

## Dräger Polytron Controller Central Control Unit

A gas detection system comprises at least one remote sensor (gas detection transmitter or sensing head) and an associated control unit which activates alarms when pre-adjusted gas concentrations are exceeded, and furthermore is suitable to automatically activate counter measures according to the customer's alarm philosophy.



Ranging from opening ventilation flaps through closing solenoid valves or even emergency shut-down actions of electrical devices, these measures are typical in safety applications when gas concentrations tend to be dangerous. The numerous switching outputs of the multi-channel Dräger Polytron Controllers can flexibly be adapted to the individual safety requirements.

### FEATURES AND BENEFITS

- Supply and signal evaluation of 2-, 3- and 4-wire-transmitter and catalytic bead sensors (Dräger sensing heads SE Ex)
- Each channel module with own power supply (mains transformer)
- 2 alarms per channel, configurable as latching or non-latching alarms
- 1 failure alarm per channel
- Fail-safe alarm relays and failure relays
- Floating relay contacts (250 V, 2 A) configurable as normally open or normally closed contacts
- 4 to 20 mA analog outputs to transmit measuring signals
- Performance approved acc. to ATEX directive 94/9/EC

### DIFFERENT VERSIONS

The Dräger Polytron Controller is the central control unit of a gas detection system. It consists of device racks and channel modules for 4 to 20 mA transmitters as well as Dräger Polytron SE Ex sensing heads. The device racks are intended to be integrated into control cabinets, wall housings or console panels. Depending on the model, each device rack is suitable to house 2, 5, or 12 independent plug-in channel modules and one acknowledgement module.

### PREVENTIVE EXPLOSION PROTECTION

According to the ATEX directive the Dräger Polytron controller is performance approved and certified to actively limit gas concentrations by counter measures according to EN 1127-1 (primary explosion protection).

### OPTIMUM SYSTEM SOLUTION

The Dräger Polytron Controller is a flexible and expandable system standing for maximum operational safety and optimum system availability.



**Dräger Polytron Controller**  
Device rack 2-channel version  
with 2 channel modules and  
acknowledgement module.



**Dräger Polytron Controller**  
Device rack 5-channel version  
with 5 channel modules and  
acknowledgement module.



**Dräger Polytron Controller**  
Device rack 12-channel version  
with 12 channel modules and  
acknowledgement module.

## TECHNICAL DATA

Type	Modular central control unit with common front plate for all modules		
Modules	Plug-in module (160 x 100 mm), adjustment tools and test sockets front accessible (alarm inhibit can be activated with front plate opened), 4 LED-indicators (power on, pre- and main-alarm, failure alarm)		
Supply Voltage	For mains	230 V AC + 10 % / – 15 %, 50 to 60 Hz	
	For emergency power supply	24 V DC ± 20 %	
Power consumption	Including power supply for transmitters: max. 10 W per channel module		
Transmitter supply	24 V DC unregulated, max. 150 mA		
Terminal blocks	For cross-section of 1.5 mm <sup>2</sup> on backside motherboard		
	Each device rack	2 x mains (L1, N), 2 x emergency power supply connection (24 V), 2 x for audible alarm devices, 2 x remote acknowledgement	
	Each channel module	3 x transmitter connection, 4 x gas alarm, 2 x failure alarm, 2 x 4-20-mA output	
4 to 20 mA output	Max. load 500 Ohm		
Ambient temperature	– 20 to + 60 °C		
Dimensions of device racks	Height: 3 HE (132.5 mm), Depth: 250 mm, Width: 178 mm (2-channel version), 269 mm (5-channel version), 483 mm (12-channel version)		
Weight	Device rack (without modules)	2-channel version: ca. 1.9 kg, 5-channel version: ca. 3.1 kg, 12-channel version: ca. 5.0 kg	
	Modules	Channel module 230 V/ 24 V: ca. 500 g, Acknowledgement module 230 V/ 24 V: ca. 350 g	
		Channel module 24 V: ca. 350 g, Acknowledgement module 24 V: ca. 200 g	
Approvals	II (2)G	Acc. to Directive 94/9/EC	
	CE-Mark	Electromagnetic compatibility (Directive 89/336/ECC)	
Functional safety (SIL)	Polytron SE Ex	Average probability of failure on demand (T <sub>P</sub> = 1 year)	PFD = 1.64E-03
		Safe failure fraction (HFT = 0, Type A)	SFF = 81.2 %
	Polytron 4 - 20 mA	Average probability of failure on demand (T <sub>P</sub> = 1 year)	PFD = 9.98E-04
		Safe failure fraction (HFT = 0, Type A)	SFF = 69.3 %

## ORDER INFORMATION

┌	└	Dräger Polytron device rack 12-channel version	68 07 312
		Dräger Polytron device rack 5-channel version	68 07 305
		Dräger Polytron device rack 2-channel version	68 07 302
		4 to 20 mA channel module w bargraph display, 230 V AC / 24 V DC	83 12 524
		4 to 20 mA channel module w bargraph display, 24 V DC only	83 12 522
		SE-Ex channel module w bargraph display, 230 V AC / 24 V DC	83 12 088
		SE-Ex channel module w bargraph display, 24 V DC only	83 12 106
		Acknowledgement module, 230 V AC / 24 V DC	33 00 518
└	└	Acknowledgement module, 24 V DC only	83 10 936

### HEADQUARTERS:

Dräger Safety AG & Co. KGaA  
Revalstrasse 1  
23560 Lübeck, Germany

[www.draeger.com](http://www.draeger.com)

### SYSTEM CENTERS:

#### P. R. CHINA

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