EC-BASIC

Room controller

Technical features

Power:	110-240 V~, 50/60 Hz	
Power consumption:	**EC BASIC-T**	max 0,46 W
	EC BASIC-H	max 0,46 W
	EC BASIC-U	max 0,46 W
	EC BASIC-C02/T	max 1,25 W
Operating temperature:	0-50°C, 10-90%r.H without condensation.	
Inputs (only EC Basic-U):	1 analogue input 0-10 V⎓	
Outputs:	1 analogue output 0-10 V⎓ (max 1mA)	
Working range:	**EC BASIC-T**	0-50°C
	EC BASIC-H	0-100 % RH
	EC BASIC-U	0-100 %
	EC BASIC-C02/T	0-2000 ppm
Manual activation:	minimum 600 cycles	
Automatic activation:	> 100.000 cycles	
Dimensions:	88 x 100 x 30,5 mm	
Installation:	*wall mounting	
Impulse voltage:	2,5 kV	
Pollution degree:	2	
Classification of unit:	type 1	
Protection class:	IP30	
Insulation class:	class II	
CE standard conformity:	EN 60730-1, EN 61000-6-3, EN 61000-6-1 EN 60730-2-9	

*The unit must be installed exclusively in contact with a wall. The installation with spacer that would allow the access to the back of unit is forbidden

EC BASIC-T — Temperature version

TECHNICAL DESCRIPTION
The controller works by comparing the current room temperature with an adjustable setpoint. It controls a 0-10 V output signal with a PI algorithm in direct or reverse action, based on the setting of jumper **JP1**. The output signal is applied to a ventilator.

JP1 closed 1-2: Heating (control signal increases if the actual value falls below the setpoint)
JP1 closed 2-3 (*): Cooling (control signal increases if the actual value exceeds the setpoint)

The setpoint is adjusted by knob in the range 5-30°C.

Proportional band and integral time are set using rotary switch **SW1**:

SW1	0	1	2	3	4	5	6	7
Prop. band (°C)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
Integral time (s)	1800	1700	1600	1500	1400	1300	1200	1100

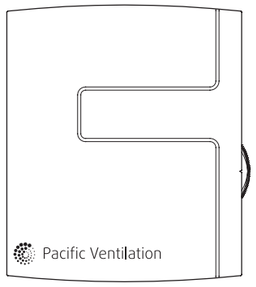
SW1	8	9	A	B	C	D	E	F (*)
Prop. band (°C)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Integral time (s)	1000	900	800	700	600	500	400	300

(*) factory settings

The range of the voltage applied to the ventilator is defined using the MIN and MAX knobs. MIN is used to define the minimum applicable voltage to the ventilator (0-5 V), while MAX defines the maximum voltage (5-10 V). The PI controller will then operate between the relevant MIN and MAX values.

Example 1: If the MIN value is set to the minimum position and MAX to the maximum position, the PI controller will work from 0-10 V.
Example 2: If MIN is set to 2 V and MAX is set to 7 V, the PI controller works from 2 to 7 V.

DESCRIPTION
EC room controller in 4 versions for control of temperature, humidity or CO_2 and temperature.
Also available in a universal version for 0-10 V input via an external sensor.



EC BASIC-H — Humidity version

TECHNICAL DESCRIPTION
The controller works by comparing the current room humidity with an adjustable setpoint. It controls a 0-10 V output signal with a proportional algorithm in direct or reverse action, based on the setting of jumper **JP1**. The output signal is applied to a ventilator.

JP1 closed 1-2: Humidification (control signal increases if the actual value falls below the setpoint)
JP1 closed 2-3 (*): Dehumidification (control signal increases if the actual value exceeds the setpoint)

The humidity setpoint is set using rotary switch **SW1**:

SW1	0 (*)	1	2	3	4	5	6	7
Setpoint (% RH)	20	25	30	35	40	45	50	55

SW1	8	9	A	B	C	D	E	F
Setpoint (% RH)	60	65	70	75	80	85	90	90

(*) factory settings

The proportional band is set using rotary switch **SW2**:

SW2	0	1	2	3	4	5	6	7
Prop. band (% RH)	5	10	15	20	25	30	35	40

SW2	8	9	A	B	C	D	E	F (*)
Prop. band (% RH)	45	50	50	50	50	50	50	50

(*) factory settings

The range of the voltage applied to the ventilator is defined using the MIN and MAX trimmer. MIN trimmer is used to define the minimum applicable voltage to the ventilator (0-5 V), while MAX trimmer defines the maximum voltage (5-10 V). The P controller will then operate between the relevant MIN and MAX values.

Example 1: If the MIN value is set to the minimum position and MAX to the maximum position, the P controller will work from 0-10 V.
Example 2: If MIN is set to 2 V and MAX is set to 7 V, the P controller works from 2-7 V.

EC BASIC-U — Universal version

TECHNICAL DESCRIPTION
The controller works by comparing the input signal with an adjustable setpoint. It controls a 0-10 V output signal with a PI algorithm in direct or reverse action, based on the setting of jumper **JP1**.
The output signal is applied to a ventilator.

JP1 closed 1-2: Control signal increases if the actual value falls below the setpoint
JP1 closed 2-3 (*): Control signal increases if the actual value exceeds the setpoint

The universal setpoint is set using rotary switch **SW1**:

SW1	0 (*)	1	2	3	4	5	6	7
Setpoint (%)	**5**	10	20	25	30	35	40	45

SW1	8	9	A	B	C	D	E	F
Setpoint (%)	50	55	60	65	70	80	90	95

(*) factory settings

Proportional band and integral time are set using rotary switch **SW2**:

SW2	0	1	2	3	4	5	6	7
Prop. band (%)	1	1.5	2	3	5	7	10	14
Integral time (s)	600	462	356	274	211	163	125	97

SW2	8	9	A	B	C	D	E	F (*)
Prop. band (%)	21	31	45	66	96	140	205	300
Integral time (s)	74	57	44	34	26	20	16	12

(*) factory settings

The range of the voltage applied to the ventilator is defined using the MIN and MAX trimmer. MIN trimmer is used to define the minimum applicable voltage to the ventilator (0-5 V), while MAX trimmer defines the maximum voltage (5-10 V). The PI controller will then operate between the relevant MIN and MAX values.

Example 1: If the MIN value is set to the minimum position and MAX to the maximum position, the PI controller will work from 0-10 V.
Example 2: If MIN is set to 2 V and MAX is set to 7 V, the PI controller works from 2-7 V.

EC BASIC-CO2/T — Temperature + CO_2 version

TECHNICAL DESCRIPTION
The controller works by comparing the input signal with an adjustable setpoint. It controls a 0-10 V internal signal with a PI algorithm in direct or reverse action, based on the setting of jumper **JP1**.

JP1 closed 1-2: Heating (control signal increases if the actual value falls below the setpoint)
JP1 closed 2-3 (*): Cooling (control signal increases if the actual value exceeds the setpoint)

The controller also compares current CO_2 levels with an adjustable setpoint and controls a 0..10 V proportional, secondary internal signal in direct action.
The output signal applied to the ventilator constitutes the maximum between internal signal # 1 and internal signal # 2.
The setpoint is adjusted by knob in the range 5-30°C.

The temperature proportional band and integral time are set using rotary switch **SW1**:

SW1	0	1	2	3	4	5	6	7
Prop. band (°C)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
Integral time (s)	1800	1700	1600	1500	1400	1300	1200	1100

SW1	8	9	A	B	C	D	E	F (*)
Prop. band (°C)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Integral time (s)	1000	900	800	700	600	500	400	300

(*) factory settings

The CO_2 proportional band is set using rotary switch **SW2**:

SW2	0	1	2	3	4	5	6	7
Prop. band (ppm)	10	25	50	75	100	125	150	175

SW2	8	9	A	B (*)	C	D	E	F
Prop. band (ppm)	200	300	400	500	600	700	800	1000

(*) factory settings

The CO_2 setpoint is set using rotary switch **SW3**:

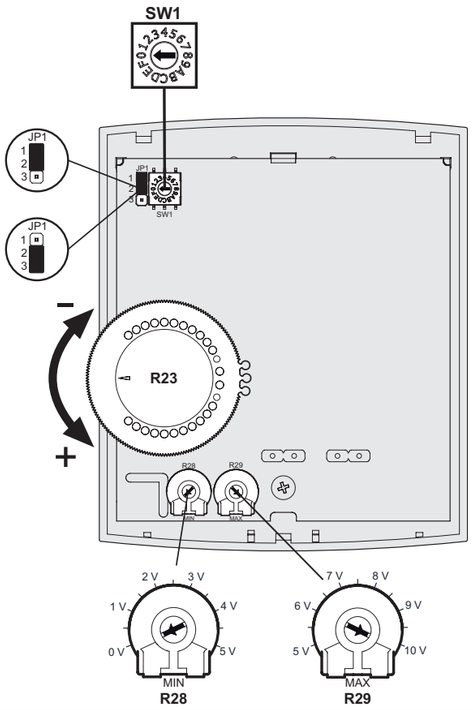
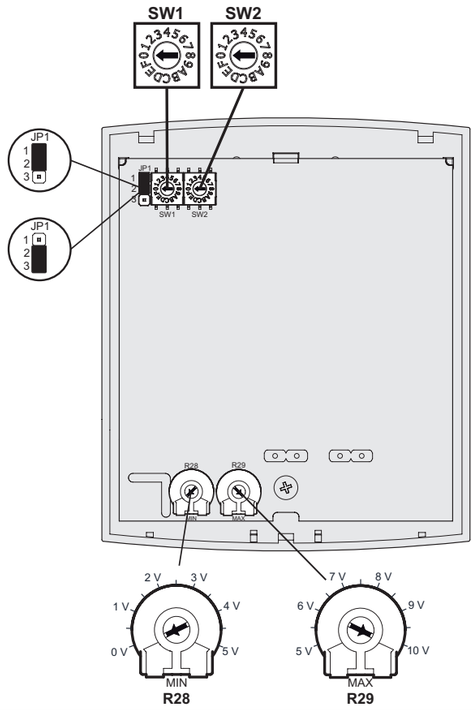
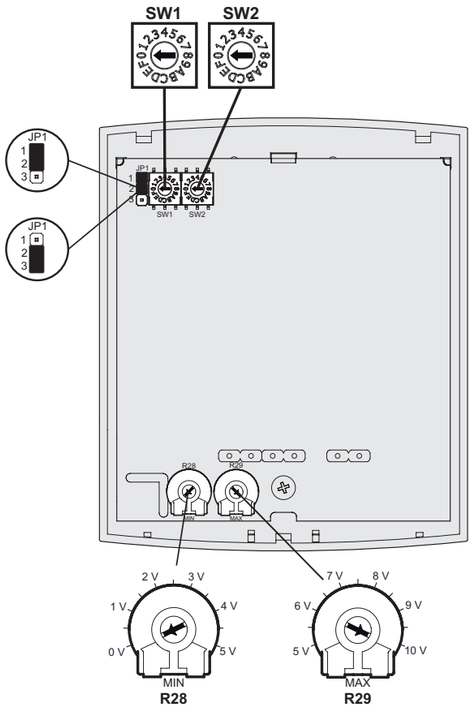
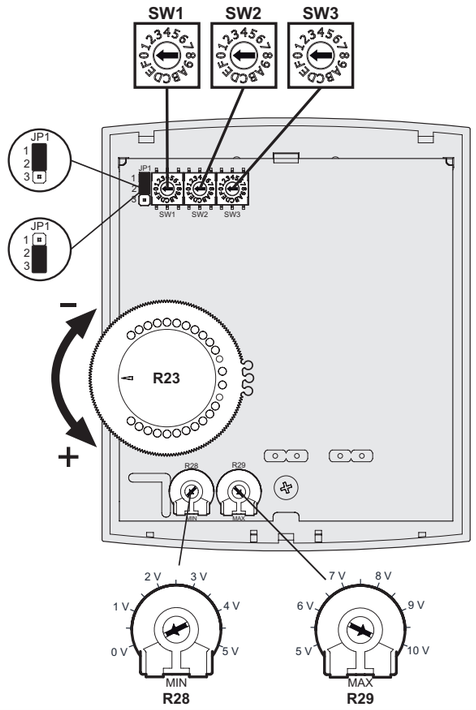
SW3	0 (*)	1	2	3	4	5	6	7
Setpoint (ppm)	350	400	450	500	550	600	650	700

SW3	8	9	A	B	C	D	E	F
Setpoint (ppm)	750	800	850	900	950	1000	1200	1500

(*) factory settings

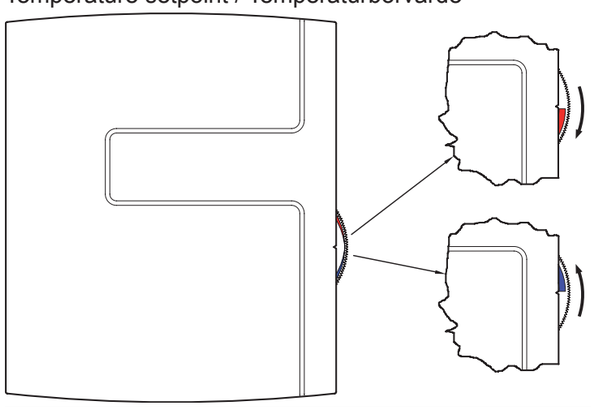
The range of the voltage applied to the ventilator is defined using the MIN and MAX trimmer. MIN trimmer is used to define the minimum applicable voltage to the ventilator (0-5 V), while MAX trimmer defines the maximum voltage (5-10 V). The PI controller will then operate between the relevant MIN and MAX values.

Example 1: If the MIN value is set to the minimum position and MAX to the maximum position, the controller will work from 0-10 V.
Example 2: If MIN is set to 2 V and MAX is set to 7 V, the controller works from 2-7 V.

	EC BASIC-T (Temperature version / Temperaturversion)	EC BASIC-H (Humidity version / Fuktstyrningssversion)	EC BASIC-U (Universal version / Universell version)	EC BASIC-CO2/T (Temperature + CO_2 version / Temperatur- + CO_2-version)
				
ENGLISH	**SW1:** Temperature proportional band (0.5-8.0°C) **JP1 closed 1-2:** Heating **JP1 closed 2-3:** Cooling **R23:** Temperature setpoint (5-30°C) **R28:** EC fan min. limit speed **R29:** EC fan max. limit speed	**SW1:** Humidity setpoint (20-90 % RH) **SW2:** Humidity proportional band (5-50 % RH) **JP1 closed 1-2:** Humidification **JP1 closed 2-3:** Dehumidification **R28:** EC fan min. limit speed **R29:** EC fan max. limit speed	**SW1:** Setpoint (5-95 %) **SW2:** Proportional band (1-300 %) **JP1 closed 1-2:** Reverse action **JP1 closed 2-3:** Direct action **R28:** EC fan min. limit speed **R29:** EC fan max. limit speed	**SW1:** Temperature proportional band (0.5-8.0°C) **SW2:** CO_2 proportional band (10-200 ppm) **SW3:** CO_2 setpoint (350-1500 ppm) **JP1 closed 1-2:** Heating **JP1 closed 2-3:** Cooling **R23:** Temperature setpoint (5-30°C) **R28:** EC fan min. limit speed **R29:** EC fan max. limit speed
SVENSKA	**SW1:** P-band för temperatur (0,5-8,0°C) **JP1 sluten 1-2:** Värme **JP1 sluten 2-3:** Kyla **R23:** Temperaturbörvärde (5-30°C) **R28:** EC-fläkthastighet, minbegränsning **R29:** EC-fläkthastighet, maxbegränsning	**SW1:** Börvärde luftfuktighet (20-90 % RH) **SW2:** P-band för luftfuktighet (5-50 % RH) **JP1 sluten 1-2:** Befuktning **JP1 sluten 2-3:** Avfuktning **R28:** EC-fläkthastighet, minbegränsning **R29:** EC-fläkthastighet, maxbegränsning	**SW1:** Börvärde (5-95 %) **SW2:** P-band (1-300 %) **JP1 sluten 1-2:** Omvänd verkan **JP1 sluten 2-3:** Direkt verkan **R28:** EC-fläkthastighet, minbegränsning **R29:** EC-fläkthastighet, maxbegränsning	**SW1:** P-band för temperatur (0,5-8,0°C) **SW2:** P-band för CO_2 (10-200 ppm) **SW3:** CO_2-börvärde (350-1500 ppm) **JP1 sluten 1-2:** Värme **JP1 sluten 2-3:** Kyla **R23:** Temperaturbörvärde (5-30°C) **R28:** EC-fläkthastighet, minbegränsning **R29:** EC-fläkthastighet, maxbegränsning

Temperature and temperature + CO_2 version / Temperatur- och temperatur- + CO_2-version

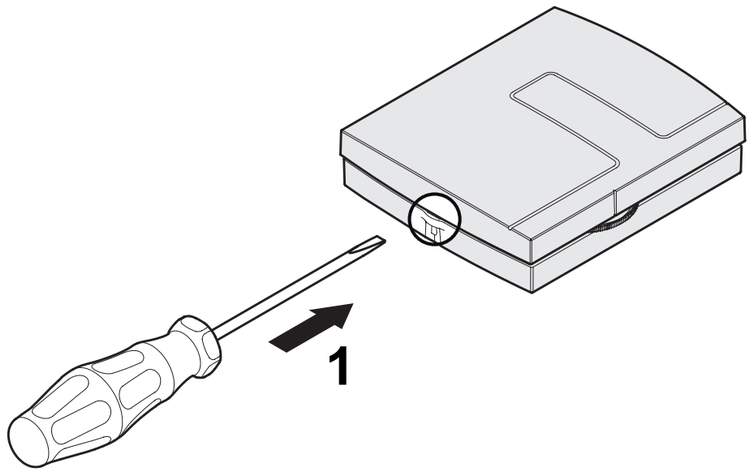
Temperature setpoint / Temperaturbörvärde



Clockwise (max. 30°C)
Medurs (max. 30°C)

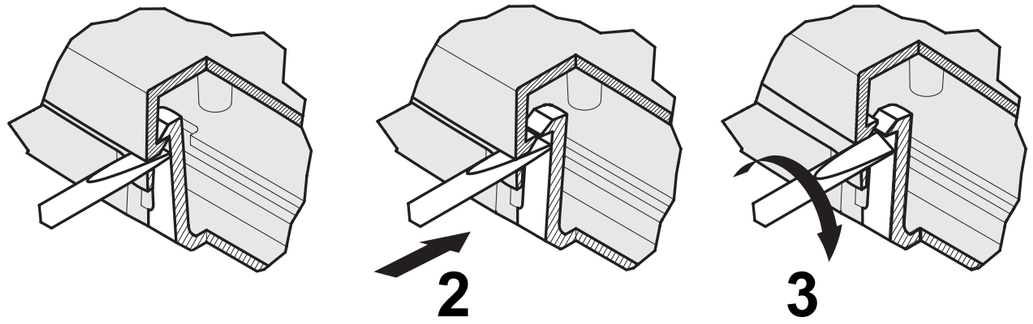
Counterclockwise (min. 5°C)
Moturs (min. 5°C)

Mounting / Montering

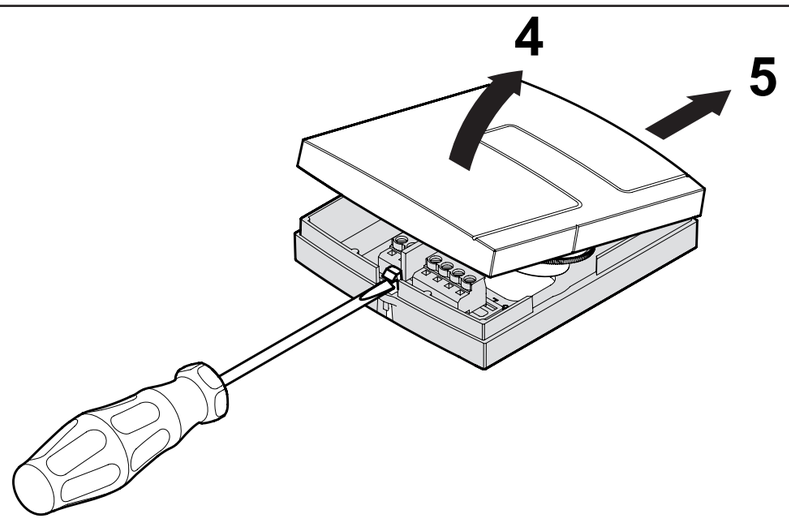


English
To remove the front cover, use a 3 mm flat-blade screwdriver to depress the locking tongue in the lower part of the casing.

Svenska
Tag av locket genom att med en 3 mm bred skruvmejsel trycka in plasttungan i kåpans nedre gavel.

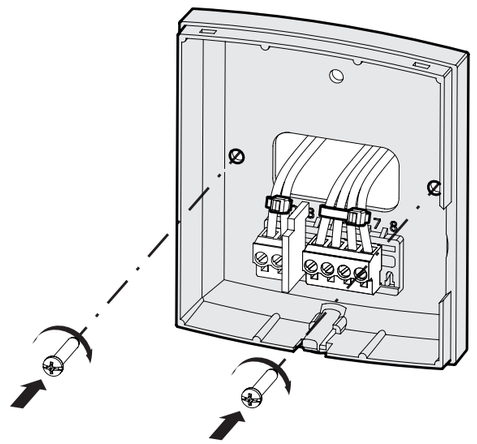


English: Press and twist the screwdriver, and at the same time pull the bottom part of the front outwards.
Svenska: Tryck in och vrid om skruvmejseln och dra samtidigt locket lite utåt.



English
When the bottom end of the front cover is free from the bottom part of the casing, slide the cover towards the top of the casing to free the hooks holding the upper edge of the front cover.

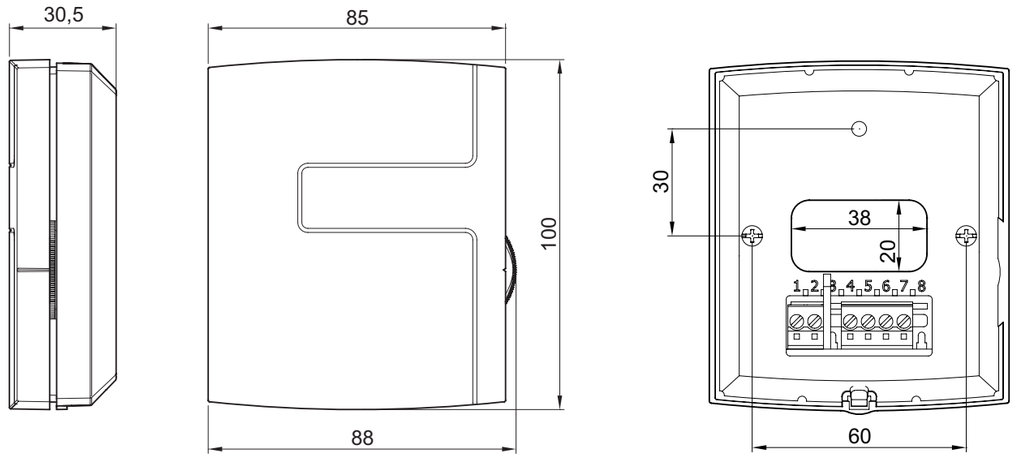
Svenska
När lockets nedre del lossnat från botten, skjut locket i riktning mot den övre delen för att lossa på hakarna i lockets övre ände.



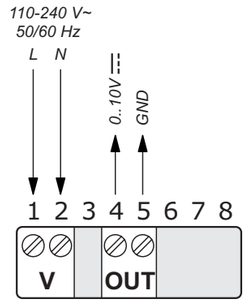
English
Perform the connections according to electrical wiring diagram. Cables must be fixed using the 2 cable ties supplied as indicated on picture above.
Screw the bottom part of the casing to the wall.

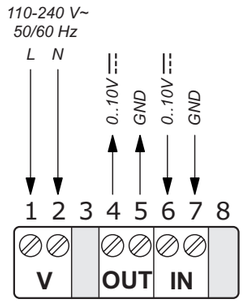
Svenska
Koppla in enheten enligt inkopplingsdiagrammet.
Kablarna måste fixeras med de 2 medföljande buntbanden, se ovanstående bild.
Skruva fast enheten i väggen.

Dimensions / Dimensioner



Wiring / Inkoppling





Version
EC Basic-T: Temperature / temperatur
EC Basic-CO2/T: Temperature + CO_2 / temperatur + CO_2
EC Basic-H: Humidity / luftfuktighet

Version
EC Basic-U: Universal / universell

All installation, setting or maintenance of this unit must be performed with the supply voltage switched off and without any external loads on the unit! These operations should only be carried out by skilled workers. The manufacturer is not responsible for any damages caused by inadequate skills during installation and/or by any safety devices having been removed or tampered with.

Subject to change without notice.

Installation eller underhåll av denna enhet får endast utföras då enheten ej är spänningssatt! Arbetet ska endast utföras av utbildad personal. Tillverkaren är inte på något sätt ansvarig för eventuella skador som kan uppkomma p.g.a. bristande kompetens eller färdighet under installationen, eller på grund av att installatören tagit bort eller gjort ändringar i enhetens inbyggda säkerhetsmekanismer.

Kan ändras utan föregående notis.