1 P12 MEAS. TIMER: 00:00:23
* Number            P23  SERIAL NUMBER : 01-012
* Diameter          P25  DIAMETER : 01:00100 mm
* Volume flow       P27  VOLUME : 01:00000 m3/h
* Empty line        P30
* Line              P31  -----
* Memory free       P33  MEMORY : S0512.1 F0324.4 A
* Measured value    P35  01: +0023.5 °C temperature
* Device designation P36  Ahlborn, Holzkirchen
* Text 1            P37  Comments text 1
* Text 2            P38  Comments text 2
* Text 3            P39  Menu title U1
* Text 4            P40  Menu title U2
* Text 5            P41  Menu title U3
* Locking mode      P42  Locking mode : 5
* Atmospheric pressure P43  ATMOSPHERIC PRESSURE : +01013 mbar
* Temp. compensation P44  COMPENSATION 01 : 25.0 °C
* Nominal value     P45  NOMINAL VALUE : 01: 1100.0 °C
* Measuring time    P46  MEASURING TIME : 00:00:00.00
* Measuring duration P47  MEAS. DURATION : 00:00:00.00
Device version      t0    A8990-8 5.00
Device name         f1 t0  Device Name
Test number in memory t4    OK or ERROR

* Output of all functions (see above) in the selected menu (e.g. "Measurement correction")
  Menu title                Measurement correction
  Measured value, medium    00: +025.67 °C
  Range, comments           RANGE: 00: Ntc
  Empty line
  Locking mode              LOCKING MODE:0.
  ....                      NOMINAL VALUE: 00: +0000.0 °C
                              COMPENSATION 00: +0000.0 °C
                              ATM. PRESSURE: +01013. mb

*Output of menu configuration Ux:      fx P20
  Menu title of menu Ux            U1:Menu title U1
  In row 00 : function yy          00:30
  In row 01 : function yy          01:39
  ....                             02:16
                                      03:24
                                      04:30 ...

```

\* Functions only on devices with graphics display (2590-9, 5990-2)

° funktions only by system 5590-3