

MONITORING AND ALARMING DEVICE


# ESD500 Combustible/Toxic Gas Detector

ISO9001 Supplier

Class Certificate

Export Supply

Introduction •Combustible and toxic gas leakage inspection instrument in industrial application •Ex-proof certificate Exd IIC T6 Gb/Ex d ib IIC T6 Gb •Dust Ex-proof certificate Ex tD A21 IP66 T8...



Key Highlights	
Category	Monitoring And Alarming Device
Standard	ISO
Material	Items ESD500 1 Display No 12 Screw connection M20X1.5, 1/2NPT internal t...
Weight / Size	Items ESD500 1 Display No 12 Screw connection M20X1.5, 1/2NPT internal t...
Certificate	ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS
We can supply according to your requirement, drawings, class certificate needs, and delivery schedule.	

## Technical Specifications

<b>Category</b>	Monitoring And Alarming Device	<b>Model / SKU</b>	ESD500-Combustible-Toxic-Gas-Detector
-----------------	--------------------------------	--------------------	---------------------------------------

Standard	ISO	Material	<p>Items ESD500 1 Display No 12 Screw connection M20X1.5, 1/2NPT internal thread (select G3/4 or G1/2 or 3/4NPT) 2 Detected gases combustibile gas/toxic gas 13 Weight 1.5kg (aluminum alloy, with audial &amp; visual alarm) 1.42kg (aluminum alloy, without audial&amp; visual alarm) 3.48k g (aluminum alloy, with audial &amp; visual alarm) 3.4k g (stainless, without audial&amp; visual alarm) 3 Detecting principle Catalytic/electrochemical 4 Measurement Range 0 ~ 100%LEL (combustibile gas) see appendix for toxic gas measure scope 14 Explosion proof certificate Exd IIC T6 Gb/Ex tD A21 IP66 T80°C (combustibile gas detector) Ex d ib IIC T6 Gb/Ex t D ibD A21 IP66 T80°C (toxic gas detector) 5 Accuracy ±3%LEL (combustibile gas)/±3%FS (toxic gas) 15 Fire safety certificate CCCF 6 Repeatability ±2% 16 China metrology certification CMC 7 Response time T90 &lt; 20S(Catalytic) see appendix for toxic gas response time 17 Standard GB 15322.1-2003, GB 3836.1-2010, GB 3836.2-2010, GB 3836.4-2010, GB 12476.1-2013, GB 12476.4-2010, GB 12476.5-2 013, JJF 1363-2012, JJF 1368- 2012, JJF 1421-2013, JJF 1364- 2012 8 Power supply 24VDC ( normal work voltage scope : 10 ~ 30VDC) 9 Power consumption &lt; 2.5W (combustibile gas) &lt; 1.5W (toxic gas) 18 IP rating IP66 10 Output signal RS485 BUS output RS485 BUS output+relay (1A@24VDC) RS485 BUS output+relay (1A@24VDC)+audial &amp; visual alarm(96dB@0.1m away ) 19 Temperature scope -40°C ~ 70°C 11 Main material ADC12 aluminum alloy/316 stainless steel 20 Humidity scope 10 ~ 95%RH(non-condensing ) 21 Atmospheric pressure 86 ~</p>
----------	-----	----------	---

106KPa Flammable Gases  
Detectable by ESD500 No.

<b>Weight / Size</b>	<p>Items ESD500 1 Display No 12 Screw connection M20X1.5, 1/2NPT internal thread (select G3/4 or G1/2 or 3/4NPT) 2 Detected gases combustible gas/toxic gas 13 Weight 1.5kg (aluminum alloy, with audial &amp; visual alarm) 1.42kg (aluminum alloy, without audial&amp; visual alarm) 3.48k g (aluminum alloy, with audial &amp; visual alarm) 3.4k g (stainless, without audial&amp; visual alarm) 3 Detecting principle Catalytic/electrochemical 4 Measurement Range 0 ~ 100%LEL (combustible gas) see appendix for toxic gas measure scope 14 Explosion proof certificate Exd IIC T6 Gb/Ex tD A21 IP66 T80°C (combustible gas detector) Ex d ib IIC T6 Gb/Ex t D ibD A21 IP66 T80°C (toxic gas detector) 5 Accuracy <math>\pm 3\%</math>LEL (combustible gas)/<math>\pm 3\%</math>FS (toxic gas) 15 Fire safety certificate CCCF 6 Repeatability <math>\pm 2\%</math> 16 China metrology certification CMC 7 Response time T90 &lt; 20S(Catalytic) see appendix for toxic gas response time 17 Standard GB 15322.1-2003, GB 3836.1-2010, GB 3836.2-2010, GB 3836.4-2010, GB 12476.1- 2013, GB 12476.4-2010, GB 12476.5-2 013, JJF 1363-2012, JJF 1368-2012, JJF 1421-2013, JJF 1364-2012 8 Power supply 24VDC ( normal work voltage scope : 10 ~ 30VDC) 9 Power consumption &lt; 2.5W (combustible gas) &lt; 1.5W (toxic gas) 18 IP rating IP66 10 Output signal RS485 BUS output RS485 BUS output+relay (1A@24VDC) RS485 BUS output+relay (1A@24VDC)+audial &amp; visual alarm(96dB@0.1m away ) 19 Temperature scope -40°C ~ 70°C 11 Main material ADC12 aluminum alloy/316 stainless steel 20 Humidity scope 10 ~ 95%RH(non- condensing ) 21 Atmospheric</p>	<b>Certificate</b>	ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS
----------------------	---	--------------------	---

	pressure 86 ~ 106KPa Flammable Gases Detectable by ESD500 No.		
<b>Warranty</b>	12 Months unless specified otherwise	<b>Origin</b>	China

<b>CONTENTS</b>	<ul style="list-style-type: none"> <li>■ Introduction</li> <li>■ Specifications</li> <li>■ Flammable Gases Detectable by ESD500</li> <li>■ Toxic Gases Detectable by ESD500</li> </ul>
-----------------	--

## Introduction

- Combustible and toxic gas leakage inspection instrument in industrial application
- Ex-proof certificate Exd IIC T6 Gb/Ex d ib IIC T6 Gb
- Dust Ex-proof certificate Ex tD A21 IP66 T80°C/Ex tD ibD A21 IP66 T80°C
- RS485 Bus
- Changeable sensor design

## Specifications

No.	Items	ESD500	No.	Items	ESD500
1	Display	No	12	Screw connection	M20X1.5, 1/2NPT internal thread (select G3/4 or G1/2 or 3/4NPT)
2	Detected gases	combustible gas/toxic gas	13	Weight	1.5kg (aluminum alloy, with audial & visual alarm)
3	Detecting principle	Catalytic/electrochemical			1.42kg (aluminum alloy, without audial & visual alarm)
					3.48k g (aluminum alloy, with audial & visual alarm)
					3.4k g (stainless, without audial & visual alarm)
4	Measurement Range	0 ~ 100%LEL (combustible gas) see appendix for toxic gas measure scope	14	Explosion proof certificate	Exd IIC T6 Gb/Ex tD A21 IP66 T80°C (combustible gas detector) Ex d ib IIC T6 Gb/Ex t D ibD A21 IP66 T80°C (toxic gas detector)
5	Accuracy	±3%LEL (combustible gas)/±3%FS (toxic gas)	15	Fire safety certificate	CCCF
6	Repeatability	±2%	16	China metrology certification	CMC

7	Response time	T90 < 20S(Catalytic) see appendix for toxic gas response time	17	Standard	GB 15322.1-2003, GB 3836.1-2010, GB 3836.2-2010, GB 3836.4-2010, GB 12476.1-2013, GB 12476.4-2010, GB 12476.5-2 013, JF 1363-2012, JF 1368-2012, JF 1421-2013, JF 1364-2012
8	Power supply	24VDC ( normal work voltage scope : 10 ~ 30VDC)			
9	Power consumption	< 2.5W (combustible gas) < 1.5W (toxic gas)	18	IP rating	IP66
10	Output signal	RS485 BUS output RS485 BUS output+relay (1A@24VDC) RS485 BUS output+relay (1A@24VDC)+audial & visual alarm(96dB@0.1m away )	19	Temperature scope	-40°C ~ 70°C
11	Main material	ADC12 aluminum alloy/316 stainless steel	20	Humidity scope	10 ~ 95%RH(non-condensing )
			21	Atmospheric pressure	86 ~ 106KPa

## Flammable Gases Detectable by ESD500

No.	Description	Formula	No.	Description	Formula
K001	Methane	CH <sub>4</sub>	K022	Pentane	C <sub>5</sub> H <sub>12</sub>
K002	Methylbenzene	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	K023	Hexane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>
K003	Methanol	CH <sub>3</sub> OH	K024	Heptane	C <sub>7</sub> H <sub>16</sub>
K004	Methyl formate	HCOOCH <sub>3</sub>	K025	Octane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>
K005	Ethyl formate	HCOOCH <sub>2</sub> CH <sub>3</sub>	K026	Nonane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>7</sub> CH <sub>3</sub>
K006	Ethyl methyl ether	CH <sub>3</sub> OCH <sub>2</sub> CH <sub>3</sub>	K027	Carbon monoxide	CO
K007	Ethane	CH <sub>3</sub> CH <sub>3</sub>	K028	Ammonia	NH <sub>3</sub>

K008	Ethyne	$\text{CH}\equiv\text{CH}$	K029	Hydrogen	$\text{H}_2$
K009	Ethanol	$\text{CH}_3\text{CH}_2\text{OH}$	K030	Benzene	$\text{C}_6\text{H}_6$
K010	Ethylbenzene	$\text{CH}_3\text{CH}_2\text{C}_6\text{H}_5$	K031	Iso-butane	$(\text{CH}_3)_2\text{CH}$ $\text{CH}_3$
K011	Ethylene	$\text{CH}_2=\text{CH}_2$	K032	Isopropanol	$(\text{CH}_3)_2\text{CH}$ $\text{OH}$
K012	Methyl acetate	$\text{CH}_3\text{COOCH}_3$	K033	1-Butanol	$\text{CH}_3(\text{CH}_2)_2$ $\text{CH}_2\text{OH}$
K013	Ethyl acetate	$\text{CH}_3\text{COOCH}_2\text{CH}_3$	K034	Cyclohexane	$\text{CH}_2(\text{CH}_2)_4$ $\text{CH}_2$
K014	N-butyl acetate	$\text{CH}_3\text{COOCH}_2(\text{CH}_2)_2\text{CH}_3$	K035	Cyclopentane	$\text{CH}_2(\text{CH}_2)_3$ $\text{CH}_2$
K015	Propane	$\text{CH}_3\text{CH}_2\text{CH}_3$	K036	Epoxypropane	$\text{CH}_3\text{CHCH}$ $_2\text{O}$
K016	Propanol	$\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$	K037	Ethylene oxide	$\text{CH}_2\text{CH}_2\text{O}$
K017	Propylene	$\text{CH}_2=\text{CHCH}_3$	K038	Diethyl ether	$(\text{CH}_3\text{CH}_2)_2$ $\text{O}$
K018	Acetone	$(\text{CH}_3)_2\text{CO}$	K039	Dimethyl ether	$(\text{CH}_3)_2\text{O}$
K019	Butane	$\text{C}_4\text{H}_{10}$	K040	Xylene	$\text{C}_6\text{H}_4(\text{CH}_3)_2$
K020	Butanone	$\text{CH}_3\text{CH}_2\text{COCH}_3$	K041	Gasoline	$\text{C}_4\sim\text{C}_{12}$ hyd rocarbon mixture
K021	Butadiene	$\text{CH}_3\text{CH}_2\text{COCH}_3$	K042	Jet fuel, kerosene	$\text{C}_9\sim\text{C}_{16}$ hyd rocarbon mixture

## Toxic Gases Detectable by ESD500

No.	Description	Formula	Measurement Range(ppm)
D001	oxygen	$\text{O}_2$	0-25%v/v
D002	Carbon monoxide	$\text{CO}$	0-100/200/500/1000
D003	Hydrogen sulfide	$\text{H}_2\text{S}$	0-20/50/100

D004	Hydrogen	H <sub>2</sub>	0-1000
D005	Ammonia	NH <sub>3</sub>	0-100/500/1000
D006	Chlorine	CL <sub>2</sub>	0-10/20
D007	Nitric oxide	NO	0-100/500
D008	Nitrogen dioxide	NO <sub>2</sub>	0-20/50
D009	Sulfur dioxide	SO <sub>2</sub>	0-20/100
D010	Vinyl Chloride	C <sub>2</sub> H <sub>3</sub> CL	0-20/100
D011	Acrylonitrile	C <sub>3</sub> H <sub>3</sub> N	0-100/200
D012	Methanol	CH <sub>3</sub> OH	0-100/200/500
D013	Formaldehyde	CH <sub>2</sub> O	0-50/100/200/500
D014	Ethylene oxide	C <sub>2</sub> H <sub>4</sub> O	0-20/100/200
D015	Hydrogen chloride	HCL	0-30/50
D016	Hydrogen fluoride	HF	0-10
D017	Hydrogen cyanide	HCN	0-30
D038	Tetrahydrothiophene	C <sub>4</sub> H <sub>8</sub> S	0-25