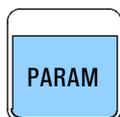


Status Messages in the Basic State	
Display	Meaning
+0. 023 nS/cm 15.2 min	Measured value and current time left: absolute conductivity (without sign) or auto-zero value (with sign) right: running time from start of program, from the last "INJECT A" or from the time the instrument was switched on
	Status messages for method
method XXXXXXXX	Display of the method currently loaded in the working memory ("XXXXXXX modif." = modified method; "DEFAULT" = standard method)
1995-05-08 10:19:38	Date and time
full scale 1.00 nS/cm	Full-scale range (operating range) Setting a new value with the help of the <FULL SCALE> key
abs. cond. 473.5 nS/cm	Absolute conductivity
	Status messages for 709 IC Pump
pump ready	Pump is switched on and ready (start with <PUMP R/S>)
pump running XX.X MPa	Pump is running, the current pressure is displayed on the right (stop with <PUMP R/S>)
stopped: XX-XX-XX XX:XX	Pump was stopped at the time indicated owing to violation of the shutoff limit
pump not responding	Pump is not connected or is not switched on
	Status messages for program
prog. type cycle no. XXX	Display of program type (with "cyc1e", the cycle number is also displayed)
next step XXX.X min	Display of the time at which the next program step will be executed ("ready" = program is ready for a new start; "---" = program is inactive)

Auxiliary Function Keys	
 <p>Selection Selection of entry or unit options for dialog items followed by a colon ":" or selection of the status message in the basic state</p>	 <p>Clearing Deletes displayed parameter values and variables and overwrites them with the default values</p>
 <p>Exit Exit from rolling inquiries, print processes and error messages; return to next higher program level</p>	 <p>Confirmation Confirms existing or newly-entered parameter values</p>

Initiating Functions	
 <p>Switch on auto-zero Automatically sets current conductivity to zero. The compensated conductivity value appears in the display; the green LED lights up on the key. Every repeated keystroke sets the measuring signal back to zero.</p>	 <p>Switch on marking Every keystroke sets a marking signal of approx. 10% of the full-scale range.</p>
 <p>Switch off auto-zero Switch off the auto-zero function. The absolute conductivity appears once again in the display; the green LED on the <ZERO> key goes out.</p>	 <p>Start and stop pump The 709 IC Pump is started or stopped by pressing this key (corresponds to the key <PUMP R/S> on the 709 IC Pump).</p>

Setting Parameters



Parameters

Settings for the conductivity detector
 Settings for analog output
 Settings for graphics plots
 Settings for the 709 IC Pump

Display	Initial Value	Entry Range	Meaning
>PARAM/detector			Settings for the conductivity detector
range:	1.00 nS/cm	100,200,500 µS/cm 1,2,5,10 mS/cm	Measuring range
full scale:	1.00 nS/cm	0.05 µS/cm...10 mS/cm	Full-scale range (operating range, dependent on measuring range chosen)
temp. coeff.:	2.5 %/°C	1.5,2.5 %/°C	Temperature coefficient for cations (1.5%/°C) or anions (2.5 %/°C)
>PARAM/analog output			Settings for analog output
polarity:	+	+, -	Polarity of the output signal
offset:	0 %fs	0,10,50 %fs	Zero-point offset in % of full-scale range
damping:	off	on,off	Damping
>PARAM/Plot			Settings for graphics plots
auto start:	off	on,off	Automatic start of the graphics plot with every "INJECT A"
time interval	1.0 s	0.4...99999 s	Time interval for graphics plot
time scale	10.0 mm/min	0.1,0.2,0.5,1,2,5,10, 20,60,120 mm/min	Time scale (paper speed) Automatic rounding off to preset value
time scale label:	rel	rel,abs	Labelling the time axis with relative or absolute time
stop time	off min	1...999 min,off	Stop time for graphics plot (switch off with <CLEAR>)
left:	0.000 nS/cm	-2000...2000 µS/cm -2000...2000 mS/cm -2...2 S/cm	Left boundary for conductivity axis (select the unit with <SELECT>)
right:	10.00 nS/cm	-2000...2000 µS/cm -2000...2000 mS/cm -2...2 S/cm	Right boundary for conductivity axis (select the unit with <SELECT>)
>PARAM/709 IC Pump			Settings for the 709 IC Pump
flow	0.50 mL/min	0.01...5.00 mL/min	Flow rate
Pmax	10.0 MPa	0.1...50 MPa	Maximum shutoff pressure
Pmin	0.0 MPa	0.0...50 MPa	Minimum shutoff pressure ("0.0" = no shutoff pressure)
flow corr.	1.00	0.90...1.10	Correction factor for flow rate



Full Scale

Direct choice of the full-scale range

Display	Initial Value	Entry Range	Meaning
full scale	1.00 nS/cm	0.05 µS/cm...10 mS/cm	Full-scale range (operating range, dependent on the measuring range chosen). Selection of the value (blinking) with the help of the <←>, <→> and <ENTER> keys.

Methods



Method
 Recall method
 Store method
 Delete method

Display	Initial Value	Entry Range	Meaning
>METHODD/recall			
name:	DEFAULT	DEFAULT,XXXXXXXX	Recall method Select a method ("DEFAULT" = standard method)
>METHODD/store			
name:	XXXXXXXX	8 ASCII characters	Store method Enter or select a method name
overwrite XXXXXXXX?		<ENTER>, <QUIT>	Confirm with <ENTER>, abort with <QUIT>
>METHODD/delete			
name:	XXXXXXXX	XXXXXXXX	Delete method Select a method which is to be deleted
delete XXXXXXXX?			Confirm deletion with <ENTER>, abort with <QUIT>

Programming



Process programming
 General program parameters
 Edit program (20 program time steps max. each with 14 program points max.)
 Delete program

Display	Initial Value	Entry Range	Meaning
>PROGRAM/parameters			
type:	cycle	cycle,remote,inject	General program parameters Program type: cycle Loop program, started by <PROG R/S>/remote remote Single program, only started via remote inject Single program, only started with <INJECT A>
number of cycles	1	1...999	Number of cycles for loop programs
status:	disabled	enabled,disabled,test	Program status ("disabled"= program start impossible)
>PROGRAM/edit			
time:	x. x min	0.0...999.9 min	Edit program Select an existing program step or enter a new one
>PROGRAM/edit XXX. X min			
flag:	---	---,return,reset,end	Edit program points ("---" = no action) Set a program flag: return go back to the beginning of a loop program reset set all parameters back to their starting value end end of the program
FS change:	---	---,on	Change full-scale range
range:	100 nS/cm	100,200,500 μS/cm 1,2,5,10 mS/cm	Reset measuring range (only possible if "FS change = on")
full scale:	100 nS/cm	0.05 μS/cm...10 mS/cm	Reset full-scale range (operating range) (only possible if "FS change = on")
zero:	---	---,on,off	Switch auto-zero function on/off
polarity:	---	---,+,-	Change the polarity of the output signal
mark:	---	---,on	Trigger a marking signal
valve A:	---	---,fill,inject	Switch valve A into position "FILL" or "INJECT"
valve B:	---	---,fill,inject	Switch valve B into position "FILL" or "INJECT"
suppressor:	---	---,step	Switch the suppressor module
remote	*****	*,0,1	Set the remote output lines 1...8 (from left to right) to "*" (unchanged), "0" (off, inactive, open) or "1" (on, active, 0 V)

pump R/S: ---	---,on,off	Switch the 709 IC Pump drive on/off
flow --- mL/min	---,0.01...5.00 mL/min	Change the flow rate of the 709 IC Pump
Pmx --- MPa	---,0.1...50.0 MPa	Change the max. shutoff pressure (0.1 MPa = 1 bar)
Pmin ---	---,0.0...50.0 MPa	Change the min. shutoff pressure ("0.0" = no disconnecting pressure)
>PROGRAM/delete all		Deletion of all program steps Confirm deletion with <ENTER>, abort with <QUIT>
delete all?		



Start/stop program

The program status is indicated by the green LED in the key:

- LED out Program inactive (program can only be started when the program parameter "PROGRAM/parameters/status" is set to "enabled")
- LED on Program active (program can be started)
- LED blinking Program is running (program can be stopped with <PROG R/S>)



Event programming

Enter new events (4 events max.)
Edit events (14 program points max.)
Delete events

Display	Initial Value	Entry Range	Meaning
>EVENT/new			Enter new event
format: date		date,daily	Event format
event: YY-MM DD HH MM SS		YY-MM-DD (date) HH:MM:SS (time)	Date and time for single event or only time for daily event
EVENT YY-MM DD HH MM SS			Edit program points for event
parameters			The program points are identical to those under the <PROGRAM> key (exception: no "flag" parameter). Additional parameter:
prog R/S: ---		---,on,off	Start/stop loaded program
>EVENT/edit			Edit existing event
event: YY-MM DD HH MM SS		read only	Select an event
EVENT YY-MM DD HH MM SS			Edit program points for event
parameters			see above
>EVENT/delete			Delete individual event
event: YY-MM DD HH MM SS		<ENTER>,<QUIT>	Confirm deletion with <ENTER>, abort with <QUIT>
>EVENT/delete all			Delete all events
delete all?		<ENTER>,<QUIT>	Confirm deletion with <ENTER>, abort with <QUIT>

Data Output



Start graphics plot

Output of the measured value curve on an external printer. The plot parameters are entered under <PARAM>. Abort the graphics plot with <QUIT>.



Measured value output

Output of individual measured values or start of continuous measured value output on an external printer or PC. The parameters for the measured value output are entered under <CONFIG>. Abort the measured value output with <QUIT>.



Report output

Report output on an external printer or PC. Abort report output with <QUIT>.

Display	Initial Value	Entry Range	Meaning
report: all		all,config,event, method,method list, param,program,pump	Select report with <SELECT>

Basic Settings



Configuration

Settings for the conductivity detector, settings for printer, settings for measured value printout, general instrument settings, settings for the RS232 interface, settings for the "709 IC Pump" interface, settings for 733 IC Separation Center

Display	Initial Value	Entry Range	Meaning
>CONFIG/detector			Settings for the conductivity detector
thermostat:	35 °C	25,30,35,40,45 °C, off	Operating temperature of the conductivity measuring cell (switch off thermostating with <CLEAR>)
'zero' unit:	µS/cm	µS/cm,%fs,mV	Unit for the display of the auto-zero value
cell constant	16.7 /cm	13.0...21.0 /cm	Cell constant of the conductivity measuring cell
>CONFIG/printer			Settings for external printer
id. 1		18 ASCII characters	Identification 1 for first line of the print header
id. 2		18 ASCII characters	Identification 2 for second line of the print header
print header:	once	once,always,off	Printing of the print header
date&time:	on	on,off	Printing date and time in the print header
send to:	IBM	IBM,Epson,Seiko, Citizen,HP	Selection of character set / printer type
>CONFIG/print meas. value			Settings for measured value printout
print crit.:	immed.	immed.,time,off	Criterion for measured value printout
time interval	1.0 s	0.4...99999 s	Time interval for measured value printout
stop time	off min	1...999 min,off	Stop time for measured value printout
date&time:	off	on,off	Print date and time for every measured value
>CONFIG/auxiliaries			General instrument settings
run number	0	0...999,off	Run number, automatically increased by +1 after every determination (switch off with <CLEAR>)
number of cycles	1	1...999	Number of cycles for loop programs (can be changed in a running program)
>CONFIG/aux/event			Setting for events
enabled in program	off	on,off	Perform events in a program
date	YYYY-MM DD	YYYY-MM-DD	Current date
time	HH MM SS	HH:MM:SS	Current time
dialog:	english	english,deutsch, francais,español	Dialog language
device label		8 ASCII characters	Device label
program	732.0012	read only	Number of the program version
>CONFIG/aux/beeper			Settings for the beeper
status:	on	on,only error,off	Status of the beeper
repeat time	60 s	5...999 s,off	Repeat time for beeper until confirmed by <QUIT> in the case of error messages (switch off with <CLEAR>)
>CONFIG/RS settings			Settings for the RS232 interface
baud rate:	9600	9600,4800,2400, 1200,600,300	Data transmission rate (baud rate)
data bit:	8	7,8	Data bits
stop bit:	1	1,2	Stop bits
parity:	none	none,odd,even	Parity

<i>Display</i>	<i>Initial Value</i>	<i>Entry Range</i>	<i>Meaning</i>
handshake:	HWs	HWs,HWf,SWchar, SWline,none	Handshake
RS control:	on	on,off	Switch on/off data reception via RS232 interface
>CONFIG/RS settings 709			Settings for the second RS232 interface "709 IC Pump"
connected:	printer	printer,off	Connection when operating without 709 IC Pump
baud rate:	9600	9600,4800,2400, 1200,600,300	Data transmission rate (baud rate)
data bit:	8	7,8	Data bits (only appears when a printer is connected)
stop bit:	1	1,2	Stop bits (only appears when a printer is connected)
parity:	none	none,odd,even	Parity (only appears when a printer is connected)
handshake:	HWs	HWs,HWf,SWchar, SWline,none	Handshake (only appears when a printer is connected)
>CONFIG/733 IC Sep. Cent.			Settings for 733 IC Separation Center
	valve A	read only	Display of the configuration (according to instrument type)
control:	no restriction	no restriction, 732 only	Control of the 733 IC Separation Center without restriction or only by the 732 IC Detector
>CONFIG/733/valve A			Settings for injection valve A
status	inject	read only	Display of the valve setting ("fill", "inject" or "undefined")
trigger:	inject	inject,fill	Switching of the valve
>CONFIG/733/valve B			Settings for injection valve B
status	inject	read only	Display of the valve setting ("fill", "inject" or "undefined")
trigger:	inject	inject,fill	Switching of the valve
>CONFIG/733/Suppressor			Settings for the suppressor module
auto step:	fill	fill,inject,off	Automatic triggering of "step"
Status	in position	read only	Display of the suppressor position ("in position" or "undefined")
trigger:	---	---,step	Switching the suppressor ("step"), no action ("---")

Switch on +



Set Up

Setting the remote output lines
Arrangement of the remote input lines
Setting general graphics parameters
Setting the peripherals 733 and 709

<i>Display</i>	<i>Initial Value</i>	<i>Entry Range</i>	<i>Meaning</i>
>SETUP/output			Setting the remote output lines
remote	00000000	0,1	Setting the remote output lines 1...8 (v.l.n.r.) to "0" (off, inactive, open) or "1" (on, active, 0 V) when the instrument is switched on
>SETUP/input assign		1...15	Assignment of the remote input lines
>SETUP/graphics			General graphics parameters
grid:	off	on,off	Grid lines for graphics plot
frame:	off	on,off	Frame for graphics plot
width	0.8	0.4...1.0	Relative width of the graphics printout
>SETUP/peripherals			Setting the peripherals
operation with 733:	on	on,off	Operation with the 733 IC Separation Center
operation with 709:	on	on,off	Operation with the 709 IC Pump