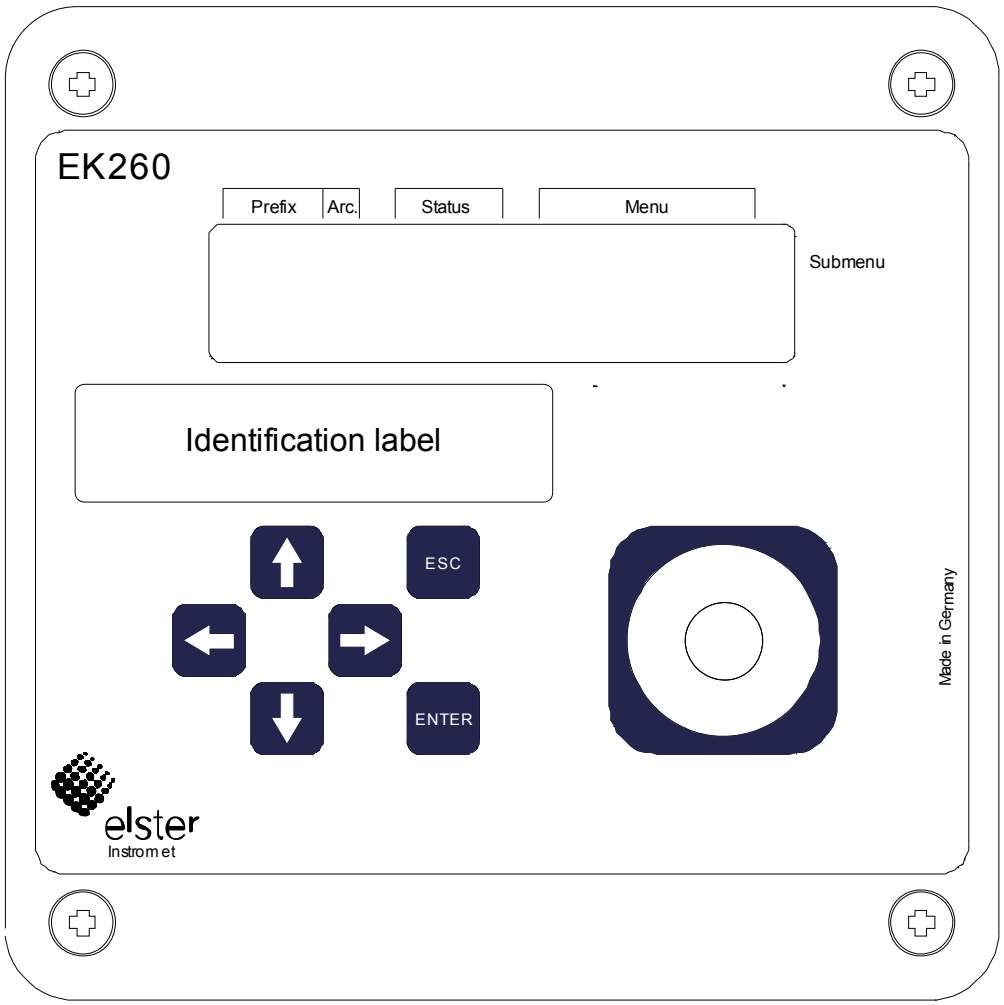
This product is discontinued!

Short-Form Instructions
Volume Conversion Device Type EK260



The display is activated on pressing any key and the momentary counter reading Vb (volume at base conditions) is displayed in the menu **Stand. V**. All further data associated with the volume at base conditions can be displayed by pressing the key [↓] (see first column "Standard volume" on the inside page of these instructions).

The key → is pressed to display a value in the column, Actual volume. Now, the menu **Act. V** (Actual volume) is displayed. Using the keys [↓] and [↑] , you can view all the values associated with the actual volume.

To change to a different menu (e.g.: **Press.**), the keys [←] or [→] are pressed until the desired menu name appears in the display. The transitions from one menu to a different one occur at the places identified by arrows (see inside page of the operating instructions).

SW version from V2.54

To "User" ↔	Standard volume		↔	Actual volume		↔	Pressure		↔	Temperature		To "Correct"
	StandV.			**Act.V.**			**Press.**			**Temp.**		
	Vb Volume at base conditions	C	↔	Vm Actual volume	C		p Pressure	-		T Temperature	-	
	Qb Standard flow	-	↔	Qm Actual flow	-		p.LW Lower warn. limit	S		T.LW Lower warn. limit	S	
	VbD Disturbance quant.	S	↔	VmD Disturbance quant	S		p.UW Upper warn. limit	S		T.UW Upper warn. limit	S	
	VbT Total quantity	-	↔	VmT Total quantity	-		pMin Lower alarm limit	C		Tmin Lower alarm limit	C	
	VbA Adjustable counter	S	↔	VmA Adjustable counter	S		pMax Upper alarm limit	C		TMax Upper alarm limit	C	
	SC.Qb Source monitoring	S	↔	SC.Qm Source monitoring.	S		MRL.p Meas. range bottom	C		MRL.T Meas. range bottom	C	
	QbUW Upper warn. limit	K	↔	Qm.UW Upper warn. limit	K		MRU.p Meas. range top	C		MRU.T Meas. range top	C	
	QbLW Lower warn. limit	K	↔	Qm.LW Lower warn. limit	K		p.F Substitute value	S		T.F Substitute value	S	
	VbMP Δ Meas. per. counter	-	↔	Vm.MP Δ Meas. per. counter	-		pb Pressure at base conditions	C		Tb Temperature at base conditions	C	
	VbMP max S Month's maximum	-	↔	Vm.MP max S Month's maximum	-		Md.p Pressure mode	C		Md.T Temperature mode	C	
	VbDy Δ Daily counter	-	↔	Vm.Dy Δ Daily counter	-		Typ.p Press. sensor type	C		Typ.T Temp. sensor type	C	
	VbDy max S Month's maximum	-	↔	Vm.Dy max S Month's maximum	-		SNp Serial no. of sensor	C		SNT Serial no. of sensor	C	
							Eq1.p Equation coeff. 1	C		Eq1.T Equation coeff. 1	C	
							Eq2.p Equation coeff. 2	C		Eq2.T Equation coeff. 2	C	
							Eq3.p Equation coeff. 3	C		Eq3.T Equation coeff. 3	C	
							p1Adj Adjustment val. 1	C		T1Adj Adjustment val. 1	C	
							p2Adj Adjustment val. 2	C		T2Adj Adjustment val. 2	C	
							Prog Accept adjust.	C		Prog Accept adjust.	C	
							p.Mes Pressure meas. val.	-		T.Mes Temp. meas. value	-	
							p.MP ∅ Meas. per. mean	-		T.MP ∅ Meas. per. mean	-	
							p.Mon max S Month maximum			T.Mon max S Month maximum	-	
							p.Mon min S Month minimum			T.Mon min S Month minimum	-	
	Operating Instructions Chapter 3.1			Chap. 3.2			**Chap. 3.3**			**Chap.** 3.4		

Access rights

The EK260 differentiates between 4 access parties. Each party has a lock and a corresponding combination code:

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

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

S Submenu
for entry press ENTER
quit with ESC

to "Temp"	Correction		Archive		Status + Logbook		System	to Serv.
↔	**Correct**	↔	**Archive**	↔	**Status**	↔	**System**	↔
	C Conversion factor	-	ArMo1 Arc Month archive 1	-	S.Reg S Status register	-	Time Date and time	S
	K inv. compr. ratio factor	-	ArMo2 Arc Month archive 2	-	Stat S Current status	-	MdTim Daylight sav.yes/no	S
	Ho.b Calorific value	S	ArMP Arc Meas. per. archive	-	Clr Clear S.Reg	S	MCyc Meas. cycle time	C
	CO2 Carb. dioxide cont.	S	MPer Meas. period	C	Logb. Arc Logbook	-	OCyc Oper. cycle time	S
	H2 Hydrogen content	S	MP.Re Remain. time of MP	-	AudTr Arc Audit Trail		Disp Disp.switch-off time	S
	Rhob Density gas at base cond.	S	FrMP ArMP frozen	S		-	Aut.V Display changeover time	C
	K.F K substitute value	S					Ta.Rg Amb. temp. range	C
	Md.K K Mode	C					Vers Software version	-
							ChK Software checksum	-
	Chap. 3.5		Chap. 3.6		Chap. 3.7		Chap. 3.8	

important status/error messages

Output in the first line of the display

A Alarm
W Warning
B Remaining battery service life reached
P Calibration lock open
o Online operation (data transmission)

A flashing device status signals a currently prevailing message, a steady device status shows a message no longer prevailing, but which is still located in the status register. The status register **"S.Reg"** documents all alarms and warnings since the last "clear". The momentary status **"Stat"** indicates momentary alarms. warnings and reports as numbers, separated in each case by a point.

Example of the display of a temperature sensor

- Change to the column **Status** by repeated pressing of the key →
  The following appears in the display:

	Prefix			Arc.		Status				Menu						
↓						A				S	t	a	t	u	s	→
(Stat)	S	.	R	e	g	✶				1	.	1	5	.	1	6
→	Prefix			Arc.		Status				Menu						
						A				S	.	R	e	g		←
(St.6)	S	R	.	6	✶											1

Submenu

- **Enter** branches to submenu
- ↓ moves to message in which another figure is displayed in place of "0".
- The **"1"** on the right in the display, indicates with message SR.6 a temperature alarm.

Table: Overview of messages in Status 1 to 8

	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
Alarms	1	Alarm for:								
		-	-	-	-	C*	T	p	K	z*
	2	No usable input values for:								
		E1	-	-	-	T	p			
Warnings	4	Output error (pulse buffer overflow) on output:								
		A1	A2	A3	A4	-	-	-	-	-
	5	Error during pulse comparison on input:								
		-	E2	-	-	-	-	-	-	-
	6	Warning limits violated for:								
		-	Qb	-	Q	-	T	p	-	-
	8	Warning for input:								
		-	E2	E3	-	-	-	-	-	-

* "C" = conversion factor, "z" = imperfect-gas factor

Chapter 3.7.2

All messages > 8 identify reports which represent no alarms or warnings.
Example: 14 = Calibration lock open; 15 = Battery mode; 16 = Call acceptance window open

To "System" ↔

Service

Serv.	
- Display test	-
Bat.R Remaining bat. life	-
Bat.C Battery capacity	S
St.SL Supplier lock	S
Cod.S Supplier code	S
St.CL Customer lock	K
Cod.C Customer code	K
St.PL Calibration lock	K
Contr Display contrast	S
AdjTm Adjustment factor	C
Sel.p Select. press. sens	C
Save Save all data	S
Clr.V Clear counter	C
Clr.X Initialise device	C
Bin.T Temp. raw value	-
Bin.p Pressure raw value	-
ArCal Arc Frozen values	-
Frz. Freeze	S

Chap. 3.9

Inputs

Inp.	
Vo Orig. counter Input 1 only in Encoder mode	-
CP.E1 Cp value Input 1	C
Md.E1 Mode for Input 1	C
V1 Adj. counter Input 1	S
CP.E2 Cp value Input 2	C
Md.E2 Mode for Input 2	S
V2 Adj. counter Input 2	S
St.E2 Status on Input 2	-
MdME2 Mode monitoring E2	S
SC.E2 Source monitor'g E2	S
L1.E2 Limit 1 for E2	S
L2.E2 Limit 2 for E2	S
SpE2 Stat. point. mon. E2	S
St.E3 Status on Input E3	-
MdME3 Mode monitoring E3	S
SC.E3 Source monitor'g E3	S
L1.E3 Limit 1 for E3	S
SpE3 Stat. point. mon. E3	S
SNM Serial no. gas meter	S

Chap. 3.10

Outputs

Out.	
Md.A1 Mode for Output 1	C
SC.A1 Source Output 1	C
cp.A1 cp value Output 1	C
SpA1 Status pointer A1	C
Md.A2 Mode Output 2	C
SC.A2 Source Output 2	C
cp.A2 Cp value Output 2	C
SpA2 Status pointer A2	C
Aj1A2 HF adjust. factor 1	S
Aj2A2 HF adjust. factor 2	S
f1.A2 Frequ. for Aj1A2	S
f2.A2 Frequ. for Aj2A2	S
Md.A3 Mode Output 3	S
SC.A3 Source Output 3	S
cp.A3 Cp value Output 3	S
SpA3 Status pointer A3	S
Md.A4 Mode Output 4	S
SC.A4 Source Output 4	S
cp.A4 Cp value Output 4	S
SpA4 Status pointer A4	S

Chap. 3.11

Interfaces

Ser.IO	
Md.S2 Mode Interface 2	S
DF.S2 Data format Interf. 2	S
Bd.S2 Baud rate Interf. 2	S
TypS2 RS.232 / RS.485	S
Num.T Ring tones bef. ans.	S
M.INI Initialise Modem	S
Bd.S1 Baud rate Int. 1	S
CW1.S Call window 1 Start	S
CW1.E Call window 1 End	S
CW2.S Call window 2 Start	S
CW2.E Call window 2 End	S

Chap. 3.12

To "User" ←

User list

To "Ser. IO" ↔ To StandV ↔

User

User	
VbT Vb total	-
VmT Vm total	-
p Pressure	-
T Temperature	-
K Gas law dev. factor	-
C Conversion factor	-
S.Reg Status register	S
VbMP max Month maximum Vb	-
Date For month max. Vb	-
Time For month max. Vb	-
Qb Standard flow	-
Qm Actual flow	-

Chap. 3.13

Clear status register

Clr
Clear S.Reg

Warnings (W) and/or alarms (A) which are no longer prevailing, i.e. only displayed for information, but no longer flashing, are cleared in the menu "Status" – **"Clr"** by pressing the – **ENTER** key. To the right in the display a "**0**" flashes. By pressing the ↑ key the value is set to **"1"**. Pressing the **ENTER** key again clears the status register and **ok** appears in the display. Alarm or warning statuses still prevailing are then again indicated with the letter A and/or W flashing in the display.

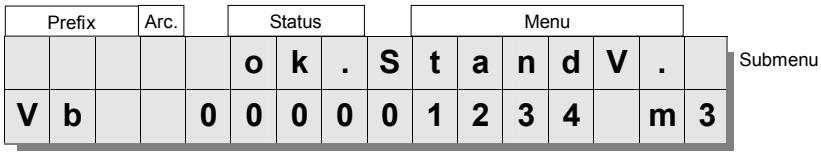
Entering values

Values in the volume corrector (Volume Conversion Device) which are not subject to the calibration lock or only computed (e.g. flow) or measured (e.g. pressure or temperature) can be changed even without a PC or readout device.
In these short-form instructions all values which are subject to the calibration lock are identified with "C". All values which are determined or measured and therefore can only be read are identified with a "–".

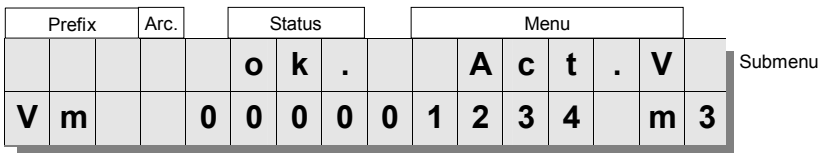
Example of changing a value
(adjustable counter in the menu actual volume (Act.V.)

- The display is activated by pressing any key.

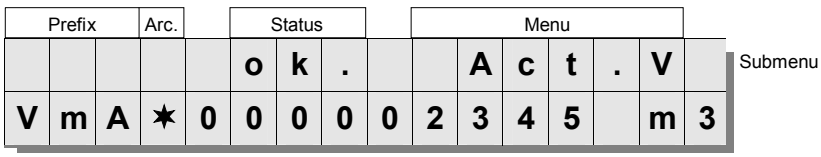
  The momentary counter reading **Vb** (volume at base conditions) is indicated in the menu **StandV** in the display.



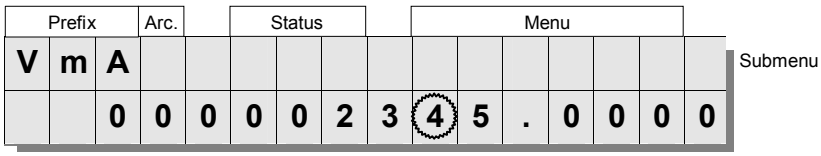
- Changing to the column Actual volume occurs by pressing the key [→]
  The momentary counter reading **Vm** (actual volume) is indicated in the menu **Act.V** in the display.



- Within the menu, Actual volume, repeated pressing of the key [↓] changes to the value **VmA** (adjustable counter).



- The entry mode is activated by pressing the **Enter** key.
  The modifiable display location flashes.
  The keys [←] and [→] enable skipping to the other places of the displayed value.
  These can be changed with the keys [↑] and [↓] and refreshed by pressing the **Enter** key.

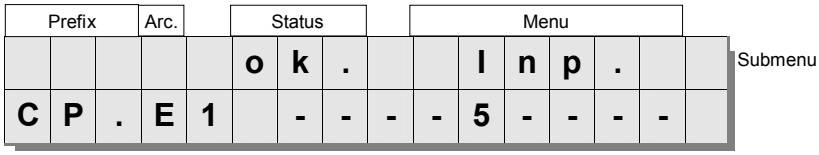


  Pressing the **ESC** key (before the **Enter** key is pressed) causes the entry to be cancelled.

Entry errors

Entry errors are displayed if incorrect entries are made by the operator via the keypad.
After the entry key is released, the display skips back to the original state.

Example:



----x---- the possible error codes correspond to the following table.

Code	Description
1	The archive is empty, no values are available yet.
2	The archive value cannot be read. The archive has possibly just been opened by the interface for reading out.
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.
11 *	Entry not possible due to special setting or configuration - The entry of *V* and *VD* in the encoder mode (*Md.E1* = 5) is not possible. - *Md.E1* cannot be set to "5" with devices without encoder capability.
12	The entry of this source (address) is not permissible with Output Mode 8. The addresses of Qb, Q, p, T are, for example, allowed.
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.

***** With an EK260 with a software version below 2.10, this error is displayed with code "8".

Chapter 2.3.3