

# JES-301KE1

## Back Purge Control for Ex-Zone 1



**JCT**  
Analysentechnik

### Gas Sampling Probes

Heated Sample Lines

Sample Gas Coolers

Condensate Treatment

Accessories

Gas Conditioning Systems

Sample Gas Converters

### APPLICATION

- Extractive gas analysis
- Emission and process monitoring in Ex-area zone 1
- Control of automatic back purge of explosion proof **JCT** gas sample probes series JES-301
- Applications with high dust concentrations
- For regular cleaning of probe filter, filter chamber and possible pre-filter



### BENEFITS

- For in and outdoor mounting suitable
- For direct connection to inert gas or pressure air network
- No entry of purge gas into sample gas possible
- Protection against unauthorised access
- Fully programmed two stage back purge program (option PLC)
- Save operation due to status message (option PLC)
- Easy adjustment of the back purge cycles by connection of only one cable (option PLC)

### FEATURES

- In robust weatherproof stainless steel housing
- For wall mounting
- Lockable housing
- Integrated pressure regulator for inert gas or compressed air
- 2 explosion-proof solenoid valves (safety shut-off valve and clocked back purge valve)
- Manual shut-off ball valve in the inlet
- External PLC (programmable logic controller) with adjustable interval for back purge cycles and status contact for mounting in explosion-free area as option

## TECHNICAL DATA

Model	<b>JES-301KE1</b>
Description	back purge control unit for Ex zone 1
<b>Operation</b>	
Flow rate	ca. 4 Nm <sup>3</sup> /h at 5 bara, 5 Nm <sup>3</sup> /h at 7 bara
Ambient temperature / Humidity	-30 °C to +55 °C / < 95 % RF, non-condensing
Operating pressure	4 to 7 bara
Gas for back purge	inert gas or Instrument air according to ISO 8573-1 Class 1.2.1
Purge gas consumption per back purge cycle	approx. 54 l at 6 bara
Place of installation	Ex zone 1, max. 5 m away from gas sampling probe
<b>Construction</b>	
Dimensions over all (W x H x D)	364 x 245 x 170 mm
Installation	wall mounting
Weight	ca. 6,5 kg
Housing, colour	SS304 stainless steel, natural
Back purge gas wetted materials	PVDF, SS316, PA, brass, Viton®
Connections back purge gas in/out	stainless steel fitting 6 mm (1/4" as option)
Approvals / Signs	solenoid valves:  II 1/2 G EEx m II T3 resp. II 1/2 G EEx em II T3 connection box:  II G Exe II T6 T5 T4 / CE
<b>Electrics</b>	
Power supply	230 VAC 50 Hz / 115 VAC 60 Hz / 24 VAC / 24 VDC
Electrical connection	screw terminals max. 2,5 mm <sup>2</sup>
Electrical fuse protection	external on installation site
Protection class	IP 65 (EN 60529)
Cable gland	M20 x 1,5, clamping range 6 to 13 mm

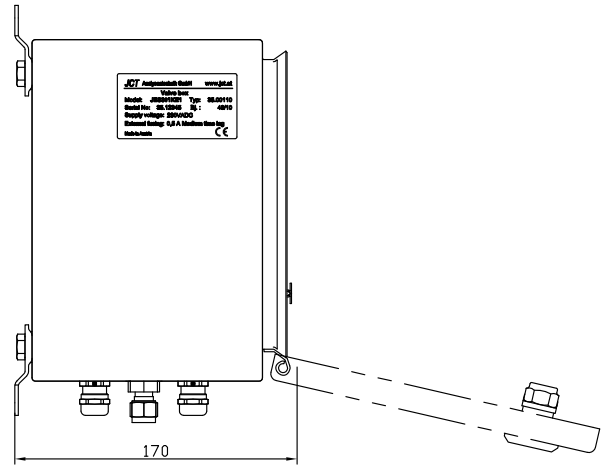
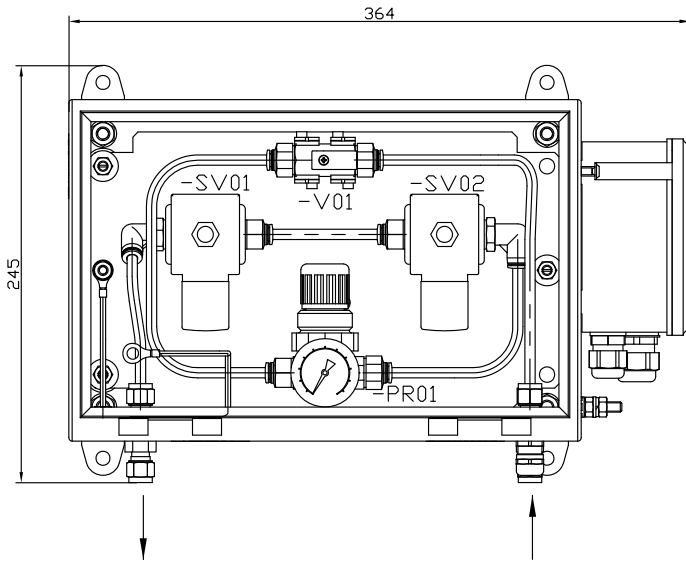
Model	<b>External PLC (optional)</b>
Description	programmable logic controller for back purge program
<b>Operation</b>	
Ambient temperature	0 °C to 55 °C
Place of installation	explosion free area
Back purge cycle	2-stage, fully programmed
Interval time adjustable [hr]	2 / 4 / 8 / 12 / 24
<b>Construction</b>	
Dimensions over all (W x H x D)	72 x 90 x 55 mm
Installation	rail mounting
Weight	approx. 190 g
Approvals / Signs	CE
<b>Electrics</b>	
Power supply	85 to 253 VAC/DC 47 to 63 Hz or 24 VAC 47 to 63 Hz or 24 VDC
Electrical connection	screw terminals 1,5 to 2,5 mm <sup>2</sup>
Electrical fuse protection	external on installation site
Protection class	IP 20 (EN 60529)
Status relay	volt free contact
Switching capacity relay	max. 250 VAC / 5 A; min. 12 VDC 2,5 mA

\* Version for extended ambient temperature range on request  
 \*\* Pressure air conditioning system in chapter 10

# DIMENSIONS

Dimensions in mm

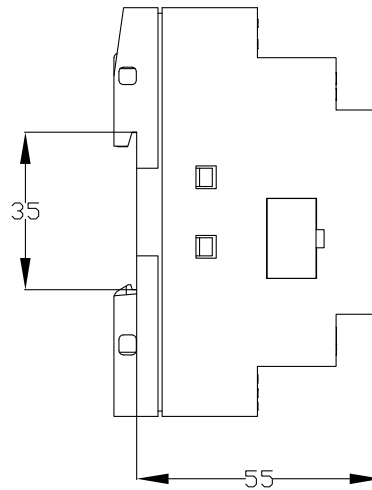
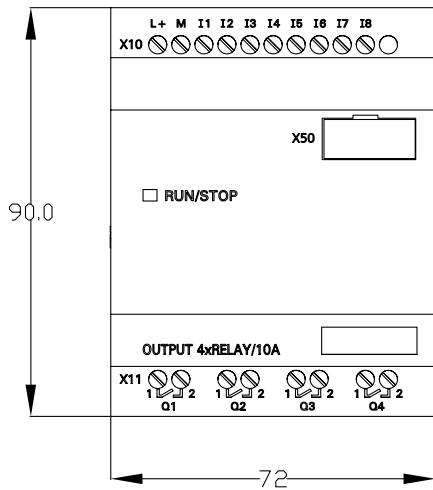
## JES-301KE1



-V01	Shut-off ball valve
-PR01	Inert gas-/pressure air pressure regulator

-SV01	Clocked back purge valve
-SV02	Safety shut-off valve

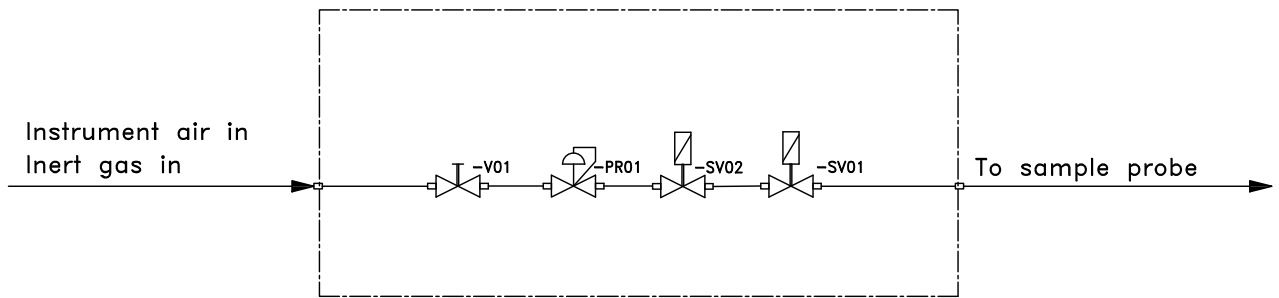
## External PLC for mounting in safe area (option)



L+, M	Power supply
I1 - I5	Interval time I1=2 / I2=4 / I3=8 / I4=12 / I5=24h

Q1, Q2	Control solenoid valve
Q3	Status contact

## GAS FLOW DIAGRAM



-V01	Shut-off ball valve	-SV01	Clogged back purge valve
-PR01	Inert gas-/pressure air pressure regulator	-SV02	Safety shut-off valve

## ORDER CODE

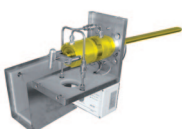
Part number	Description
35.00110	JES-301KE1, 230 VADC, incl. 2 explosion-proof solenoid valves, explosion-proof connection box, pressure regulator and ball valve, fully tubed and wired, connection stainless steel fitting 6 mm
35.00111	JES-301KE1, 24 VADC, incl. 2 explosion-proof solenoid valves, explosion-proof connection box, pressure regulator and ball valve, fully tubed and wired, connection stainless steel fitting 6 mm
35.00112	JES-301KE1, 120 VADC, incl. 2 explosion-proof solenoid valves, explosion-proof connection box, pressure regulator and ball valve, fully tubed and wired, connection stainless steel fitting 6 mm
35.00113	JES-301KE1, 110 VADC, incl. 2 explosion-proof solenoid valves, explosion-proof connection box, pressure regulator and ball valve, fully tubed and wired, connection stainless steel fitting 6 mm
35.90300	External PLC (programmable logic controller) for mounting in explosion free area, back purge cycle

Put together a sampling probe exactly according to your requirements by choosing additional modules, eg. heater elements, solenoid valves, controllers and air accumulators. Please refer to this separate product data sheet for further information:

- Upgrade Options for JES-301 Ex Gas Sampling Probes**

- Back purge control valves
- Back purge reduction valve
- Unheated air accumulators
- Heated air accumulators

Gas Sampling **Probes**



Heated Sample **Lines**



Sample Gas **Coolers**



Gas Conditioning **Systems**



NOx **Converter**



and **solutions** for

