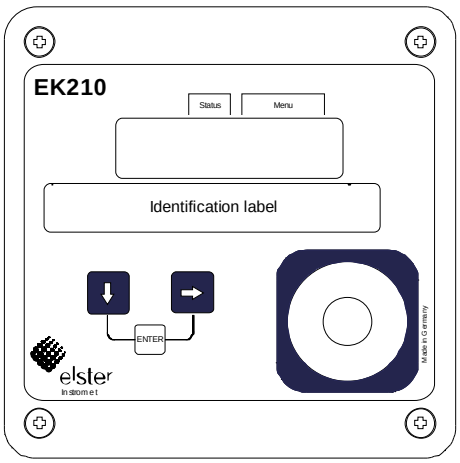
Short-Form Instructions (73018350, c)
Volume Conversion Device Type EK210



If any key is pressed, the display is activated and the present counter reading Vb (volume at base conditions, predecimal places) is displayed in the User menu. All other data associated with the volume at base conditions can be displayed by pressing the keys → (1x) and ↓ (see second column "Standard volume" in the operation overview to these instructions).

To display a value in the column, Actual volume, the key → is pressed. Now the menu Act. V (Actual volume) is displayed. With the key ↓ all values can be viewed which are associated with the actual volume.

To change to another menu (e.g. Pressure) the key → is pressed, until the desired menu name appears in the display. The transitions from one menu to another take place at the points identified with the arrows (see operation overview to these instructions).

Entering values

Even without a PC or read-out device, values in the volume corrector (Volume Conversion Device) can be changed which are not subject to the calibration lock or are only calculated (e.g. flow) or measured (e.g. pressure or temperature).

In these short-form instructions all values which are subject to the calibration lock are identified with a "C". All values which are determined or measured and can only therefore be read are identified with a "-".

Example of changing a value
(adjustable counter in the menu Actual volume (Act.V.))

- The display is activated by pressing any key. In the display the present counter reading **Vb** (Volume at base conditions, predecimal places) is displayed in the **User** menu.

					Status				Menu						
					o	k	.		U	s	e	r			
V	b			0	0	0	0	0	1	2	3	4		m	3

- Changing to the column Actual volume occurs by pressing the key → twice. The present counter reading **Vm** (Actual volume) is displayed in the menu **Act.V**.

					Status				Menu						
					o	k	.		A	c	t	.	V	.	
V	m			0	0	0	0	0	1	2	3	4		m	3

- With the Actual volume menu you change to the value VmA by pressing the key ↓ repeatedly to obtain the value **VmA** (adjustable counter).

					Status				Menu						
					o	k	.		A	c	t	.	V	.	
V	m	A		0	0	0	0	0	2	3	4	5		m	3

- The entry mode is activated by pressing the key combination ↓ + → (ENTER). The first place to the left flashes. The key → enables skipping to the required positions of the displayed value. They can be changed with the key ↓. After modification, the counter reading must be accepted by pressing the key combination ↓ + → (ENTER).

V	m	A														
		0	0	0	0	0	2	3	4	5	.	0	0	0	0	

Important: The entry mode cannot be left via key depression. Wait until the display switches off or changes to the standard display (Vb).
(Standard setting is one or two minutes.)

This product is discontinued!

User list → Standard volume → Actual volume → Pressure → to "Temp."

User		Std.V.		Act.V.		Press.	
Vb Volume at base conditions (predecimal places)	C	Vb Volume at base conditions (post-decimal places)	C	Vm Actual volume	C	p Pressure	-
VmA Adjustable counter	S	Qb Standard flow	-	Qm Actual flow	-	pMin Lower alert limit	C
p Pressure	-	VbD Disturbance quantity	S	VmD Disturbance quantity	S	pMax Upper alert limit	C
T Temperature	-	VbT Total quantity	-	VmT Total quantity	-	MRL.p Meas. range bottom	C
C Conversion factor	-	VbA Adjustable counter	S	VmA Adjustable counter	S	MRL.p Meas. range top	C
K.F K substitute value	-	VbME Month end value	-	VmME Month end value	-	p.F Substitute value	S
VbME Month-end value	-	Time Time for VbME	-	Time Time for VmME	-	pb Standard pressure	C
Time Time for VbME	-					Md.p Pressure mode	C
VmME Month-end value	-					Typ.p Press. sensor type	C
Time Time for VmME	-					SNp Serial no. of sensor	C
... User value	...					Eq1.p Equ. coefficient 1	C
Addr Addr. of user value	S					Eq2.p Equ. coefficient 2	C
						Eq3.p Equ. coefficient 3	C
						p.Mes Pressure meas.	-

Access rights

The EK210 differentiates between four access parties. Each party has a lock and an associated combination:

- **C** Calibration lock
- **M** Manufacturer's lock
- **S** Supplier's lock
- **K** Customer's lock

- Values which are measured or calculated by the volume corrector, can only be displayed and are identified with a dash.

Entry errors

Entry errors are displayed when the operator has made invalid entries using the keypad. After releasing the enter key the display returns to its original state.

Example:

					Status				Menu						
					o	k	.		I	n	p	u	t	s	
C	P	.	E	1		-	-	-	-	5	-	-	-	-	

----x---- Possible error codes according to the following table.

Code	Description
4	Parameter cannot be changed (constant).
5	No authorisation for changing the value. To change the value the appropriate lock must be opened.
6	Invalid value. Entered value is outside the permissible limits.
7	Incorrect combination. The entered combination (numerical code) is incorrect and the lock is not opened.
8	Entry not possible due to special setting or configuration.
20	Value for the application-specific display is not defined. The value to be displayed can be defined by the user by entering the address. No value is displayed because this has not yet occurred.

Temperature | Conversion (Md.K = 1) | Status | System

from "Press." →

Temp.	
T Temperature	-
Tmin Lower alert limit	C
Tmax Upper alert limit	C
MRL.T Meas. range bottom	C
MRL.T Meas. range top	C
T.F Substitute value	S
Tb Standard temperature	C
Md.T Temperature mode	C
Typ.T Temp. sensor type	C
SNT Serial no. of sensor	C
Eq1.T Equ. coefficient 1	C
Eq2.T Equ. coefficient 2	C
Eq3.T Equ. coefficient 3	C
T.Mes Temp. measurement	-

→

Conv.	
C Conversion factor	-
K inv. compr. ratio factor	-
Ho.b Calorific value	S
CO2 Carb. dioxide cont.	S
H2 Hydrogen content	S
Rhob Density gas at base cond.	S
K.F K subst. value	S
Md.K K mode	C

K-value mode changeover

↓

Conversion (Md.K = 0)

Conv.	
C Conversion factor	-
K.F K substitute value	S
Md.K K mode	C

→

Status	
S.Reg Status register	-
Clr Clear stat. reg.	S
SR.Sy System status reg.	-
SR.1 Status register 1	-
SR.2 Status register 2	-
SR.3 Status register 3	-
SR.4 Status register 4	-
SR.5 Status register 5	-
SR.6 Status register 6	-
SR.7 Status register 7	-
SR.8 Status register 8	-
SR.9 Status register 9	-

→

System	
Time Date and time	S
Mod.T Daylight saving yes/no	S
MCyc Meas. cycle time	C
OCyc Operating cycle time	S
Disp Disp. switch-off time	S
Aut.V Disp. changeover time	C
TaRg Ambient temperature	C
Vers Software version	-
Chk Software checksum	-

to "Serv." →

Interpret. important status messages

Indication in the first line of the display

A Alarm
W Warning
B Remaining battery service life reached
P Calibration lock open
o On-line

A flashing device status signals a prevailing message, a steady device status a message no longer prevailing, but which is still present in the status register. The status register **"S.Reg"** logs all alerts and warnings since the last "clear". Momentary statuses and reports can only be read via WinPADS.

Example of a temperature sensor display

- Change to column **Status** by repeated pressing of the key → .
- With ↓ to the message in which a different number is indicated instead of "0".
- **"1",** on the right in the display for SR.6 indicates a temperature alert.

The following appears in the display:

					Status				Menu						
					A				S	t	a	t	u	s	
S	.	R	e	g										1.	4

					Status				Menu						
					A				S	.	R	e	g		
S	R	.	6												1

Table: Summary of messages in statuses 1 to 9

Message	St.1, SR.1	St.2, SR.2	St.3, SR.3	St.4, SR.4	St.5, SR.5	St.6, SR.6	St.7, SR.7	St.8, SR.8	St.9, SR.9
1	Alert for: -	-	-	-	C*	T	p	K	z*
2	No useful inputs values for: -	-	-	-	T	p			
4	Output error on output: A1	A2	A3	A4	-	-	-	-	-
5	Error during pulse comparison on input: -	E2	-	-	-	-	-	-	-
8	Warning for input: -	E2	E3	-	-	-	-	-	-
10	Adjustment missing for: -	-	-	-	T	p	-	-	-
13	Report for input: -	E2	E3	-	-	-	-	-	-
14	Lock is open: Cal.	Man.	Suppl.	Cust.	-	-	-	-	-

Report

Service | Inputs | Outputs

from "System" →

Serv.	
Bat.R Remaining batt. life	-
Bat.C Battery capacity	S
St.SL Supplier lock	S
Cod.S Supplier combination	S
St.KL Customer lock	K
Cod.K Customer combination	K
St.CL Calibration lock	K
Save Save all data	S
Clr.V Clear counter	C
Clr.X Initialise device	C
Bin.T Temp. raw value	-
Bin.p Press. raw value	-
Frz Freeze	S
VbFr Frozen value	-
VmFr Frozen value	-
T.Fr Frozen value	-
p.Fr Frozen value	-
C.Fr Frozen value	-
K.Fr Frozen value	-
- Display test	-

→

Inputs	
cp.E1 cp value Input 1	C
cp.E2 cp value Input 2	C
Md.E2 Mode for Input 2	S
St.E2 Status on Input 2	-
St.E3 Status on Input 3	-
SNM Serial no. of gas meter	S

Clr
Clear S.Reg

→

Outp.	
Md.A1 Mode for Output 1	C
SC.A1 Source for Output 1	C
cp.A1 cp value for Output 1	C
SpA1 Status pointer A1	C
Md.A2 Mode for Output 2	C
SC.A1 Source for Output 2	C
cp.A1 cp value for Output 2	C
SpA1 Status pointer A2	C
Md.A3 Mode for Output 3	S
SC.A1 Source for Output 3	S
cp.A1 cp value for Output 3	S
SpA1 Status pointer A3	S
Md.A4 Mode for Output 4	S
SC.A1 Source for Output 4	S
cp.A1 cp value for Output 4	S
SpA1 Status pointer A4	S

→ to "User"

Clear status register

Warnings (W) and/or alerts (A) which are no longer present, i.e. just displayed for information and are no longer flashing, can be cleared in the "Status" menu using the function "Clr". Press key combination ↓ + → (ENTER). A "0" flashes to the right in the display. Pressing the key ↓ sets the value to "1". Pressing ↓ + → (ENTER) again clears the status register and indicates ok in the display. Alerts or warning states still present are then again indicated with the letter A and/or W flashing in the display.