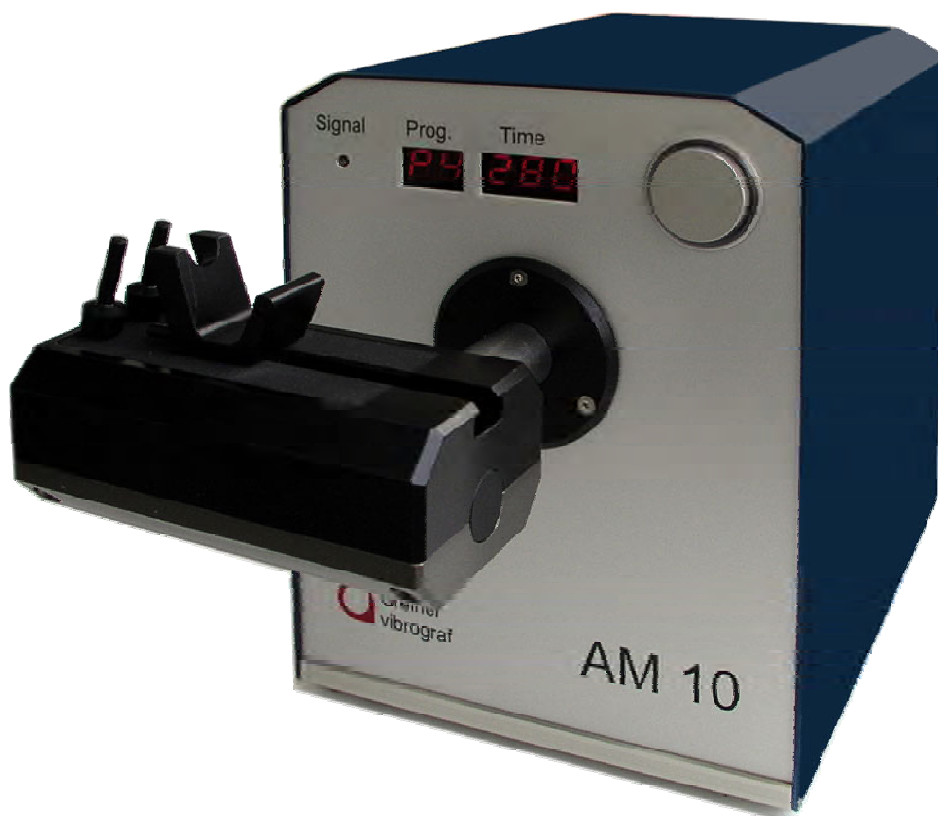


# AM10 with Compact 900

Manual

English

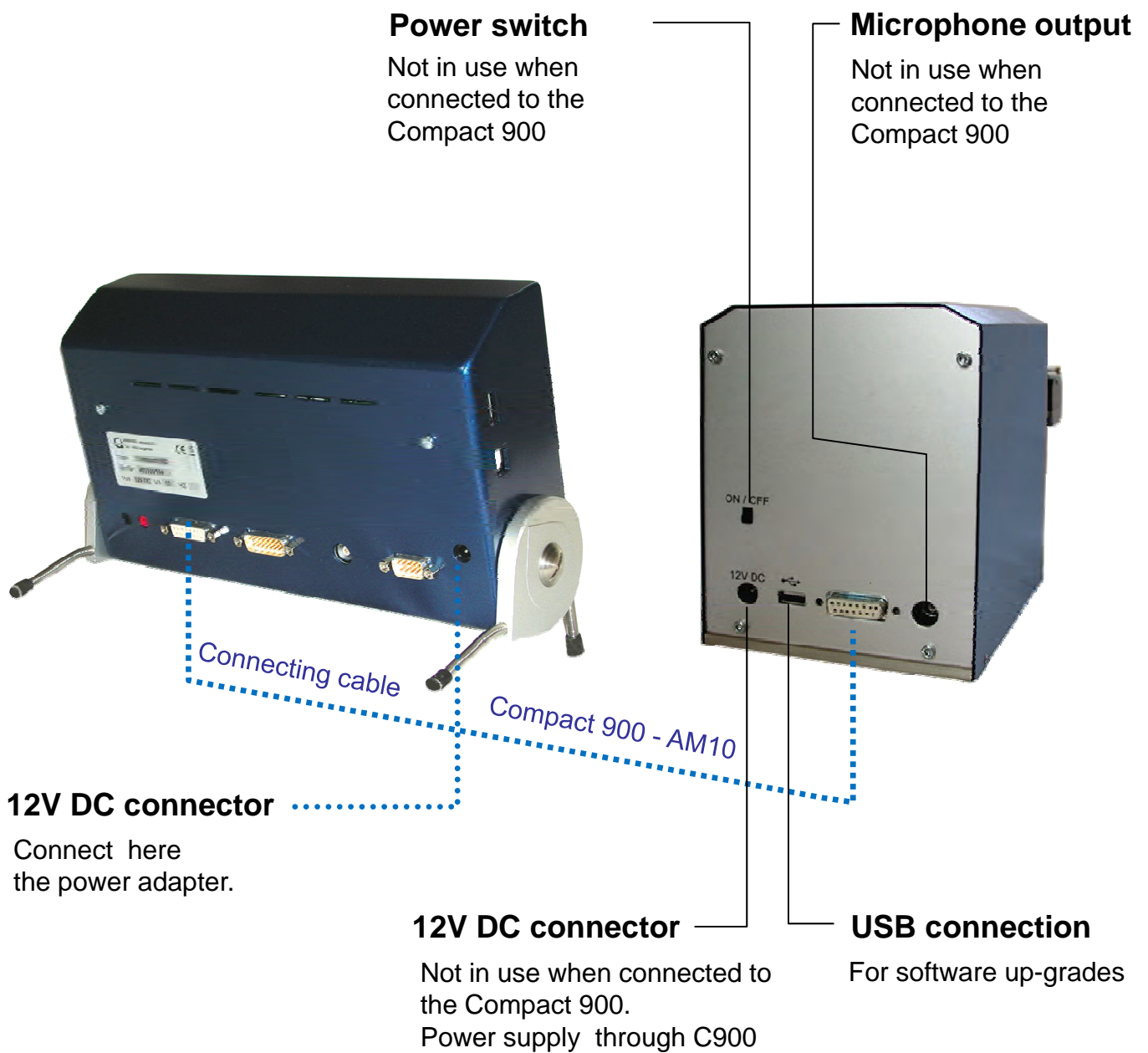


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## Connecting of the AM10 with the Compact 900



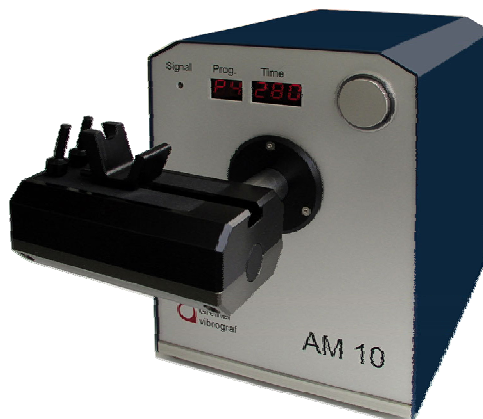
# Initiation

This manual explains mainly how to use the AM10 microphone together with the Compact 900. For further information and more details about the Compact 900 please consult its manual.

Connect the Compact 900 with the AM10 and the power adapter as explained on the previous page. Turn the rotary knob to 12 o'clock. During the booting of the Compact 900 the green "Power" LED is blinking until it is ready.

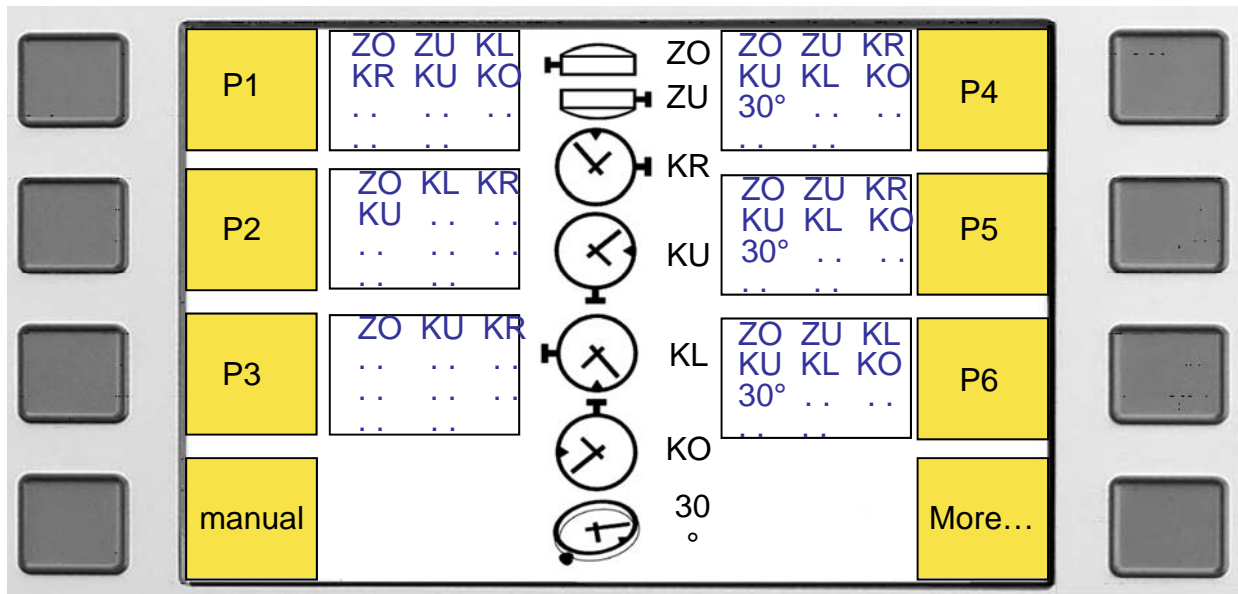


The AM10 is switched on together with the Compact 900

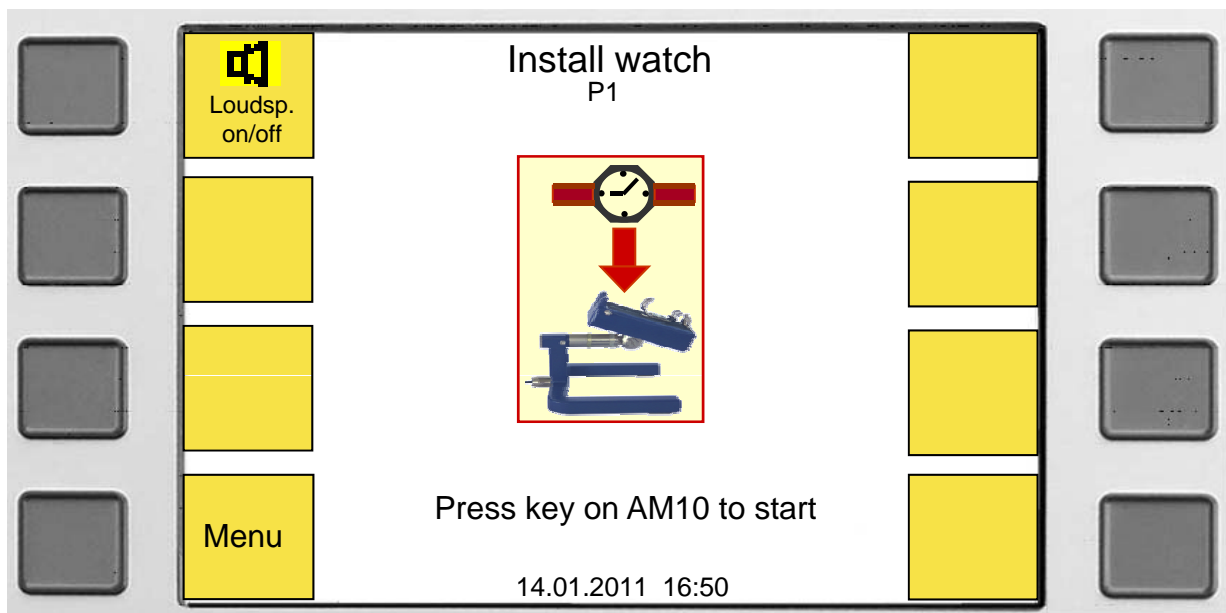


## Starting the measurement

Choose the desired program with the grey keys



The following menu appears on the screen

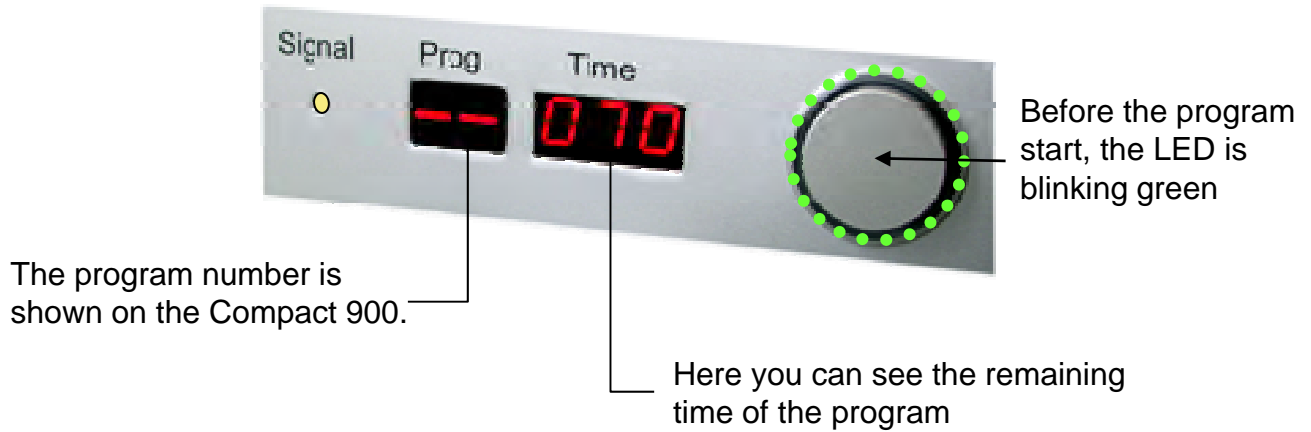


In case the watch is not yet placed on the AM10, you may do this now.  
To start the program press the key on the AM10

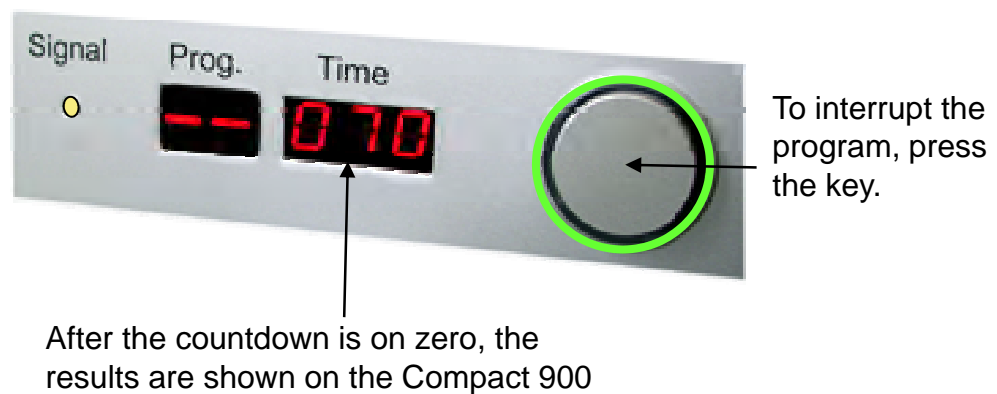


# What is indicated on the AM10

## Before program start



## During the program



## After the program



## Explanation of the results

Results			
P4			
Position	Rate	Ampli.	Out of beat
ZO	8,5 s/d	255 °	0.2 ms
ZU	1.1 s/d	236 °	0.1 ms
KR	-9.3 s/d	202 °	0.2 ms
KU	-17.9 s/d	198 °	0.4 ms
KL	-33.5 s/d	191 °	0.1 ms
KO	-15.6 s/d	200 °	0.2 ms
30°	-18.8 s/d	205 °	0.3 ms
<hr/>			
X	-12.2 s/d	212 °	0.2 ms
D	42 s/d	64 °	0.3 ms
DV	24.1 s/d	12 °	0.3 ms
DH	7.4 s/d	19 °	0.2 ms
DVH	-23.9 s/d	-48 °	0.1 ms
14.01.2011 16:50			

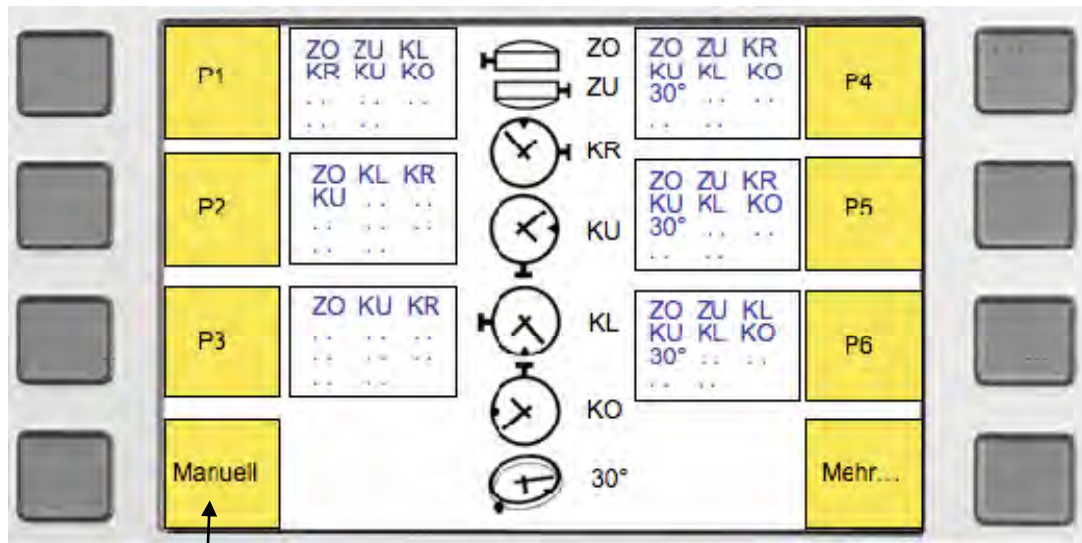
Menu

Print  
certificate

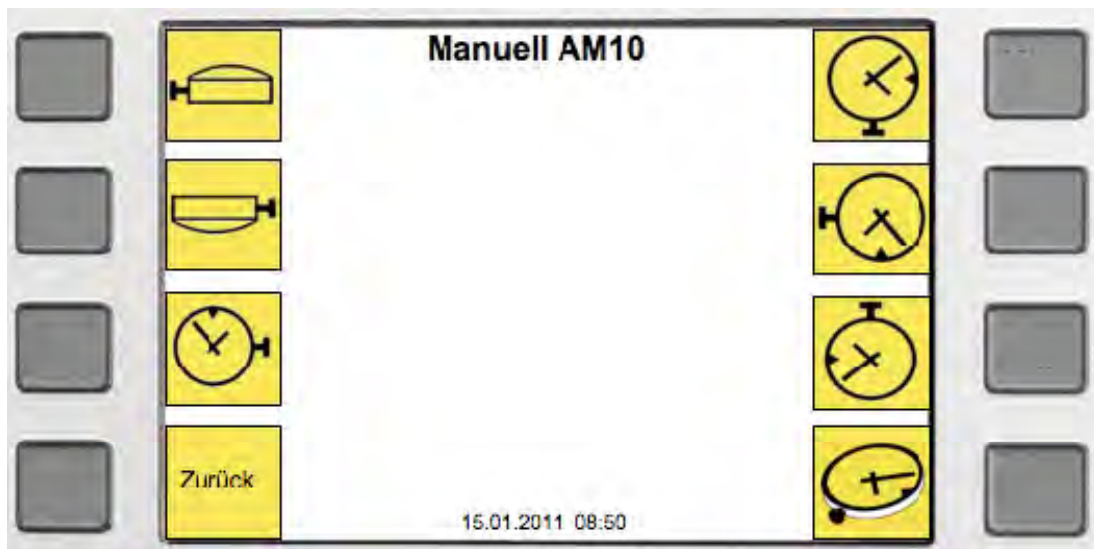
→ All red results are out of the tolerance

X	=	Average of all positions
D	=	Delta of highest and lowest value
DV	=	Delta in vertical positions
DH	=	Delta in horizontal positions
DVH	=	Delta between DV and DH

## Choose manually one position



Press the key „manual“



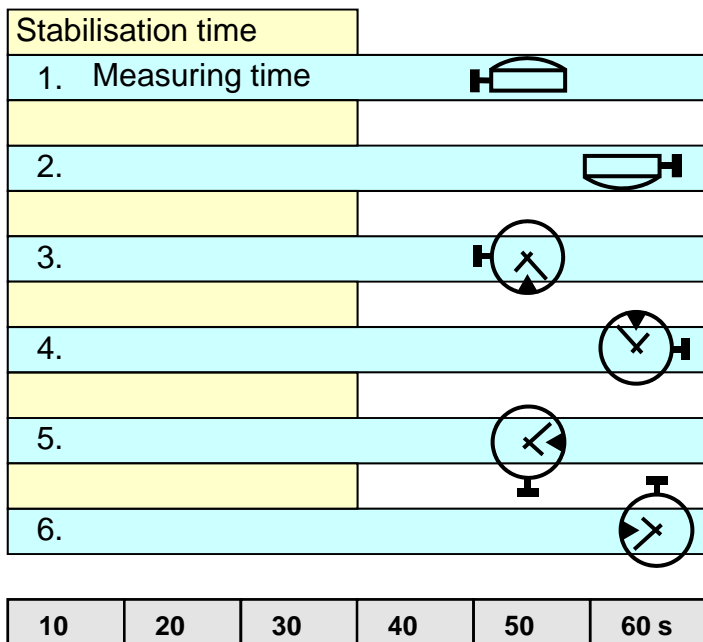
Press the key for the desired position.  
The microphone will turn in that position and stays there.



Press the key „Start to commence the measurement.  
For interrupting the measurement press the „Start“ key again.

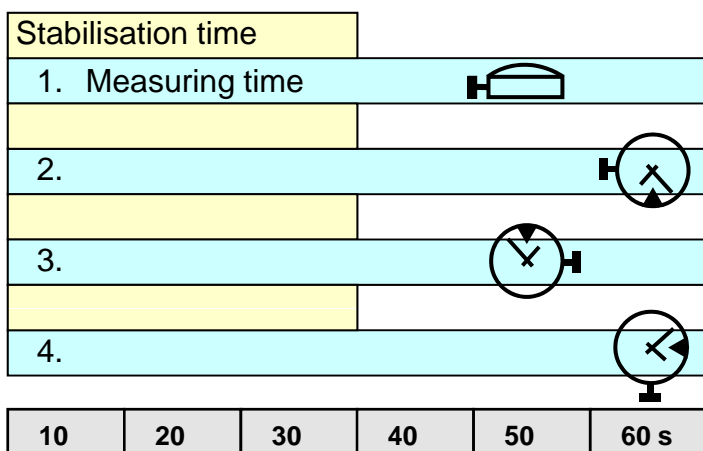


## Standard programs 1, 2 and 3



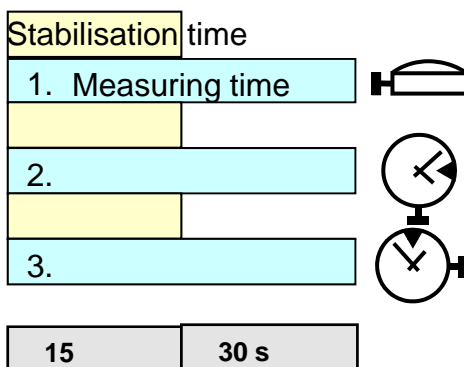
**program 1 = 540 s**

P1	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms
4.	240°	300°	-10 s	10 s	1.0 ms
5.	240°	300°	-10 s	10 s	1.0 ms
6.	240°	300°	-10 s	10 s	1.0 ms



**programm 2 = 360 s**

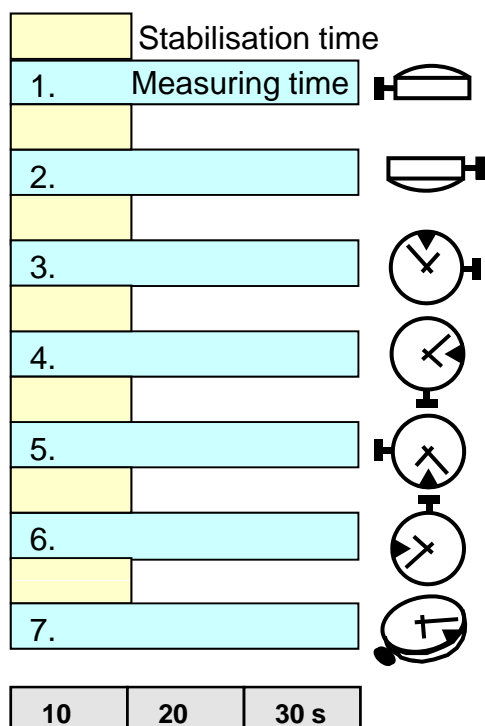
P2	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms
4.	240°	300°	-10 s	10 s	1.0 ms



**programm 3 = 135 s**

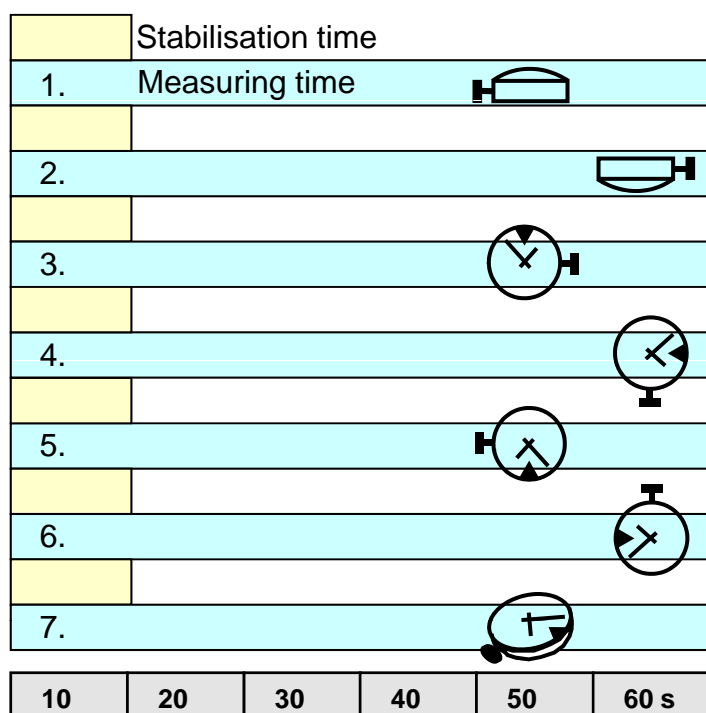
P3	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms

## Standard programs 4 and 5



**program 4 = 280 s**

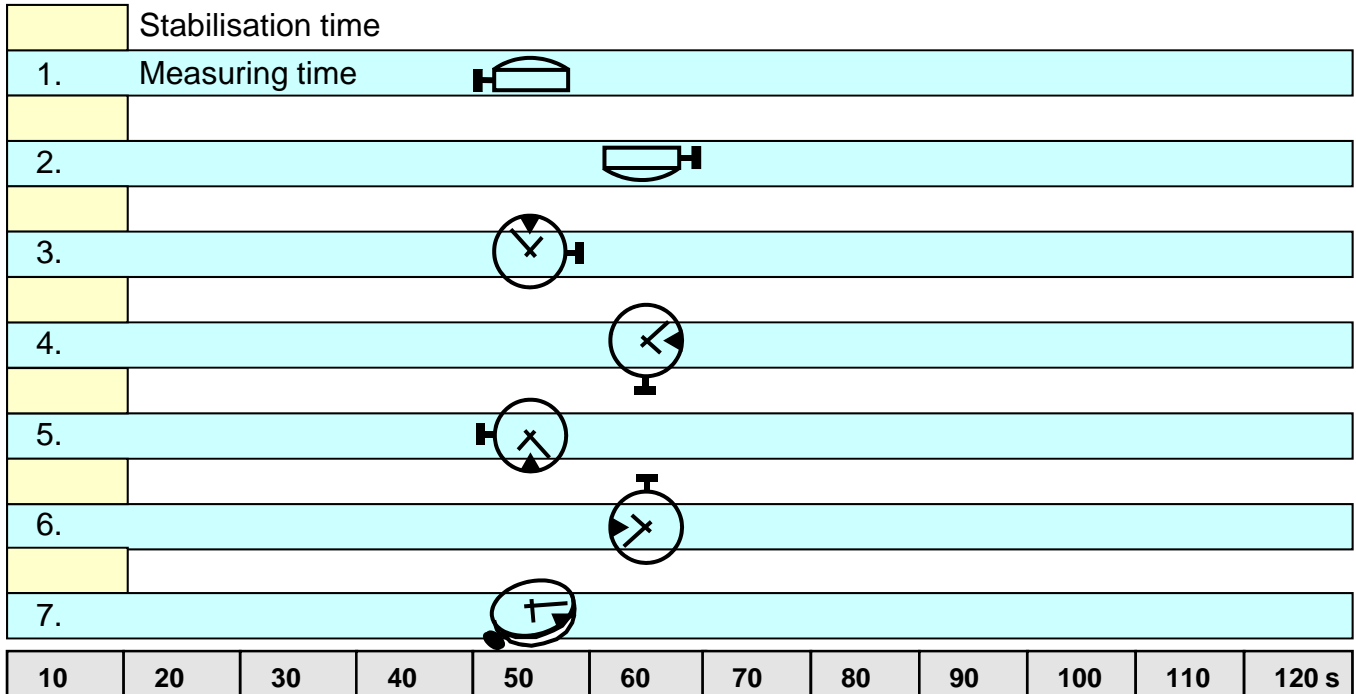
P4	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms
4.	240°	300°	-10 s	10 s	1.0 ms
5.	240°	300°	-10 s	10 s	1.0 ms
6.	240°	300°	-10 s	10 s	1.0 ms
7.	240°	300°	-10 s	10 s	1.0 ms



**programm 5 = 490 s**

P5	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms
4.	240°	300°	-10 s	10 s	1.0 ms
5.	240°	300°	-10 s	10 s	1.0 ms
6.	240°	300°	-10 s	10 s	1.0 ms
7.	240°	300°	-10 s	10 s	1.0 ms

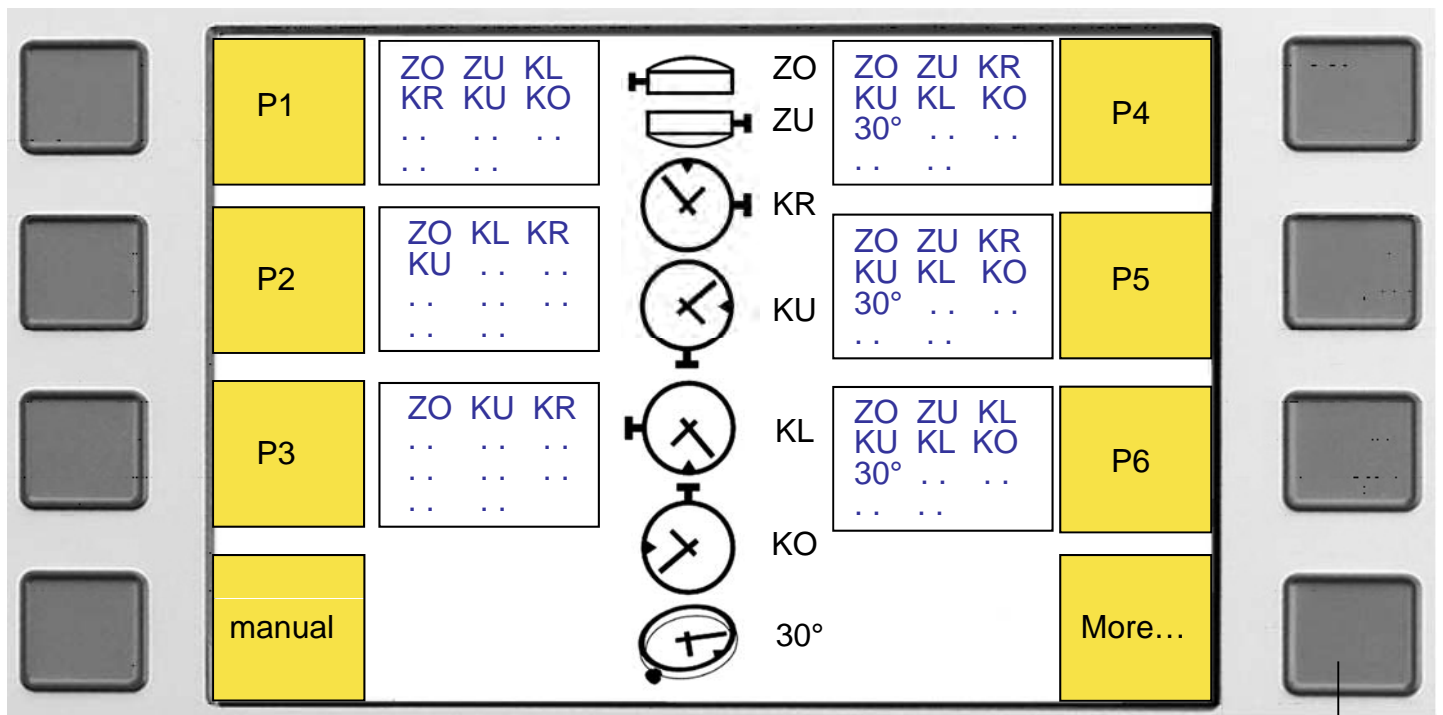
## Standard program 6



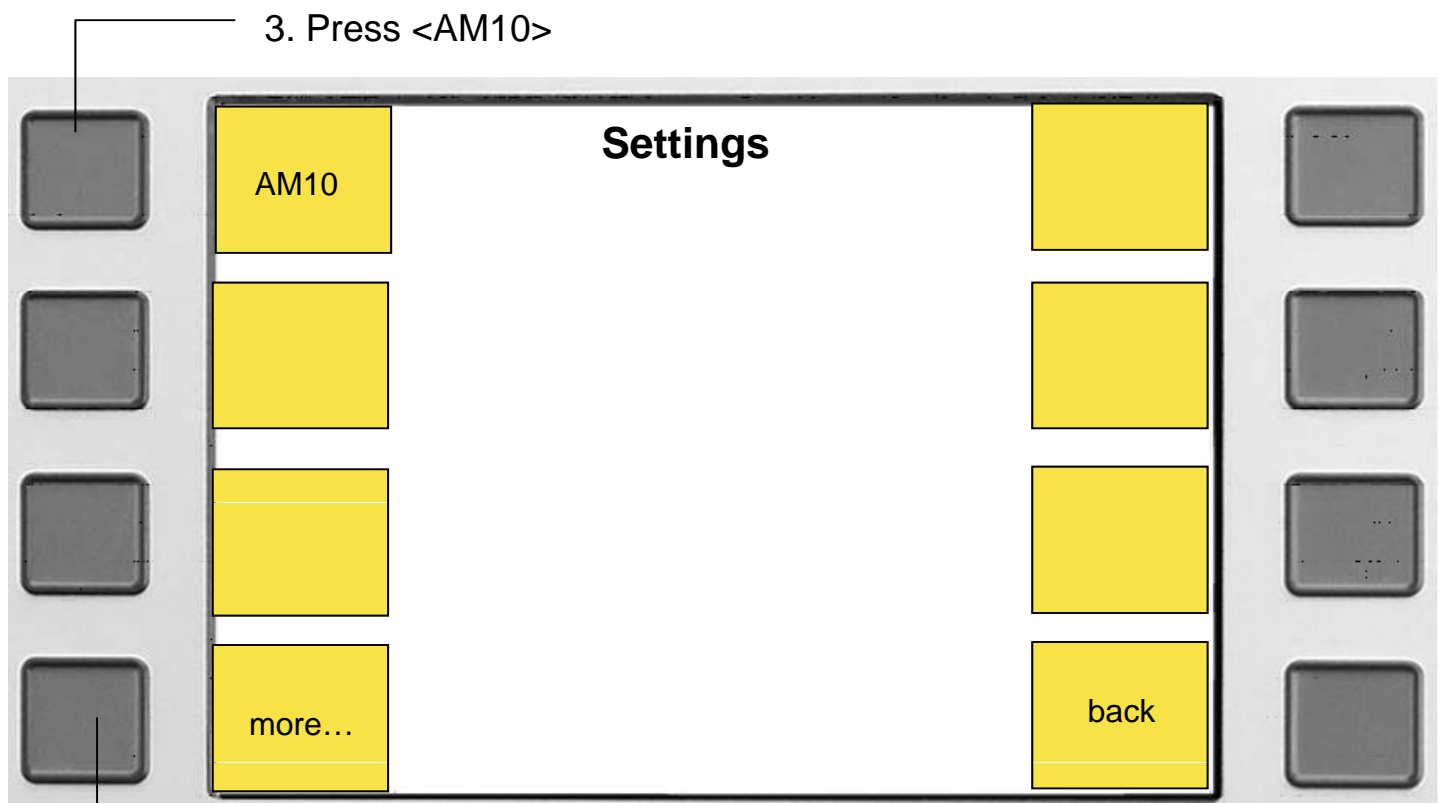
**program 6 = 910 s**

P6	Ampli tol. min.	Ampli tol. max.	Rate tol.min.	Rate tol.max.	Out of beat Tol.
1.	240°	300°	-10 s	10 s	1.0 ms
2.	240°	300°	-10 s	10 s	1.0 ms
3.	240°	300°	-10 s	10 s	1.0 ms
4.	240°	300°	-10 s	10 s	1.0 ms
5.	240°	300°	-10 s	10 s	1.0 ms
6.	240°	300°	-10 s	10 s	1.0 ms
7.	240°	300°	-10 s	10 s	1.0 ms

## Choosing and adjusting a program

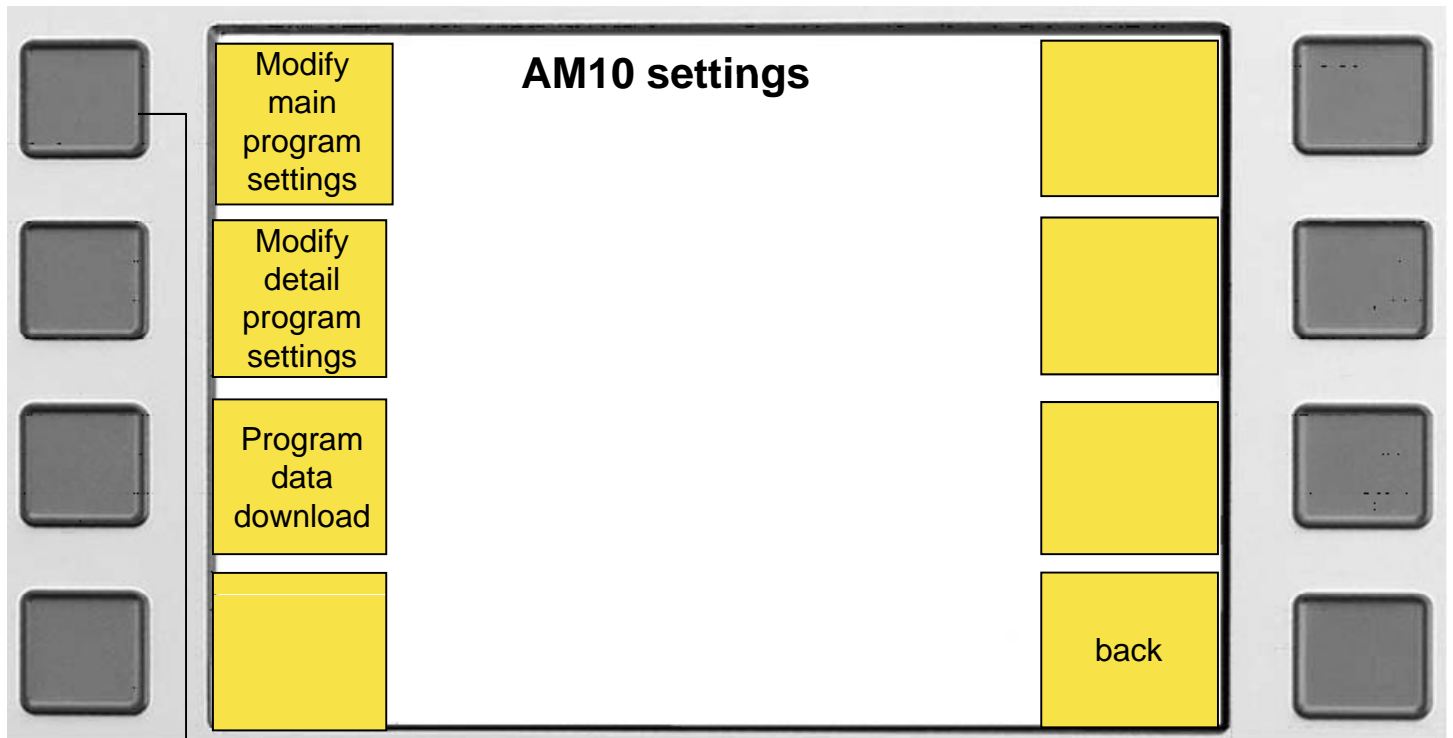


1. Press <more...>

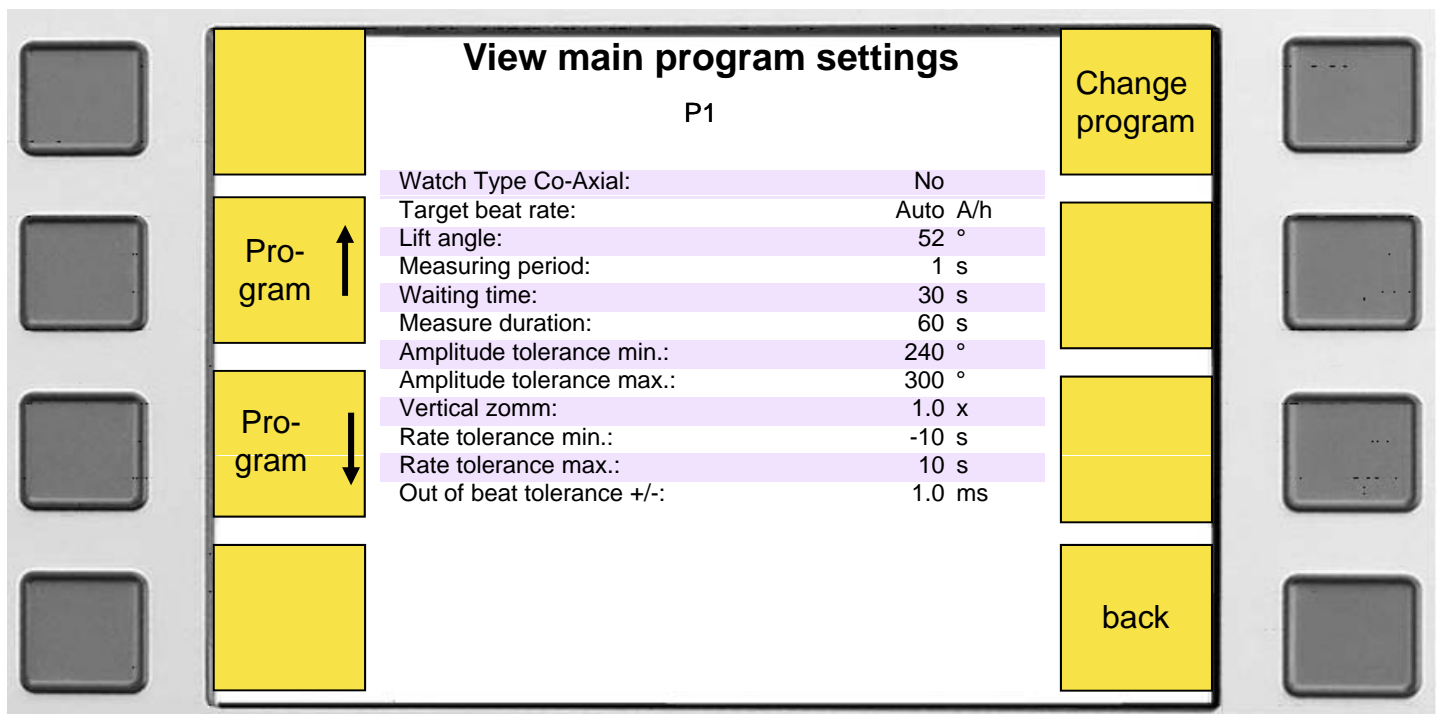


2. Press < more...>

## Choosing and adjusting the main program settings



Push button<Modify main program settings >



## Adjusting the main program settings

Press <Save> for saving the values

**Modify main program settings**

P1

Watch Type Co-Axial:	No
Target beat rate:	Auto A/h
Lift angle:	52 °
Measuring period:	1 s
Waiting time:	30 s
Measure duration:	60 s
Amplitude tolerance min.:	240 °
Amplitude tolerance max.:	300 °
Vertical zomm:	1.0 x
Rate tolerance min.:	-10 s
Rate tolerance max.:	10 s
Out of beat tolerance +/-:	1.0 ms

Standard values

select ↑

select ↓

Modify program name

save

Value ↑

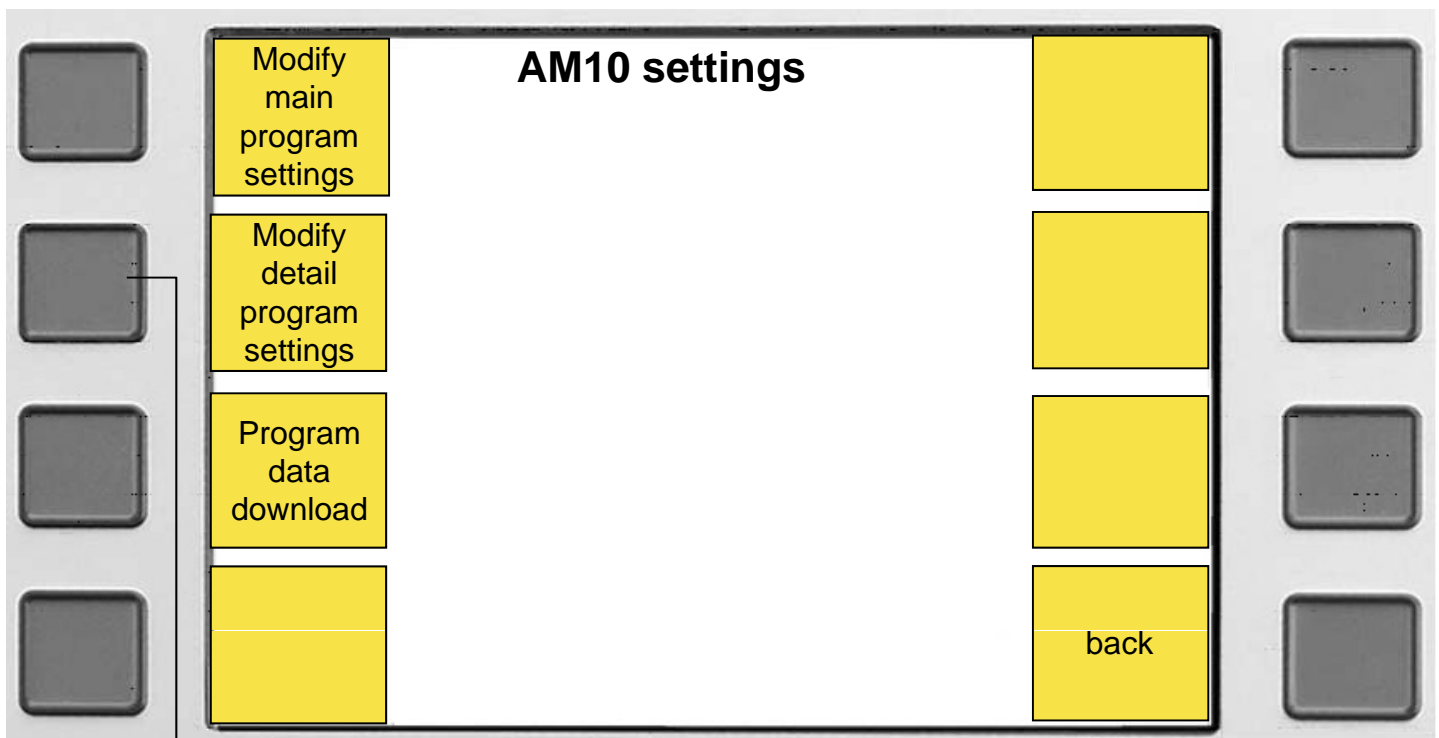
Value ↓

back

Select the parameter

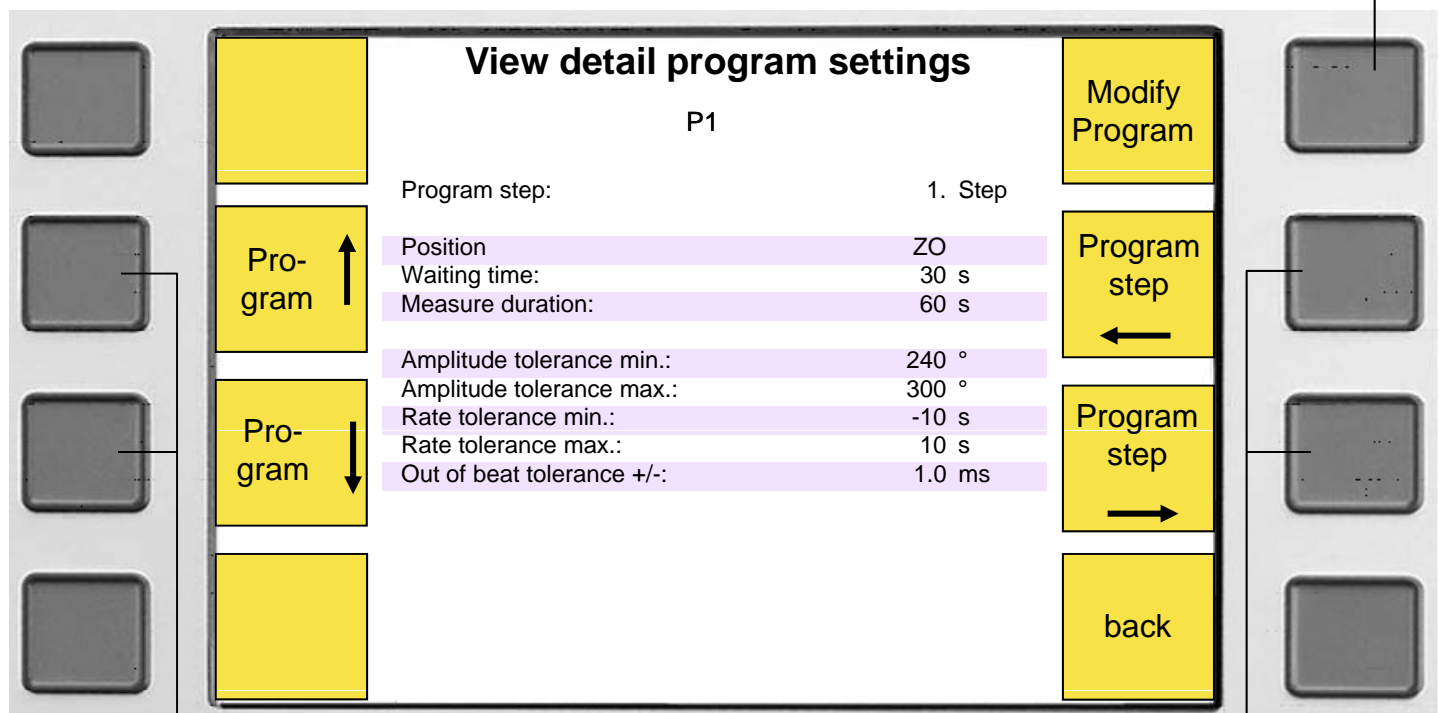
Change the value

## Choosing and adjusting the detail program settings



Press <Modify detail program settings >

Press here for changing the program



Use these buttons to choose the wished program number.

Use these buttons to choose the wished step (position).

## Adjusting the detail program settings

Press <Save> for saving the values

**Modify detail program settings**  
P1

Standard values

Program step: 1. Step

Position	Z0
Waiting time:	30 s
Measure duration:	60 s
Amplitude tolerance min.:	240 °
Amplitude tolerance max.:	300 °
Rate tolerance min.:	-10 s
Rate tolerance max.:	10 s
Out of beat tolerance +/-:	1.0 ms

Select ↑

Select ↓

Save

value ↑

value ↓

back

Select the parameter

Change the value



## Error list

Following errors may appear on LED-screen

Error indication	Description of the error
00 Err	Initialisation error
01 Err	Communication error with display
02 Err	Communication error with Compact 900
04 Err	Error in program cycle
05 Err	Error while initialisation of USB-chip or
06 Err	Error while steering servo-motor
07 Err	Error while steering DC-motor
08 Err	Over current in DC-motor
09 Err	over current in servo-motor
10 Err	Calibration error
11 Err	Over current on USB interface
12 Err	Unknown error

Other indications

Indication	Description
-- 1.01	While booting / Firmware-version
-- 1.51	While booting / Firmware-version on Tourbillon
01 CAL	Calibration step 1
02 CAL	Calibration step 2
-- USB	USB-transfer

# Calibration

After a while it is possible that the microphone will need a new calibration of the positions. If this is the case, then please proceed as explained below:

- Switch on Compact 900
- While the software version appears on the LED screen of the AM10  
press the „Start“ button longer than 2 seconds and directly after that  
press it again, but just shortly.

Now the AM10 is in the calibration mode and shows:

01 CAL	In this mode you can calibrate the position of the DC-motor. This must be done manually with the „Start“ button. Press the button longer than 2 seconds and after releasing it, it will turn one step counter clockwise Press the button only shortly and after releasing it, it will turn one step clockwise. Wait 15 seconds and it will change to the next mode.
02 CAL	In this automatic mode the microphone calibrates all other positions by its own. The LED screen will show the time of the program when it is ready again.