

ДАМ - thermomagnetic gas analyzers



Gas analyzers ДАМ are designed for automatic measurement of concentration of one component (oxygen, hydrogen, carbon dioxide, deuterium) in the air of working area of premises and outdoor processing stations.

Application

Monitoring systems of energy technological processes, petrochemical, chemical industry, atmosphere monitoring system of hazardous industrial objects СКАПО and with БПС-21М.



Principle of operation - thermomagnetic or thermoconductometric.
Type of gas analyzers - fixed.

Designation	Measured component	Measuring range, volume fraction, %	Limits of permissible intrinsic fiducial error of gas analyzer %	Analyzed medium content
ИБЯЛ.407111.002-03	O ₂	0-2	± 6,0	oxygen - argon
-04	O ₂	0-5	± 2,5	oxygen - nitrogen
-05	O ₂	0-5	± 4,0	oxygen - nitrogen
-06	O ₂	0-10	± 4,0 (± 2,5)*	oxygen - nitrogen
-07	O ₂	0-30	± 4,0 (± 2,5)*	oxygen - nitrogen
-08	O ₂	0-50	± 4,0 (± 2,5)*	oxygen - nitrogen
-09	O ₂	15-30	± 4,0 (± 2,5)*	oxygen - nitrogen
-10	O ₂	0-2	± 4,0	oxygen - combustion gas **
-11	O ₂	0-5	± 2,5	oxygen - combustion gas **
-12	O ₂	0-5	± 4,0	oxygen - combustion gas **
-13	O ₂	0-10	± 2,5	oxygen - combustion gas **
-14	O ₂	0,0-10	± 4,0	oxygen - combustion gas **
-15	O ₂	0,0-21	± 2,5	oxygen - air
-16	O ₂	0,0-30	± 4,0 (± 2,5)*	oxygen - air
-17	H ₂	0-10	± 7,5	oxygen - acetylene
-18	H ₂	0-1	± 5,0	hydrogen - nitrogen
-19	H ₂	0-2	± 4,0	hydrogen - nitrogen
-20	H ₂	0-3	± 5,0 (± 2,5)*	hydrogen - nitrogen
-21	H ₂	60-100	± 5,0 (± 2,5)*	hydrogen - nitrogen
-22	H ₂	0-1	± 10,0	hydrogen - air
-23	H ₂	0-2	± 4,0	hydrogen - air

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Designation	Measured component	Measuring range, volume fraction, %	Limits of permissible intrinsic fiducial error of gas analyzer %	Analyzed medium content
-24	H ₂	0-3	± 4,0	hydrogen - air
-25	H ₂	0-1	± 5,0	hydrogen - oxygen
-26	H ₂	0-2	± 5,0	hydrogen - oxygen
-27	H ₂	0-3	± 5,0	hydrogen - oxygen
-28	H ₂	50-100	± 5,0 (± 2,5)*	hydrogen - hydrocarbons
-29	H ₂	70-100	± 5,0 (± 2,5)*	hydrogen - hydrocarbons
-30	O ₂	0-1	± 5,0	oxygen - hydrogen
-31	O ₂	0-2	± 5,0	oxygen - hydrogen
-32	O ₂	0-3	± 5,0	oxygen - hydrogen
-33	CO ₂	0-10	± 10,0	carbon dioxide - nitrogen
-34	CO ₂	0-20	± 5,0	carbon dioxide - nitrogen
-35	CO ₂	0-40	± 5,0	carbon dioxide - nitrogen
-36	CO ₂	30-50	± 5,0	carbon dioxide - nitrogen
-37	CO ₂	40-100	± 5,0	carbon dioxide - nitrogen
-38	O ₂	0-1	± 5,0	oxygen - deuterium
-39	O ₂	0-3	± 5,0	oxygen - deuterium
-40	deuterium	0-1	± 5,0	deuterium - oxygen
-41	deuterium	0-3	± 5,0	deuterium - oxygen
-42	O ₂	0-2	± 4,0	oxygen - combustion gas ***
-43	O ₂	0-5	± 2,5	oxygen - combustion gas ***
-44	O ₂	0-10	± 2,5	oxygen - combustion gas ***
-45	O ₂	0-5	± 5,0	oxygen - combustion gas ***
-46	O ₂	0-10	± 5,0	oxygen - combustion gas ***
-47	H ₂	80-100	± 5,0 (± 2,5)*	hydrogen - nitrogen
-48	H ₂	90-100	± 5,0 (± 2,5)*	hydrogen - nitrogen
-49	H ₂	95-100	± 5,0 (± 2,5)*	hydrogen - nitrogen

* - determined when the order is made.

** - Content of combustion gases:

Volume fraction of hydrogen - up to 1%;

Volume fraction of methane - up to 1%;

Volume fraction of carbon dioxide - up to 25 %.

Nitrogen - the rest.

*** - Content of combustion gases:

Volume fraction of hydrogen - up to 1%;

Volume fraction of methane - up to 1%;

Volume fraction of carbon dioxide - from 7 to 13 %.



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Characteristics	Values	Remarks
Principle of operation	thermomagnetic	- versions ИБЯЛ.407111.002, -01 ... -17, -42 ... -46
	thermoconductometric	- versions ИБЯЛ.407111.002-18 ... -41, -47 ... -49
Output signals	current output 4 - 20 mA RS-485, communication protocol MODBUS-RTU	- except ДАМ ИБЯЛ.407111.002, -01, -02) - only for ДАМ ИБЯЛ.407111.002 -03...-49)
Explosion protection marking	1Exd[ib]IICt6X	
Dust and moisture protection degree	IP 54	
Ambient temperature, °C	-40 / +50 +1 / +50	- for versions ИБЯЛ.407111.002-15, 16 - for the rest versions
Power supply, V	from 11 to 36	
Consumed power, W	3	
Interval between calibration	6 months 1 months	- for versions ИБЯЛ.407111.002-06 ... -09, -14, -15, -17, -38...-41 - for the rest versions
Overall dimensions, mm	165x130x280	weight 5,0 kg


Standard equipment

- > Gas analyzer ДАМ;
- > SPTA set;
- > Documentation.



Flow rate of analyzed medium - (0,75 ± 0,25) l/min.


Optional items can be ordered

- > Set for readings adjustment (TGM-SSS 2 pcs, fine adjustment valve, flow rate indicator);
- > Set for readings verification (TGM-SSS 3 pcs, fine adjustment valve, flow rate indicator);
- > Antispray shield for additional protection of gas analyzer from spray;
- > Control desk ИБЯЛ.422411.005 designed for gas analyzer adjustment on TGM-SSS, failure testing;
- > Converter of interfaces RS 485 / RS 232 ADAM 4520;
- > Local alarm unit БМС;
- > Power supply and alarm unit БПС-21М.