



EMAG-SERWIS

# SENSORS

for mining  
industry

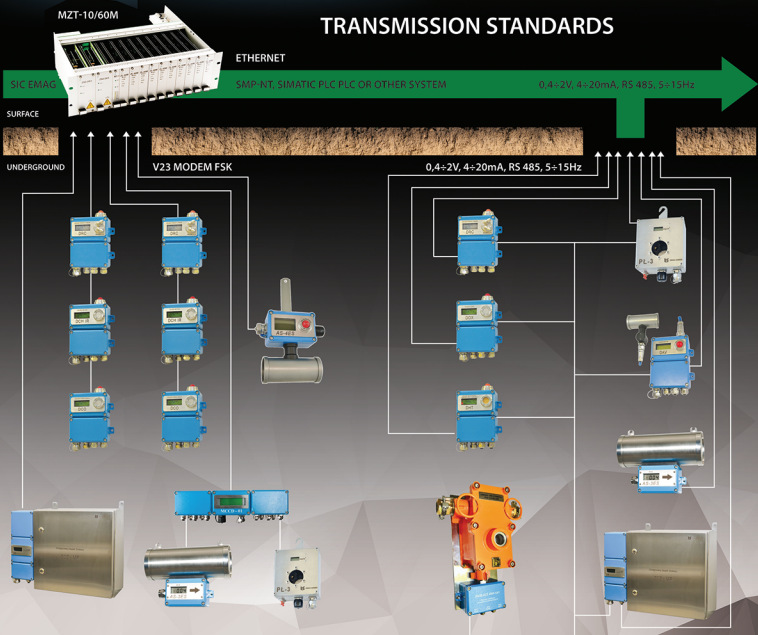


*Endless possibilities  
Flexibility  
Quality*





# TRANSMISSION STANDARDS



## RELIABILITY

*owing to innovative solutions  
and modern technology*



# DXX series sensors



Ex I M1 Ex ia I, II 2G Ex ia II (CH4)



## Atmospheric parameters sensors

- constant measurement of gas content in the air
- high quality of measurement

## Measuring head

- integrated into the cover of the device
- external with connecting cable up to 30 meters (option)

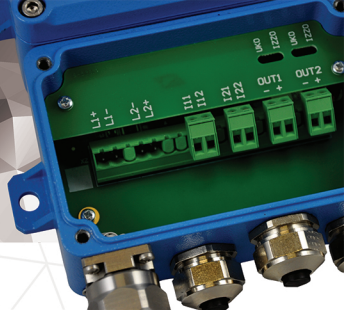
## Transmission standards

- V23 FSK modem
- RS 485
- 0,4 ÷ 2V
- 5 ÷ 15 HZ
- 4 ÷ 20mA



## TECHNICAL DESCRIPTION

DIMENSIONS	123x180x58 mm
WEIGHT	3,5 kg
INGRESS PROTECTION RATING	IP 54
DISPLAY	LCD 3x16
SIGNALING	optic indicator
ENTRY CABLE	3 x PG 13,5
MATERIAL	ZnAl



## RANGE OF PRODUCTS

NAME	DESCRIPTION	MEASURING RANGE	TRANSMISSION STANDARD
DCH	METHANE SENSOR	0 ÷ 100% CH <sub>4</sub>	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
	METHANE SENSOR	0 ÷ 100% CH <sub>4</sub>	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
DCD IR	CARBON DIOXIDE SENSOR	0 ÷ 5% CO <sub>2</sub>	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
	CARBON OXIDE SENSOR	0 ÷ 1000 ppm CO	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
DOX	OXYGEN SENSOR	0 ÷ 25% O <sub>2</sub>	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
	HUMIDITY SENSOR, TEMPERATURE AND PRESSURE	800 ÷ 1200 hPa -10 °C ÷ 40 °C 0 ÷ 95% RH	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
DRC	DIFFERENTIAL PRESSURE SENSOR	±1000 Pa; ±2000 Pa; ±5000 Pa; ±10 000 Pa; ±20000 Pa	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
	ABSOLUTE PRESSURE SENSOR, HUMIDITY AND TEMPERATURE	800 ÷ 1300 hPa -10 °C ÷ 40 °C 0 ÷ 95% RH	V 23 FSK
DAV	ANEMOMETER	-20 ÷ 20 m/s	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
	NITROGEN DIOXIDE SENSOR	0 - 20 ppm NO <sub>2</sub>	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ
DHS	HYDROGEN SULFIDE SENSOR	0 - 100 ppm H <sub>2</sub> S	V23 FSK, 0,4÷2V; 4-20mA; RS 485; 5÷15HZ

**Alarm thresholds**

- possibility to set four independent alarm thresholds

**Information about alarm thresholds:**

- LCD display
- LED signaling diode
- report to the dispatch system

**Settings of alarm thresholds:**

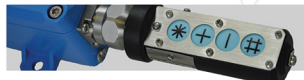
- determining the value of alarm threshold
- ascription of alarm threshold to the one or to the two digital outputs (in the case of activation outputs will be open)

**Security:**

- settings only from the dispatcher level of gas-metric system

**Optical signaling**

- optic indicator mounted on the cover
- LED diodes in the display window:
  - yellow - informs about device failure
  - red - informs about exceeded alarm thresholds

**Calibration keyboard KB-1**

- calibration, changing set points and work modes of sensors
- protection against changes made by unauthorized persons
- work modes indicated by LED diodes
- supply from the device it works with

**Measuring head**

- possibility to perform with the external head
- connecting cable up to 30 meters

**Feature of enclosure protection**

Ex I M1 Ex ia I, II 2G Ex ia II (CH4)

Devices compatible with the requirements of: 94/9/WE (ATEX) directive and Regulations of Economy Minister from 22nd December 2005 on the essential requirements for devices and protection systems

# ATMOSPHERIC PARAMETER SENSORS

## DUST METER

DESCRIPTION	PL-3
PRINCIPLE OF OPERATION	light scatter on particles of dust
SUPPLY VOLTAGE	10±26 VDC
CURRENT CONSUMPTION	to 30 mA (inactive output) to 65 mA (active output)
MEASURING RANGE	0÷200 mg/m <sup>3</sup> (for particles 0÷10µm) ± 15% for range 50-200 mg/m <sup>3</sup> ± 10% for range 0-50 mg/m <sup>3</sup>
BASIC ERROR	0,4±2,0V, 4÷20mA, RS485
TRANSMISSION STANDARD	IP54
INGRESS PROTECTION RATING	153x262x88 mm
DIMENSIONS	I M1 Ex ia I op is Ma
FEATURE OF ENCLOSURE PROTECTION	Ex ia Ila(CH <sub>4</sub> )



## INTEGRATED GOAF SENSOR/DEMETHANISATION



DESCRIPTION	ZCZ-MP	ZCO-MP
MEASURING RANGE	Of carbon oxide: 0÷1000 ppm CO Of carbon dioxide: 0÷5 CO <sub>2</sub> Of the concentration of methane: 0÷100% CH <sub>4</sub> Of the concentration of oxygen: 0÷25% O <sub>2</sub> Of underpressure: ±10000Pa	0 ÷ 100% CH <sub>4</sub> Temperature: -10÷80°C Absolute pressure: 0÷110 kPa Differential pressures: 0÷2500 Pa Atmospheric pressure in the drift: 800÷1200 hPa
WORKING TEMPERATURES RANGE	-10°C till +40°C	-10°C till +40°C
HUMIDITY RANGE	0÷90% without condensation	0÷98% without condensation
SUPPLY	from the transmission-supply module of the SMP system	from the transmission-supply module or from intrinsically safe power supply
OUTPUT SIGNAL	V23 FSK	V23 FSK, RS-485

## ANEMOMETERS

DESCRIPTION	AS-3ES	AS-4ES	GAV
MEASURING RANGE	0,1÷10 m/s or -5÷+5 m/s	-20÷+20 m/s	-20÷+20 m/s
ACCURACY	5% of measured value ±0,1 m/s	5% ±0,1 m/s	5% ±0,1 m/s
READING RESOLUTION	0,05 m/s	0,1 m/s	0,1 m/s
SUPPLY	9÷16 V DC	remote from the transmission-supply module of SMP system	5÷1 VDC
CURRENT CONSUMPTION	5 mA	40 mA	10mA
TRANSMISSION STANDARD	0,4±2,0 V	V23 FSK modem	RS 485
WORKING TEMPERATURES RANGE	0÷50 °C	-20÷40 °C	-20÷40 °C
RELATIVE HUMIDITY RANGE	0÷100% without condensation	0÷100 % without condensation	0÷100% per PN-G-50006:1997
INGRESS PROTECTION RATING	IP54	IP54	IP54
DIMENSIONS WITHOUT HANDLE	270x220x110 mm	194x188x88 mm	180x146x68 mm



# 20 YEARS EXPERIENCE IN INDUSTRY



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