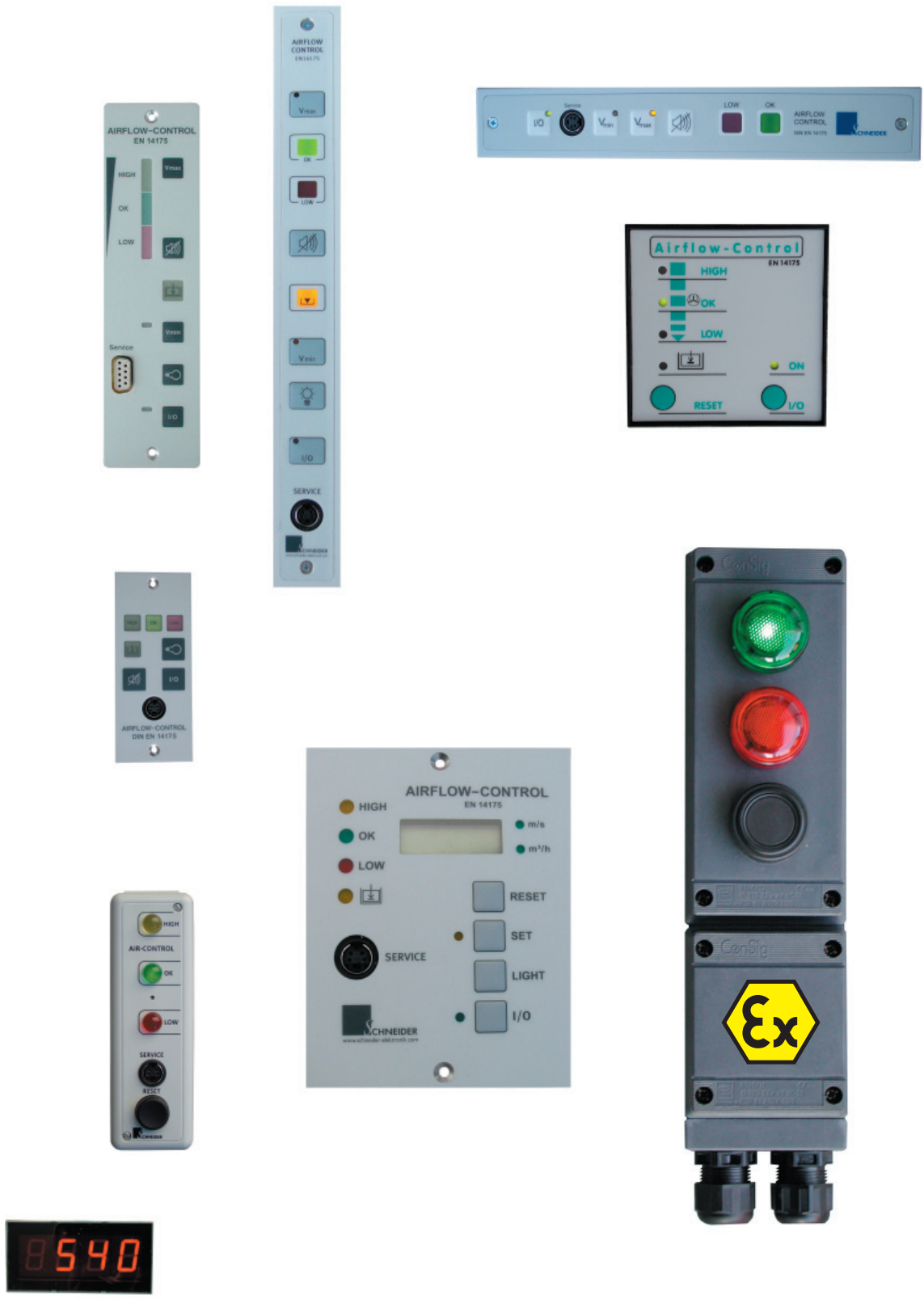


Function display and control panel
Standard versions



GENERAL INFORMATION

SCHNEIDER offers a wide range of different function displays. All function displays are suitable for the follow product groups:

Product group	Device type
Fume hood monitors	FM100 FM500 LC100
Fume hood controllers	FC500 LR300 LCR300

This range ensures that an ideal solution can be supplied to fulfill customers' technical requirements. The technical data of the available standard displays are described on the following pages.

To ensure efficient functioning, the **Serial/Parallel** jumper must be connected correctly and the selected FAZ type must be programmed with the SVM100 service module or laptop (see Setup options for the respective function display type).

Check the jumper: Serial/Parallel connection must be appropriate for the function display type.

Serial connection: complex function displays, e.g. Type: 0010

Parallel connection: simple function displays, e.g. Type: 0060

If none of the standard function displays fulfill your needs, we would be pleased to develop and produce client-specific designs at your request.



Connect the Serial/Parallel jumper correctly!

Refer to the appropriate terminal diagram (FM100, FM500, LC100, LR300 or LCR300) for information on selecting the correct jumper setting.

Example:

FM500 with function display type: 0010



FM500 with function display type: 0060



FUNCTION DISPLAY TYPE 0010

■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow is too high
2	LED OK (green)	Volume flow is OK
3	LED LOW (red)	Volume flow is too low
4	Service plug, RS232, 9-pole, D-SUB	Service module or laptop connection for programming and retrieval of actual values
5	Button V _{MAX}	Maximum volume flow ON/OFF (programmable value)
6	Button RESET	Reset acoustic alarm
7	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
8	LED V _{MIN}	Reduced operation =ON (night-time reduction)
9	Button V _{MIN}	Reduced operation ON/OFF
10	Button LIGHT	Fume hood interior lighting ON/OFF
11	LED I/O (green)	ON/OFF status
12	Button I/O	ON/OFF

■ Dimensions and construction

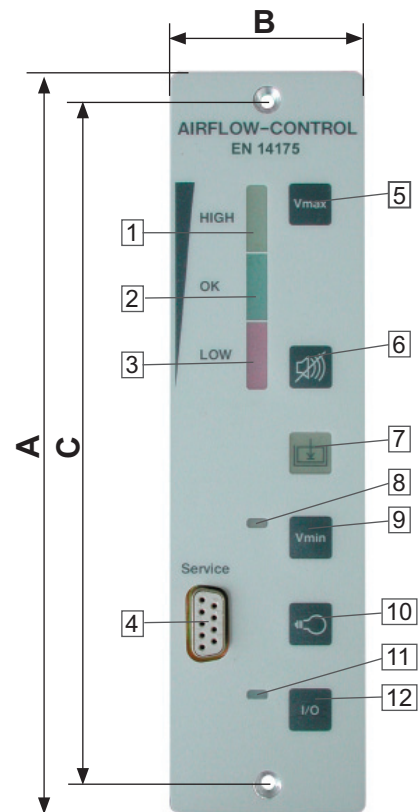
Dimensions	A=175 mm, B=46 mm, fitting depth=24 mm
Distance mounting holes	C=161 mm, 2 drill holes Ø 3.2 mm
Material control panel	aluminium, 2.5 mm with front foil
Colour	light grey, similar to RAL 7035
Protection type	IP 41
Weight	100 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

■ Ordering options

Order code: 0010	Mounting version, vertical
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■ Setup options FAZ type (programming via SVM100 or laptop)

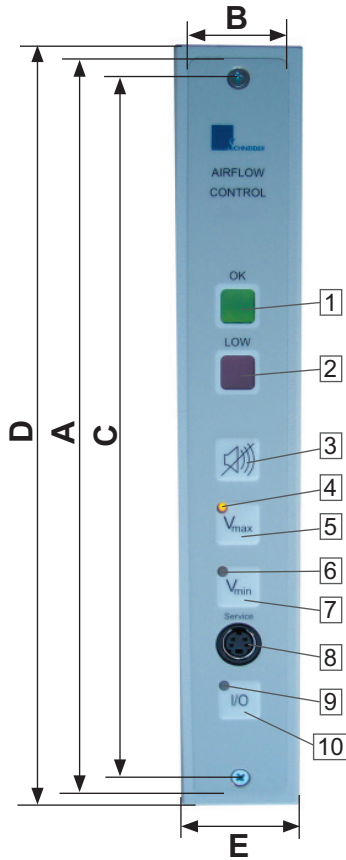
With I/O button function	FAZ type	30: BS1
Without I/O button function	FAZ type	31: BS2



⚠ Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!

0020 FUNCTION DISPLAY TYPE

VERTICAL, Type 0020 and 0021



■ Display and operating elements

No.	Function	Meaning
1	LED OK (green)	Volume flow OK
2	LED LOW (red)	Volume flow too low
3	Button RESET	Reset acoustic alarm
4	LED V _{MAX}	Maximum volume flow =ON
5	Button V _{MAX}	Maximum volume flow ON/OFF (programmable value)
6	LED V _{MIN}	Reduced operation=ON (night-time reduction)
7	Button V _{MIN}	Reduced operation ON/OFF
8	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values
9	LED I/O (green)	ON/OFF status
10	Button I/O	ON/OFF

■ Dimensions and construction

Dimensions fitted version	A=232 mm, B=30 mm, fitting depth=20 mm
Distance mounting holes	C=220 mm, 2 drill holes Ø 3.2 mm
Dimensions case	D=242 mm, E=39 mm, mounting height= 23 mm
Material control panel	VA, 2.5 mm with front foil
Colour control panel	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour case	grey-white, similar to RAL 9002
Protection type	IP 41
Weight without case	150 g
Weight with case	320 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!



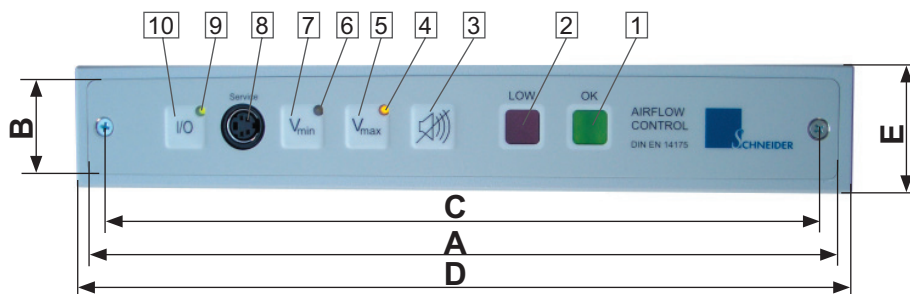
■ Ordering options

Order code: 0020	Mounting version, vertical
Order code: 0021	Surface-mounting case version, vertical
Order code: 0022	Mounting version, horizontal
Order code: 0023	Surface-mounting case version, horizontal

■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ type 32: RB1
Without I/O button function	FAZ type 33: RB2

HORIZONTAL, Type 0022 and 0023



Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!



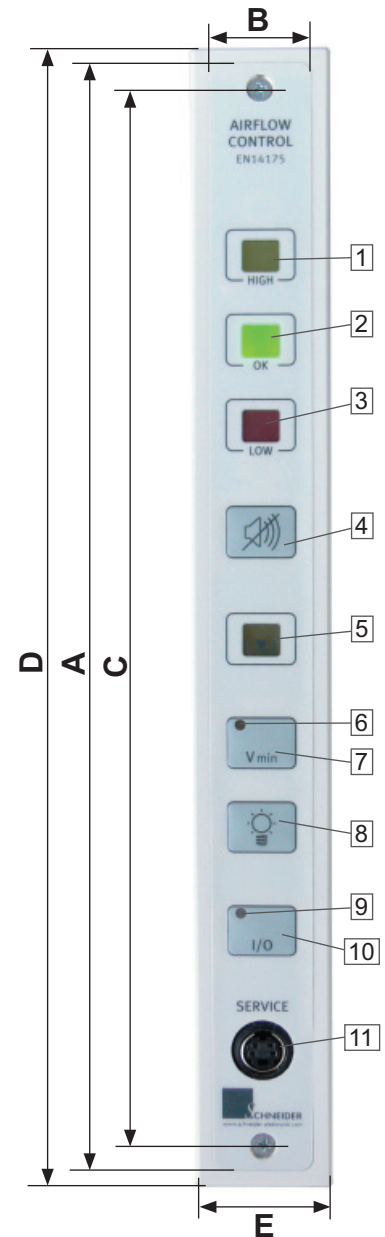
■ Display and operating elements		
No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volume flow OK
3	LED LOW (red)	Volume flow too low
4	Button RESET	Reset acoustic alarm
5	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
6	LED V _{MIN}	Reduced operation=ON (night-time reduction)
7	Button V _{MIN}	Reduced operation ON/OFF
8	Button LIGHT	Fume hood interior lighting ON/OFF
9	LED I/O (green)	ON/OFF status
10	Button I/O	ON/OFF
11	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values

■ Dimensions and construction	
Dimensions fitted version	A=265 mm, B=24 mm, fitting depth=20 mm
Distance mounting holes	C=253 mm, 2 drill holes Ø 3.2 mm
Dimensions case	D=275 mm, E=33 mm, mounting height=23 mm
Material control panel	VA, 2.5 mm with front foil
Colour control panel	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour case	grey-white, similar to RAL 9002
Protection type	IP 41
Weight without case	150 g
Weight with case	320 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

■ Ordering optins	
Order code: 0025	Mounting version, vertical
Order code: 0026	Surface-mounting case version, vertical

■ Setup options (programming FAZ type via SVM100 or laptop)		
With I/O button function	FAZ type	30: BS1
Without I/O button function	FAZ type	31: BS2

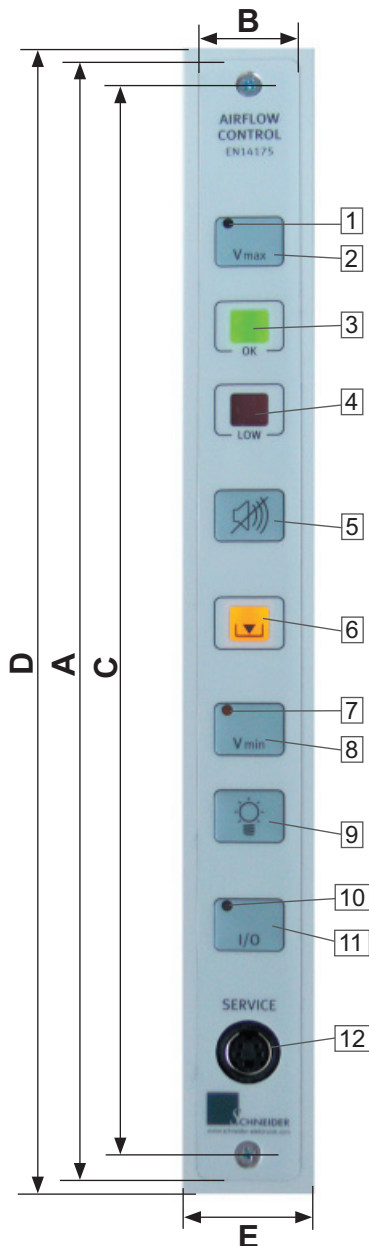
VERTICAL, Type 0025 und 0026



⚠ Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!

0027 FUNCTION DISPLAY TYPE

VERTICAL, Type 0027 and 0028



■ Display and operating elements

No.	Function	Meaning
1	LED V_{MAX}	Maximum volume flow ON
2	Button V_{MAX}	Maximum volume flow ON/OFF (programmable value)
3	LED OK (green)	Volume flow OK
4	LED LOW (red)	Volume flow too low
5	Button RESET	Reset acoustic alarm
6	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
7	LED V_{MIN}	Reduced operation=ON (night-time reduction)
8	Button V_{MIN}	Reduced operation ON/OFF
9	Button LIGHT	Fume hood interior lighting ON/OFF
10	LED I/O (green)	ON/OFF status
11	Button I/O	ON/OFF
12	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values

■ Dimensions and construction

Dimensions fitted version	A=265 mm, B=24 mm, fitting depth=20 mm
Distance mounting holes	C=253 mm, 2 drill holes \varnothing 3.2 mm
Dimensions case	D=275 mm, E=33 mm, mounting height=23 mm
Material control panel	VA, 2.5 mm with front foil
Colour control panel	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour case	grey-white, similar to RAL 9002
Protection type	IP 41
Weight without case	150 g
Weight with case	320 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

■ Ordering options

Order code: 0027	Mounting version, vertical
Order code: 0028	Surface-mounting case version, vertical

■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ type 32: RB1
Without I/O button function	FAZ type 33: RB2

Serial function display.
Refer to the appropriate
terminal diagram for the
correct jumper setting!



■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volume flow OK
3	LED LOW (red)	Volume flow too low
4	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
5	Button RESET	Reset acoustic alarm
6	Button LIGHT	Fume hood interior lighting ON/OFF
7	Button I/O	ON/OFF
8	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values

■ Dimensions and construction

Dimensions, B=wide	A=115 mm, B=55 mm, fitting depth=24 mm
Dimensions, B1=narrow	A=115 mm, B1=47 mm, fitting depth=24 mm
Distance mounting holes	C=101 mm, 2 drill holes Ø 3.2 mm
Material control panel	aluminium, 2.5 mm with front foil
Colour	light grey, similar to RAL 7035
Protection type	IP 41
Weight	70 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

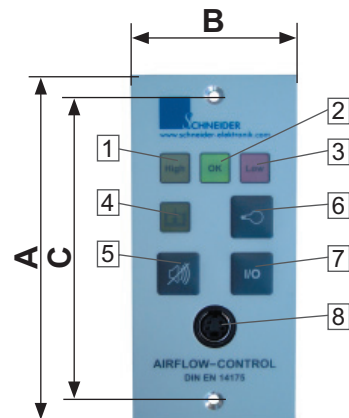
■ Ordering options

Order code: 0030	Mounting version, vertical, B=wide
Order code: 0031	Mounting version, vertical, B1=narrow

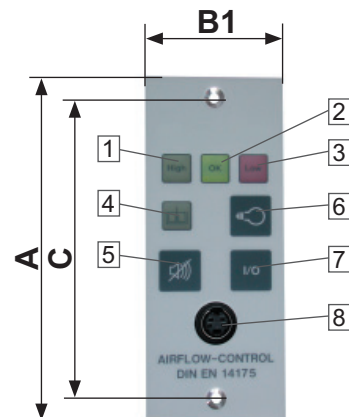
■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ type	10: WR1
Without I/O button function	FAZ type	11: WR2

MODEL: wide, type 0030



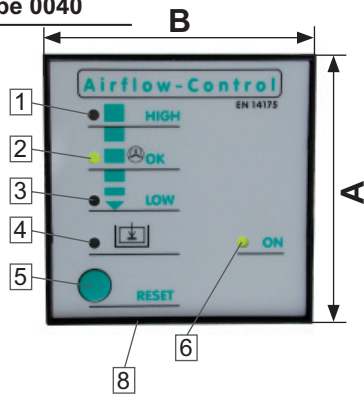
MODEL: narrow, type 0031



⚠ Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!

0040 FUNCTION DISPLAY TYPE

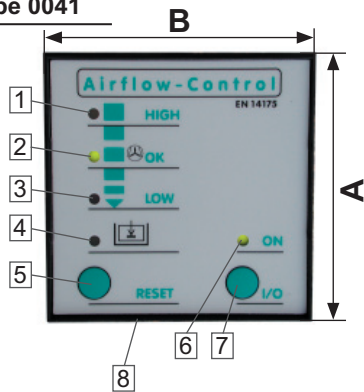
Type 0040



■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volumen flow OK
3	LED LOW (red)	Volume flow too low
4	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
5	Button RESET	Reset acoustic alarm
6	LED I/O (green)	ON/OFF status
7	Button I/O	ON/OFF
8	Service plug, RS232, 9-pole, D-SUB (mounted on the rear)	Service module or laptop connection for programming and retrieval of actual values

Type 0041



■ Dimensions and construction

Dimensions case	A=96 mm, B=96 mm, fitting depth=55 mm
Cutout for case	A1=90 mm, B1=90 mm
Material control panel	aluminium, 2.5 mm with front foil
Colour front foil	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour fitted case	black
Protection type	IP 53
Weight	150 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

■ Ordering options

Order code: 0040	Complete built-in case without I/O button
Order code: 0041	Complete built-in case with I/O button

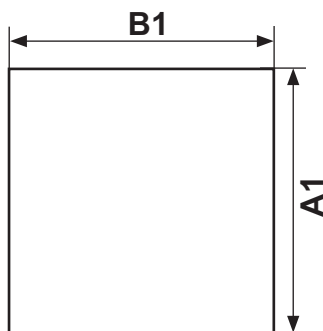
■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ type 10: WR1
Without I/O button function	FAZ type 11: WR2

Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!

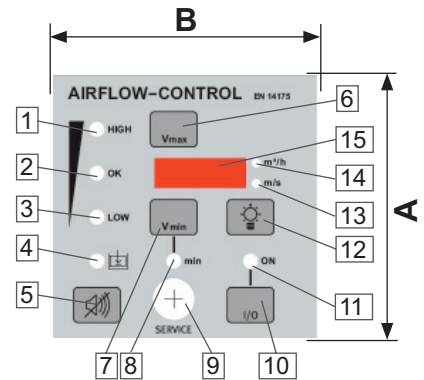


Case cutout



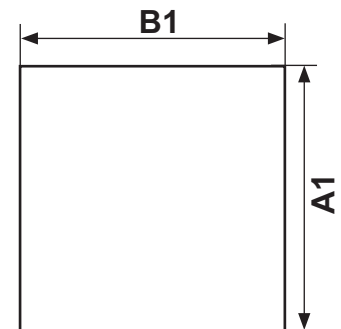
■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volumen flow OK
3	LED LOW (red)	Volume flow too low
4	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
5	Button RESET	Reset acoustic alarm
6	Button Vmax	Maximum volume flow ON/OFF (programmable value)
7	Button Vmin	Reduced operation ON/OFF
8	LED Vmin	Reduced operation=ON (night-time reduction)
9	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values
10	Button I/O	ON/OFF
11	LED I/O (green)	ON/OFF status
12	Button LIGHT	Fume hood interior lighting ON/OFF
13	LED m/s	Numerical display in m/s (face velocity)
14	LED m³/h	Numerical display in m³/h (air volume)
15	LED 4 digits	Numerical display (air volume or face velocity) 4-digits



⚠ Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!

Case cutout



■ Dimensions and construction

Dimensions case	A=96 mm, B=96 mm, fitting depth=55 mm
Cutout for case	A1=90 mm, B1=90 mm
Material control panel	aluminium, 2.5 mm with front foil
Colour front foil	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour fitted case	black
Protection type	IP 41
Weight	150 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

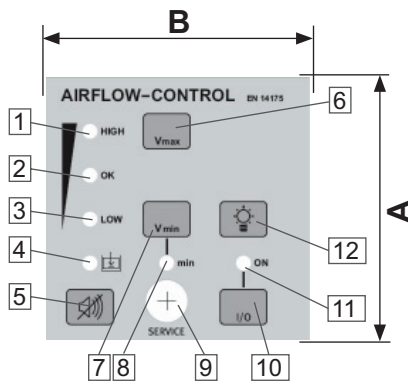
■ Ordering options

Order code: 0042	Complete built-in case with numerical display (m³/h or m/s)
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■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ-Typ 30: BS1
Without I/O button function	FAZ-Typ 31: BS2

0043 FUNCTION DISPLAY TYPE



■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volumen flow OK
3	LED LOW (red)	Volume flow too low
4	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
5	Button RESET	Reset acoustic alarm
6	Button Vmax	Maximum volume flow ON/OFF (programmable value)
7	Button Vmin	Reduced operation ON/OFF
8	LED Vmin	Reduced operation=ON (night-time reduction)
9	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values
10	Button I/O	ON/OFF
11	LED I/O (green)	ON/OFF status
12	Button LIGHT	Fume hood interior lighting ON/OFF

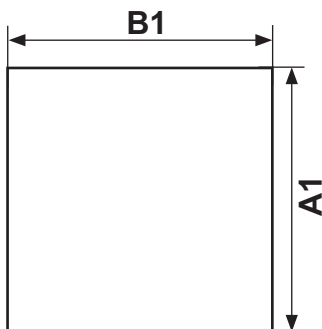
■ Dimensions and construction

Dimensions case	A=96 mm, B=96 mm, fitting depth=55 mm
Cutout for case	A1=90 mm, B1=90 mm
Material control panel	aluminium, 2.5 mm with front foil
Colour front foil	light grey, similar to RAL 7035
Material case	polystyrene (PS)
Colour fitted case	black
Protection type	IP 41
Weight	150 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

Serial function display.
Refer to the appropriate terminal diagram for the correct jumper setting!



Case cutout



■ Ordering options

Order code: 0043	Complete built-in case
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■ Setup options (programming FAZ type via SVM100 or laptop)

With I/O button function	FAZ-Typ 30: BS1
Without I/O button function	FAZ-Typ 31: BS2

Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volumen flow OK
3	LED LOW (red)	Volume flow too low
4	LED CLOSE SASH (yellow)	Alarm. Close sash if open > 50 cm
5	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values
6	LED m/s	Numerical display in m/s (face velocity)
7	LED m ³ /h	Numerical display in m ³ /h (air volume)
8	LCD 4 digits	Numerical display (air volume or face velocity) 4-digits
9	Button RESET	Reset acoustic alarm
10	Button SET	free programmable button
11	LED SET	free programmable status LED
12	Button LIGHT	Fume hood interior lighting ON/OFF
13	Button I/O	ON/OFF
14	LED I/O (green)	ON/OFF status

Dimensions and construction

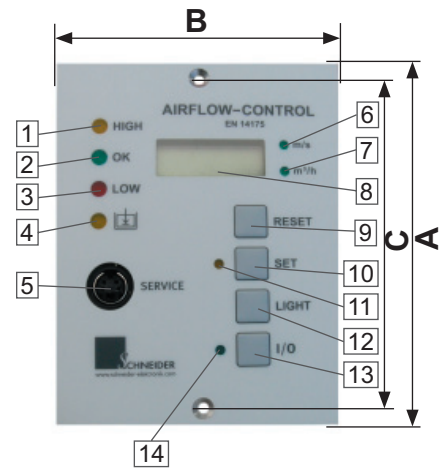
Dimensions	A=115 mm, B=90mm, fitting depth=30 mm
Distance mounting holes	C=103 mm, 2 drill holes Ø 3,2 mm
Cutout for print circuit board	A1=90 mm, B1=80 mm
Material control panel	aluminium, 2,5 mm with front foil
Colour front foil	light grey, similar to RAL 7035
Protection type	IP 41
Weight	150 g
Connection cable	3 m (optional 5 m) lang, 8-adrig, Westernstecker RJ45, beidseitig steckbar

Ordering options

Order code: 0045	Mounting version with numerical display (m ³ /h or m/s)
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Setup options (programming FAZ type via SVM100 or laptop)

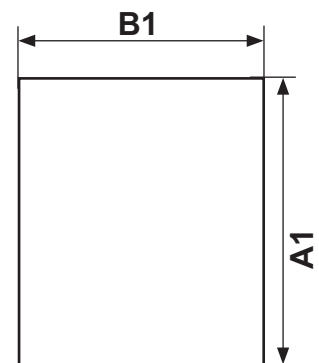
With I/O button function	FAZ-Typ 10: WR1
Without I/O button function	FAZ-Typ 11: WR2



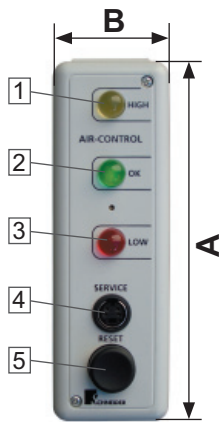
Serial function display. Refer to the appropriate terminal diagram for the correct jumper setting!



Print circuit board cutout



0060 FUNCTION DISPLAY TYPE



Parallel function display.
Refer to the appropriate
terminal diagram for the
correct jumper setting!



■ Display and operating elements

No.	Function	Meaning
1	LED HIGH (yellow)	Volume flow too high
2	LED OK (green)	Volume flow OK
3	LED LOW (red)	Volume flow too low
4	Service plug, RS232, 4-pole, Mini-DIN	Service module or laptop connection for programming and retrieval of actual values
5	Button RESET	Reset acoustic alarm

■ Dimensions and construction

Dimensions	A=136 mm, B=44 mm, mounting height=25 mm
Distance mounting holes	C=80 mm, 2 drill holes Ø 3.5 mm
Material case	Makrolon surface mounted housing
Colour	light grey, similar to RAL 7035
Protection type	IP 40
Weight	150 g
Connection cable	3m long, 8-wire, western plug RJ54, pluggable on both sides

■ Ordering options

Order code: 0060	Surface-mounted case, vertical
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■ Setup options (programming FAZ type via SVM100 or laptop)

Basic version	FAZ type 6: S2
Without I/O button function	

Display and operating elements

No.	Function	Meaning
1	LED OK (green)	Volume flow OK
2	LED LOW (red)	Volume flow too low
3	Button RESET	Reset acoustic alarm
4	Service plug, RS232, 9-pole, D-SUB	Service module or laptop connection for programming and retrieval of actual values

Dimensions and construction

short model (vertical)

Dimensions fitted version	A=95 mm, B=42 mm, fitting depth=25 mm
Distance mounting holes	C=85 mm, 2 drill holes Ø 3.2 mm

long model (vertical and horizontal)

Dimensions fitted version	A=142 mm, B=26 mm, fitting depth=25 mm
Distance mounting holes	C=132 mm, 2 drill holes Ø 3,2 mm

Material control panel	Stainless steel, 1.5 mm brushed
Colour control panel	silver
Protection type	IP 30
Weight	60 g
Connection cable	3 m (optionally 5 m) long, 8-wire, western plug RJ45, pluggable on both sides

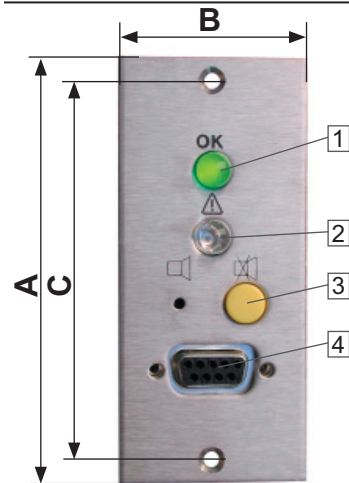
Ordering options

Order code: 0100	Mounting version, vertical, short model
Order code: 0101	Mounting version, vertical, long model
Order code: 0102	Mounting version, horizontal, long model

Setup options (programming FAZ type via SVM100 or laptop)

Basic version	FAZ-Typ 5: S1
Without I/O button function	

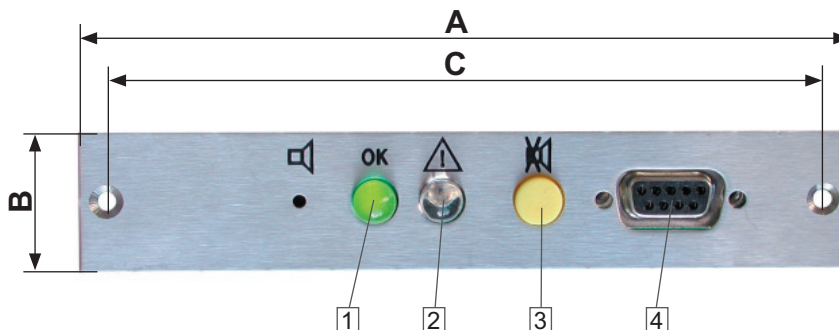
VERTICAL (short model)
Typ 0100



VERTICAL (long model)
Type 0101 (not illustrated)

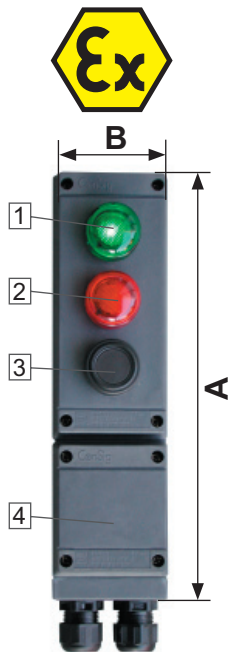
⚠ Parallel function display. Refer to the appropriate terminal diagram for the correct jumper setting!

HORIZONTAL (long model)
Type 0102



⚠ Parallel function display. Refer to the appropriate terminal diagram for the correct jumper setting!

0200 FUNCTION DISPLAY TYPE Ex-version, Zone 1, 2, 21 and 22



Ex-function display.
Refer to the appropriate terminal diagram for the correct jumper setting!
The Ex-function display is only suitable for use with the fume hood monitors FM100-Ex or FM500-Ex.



Always follow the installation and mounting instructions!

Always mount the FM100-Ex or FM500-Ex fume hood monitors outside the Ex-zone!

■ Display and operating elements

No.	Function	Meaning
1	LED OK (green)	Volume flow OK
2	LED LOW (red)	Volume flow too low
3	Button RESET	Reset acoustic alarm
4	Ex-buzzer	Acoustic alarm (built into the case)

■ Dimensions and construction

Dimensions	A=280 mm, B=80 mm, mounting height=72 mm + 20 mm (buttons and lights)
Distance mounting holes	4 drill holes Ø 5.7 mm
Material case	surface-mounted housing, hard polyester, reinforced with glass fibre
Colour	dark grey
Protection type	IP 66
Weight	approx. 950 g
Connection cable	Provided by customer. Observe currently valid regulations!
Service plug, RS232, 9-pole, D-SUB	Service module or laptop connection for programming and retrieval of actual values Service plug is in the FM100 and FM500 devices.

■ Ordering options

Order code: 0200	Surface-mounted case, vertical or horizontal
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■ Setup options (programming FAZ type via SVM100 or laptop)

Basic version	FAZ type 17: Ex
Without I/O button function	

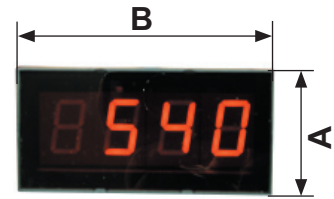
Refer to installation instructions of the connection cable used!

Lay two separate cables from the Ex-function display to the switch cabinet (function monitor).

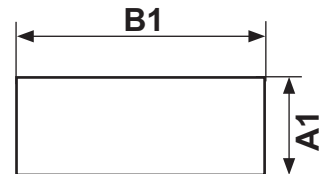
- Always adhere to current, valid standards.
- Single conductor in flexible cable > 0.1mm².
- In accordance with mechanical, thermic and chemical influences. Run the cable preferably in such a way that it is flame-redundant and oil-resistant.
- Clear marking of the intrinsically safe connection cable (e.g. light blue colouring).
- Lay intrinsically safe and not intrinsically safe cables separately. When intrinsically safe and not intrinsically safe cables are laid together in cable ducts, they can be safely separated by layers of insulating material or by laying them in hose lines.

VOLUME FLOW DISPLAY LED, 4-digit, digit height 13 mm, in fitted case | DIS210

■ Display	
Volume flow display	7 segment display, red
Can only be connected to function display types 0010, 0030 or 0040!	
■ Dimensions and construction	
Dimensions case	A=48 mm, B=96 mm, fitting depth=55 mm
Cutout for case	A1=44 mm, B1=91 mm
Material case	polystyrene (PS)
Colour fitted case	black
Protection type	IP 52
Weight	150 g
Connection cable	3 m lang, 5-wire, pluggable on one side
■ Ordering options	
Order code: DIS210	Volume flow display



Case cutout



Tender specification
Function display and control panel

Function display and control panel suitable for fitting or mounting on any fume hood. Monitoring of volume flow in accordance with EN 14175 with corresponding optical and acoustic alarm.

Suitable for connection to the FM100 and FM500 or the fume hood controller FC500. Extended safety functionality through monitoring of communication between the function display and the controller, as well as fail-safe signalling when communication is interrupted.

Programming of all system data with the service module via built-in service plug.

Description function display type 0027:

with optical display (LED) for the following functions:

Volume flow	HIGH
Volume flow	OK
Volume flow	LOW
Sash	> 50 cm open
Volume flow	MINIMUM (night-time operation)
Device status	ON

Buttons for the following functions:

V_{MAX}	Maximum volume flow
RESET	Reset acoustic alarm
V_{MIN}	Reduced volume flow
LIGHT	Lighting fume hood interior
I/O	On/Off

All safety-related functions and status displays are displayed by means of large LEDs (1 cm²).