

Selection and ordering data

Order No.

ULTRAMAT 6 gas analyzer

For installation in the field, single-channel, 1 component

7MB2111- - - - - A

Cannot be combined

Gas connections

Ferrule screw connection for pipe, outer diameter 6 mm

Ferrule screw connection for pipe, outer diameter 1/4"

0
1

0 → A29
1 → A28

Measured component

Possible with measuring range identification

CO	11 ... 30
CO highly selective (with optical filter)	12 ... 30
CO (TÜV; see Table "TÜV, single component", Page 2/7)	
CO ₂	10 ... 30
CH ₄	13 ... 30
C ₂ H ₂	15 ... 30
C ₂ H ₄	15 ... 30
C ₂ H ₆	14 ... 30
C ₃ H ₆	14 ... 30
C ₃ H ₈	13 ... 30
C ₄ H ₆	15 ... 30
C ₄ H ₁₀	14 ... 30
C ₆ H ₁₄	14 ... 30
SO ₂ (TÜV; see Table "TÜV, single component", Page 2/7)	13 ... 30
NO (TÜV; see Table "TÜV, single component", Page 2/7)	14 ... 20, 22
NH ₃ (dry)	14 ... 30
H ₂ O	17 ... 20; 22 (17 to 24, 26; heated)
N ₂ O	13 ... 30

A
B
X
C
D
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F
G
H
J
K
L
M
N
P
Q
R
S

Q
R

Smallest measuring range

Largest measuring range

Measuring range identification

0 ... 5 vpm	0 ... 100 vpm	10
0 ... 10 vpm	0 ... 200 vpm	11
0 ... 20 vpm	0 ... 400 vpm	12
0 ... 50 vpm	0 ... 1 000 vpm	13
0 ... 100 vpm	0 ... 1 000 vpm	14
0 ... 300 vpm	0 ... 3 000 vpm	15
0 ... 500 vpm	0 ... 5 000 vpm	16
0 ... 1 000 vpm	0 ... 10 000 vpm	17
0 ... 3 000 vpm	0 ... 10 000 vpm	19
0 ... 3 000 vpm	0 ... 30 000 vpm	19
0 ... 5 000 vpm	0 ... 15 000 vpm	20
0 ... 5 000 vpm	0 ... 50 000 vpm	21
0 ... 1 %	0 ... 3 %	22
0 ... 1 %	0 ... 10 %	23
0 ... 3 %	0 ... 10 %	24
0 ... 3 %	0 ... 30 %	25
0 ... 5 %	0 ... 15 %	26
0 ... 5 %	0 ... 50 %	27
0 ... 10 %	0 ... 30 %	28
0 ... 10 %	0 ... 100 %	29
0 ... 30 %	0 ... 100 %	30

A
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C
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T
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V
W

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ULTRAMAT 6 gas analyzer

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7MB2111-  A

Cannot be combined

Internal gas paths

Sample chamber (lining)

Reference chamber (flow-type)

Hose made of FKM (Viton)	Aluminum	Non-flow-type
	Aluminum	Flow-type
Pipe made of titanium	Tantalum ¹⁾	Non-flow-type
	Tantalum ¹⁾	Flow-type
Stainless steel pipe (mat. no. 1.4571)	Aluminum	Non-flow-type
	Tantalum ¹⁾	Non-flow-type

Add-on electronics

- Without
- AUTOCAL function
- With 8 additional binary inputs/outputs
 - With 8 binary inputs/outputs and PROFIBUS PA interface
 - With 8 binary inputs/outputs and PROFIBUS DP interface
 - With 8 binary inputs/outputs and PROFIBUS PA Ex i

Power supply

- Standard unit and acc. to ATEX II 3G version (Zone 2)
- 100 ... 120 V AC, 48 ... 63 Hz
 - 200 ... 240 V AC, 48 ... 63 Hz
- ATEX II 2G versions (Zone 1), incl. certificate
- 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: leakage compensation)
 - 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: leakage compensation)
 - 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: continuous purging)
 - 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: continuous purging)

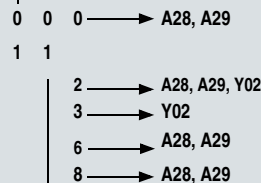
Heating of internal gas paths and analyzer unit

- Without
- With (max. 65?)

Language (supplied documentation, software)

German	0
English	1
French	2
Spanish	3
Italian	4

¹⁾ Only for cell length 20 to 180 mm
²⁾ Only in connection with an approved purging unit



Selection and ordering data

Additional versions

Add "-Z" to Order No. and specify order codes.

Flow-type reference cell with reduced flow, 6 mm

Flow-type reference cell with reduced flow, ¼"

Set of Torx screwdrivers

TAG labels (specific inscription based on customer information)

Kalrez gaskets in sample gas path

Ex versions

Possible combinations: see: Tabelle "Ex-Konfigurationen – Prinzipielle Auswahlkriterien", Seite 6/16

ATEX II 3G certificate; restricted breathing enclosure, non-flammable gases

ATEX II 3G certificate; flammable gases

FM/CSA certificate – Class I Div 2

ATEX II 3D certificate; potentially explosive dust atmospheres

- In non-hazardous gas zone
- In Ex zone acc. to ATEX II 3G, non-flammable gases
- In Ex zone acc. to ATEX II 3G, flammable gases¹⁾

Clean for O₂ service (specially cleaned gas path)

Measuring range data in plain text, if different from the standard setting

Special setting (only in conjunction with an application no., e.g. extended measuring range)

Extended special setting
(only in conjunction with an application no., e.g. determination of cross-interferences)

TÜV version acc. to 13th and 17th BImSchV

Additional units for Ex versions

Category ATEX II 2G (zone 1)

BARTEC EEx p control unit, 230 V, "leakage compensation"

BARTEC EEx p control unit, 115 V, "leakage compensation"

BARTEC EEx p control unit, 230 V, "continuous purging"

BARTEC EEx p control unit, 115 V, "continuous purging"

Ex isolation amplifier

Ex isolating relay, 230 V

Ex isolating relay, 110 V

Differential pressure switch for corrosive and non-corrosive gases

Stainless steel flame arrestor

Hastelloy flame arrestor

Category ATEX II 3G (Zone 2)

BARTEC EEx p control unit, 230 V, "continuous purging"

BARTEC EEx p control unit, 115 V, "continuous purging"

FM/CSA (Class I Div. 2)

Ex purging unit MiniPurge FM

Retrofitting sets

RS 485/Ethernet converter

RS 485/RS 232 converter

RS 485/USB converter

AUTOCAL function with 8 binary inputs/outputs

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS PA

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS DP

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS PA Ex i (firmware 4.1.10 required)

¹⁾ Only in connection with an approved purging unit

Order code

A28

A29

A32

B03

B04

E11

E12

E20

E40

E41

E42

Y02

Y11

Y12

Y13

Y17

Order No.

7MB8000-2BA

7MB8000-2BB

7MB8000-2CA

7MB8000-2CB

7MB8000-3AA

7MB8000-4AA

7MB8000-4AB

7MB8000-5AA

7MB8000-6BA

7MB8000-6BB

7MB8000-2CA

7MB8000-2CB

7MB8000-1AA

Order No.

A5E00852383

C79451-Z1589-U1

A5E00852382

A5E00064223

A5E00057315

A5E00057318

A5E00057317

Selection and ordering data

Order No.

ULTRAMAT 6 gas analyzer

7MB2112- - A

Cannot be combined

For installation in the field, single-channel, 2 components

Gas connections

Ferrule screw connection for pipe, outer diameter 6 mm

Ferrule screw connection for pipe, outer diameter 1/4"

0
1

0 → A29
1 → A28

Measured component	Smallest measuring range	Largest measuring range
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CO	0 ... 100 vpm	0 ... 1 000 vpm	AA
NO	0 ... 100 vpm	0 ... 1 000 vpm	
CO	0 ... 300 vpm	0 ... 3 000 vpm	AB
NO	0 ... 300 vpm	0 ... 3 000 vpm	
CO	0 ... 1 000 vpm	0 ... 10 000 vpm	AC
NO	0 ... 1 000 vpm	0 ... 10 000 vpm	
For CO/NO (TÜV; see Table "TÜV, 2 components in series", Page 2/7)			
CO ₂	0 ... 100 vpm	0 ... 1 000 vpm	BA
CO	0 ... 100 vpm	0 ... 1 000 vpm	
CO ₂	0 ... 300 vpm	0 ... 3 000 vpm	BB
CO	0 ... 300 vpm	0 ... 3 000 vpm	
CO ₂	0 ... 1 000 vpm	0 ... 10 000 vpm	BC
CO	0 ... 1 000 vpm	0 ... 10 000 vpm	
CO ₂	0 ... 3 000 vpm	0 ... 30 000 vpm	BD
CO	0 ... 3 000 vpm	0 ... 30 000 vpm	
CO ₂	0 ... 1 %	0 ... 10 %	BE
CO	0 ... 1 %	0 ... 10 %	
CO ₂	0 ... 3 %	0 ... 30 %	BF
CO	0 ... 3 %	0 ... 30 %	
CO ₂	0 ... 10 %	0 ... 100 %	BG
CO	0 ... 10 %	0 ... 100 %	
CO ₂	0 ... 10 %	0 ... 100 %	CG
CH ₄	0 ... 10 %	0 ... 100 %	
CO ₂	0 ... 100 vpm	0 ... 1 000 vpm	DA
NO	0 ... 100 vpm	0 ... 1 000 vpm	
CO ₂	0 ... 300 vpm	0 ... 3 000 vpm	DB
NO	0 ... 300 vpm	0 ... 3 000 vpm	

Internal gas paths	Sample chamber (lining)	Reference chamber (flow-type)
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Hose made of FKM (Viton)	Aluminum	Non-flow-type	0
	Aluminum	Flow-type	1
Pipe made of titanium	Tantalum ¹⁾	Non-flow-type	2
	Tantalum ¹⁾	Flow-type	3
Stainless steel pipe (mat. no. 1.4571)	Aluminum	Non-flow-type	6
	Tantalum ¹⁾	Non-flow-type	8

0 0 → A28, A29
1
2 → A28, A29, Y02
3 → Y02
6 → A28, A29
8 → A28, A29

Add-on electronics

Without

AUTOCAL function

- With 8 additional binary inputs/outputs
- With 8 binary inputs/outputs and PROFIBUS PA interface
- With 8 binary inputs/outputs and PROFIBUS DP interface
- With 8 binary inputs/outputs and PROFIBUS PA Ex i

0
1
6
7
8

Power supply

Standard unit and acc. to ATEX II 3G version (Zone 2)

- 100 ... 120 V AC, 48 ... 63 Hz
- 200 ... 240 V AC, 48 ... 63 Hz

0
1

ATEX II 2G versions (Zone 1), incl. certificate

- 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: leakage compensation)
- 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: leakage compensation)
- 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: continuous purging)
- 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G²⁾ (operating mode: continuous purging)

2
3
6
7

0
1
2
3
6
7
8

Heating of internal gas paths and analyzer unit




Without

With (max. 65?)

A
B

ULTRAMAT 6 gas analyzer

For installation in the field, single-channel, 2 components

D) 7MB2112-  -  A 

Cannot be combined

Language (supplied documentation, software)

German	0
English	1
French	2
Spanish	3
Italian	4

1) Only for cell length 20 to 180 mm.

2) See also next page "Additional units for Ex versions".

Additional versions**Order code**

Add "-Z" to Order No. and specify order codes.

Flow-type reference cell with reduced flow, 6 mm

A28

Flow-type reference cell with reduced flow, 1/4"

A29

Set of Torx screwdrivers

A32

TAG labels (specific inscription based on customer information)

B03

Kalrez gaskets in sample gas path

B04Ex versions

Possible combinations: see: Tabelle "Ex-Konfigurationen – Prinzipielle Auswahlkriterien", Seite 6/16

ATEX II 3G certificate; restricted breathing enclosure, non-flammable gases

E11

ATEX II 3G certificate; flammable gases

E12

CSA certificate – Class I Div 2

E20

ATEX II 3D certificate; potentially explosive dust atmospheres

• In non-hazardous gas zone

E40

• In Ex zone acc. to ATEX II 3G, non-flammable gases

E41

• In Ex zone acc. to ATEX II 3G, flammable gases

E42Clean for O₂ service (specially cleaned gas path)**Y02**

Measuring range data in plain text, if different from the standard setting

Y11

Special setting (only in conjunction with an application no., e.g. extended measuring range)

Y12

Extended special setting

Y13

(only in conjunction with an application no., e.g. determination of cross-interferences)

TÜV version acc. to 13th and 17th BImSchV

Y17**Additional units for Ex versions****Order No.**Category ATEX II 2G (zone 1)

BARTEC EEx p control unit, 230 V, "leakage compensation"

7MB8000-2BA

BARTEC EEx p control unit, 115 V, "leakage compensation"

7MB8000-2BB

BARTEC EEx p control unit, 230 V, "continuous purging"

7MB8000-2CA

BARTEC EEx p control unit, 115 V, "continuous purging"

7MB8000-2CB

Ex isolation amplifier

7MB8000-3AA

Ex isolating relay, 230 V

7MB8000-4AA

Ex isolating relay, 110 V

7MB8000-4AB

Differential pressure switch for corrosive and non-corrosive gases

7MB8000-5AA

Stainless steel flame arrestor

7MB8000-6BA

Hastelloy flame arrestor

7MB8000-6BBCategory ATEX II 3G (Zone 2)

BARTEC EEx p control unit, 230 V, "continuous purging"

7MB8000-2CA

BARTEC EEx p control unit, 115 V, "continuous purging"

7MB8000-2CBFM/CSA (Class I Div. 2)

Ex purging unit MiniPurge FM

7MB8000-1AA**Retrofitting sets****Order No.**

RS 485/Ethernet converter

A5E00852383

RS 485/RS 232 converter

C79451-Z1589-U1

RS 485/USB converter

A5E00852382

AUTOCAL function with 8 binary inputs/outputs

A5E00064223

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS PA

A5E00057315

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS DP

A5E00057318

AUTOCAL function with 8 binary inputs/outputs and PROFIBUS PA Ex i (firmware 4.1.10 required)

A5E00057317

TÜV, single component

(only with additional suffix Z (Y17, Y18))

Component Measuring range identification	CO (TÜV)		SO ₂ (TÜV)		NO (TÜV)	
	Smallest measuring range from 0 to ...	Largest measuring range from 0 to ...	Smallest measuring range from 0 to ...	Largest measuring range from 0 to ...	Smallest measuring range from 0 to ...	Largest measuring range from 0 to ...
C			75 mg/m ³	1 500 mg/m ³		
D	50 mg/m ³	1 000 mg/m ³	300 mg/m ³	3 000 mg/m ³		
E			500 mg/m ³	5 000 mg/m ³	100 mg/m ³	2 000 mg/m ³
F	300 mg/m ³	3 000 mg/m ³	1 000 mg/m ³	10 000 mg/m ³	300 mg/m ³	3 000 mg/m ³
G	500 mg/m ³	5 000 mg/m ³			500 mg/m ³	5 000 mg/m ³
H	1 000 mg/m ³	10 000 mg/m ³	3 000 mg/m ³	30 000 mg/m ³	1 000 mg/m ³	10 000 mg/m ³
K	3 000 mg/m ³	30 000 mg/m ³	10 g/m ³	100 g/m ³	3 000 mg/m ³	30 000 mg/m ³
P	10 g/m ³	100 g/m ³	30 g/m ³	300 g/m ³	10 g/m ³	100 g/m ³
R	30 g/m ³	300 g/m ³	100 g/m ³	1 000 g/m ³	30 g/m ³	300 g/m ³
V	100 g/m ³	1 160 g/m ³	300 g/m ³	2 630 g/m ³	100 g/m ³	1 250 g/m ³

Ordering example

ULTRAMAT 6, TÜV (1-component unit)

Component: CO

Measuring range: 0 to 50/1 000 mg/m³with hoses, non-flow-type reference cell
without automatic adjustment (AUTOCAL)

230 V AC; without heating, German

7MB2111-0XD00-1AA0-Z +Y17**TÜV, 2 components in series**

Component Measuring range identification	CO (TÜV)		NO (TÜV)	
	Smallest measuring range from 0 to ...	Largest measuring range from 0 to ...	Smallest measuring range from 0 to ...	Largest measuring range from 0 to ...
AA	75 mg/m ³	1 000 mg/m ³	200 mg/m ³	2 000 mg/m ³
AB	300 mg/m ³	3 000 mg/m ³	300 mg/m ³	3 000 mg/m ³
AC	1 000 mg/m ³	10 000 mg/m ³	1 000 mg/m ³	10 000 mg/m ³

Ordering example

ULTRAMAT 6, TÜV (2 components in series)

Components: CO/NO

Measuring range CO: 0 to 75/1 000 mg/m³, NO: 0 to 200/2 000 mg/m³with hoses, non-flow-type reference cell
without automatic adjustment (AUTOCAL)

230 V AC; without heating, German

7MB2112-0AA00-1AA0-Z +Y17**Note:** for 3 components take both tables into consideration.Ordering information, measured component N₂OCertification in accordance with AM0028 and AM0034 (Kyoto Protocol) for measuring N₂O, measuring range 0 to 300 ppm/3 000 ppm.

Version: Standard device