Function:

Enter a series of set point values and allocated times in the parameter level, which are invoked in succession after a program start has been triggered. The controller operates in standard operation on the basis of the set basic set point value prior to a start and following a program sequence.

The program function is activated in the parameter level, by entering the desired program steps into "Pr-S". The program function is shut off with adjustment Pr-S = 0, also the respective menu positions are suppressed. The adjusted number of steps applies uniformly for all existent programs. If fewer steps are required in the individual program than preset under Pr-S, they can be suppressed by setting a set point value as precedent and a time of "0".

Enter the programs as steps with consecutive numbers, always consisting of a target set point value SP.. and the attendant time t.. If a direct switch-over (*jump*) to the next set point value is desired, t.. is set to "0". If a value of >0 is set for t.., the change to the attendant target set point value takes place within this time in form of a *Ramp.* If a set point value is to be kept unchanged for a specific amount of time, set the subsequent SP.. to the same value, the attendant time t.. serves as *holding time .*

Shall the program run several times, enter the desired number of program cycles into "P-CY". Factory setting is 1. A continuous reapeating program cycle is selected by adjustment P-CY = 0.

integrated set point monitoring:

Constant monitoring takes place during the program sequence, to check whether the actual value follows the current set point value. The program sequence is stopped as soon and as long as the difference set as admissible is exceeded:

With a *ramp*, the further increase or decrease of the set point value is stopped. With *holding times* the specified time increases accordingly. With a *jump* the next time segment does not start till afterwards.

special feature for switching contacts
The available switching contacts of the controller can switch optionally in relation to the program status (SP0) or individual program steps (SP1…SP20).

Program sequence (example)
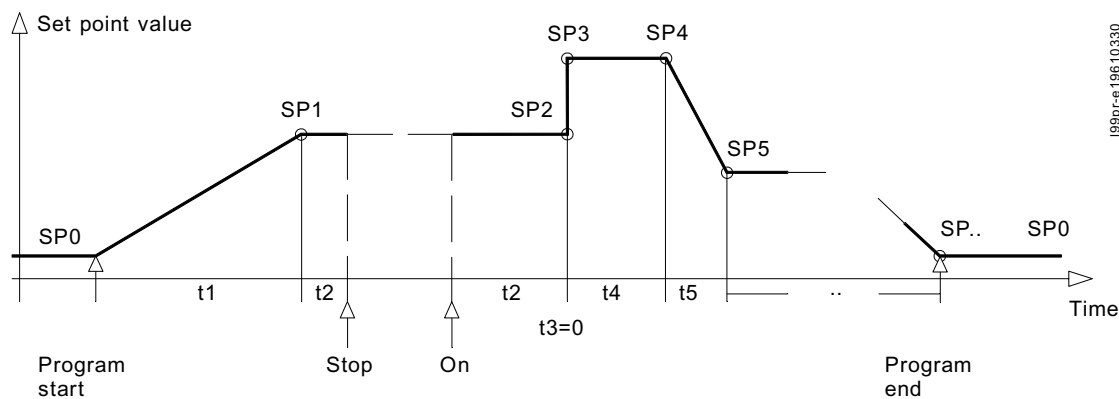
Versions: **List No.:**

1 program, max. 20 steps, 1 control input	991p1
4 programs, max. 20 steps, 1 control input	991p4
8 programs, max. 10 steps, 1 control input	991p8

optional:

as mentioned above, but with 3 additional control inputs for the start of each program P-nr.1…4	991p4b3

Special features of the program controllers:

Operation (supplement):

The *bottom display* continuously shows the current (ramp) set point value influence SP..
(Factory setting, other displays can be configured)

Actuate the **P** key *(continuous):*

only when the program is running:

SP..   Display of the current (ramp) set point value influence SP..

only when program is OFF:

SP 0   Basic set point value, display and adjustment possibility via the **▲**…**▼** keys

P-nr   Display of the current program No.,

..   only when program is OFF: program selection via the **▲**…**▼** keys

P-CY*   Number of program cycles, factory setting: 1
continuous program cycle is caused by adjustment 0

Pro   Display of the current operating condition:

..   **AN:**   program is running
    Stop: program has stopped
    AUS: program has been completed or aborted, basic set point value is active

Switch-over possibilities from the displayed operating condition by means of the **▲** key   (continuous):
    AN: start program or continue stopped program
    Stop: stop the running program and continue at this point later
    AUS: abort running program and continue with the basic set point value (SP0)

Note:The "ON" function may also be triggered by briefly closing the control input (sensor or wiping contact).

program overview 1/2 (only LCD- / TFT- types)
display of the actual program data (number, status, active cycle*, active segment,
actual program setpoint, segment time and proportional total time) at an overview page

program overview 2/2 (only LCD- / TFT- types)
simplified graphic display of the program data, current time as dotted cursor

press the **P** *key again: return to operating condition.*

Parameter level 2 (supplement):		Factory setting:
Pr-S	Select the number of program steps/time segments	10/20
	uniformly for *all* programs, 1...10/20, depending on the design	
P-nr	Select the program number (1...4/8, depending on the design)	
t'.1	Enter the holding or ramp time (0.0...999.9 min), in which the	1
	subsequent (target) program set point value SP.1 is to be reached.	
SP.1	Enter the 1st (target) program set point value	
	(see program example)	0
t..,SP..	Continuously enter times and set point values for further	
	program steps by actuating the P key.	

Return to the operating condition after the last setting.
Next program: invoke parameter level 2 again.

Configuration level (supplement):		
d SP	Set point value monitoring: admissible deviation	
	between set point and actual value (K or value)	5.0
	only for devices equipped with additional contacts:	
REL.	switching function additional contact (relay no..): "Pr E / Pr A "	Pr E
	(Pr E: program status or program step active = relay on, otherwise off;	
	Pr A: program status or program step active = relay off, otherwise on)	
REL.	assignment to individual program steps "SP1…SP20", or program status "SP0"	SP0

* = only available if equipped