

Gas Detector

ReAct 4

Product code: PW-093-RA4-X



Reliability



Innovations



Remote sensor calibration



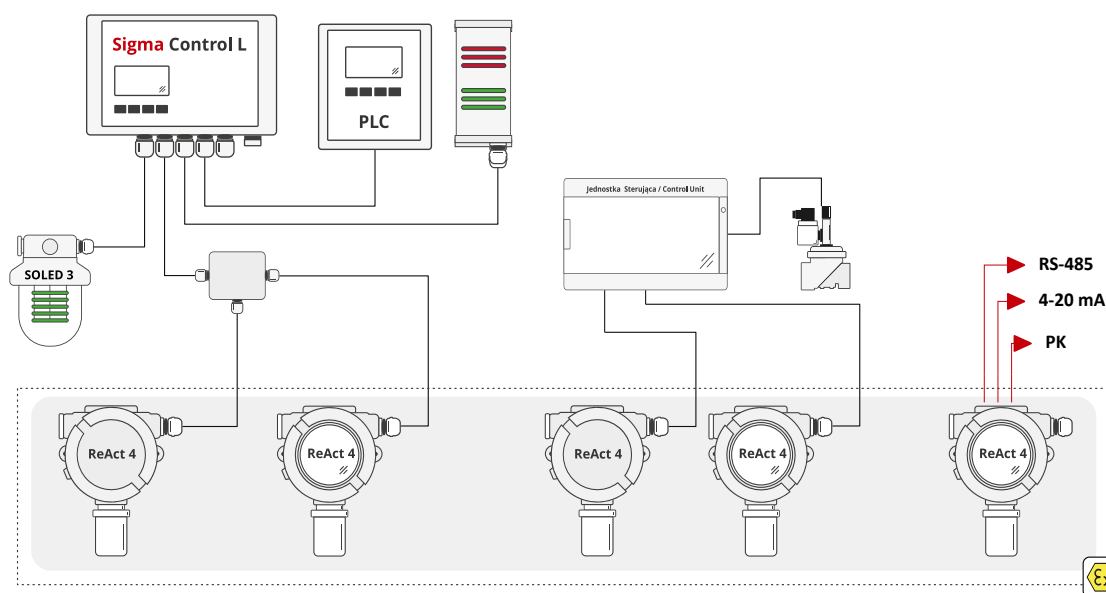
Information about the Product

The ReAct 4 gas detector is specifically designed for critical functions such as measuring, monitoring and detecting reactive gases in the surrounding atmosphere, with particular emphasis on aggressive or corrosive atmospheres. It can be installed in a variety of ways:

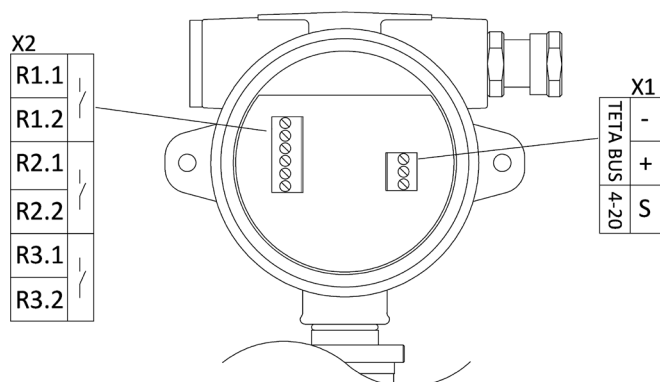
- either integrated into the Gas Safety System Sigma Gas,
- or installed as a stand-alone detector, integrated with supervisory systems (e.g. by means of its 4...20mA output signal or its RS-485 interface).

The ReAct 4 detector has been developed to replace our earlier Sigma ReAct device. ReAct 4 is based on a completely new electronic design. It has a new measuring head HR with significantly improved measuring properties. It also is equipped with self diagnostics properties- user is immediately informed about the failure states.

Location and role of the device in Gas Safety System

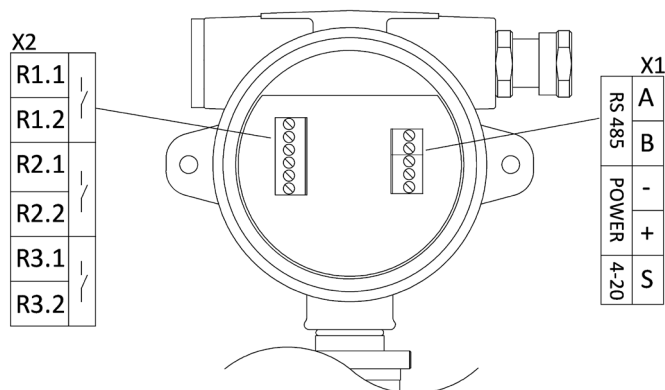


Electric interface



1. RS-485 digital communication port

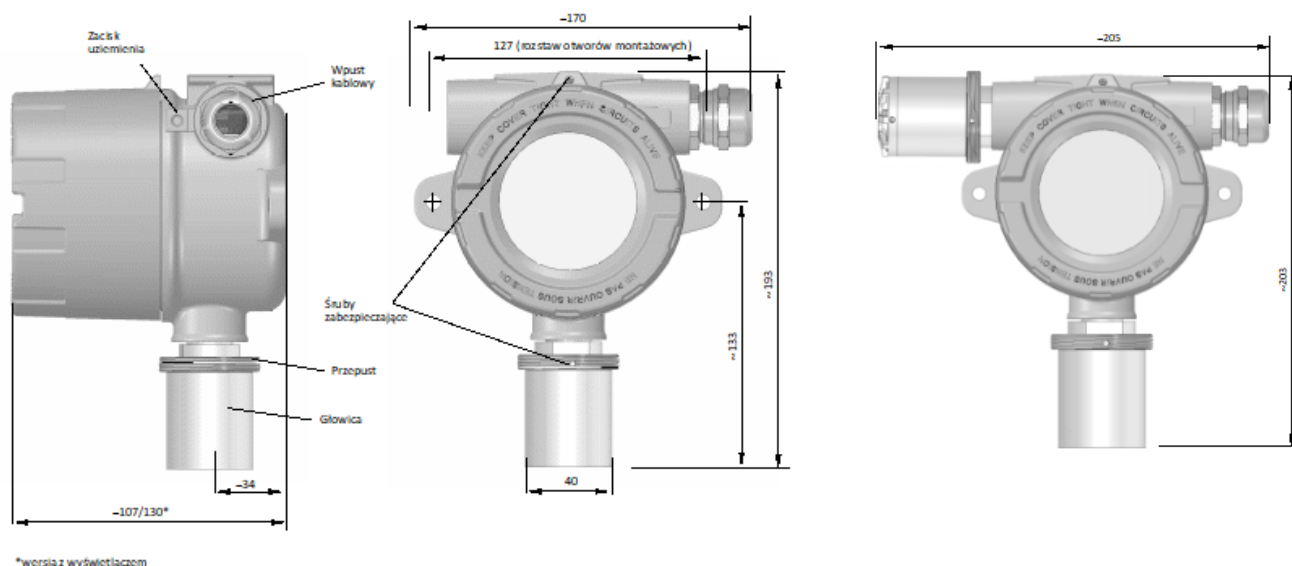
Designation	Name	Pin	Description
X1	RS-485	A,B	Signal lines for the RS-485 port
	POWER	-, +	Power supply
	4-20	S	4 – 20 mA current output
X2	R1.1 - R3.2		Relays terminals



2. Teta Bus digital communication port

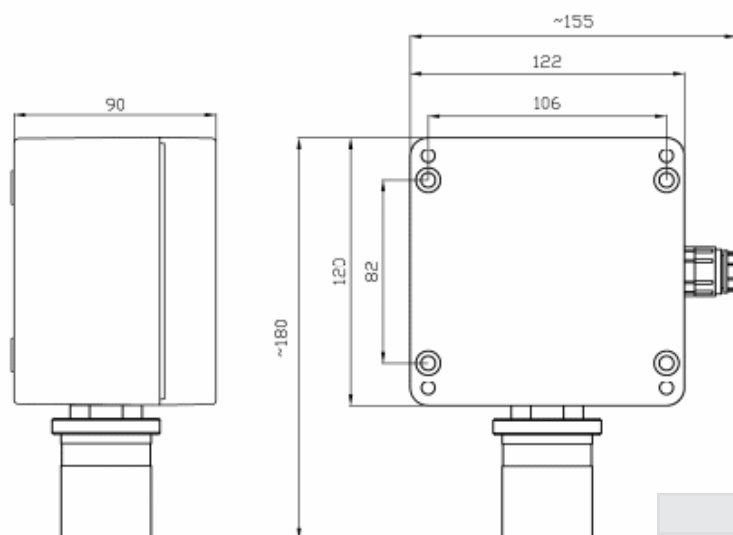
Designation	Name	Pin	Description
X1	TETA BUS	-, +	Combined transmission and power supply lines
	4-20	S	4 – 20 mA current output
X2	R1.1 - R3.2		Relays terminals

Dimension



Device dimensions (E=ALB, ALZ, C, SS)

Device dimensions - version with acoustic (E=ALB, ALZ, C, SS, D=FLED.A)



Enclosure : Polyester reinforced with fiberglass (E=PE)

Technical specification

Power supply	15 – 50 V = 0.48 – 4 W	
• Voltage V_{CC}		
• Power		
Environment	In operation	Storage
• Ambient temperatures	Specified depending on: • the temperature class of the device (see ATEX below), • device configuration, including the sensor used	0 – 40°C
• Humidity	10 – 90% long term 0 – 99% short term without condensation	30 – 90% long term
• Pressure	1013 ± 10% hPa	
ATEX	II 3G Ex nA IIC T3 Gc -40 ≤ Ta ≤ 50°C	
IP	IP63	
Analog output 4 – 20 mA		
• Output type	Sink / source	
• R_{load_MAX} (source mode)	300 Ω	
• U_{S_MAX} (sink mode)	30 V (max. voltage between pins „S” and „-”)	
Digital output parameters		
• Relays	3 x Floating contacts, 24 V = / 0.3 A Not protected	
Digital communication parameters		
• RS-485	• RS-485, Modbus ASCII, Sigma Bus, od 19200 Bd 7E1	
• Teta	• Teta Bus	
Integrated signalling equipment (optical)	• D=LCD: alphanumeric display 2x8 of the LCD type with LED indicators • D=FLED: multicolour status display LED	

Integrated signalling equipment (audible)	D=FLED.A: 70 dB, 1 m distance
Protection class	III
Cable glands	
• Cable diameter range	See table with device configuration
• External thread	M20 x 1.5
Acceptable cables	0.5 – 2.5 mm ² (cable lugs 2 x 1 mm ² or 2 x 0.75 mm ² should be used for double wires)
Enclosure material	See table with device configuration
Measuring head material	Stainless steel + PTFE
Weight	3.5 kg
Mandatory periodic inspection	Every 12 months (Calibration Certificate validity) – time can be shortened due to difficult working conditions
Mounting	- E=ALB, ALZ, C, SS – to the supporting structure, 2 screw holes 4 mm, hole spacing 127 mm - E=ALB, ALZ, C, SS – we recommend using mounting brackets - E=PES – to the supporting structure, 4 screw holes for M6, hole spacing 106 x 82 mm

Product marking

ReAct 4 Gas Detector

PW-093-RA4 M D H E T DI AI WI MC G

M Converter module	X	Selected by the manufacturer depending on the chosen MC – field value does not matter when ordering the product (when ordering, please specify X, available EC options show the used sensor type – see DOK-6073-ENG)
D Display		 Gas detector operating temperature with display can also be narrowed due to Ta temperature limits due to Atex certificate – see Table Technical specification. 0 Without LCD LCD display and LED controls (<i>only for E=ALB, ALZ, C, SS</i>) Note: a decrease in contrast may occur at -20°C – difficult reading FLED Bright, multi-colour display (Ta: -40 – 60°C) (<i>only for E=ALB, ALZ, C, SS</i>) FLED.A Bright, multi-colour display equipped with an acoustic signaller (<i>only for E=ALB, ALZ, C, SS</i>)
H Measuring Head		 Gas detector operating temperature with measuring head can also be narrowed due to Ta temperature limits due to Atex certificate – see Table Technical specification. Type of the measuring head installed in the detector is associated with the MC the head specification is determined by gas to be detected and its parameters HR Without sinter, made of stainless steel + PTFE (for reactive gases eg. Cl₂, HCl, NO_x)
E Enclosure		ALB Aluminium, spray epoxy – white ALZ Aluminium, spray epoxy – yellow (the version is available only for authorized distributors) SS Stainless steel C Aluminium, creodur coating – natural aluminium PES Polyester reinforced with fiberglass (<i>only for D=0</i>)
T Temperature range		0 Standard (Ta: -30 – 50°C) T Extended temperature range for gas detector (Ta: -40 – 85°C)
DI Digital interface		485 RS-485 Teta Teta Bus – <i>under development</i>
AI Analogue interface / relays		0-0 Without 420-PK 4 – 20 mA („sink”/„source”) + 3 x relay
WI Wireless interface		0 Without BT Wireless interface allowing remote sensor calibration
MC Measurement parameters configuration	-	See details and Ta in DOK-6073-ENG „Measurement parameters configuration”
G Cable gland	-	See details in POD-066-ENG „Cable glands used in offered devices”

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