766 IC Sample Processor

Metrohm

Quick Reference Guide

8.766.1013

Manual Operation

Normal state

HOME END

Lift position
Raises or lowers the lift to rest position (HOME) or work position (END).

↑ ↓

Lift control
Raises or lowers the lift.

RESET CLEAR ENDSEQ > *

Initialize sample changer
Initializes sample changer (RESET) or resets sample changer to initial position (ENDSEQ).

← →

Shifting the rack
Shifts the rack by one position to the left (anticlockwise) or to the right (clockwise).

STOP

Stop
Stops all current changer functions.

Key	*Display*	*Entry range*	*Function*
LIFT 9	**LIFT: 1 : rest mm**	**rest**,work,rinse shift,special,0…125 mm	**Lift control** Raises or lowers the lift to the specified position.
MOVE 8	**MOVE 1 : sample**	**sample**,spec.1…8,1…999	**Moving a vessel** Shifts the rack to place the specified vessel at the needle.
SAMPLE 7	**SAMPLE: = 1**	**1**…999	**Definition of sample position** Defines the rack position of the first sample vessel of a series.
PUMP 4	**PUMP+** **PUMP-**		**Pump control** Switches on/off the peristaltic pump at the tower.
PRINT < .	**Print: config**	**config**,param, usermeth,all	**Print a report** Prints out reports of the IC Sample Processor.
SCAN 1	**SCN:Rm :00000000** *Interface Signal/Data* **Rm** 8 x 1,0 or * RS 14 ASCII characters		**Interface scan** Displays the state of the remote control lines (Input 0…7) or the received data of the serial interface (RS232).
CTRL 2	**CTL:Rm : INIT** *Interface Signal/Data* **Rm** 14 x 1,0 or * RS 14 ASCII characters		**Interface control** Sends the specified signal via remote control lines (Output 0…13) in order to control (e.g. start) peripheral devices or transmits data via serial interface (RS232). <SELECT>-options see sample changer commands.

Display

Normal state

sample counter ¯

method name ®
pump status ®

```
******** counter   1/127
PUMP-             ready
```

¬ sample changer status

Series operating

sequence running ®

```
******** counter   2/127
START   03 WAIT    11 s
```

¬ parameter

- current command and sequence line

Basic Configuration

CONFIG

General settings
Rack configuration
RS232 interface settings

Configuration menu

Display	*Default value*	*Entry range*	*Function*
>auxiliaries			**General settings**
dialog:	**english**	english,deutsch, français,español	Selection of dialog language
display contrast	**3**	0…7	Adjust display contrast
beeper:	**ON**	ON,OFF	Switch on/off acoustic warning signal
device label	**********	8 ASCII char.	Entry of device label
program	**5.766.0010**	read only	Program version
max. lift way	**125 mm**	0…125 mm	Maximum lift way; defines lowest lift position possible. <CLEAR> enters actual lift position. RESET required to effect.
>rack definitions			**Rack configuration**
rack number	**2**	1…16	Number of rack
code	**010001**	000001…111111	Binary ID code for rack identification
type:	**M-129-2**	M129-2,…	Predefined rack type
work position	**125 mm**	0…125 mm	Working position for needle . <CLEAR> enters actual position.
rinse position	**125 mm**	0…125 mm	Rinsing position for needle. <CLEAR> enters actual position.
shift position	**0 mm**	0 mm	Shift position for needle.
special position	**0 mm**	0…125 mm	Special position for needle. <CLEAR> enters actual position
>rack definitions >>special positions	**2**		**Submenu for special beaker definitions**
special beaker 1	**128**	0…max.pos.	Rack position of special beaker 1
special beaker 2	**129**	0…max.pos.	Rack position of special beaker 2
… up to special beaker 8		…	…
>RS232 settings			**RS232 interface settings**
baud rate:	**9600**	300,600,1200,2400, 4800,9600	Data transmission rate
data bit:	**8**	7,8	Data bits
stop bit:	**1**	1,2	Stop bits
parity:	**none**	none,odd,even	Parity
handshake:	**HWs**	HWs,HWfull, SWChar,SWline,none	Handshake
character set:	**IBM**	IBM,Epson,Seiko, Citizen,HP	Character set for printer or PC
RS control:	**ON**	ON,OFF	Switch on/off data receiving via serial interface (RS232)

Operating Sequences and Method Parameters

PARAM

Number of samples
Start sequence
Sample sequence
Final sequence
Sample changer settings
Manual stop options

Parameter menu
Method

Display	*Default value*	*Entry range*	*Function*
number of samples:	**rack**	rack,*,1…999	Number of samples in a series
>start sequence			**Start sequence of a series**
>sample sequence			**Sample sequence of a series**
>final sequence			**Final sequence of a series**

Operating Sequences and Method Parameters — continued

Dispay	Default value	Entry range	Function
>changer settings			**Sample changer settings**
rack number	**0**	0…16	Number of rack for current method
lift rate 1	**12 mm/s**	3…12 mm/s	Lift rate at tower
shift rate	**20**	3…20	Rack shift rate (in degree/sec)
>manual stop			**Manual stop options**
CTL Rmt:	**********	14 bit (1, 0 or *)	Remote output signal on manual stop command
CTL RS232:		&PR;$S,14 characters	Data output via serial interface (RS232) on manual stop command

Method Memory

USER METHOD

Recall a method
Store a method
Delete a method

User method menu

Display	Default value	Entry range	Function
>recall method			**Recalling a method**
method:	**XXXXXXXX**	8 ASCII characters, ********	Selection of a method to recall (<SELECT> or enter text) ******** = blank method (<CLEAR>)
>store method			**Storing a method**
method:	**XXXXXXXX**	8 ASCII characters	Name of a method to store (<SELECT> or enter text)
XXXXXXXX overwrite ?		<ENTER>, <QUIT>	Overwriting confirmation with <ENTER>, cancel with <QUIT>
>delete method			**Deleting a method**
method:	**XXXXXXXX**	8 ASCII characters	Selection of a method to delete (<SELECT> or enter text)
delete XXXXXXXX ?		<ENTER>, <QUIT>	Deletion confirmation with <ENTER>, cancel with <QUIT>

Series Operating

Preparation

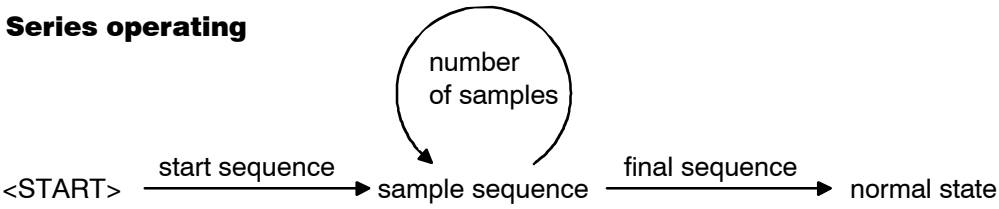
Key	Display	Entry range	Function
SAMPLE 7	**SAMPLE: = XXX**	1…999	Definition of the first sample beaker of a series. (optional, if undefined SAMPLE = 1) Definitions in sequences are dominant e.g.: SAMPLE = rack (optional; if undefined in sequence, manual setting is valid)
PARAM	**parameters number of samples:rack**	rack,*,1…999	Number of samples (will be saved with the method).

Series operating / Key functions

START
- starts a method
- restarts a method from 'hold' state

STOP
- stops a method (final sequence will not be executed)

Series operating



LEARN HOLD
- holds a running method
- may be continued with <START>

QUIT
- quits a running command
- quits error messages

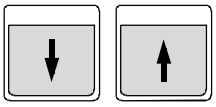
RESET CLEAR
- stops a series after the current sequence (final sequence will not be executed)

Sample Changer Commands

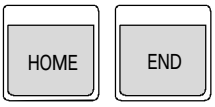
Command *Default value*	*1st Param.*	*2nd Parameter*	*Function*
SAMPLE: = 1	*Function* =,+,–	*Value* 1…999	**Definition of sample position**
MOVE 1 : sample	*Tower* 1	*Vessel* sample,spec.1…8,1…999	**Shift rack to place the specified vessel at the needle**
LIFT: 1 : rest mm	*Tower* 1	*Position* work,rinse,shift, special,rest,0…125 mm	**Setting a lift position**
PUMP 1.1 : 1 s	*Pump* 1.1	*Duration/status* 1…999 s,ON,OFF	**Pump control** *(1st param.: Tower.Pump)*
SCN:Rm : Ready1	*Interface* Rm RS	*Input signal/data* Ready1,End1,End2,Wait1, Wait2,Wait*,Pump1 ?, Pump2 ?,Pump* ?, 8 bit (1,0 or *) 14 ASCII characters (*= any char. or string)	**Interface scan** Scans the remote interface until the specified signal is received. Scans the serial interface (RS232) until the specified data are received.
CTL:Rm: INIT	*Interface* Rm RS	*Output signal/data* INIT,INIT 732,PROG R/S 1, PROG R/S 2,PUMP R/S 1, FILL A 1,INJECT A 1, FILL B/STEP 1,INJECT B 1, ZERO 1,PUMP 752 ON, PUMP 752 OFF,STEP MSM 753, 14 bit (1,0 or *) clear value: &D.S"9" 14 ASCII characters	**Interface control** Sets the specified remote output signal. May be defined as binary pattern. Transmits the specified data via serial interface (RS232). Use text edit mode.
WAIT 1 s	*Time* 0…9999 s		**Waiting time in series operation**
ENDSEQ			**End of a sequence**

Editing

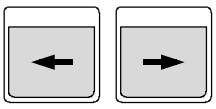
Key functions



Next / previous menu item
Displays next or previous menu item.



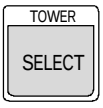
First / last menu item
Displays first or last menu item.



Cursor shift
Shifts the cursor in between the parameters of a menu line.

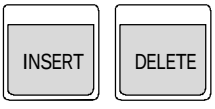
Default value
Deletes an entry and sets its default value.

Data entry
Accepts data entry; opens submenus. Data modifications will only be accepted when confirmed with <ENTER>.



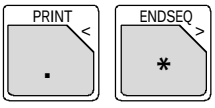
Roll-up selector
Displays each entry of a given list of data to select from. Roll-up selections are marked with a colon (:).

Quit
Quits data entry; branches dialog to a higher menu level or normal state resp.



Insert / delete command line
Inserts an empty sequence command line (NOP) or deletes the current command line.

Trace function
Executes the actual sequence command line and displays next line.



Text edit mode
Enters text edit mode. Places text cursor at start (<) or end (>) of the text string.

LEARN mode
Starts or ends the interactive LEARN mode. It allows fine tuning of the parameters of most sample changer commands in operating sequences.

Adaptive sample changer commands:
LIFT, PUMP, SCAN, WAIT