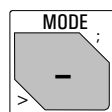
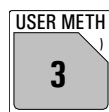


Mode selection



Press key <MODE> until the desired mode is displayed, press <ENTER>, select desired measured quantity with <SELECT>, and confirm with <ENTER>.



Recall method from internal method memory with <USER METH>. Select method with <SELECT> or by entering its name.

Modes:

SET pH, U, Ipo1, Upo1 Set Endpoint Titration.
MEAS pH, U, Ipo1, Upo1, T MEASuring.
CAL CALibration.

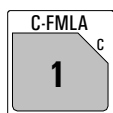
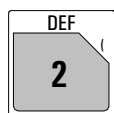
Configuration



Settings of peripheral units.
General settings.
Settings of RS232 interface, values of the common variables.

Display	Initial value	Meaning	Input range
>peripheral units			
Settings of peripheral units			
send to:	IBM	Selection of printer.	Epson, Seiko, Citizen, HP, IBM
balance:	Sartorius	Selection of balance.	Sartorius, Mettler, Mettler AT, AND, Precisa
record:	U	Selection of record type to be outputted at the analog output.	U, dU/dt, V, dV/dt, U(rel), T
>auxiliaries			
General settings			
dialog:	english	Selection of dialog language.	english, deutsch, français, español, italiano, portugese, svenska
date time	YYYY-MM-DD HH:MM		
run number	0	Current run number for result output.	0...9999
auto start	OFF	Automatic starts of titrations.	1...9999, OFF
start delay	0 s	Waiting time before start of titration.	0...999999 s
device label		Device label.	8 ASCII characters
program	719.0021	Program version.	read only
>RS232 settings			
RS232-settings			
baud rate:	9600	Baud rate.	300, 600, 1200, 2400, 4800, 9600
data bit:	8	Data bit.	7, 8
stop bit:	1	Stop bit.	1, 2
parity:	none	Parity.	none, odd, even
handshake:	HWS	Handshake.	HWS, HWf, SWchar, SWline, none
RS control:	ON	Receiving of commands via RS	ON, OFF
>common Variables			
Values of common variables			

Calculations and definitions for data output



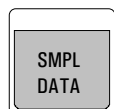
Input of formula.
Preselection of automatic report output at the end of a determination.
Allocations of values for statistics and common variables.

Display	Initial value	Meaning	Input range
>formula			
Input of formulas			
RS? RS1=EP1*C01/C00		Enter formula number. Enter formula by means of 3 rd functions of keyboard and confirm with <ENTER>. CXX are calculations variables, see below.	1...9
RS1 text	RS1	Text for result output.	RS1 or up to 8 ASCII characters
RS1 decimal places	2	Number of decimal places for result.	0...5
RS1 unit:	%	Selection of result unit. Select the unit with <SELECT> or enter a unit. Enter the values of calculation variables C01..C19 with <C-FMLA>.	%, ppm, g/L, mg/mL, mol/L, g, mg, mL, mg/pc, no unit or up to 6 ASCII characters
>common variables			
Allocations for common variables			
>report			
Selection of report blocks for data output			
report:		Press <SELECT> for selection. If you wish several reports, use ";" as separator.	full, short, calc, param, calib, ff
>mean			
Allocations for statistics calculations			

Meaning of the calculation variables CXX

Variable	Meaning
C00	Sample size, key <SMPL DATA>.
C01...C19	Method specific calculation values, such as molecular mass, factors, key <C-FMLA>.
C21...C23	Sample specific calculation values, such as dilution factors, key <SMPL DATA>.
C30...C39	Common variables, i.e. for titer.
C40	Initial measured value of the sample, in MEAS last measured value.
C41	End volume.
C42	Determination time.
C43	Volume drift for SET with conditioning.
C44	Temperature.
C45	Dispensed start volume.
C46	Asymmetry-pH (calibration).
C47	Electrode slope (calibration).

Sample data



Input for sample data:

- Sample identification. Can be used as sample specific calculation values
- Sample size

Inquiries with silo = OFF (LED "silo" is OFF).

Display	Initial value	Meaning	Input range
id#1 or C21 id#2 or C22 id#3 or C23		Sample identification. Can be used as sample specific calculation values C21...C23.	up to 8 ASCII characters
smp1 size smp1 unit:	1.0 g g	Sample size, value C00. Unit of sample size.	0...±999 999 g, mg, mL, µL, pc or up to 5 ASCII characters

Parameters for SET			
Display	Initial value	Meaning	Input range
>SET1		Control parameters for EP1	
EP1 at pH	OFF	Preset EP1 at pH, U or I.	pH: 0.00... ±20.00, OFF U: 0... ±2000 mV, OFF I: 0.0 ... ±200 µA, OFF
dynamics	OFF	Distance from EP where constant dosing should stop and controlling begins. "OFF" means no constant dosing.	pH: 0.01... ±20.00, OFF U: 1... ±2000 mV, OFF I: 0.1 ... ±200 µA, OFF
max.rate	10.0 ml/min	Maximum dosing rate.	0.01...150 mL/min, OFF
min.rate	25.0 µl/min	Minimum dosing rate.	0.01...9999 µL/min
stop crit:	drift	Type of stop criteria.	drift, time
stop drift	20 µl/min	Titration stops if stop drift is reached.	1...999 µL/min
t(delay)	10 s	Titration stops if there is no dosing during t(delay).	0...999 s, inf.
stop time	OFF s	If t(delay) is "INF" stop after at time.	0...999999 s, OFF
>SET2		Parameters for EP2. Identical as for EP1.	
>titration parameters		General titration parameters	
titr.direction:	auto	auto: Direction is set automatically. +: Titration to higher pH, voltage or current.	+, -, auto
start V:	OFF	Type of start volume: absolute or relative.	abs., rel., OFF
start V	0.00 ml	Volume for <i>absolute</i> start volume.	0...999.99 ml
factor	0	Factor for <i>relative</i> start volume: factor * smpl size	0... ±999999
dos.rate. max.	.mL/min	Dosing rate for start volume.	0.01...150 mL/min, OFF
pause	0 s	Waiting time <i>after</i> start volume.	0...999999 s
meas. input:	1	Measuring input for pH and U or polarization current I _{pol} or polarization voltage for U _{pol} in steps of 10 mV and test for polarized electrodes.	1, 2, diff.
temperature	25.0 °C	Titration temperature.	-170.0...500.0 °C
>stop conditions		Stop conditions for titration	
stop V:	abs.	Type of stop volume.	abs., rel., OFF
stop V:	99.99 ml	Volume for <i>absolute</i> stop volume.	0.00...9999.99 mL, OFF
factor	999999	Factor for <i>relative</i> stop volume: factor * smpl size.	0... ±999999
filling rate max.	ml/min	Filling rate.	0.01...150 mL/min, max.
>statistics		Statistics calculation	
status:	OFF	Status of statistics calculation.	ON, OFF
mean	n= 2	Number n of single values for statistics calculation.	2...20
res.tab:	original	Result table for statistics calculation.	original, delete n, delete all
delete	n= 1	Delete data from sample number n.	1...20
>preselections		Preselections for the sequence	
conditioning:	OFF	Automatic conditioning of titration vessel.	ON, OFF
display drift:	ON	Display of drift during conditioning.	ON, OFF
drift corr:	OFF	Type of drift correction.	auto, man., OFF
drift value	0 µl/min	Value for manual drift correction.	0.0...99.9 µL/min
req.ident:	OFF	Request of identifications after start of titration.	id1, id1 & 2, all, OFF
req.smpl size:	OFF	Request of sample size after start of titration.	value, unit, all, OFF
activate pulse:	OFF	Pulse output on I/O line L6.	first, all, cond., OFF

Parameters for CAL

<i>Display</i>	<i>Initial value</i>	<i>Meaning</i>	<i>Input range</i>
>calibration parameters		Calibration parameters	
meas.input:	1	Measuring input.	1, 2, diff.
cal.temp.	25 °C	Calibration temperature.	-20...120.0 °C
Puffer #1 pH	7.00	pH value of first buffer (up to 9 buffers). <CLEAR> sets OFF. Buffers are requested until "OFF" is set.	0... ±20, OFF
Puffer #2 pH	4.00		
Puffer #3 pH	OFF		
signal drift	2.0 mV/min	Signal drift for measured value acquisition.	0.5...999 mV/min, OFF
equilibr.time	110 s	Equilibration time.	0...9999 s, OFF
electr.id		Electrode identification.	up to 8 characters
sample changer cal:	OFF	Calibration with sample changer.	ON, OFF
activate pulse:	OFF	Pulse output on the I/O line L6.	all, first, OFF
>statistics		Statistics calculation	
status:	OFF	Status of statistics calculation.	ON, OFF
mean	n= 2	Number n of single values for statistics calculation.	2...20
res.tab:	original	Result table for statistics calculation.	original, delete n, delete all
delete	n= 1	Delete data from sample number n.	1...20