

DATA SHEET

# ELECTRIC CONTACT PRESSURE CONTROLLERS



Designed and manufactured by Sauermann, the **ECM** electric contact pressure controller to combine the inherent reliability and accuracy of the liquid column manometer with electronic switching. The operating principle gives unrivalled performance when compared to traditional pressure controllers.

The Sauermann **ECM** electric contact pressure controllers excel where it is necessary to monitor small variations in low pressures of air or gas and where accurate and reliable monitoring is essential. The **ECM** is widely used in pharmaceutical laboratories, clean rooms and other areas where good performance is essential.



**Positive, negative and differential pressure measurement, with the option of 1 or 2 electric contacts on the same scale**



**Contact rating: 3 A at 230 V - 50 Hz  
Delay adjustable from 0 to 45 seconds**



**Electric contacts from 0.5 mm H<sub>2</sub>O (5 Pa)**



**Simple pressure setting by cursor on graduated scale**



**Visualization of the pressure on the liquid column and the set point**



**Operation of the contact on rising or falling pressure, by using the inverter function**

## FEATURES AVAILABLE

	Available measuring ranges	Scale length	Liquid ref. and density	Standard version	Power supply	Minimum setting	Min. separation between 2 contacts
<b>Inclined</b>							
ECM 88	8-0-8 mm H <sub>2</sub> O or 80-0-80 Pa	For 1 mm H <sub>2</sub> O: 8 mm For 10 Pa: 8.1 mm	AWS10 D = 0.87	1 or 2 contacts	24 V or 230 V	< 0.10 mm CE	< 0.5 mm CE
ECM 20	0-20 mm H <sub>2</sub> O or 0-200 Pa	For 1 mm H <sub>2</sub> O: 8 mm For 10 Pa: 8.1 mm	AWS10 D = 0.87	1 or 2 contacts	24 V or 230 V	< 0.10 mm CE	< 0.5 mm CE
ECM 60	0-60 mm H <sub>2</sub> O or 0-600 Pa	For 1 mm H <sub>2</sub> O: 3 mm For 10 Pa: 3 mm	AWS10 D = 0.87	1 or 2 contacts	24 V or 230 V	< 0.50 mm CE	< 1.5 mm CE
<b>Vertical</b>							
ECM 150	0-150 mm H <sub>2</sub> O or 0-1500 Pa	For 1 mm H <sub>2</sub> O: 1.1 mm For 10 Pa: 1.1 mm	AWS10 D = 0.87	1 or 2 contacts	24 V or 230 V	< 1 mm CE	< 4 mm CE
ECM 300	0-300 mm H <sub>2</sub> O or 0-3000 Pa	For 10 mm H <sub>2</sub> O: 5.1 mm For 10 Pa: 5.2 mm	VOLT15 D = 1.86	1 or 2 contacts	24 V or 230 V	< 2 mm CE	< 8 mm CE

Delivered empty in cardboard packing with appropriate manometer liquid flask, 2 screws, fixing bolts and Quick Start Guide.

## TECHNICAL SPECIFICATIONS

Operation	Pressure (+), vacuum (-), differential pressure ( $\Delta P$ )
Scale	Vertical or inclined
Manometer	Transparent altuglass M.70, thickness 15 mm
Liquid column	Drilled $\varnothing$ 4 mm
Graduation	Transparent altuglas M.70, section 20 x 2 mm. Black printing
Zero adjustment	By moving the graduated scale, up to 10 mm, clamping by nickled brass thumb screw. Integral spirit level for horizontal setting.
Manometric liquid	AWS.10, density 0.87 red or Volt 1S, density 1.86 blue depending on the model
Connection	Clear tube $\varnothing$ 5 x 8 mm on nickled brass serrated connections or direct on the instrument, threading 1/8 gas
Maximal static pressure	6 bar
Reading accuracy	$\pm 1\%$ of the inclined scale; $\pm 0.5\%$ of the vertical scale

## UF 313-1 AMPLIFIER

Power supply	230 Vac, 24 Vdc or 24 Vac
Relay outputs	Inverter electrical contact R.T. 3 A/230 V/50 Hz
Consumption	50 mA
Indicating light	Red LED which indicates the relay contact position. Switch-on = Lit
Micro-switch	Inverter switch for inverter function (see operating)
Delay	Potentiometer (one rotation), setting from 0 to 45 seconds
Sensitivity	Potentiometer (one rotation) permits adjustment of photo electric sensor for different manometer liquids
Limit operating temperature	-5 to +50 °C
Electrical connection	Screw terminals and gland CM6P, cover PE7
Dimension	110 x 70 mm. Weight: 140 g

## PHOTO-ELECTRICAL CURSOR

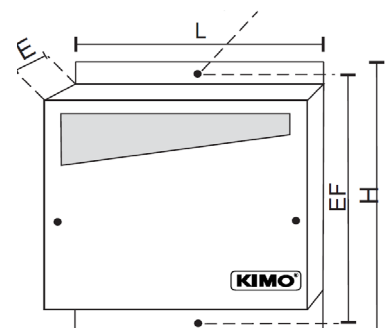
Optical signaling mechanism	Photo-electric transmitter-receiver connected to the amplifier by optical fiber	Not sensitive to other light sources. Red mark on the altuglass cursor, for adjustment of the switching point or of reset point.
Transmitter	Infrared light	
Size	Altuglas dim. 30 x 15, length 10 mm	
Setting	By location on the graduated scale. Knurled locking screw in nickled brass	

## HOUSING

Type	PS shock, ral. 9002. Colour: sand
Cover	Cover front retained by two nickled brass knurled screws
Viewing window	Transparent altuglas M.70
Fixing	Wall mounting by 2 screws. $\varnothing$ 4 or 5 mm

## DIMENSIONS

Ref.	Version 1 contact - V1			Version 2 contacts - V2		
	Dimension in mm: H x W x T	Weight in g	Fixing center EF in mm	Dimension in mm: H x W x T	Weight in g.	Fixing center EF in mm
<b>Inclined</b>						
ECM 88	248 x 204 x 75	1080	233	248 x 204 x 75	1080	233
ECM 20	248 x 204 x 75	1080	233	248 x 204 x 75	1080	233
ECM 60	248 x 204 x 75	1005	233	248 x 204 x 75	1150	233
<b>Vertical</b>						
ECM 150	248 x 204 x 75	1015	233	248 x 204 x 75	1165	233
ECM 300	248 x 204 x 75	1030	233	248 x 204 x 75	1180	233



## ACCESSORIES

- ECM electronic card: power supply 24, 48 or 230 V
- Detection cursor for ECM
- Connections with security valve type 509

## SERVICE

The ECM do as not need any particular service. We simply recommend that the indicator liquid is changed every year, to ensure the photo electric cell work properly.