

## 7 Command list

### 7.1 Sensor Programming

Select meas. point Mxx (incl. input channel)

Select input channel Exx

Ref. channel 1 Eb1, absolute

Ref. channel 1 Eb1, relative

Ref. channel 2 Eb2, absolute

Ref. channel 2 Eb2, relative

#### Select Measuring Range

		Entry	Output
		Mxx	
		Exx	
		f1 Eb1	<b>B1:</b> b1
		f1 E-b1	-b1
		f2 Eb2	<b>MX:</b> b2
		f2 E-b2	-b2
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	Volt
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	C02
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

**Function Channels**

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 = $MW(M02_i)/MW(M01_i-M00_i)$		B79	q/dt
Wet-Bulb-Globe Temperature = $0.1M00_i + 0.7M00_2 + 0.2M01_i$		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	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	Alrm
<b>Set Element Flags</b>	Meas.Current 1/10	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

Change baud rate (6=9600, 7=57600bd)

Select device/module and output meas. values

Select device/module and output meas. values

Device name, 40 characters at max.

\*Comments text 1 (max. 21 characters)

\*Comments text 2 (max. 21 characters)

\*Menu title U1 (max. 16 characters)

\*Menu title U2 (max. 16 characters)

\*Menu title U3 (max. 16 characters)

Enter locking code

Enter atmospheric pressure in mbar

\*Temperature compensation in 0.1°C

Hysteresis at alarm processing

Output relay control on/off

Output of analogue value defined

Output of analogue value from meas. channel

Ref. channel, absolute, for analogue output

Set number of channels at device (10,20,30,40)

Set number of channels at scanner board

Output module variant x

### Operating Parameters

60Hz Version

Auto-delete measured values

Ring memory

Date, 4-digit year data (not V6)

Deactivate printout of offnormal values (not V6)

Signal giver turn off

Switching off automatic function activation (2390-5/8)

### Output Channel and Output Format

Measured values in list format

Measured values in column format

Measured values in spreadsheet format

### Process Control

Print cycle

Meas. cycle

with save

without save

Time

start time of measurement

end time of measurement

Date

### Entry

### Output

f1	bx	
	Gxx	if scanned earlier
f1	Gxx	without scan
f4	\$Device_Name	CR
f5	\$Text	CR
f6	\$Text	CR
f7	\$Text	CR
f8	\$Text	CR
f9	\$Text	CR
	cxxxx	
	g0xxxx	
f1	gxxxxx	
	Yxx	
	R0x / R-0x	
f9	a(-)xxxxx	
f9	E-00	
f9	Exx	
f9	Mxx	3290-8, 5590
f8	Mxx	ES 5590-MF
f9	kx	
		CONFIG
f6	k(-)1	F
f6	k(-)2	C
f6	k(-)3	R
f6	k(-)4	D
f6	k(-)5	A
f6	k(-)6	A
f8	k(-)8	8
	N0	
	N1	n
	N2	t
	Zhhmmss	
	Ihhmmss	
	I+hhmmss	
	I-hhmmss	
	Uhhmmss	
f1	Uhhmmss	
f2	Uhhmmss	
	dttrmmjj	

start date of measurement	f1	dtmmjj
End date of measurement	f2	dtmmjj
* 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		n12-001	

**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"; : : : : : X
Time and meas. values		
Output of several modules	N2 P-04	
Cancel output	X	



Function	Entry	Output
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**Scan Of Meas. Points and Output to Interface**

Output channel interface	A1	(No longer required after V5)
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**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)
MEAS CYCLE: 00:00:30 S S0500.3 F0312.4 A W010C-SU
PRINT CYCLE: 00:10:00 U 9600 bd
```

cycles

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

without time and date

several modules

output without scan

S1	"12.03.90";"12:30:00";12.;9,9
s	;;12.;9,9
G01 G...	;;123,4;25,2
f1 G01	;;123,4;25,2

**Stop Scan**

X

**Data Output to Interface****Programming**

(all active channels)

P15	AMR ALMEMO 8990-8
	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
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° Head by systems

extended

all parameters

P15	AMR ALMEMO 5590-3 MODUL00/00-02
f1 P15	CH ZERO SLOPE LM P FUNC CALOFS CALFA A-START A-END B1 MX EF AH AL CF UMIN
f2 P15	01: +0000.0 +1.0000 5. 1 MEAS +00000 32000 +0000.0 +1000.0-01 M1 -- S- E2 05 12.0
	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
	01: NiCr +0123.4... 5. 1 MEAS. VAL +00000 32000 +0000.0 +1000.0-01 M1 -- S- E2 05 12.0

only input channel

all meas. values

f2 P00	
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")	P20	
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