

Technical specifications

General information		Damping (electrical time constant)	0 ... 100 s, configurable
Measuring ranges	4, internally and externally switchable; autoranging is also possible	Dead time (purging time of the gas path in the unit at 1 l/min)	Approximately 0.5 ... 5 s, depending on version
Smallest possible measuring range	Dependent on the application, e.g. CO: 0 ... 10 vpm, CO ₂ : 0 ... 5 vpm	Time for device-internal signal processing	< 1 s
Largest possible measuring range	Dependent on the application	Pressure correction range	
Measuring range with suppressed zero point	Any zero point within 0 ... 100 vol.% can be implemented; smallest possible span 20%	Pressure sensor	
Heated version	65 °C	• Internal	700 ... 1 200 hPa absolute
Operating position	Front wall, vertical	• External	700 ... 1 500 hPa absolute
Conformity	CE mark in accordance with EN 50081-1, EN 50082-2	Measuring response	
Influence of interfering gases must be considered separately		Output signal fluctuation	Based on sample gas pressure 1 013 hPa absolute, 0.5 l/min sample gas flow and 25 °C ambient temperature
Design, enclosure		Zero point drift	< ± 1% of the smallest possible measuring range according to rating plate
Weight	Approx. 32 kg	Zero point drift	< ± 1% of the current measuring range/week
Degree of protection	IP65 in accordance with EN 60529, restricted breathing enclosure to EN 50021	Measured-value drift	< ± 1% of the current measuring range/week
Electrical characteristics		Repeatability	≤ 1% of the current measuring range
Auxiliary power	100 ... 120 V AC (nominal range of use 90 ... 132 V), 48 ... 63 Hz or 200 ... 240 V AC (nominal range of use 180 ... 264 V), 48 ... 63 Hz	Detection limit	1% of the smallest possible measuring range
Power consumption	Approx. 35 VA; approx. 330 VA with heated version	Linearity error	± 0.5 % of the full-scale value
EMC (electromagnetic compatibility)	In accordance with standard requirements of NAMUR NE21 (08/98)	Influencing variables	
Electrical safety	In accordance with EN 61010-1	Ambient temperature	Based on sample gas pressure 1 013 hPa absolute, 0.5 l/min sample gas flow and 25 °C ambient temperature
• Heated units	Overvoltage category II	Sample gas pressure	< 1% of current measuring range/10 K (with constant receiver cell temperature)
• Unheated units	Overvoltage category III	Sample gas pressure	With disabled pressure compensation: < 0.15% of the setpoint/1 % change in atmospheric pressure
Fuse values (unheated unit)		Sample gas flow	Negligible
• 100 ... 120 V	F3: 1 T/250; F4: 1 T/250	Auxiliary power	< 0.1% of the current measuring range with rated voltage ± 10%
• 200 ... 240 V	F3: 0.63 T/250; F4: 0.63 T/250	Environmental conditions	Application-specific measuring influences possible if ambient air contains measured component or cross interference-sensitive gases
Fuse values (heated unit)		Electrical inputs and outputs	
• 100 ... 120 V	F1: 1 T/250; F2: 4 T/250 F3: 4 T/250; F4: 4 T/250	Analog output	0/2/4 ... 20 mA, isolated; load 750 Ω
• 200 ... 240 V	F1: 0.63 T/250; F2: 2.5 T/250 F3: 2.5 T/250; F4: 2.5 T/250	Relay outputs	6, with changeover contacts, freely configurable, e.g. for measuring range identification; load: 24 V AC/DC/1 A, isolated, non-sparking
Gas inlet conditions		Analog inputs	2, dimensioned for 0/2/4 ... 20 mA for external pressure sensor and accompanying gas influence correction (correction of cross-interference)
Permissible sample gas pressure		Digital inputs	6, designed for 24 V, isolated, freely configurable, e.g. for measuring range switchover
• With hoses (without pressure switch)	600 ... 1 500 hPa (absolute)	Serial interface	RS 485
• With pipes (without pressure switch)	600 ... 1 500 hPa (absolute)	Options	AUTOCAL function each with 8 additional digital inputs and relay outputs, also with PROFIBUS PA or PROFIBUS DP
- Ex (leakage compensation)	600 ... 1 160 hPa (absolute)	Climatic conditions	
- Ex (continuous purging)	600 ... 1 500 hPa (absolute)	Permissible ambient temperature	-30 ... +70 °C during storage and transportation; 5 ... 45 °C during operation
Purging gas pressure		Permissible humidity	< 90% RH (RH: relative humidity) within average annual value, during storage and transportation (dew point must not be undershot)
• Permanent	< 165 hPa above ambient pressure		
• For short periods	250 hPa above ambient pressure		
Sample gas flow	18 ... 90 l/h (0.3 ... 1.5 l/min)		
Sample gas temperature	Min. 0 ... max. 50 °C, but above the dew point, for heated version min. 0 ... max. 80 °C		
Sample gas humidity	< 90% RH (RH: relative humidity) or dependent on measuring task		
Dynamic response			
Warm-up period	At room temperature < 30 min (the technical specification will be met after 2 hours)		
Delayed display (T ₉₀ -time)	Dependent on length of analyzer chamber, sample gas line and configurable damping		

Extractive continuous process gas analysis

Series 6

ULTRAMAT 6

1

Field device

Selection and ordering data

Article No.

ULTRAMAT 6 gas analyzer

7MB2111- - - - - A

Cannot be combined

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

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Gas connections

Ferrule screw connection for pipe, outer diameter 6 mm

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

0 → A29
1 → A28

Measured component

Possible with measuring range identification

CO	11 ... 30	A
CO highly selective (with optical filter)	12 ... 30	B
CO (QAL1; see table "Based on QAL1 according to SIRA/MCERTS (single component)", page 1/65)		X
CO ₂	10 ... 30	C
CH ₄	13 ... 30	D
C ₂ H ₂	15 ... 30	E
C ₂ H ₄	15 ... 30	F
C ₂ H ₆	14 ... 30	G
C ₃ H ₆	14 ... 30	H
C ₃ H ₈	13 ... 30	J
C ₄ H ₆	15 ... 30	K
C ₄ H ₁₀	14 ... 30	L
C ₆ H ₁₄	14 ... 30	M
SO ₂ (QAL1; see table "Based on QAL1 according to SIRA/MCERTS (single component)", page 1/65)	13 ... 30	N
NO (QAL1; see table "Based on QAL1 according to SIRA/MCERTS (single component)", page 1/65)	14 ... 20, 22	P
NH ₃ (dry)	14 ... 30	Q
H ₂ O	17 ... 20; 22 (17 to 24, 26; heated)	R
N ₂ O	13 ... 30	S

Q
R

Smallest measuring range Largest measuring range Measuring range identification

0 ... 5 vpm	0 ... 100 vpm	10	A
0 ... 10 vpm	0 ... 200 vpm	11	B
0 ... 20 vpm	0 ... 400 vpm	12	C
0 ... 50 vpm	0 ... 1 000 vpm	13	D
0 ... 100 vpm	0 ... 1 000 vpm	14	E
0 ... 300 vpm	0 ... 3 000 vpm	15	F
0 ... 500 vpm	0 ... 5 000 vpm	16	G
0 ... 1 000 vpm	0 ... 10 000 vpm	17	H
0 ... 3 000 vpm	0 ... 10 000 vpm	19	J
0 ... 3 000 vpm	0 ... 30 000 vpm	19	K
0 ... 5 000 vpm	0 ... 15 000 vpm	20	L
0 ... 5 000 vpm	0 ... 50 000 vpm	21	M
0 ... 1 %	0 ... 3 %	22	N
0 ... 1 %	0 ... 10 %	23	P
0 ... 3 %	0 ... 10 %	24	Q
0 ... 3 %	0 ... 30 %	25	R
0 ... 5 %	0 ... 15 %	26	S
0 ... 5 %	0 ... 50 %	27	T
0 ... 10 %	0 ... 30 %	28	U
0 ... 10 %	0 ... 100 %	29	V
0 ... 30 %	0 ... 100 %	30	W

Selection and ordering data

Article No.

ULTRAMAT 6 gas analyzer

7MB2111- - - - - A

Cannot be combined

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

Internal gas paths	Sample chamber (lining)	Reference chamber (flow-type)		
Hose made of FKM (Viton)	Aluminum	Non-flow-type	0	0 0 0 → A28, A29
	Aluminum	Flow-type	1	1 1
Pipe made of titanium	Tantalum ¹⁾	Non-flow-type	2	2 → A28, A29, Y02
	Tantalum ¹⁾	Flow-type	3	3 → Y02
Stainless steel pipe (mat. no. 1.4571)	Aluminum	Non-flow-type	6	6 → A28, A29
	Tantalum ¹⁾	Non-flow-type	8	8 → A28, A29
<u>Add-on electronics</u>				
Without			0	
AUTOCAL function				
• With 8 additional digital inputs/outputs			1	
• With 8 digital inputs/outputs and PROFIBUS PA interface			6	6 → E12
• With 8 digital inputs/outputs and PROFIBUS DP interface			7	7 → E12
• With 8 digital inputs/outputs and PROFIBUS PA Ex i			8	
<u>Power supply</u>				
Standard unit and acc. to ATEX II 3G version (Zone 2)				
• 100 ... 120 V AC, 48 ... 63 Hz			0	0
• 200 ... 240 V AC, 48 ... 63 Hz			1	1
ATEX II 2G versions (Zone 1), incl. certificate				
• 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: leakage compensation)			2	2
• 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: leakage compensation)			3	3
• 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: continuous purging)			6	6
• 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: continuous purging)			7	7
<u>Heating of internal gas paths and analyzer unit</u>				
Without				
With (max. 65 °C)			A	
			B	
<u>Language (supplied documentation, software)</u>				
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

Extractive continuous process gas analysis

Series 6

ULTRAMAT 6

Field device

1

Selection and ordering data

<u>Additional versions</u>	Order code
Add "-Z" to Article 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
TAG labels (specific lettering based on customer information)	B03
Kalrez gaskets in sample gas path	B04
SIL conformity declaration (SIL 2) Functional Safety according to IEC 61508 and IEC 61511	C20
<u>Ex versions</u>	
Possible combinations: see table "Ex configurations – principle selection criteria (Series 6)", chapter "General information"	
ATEX II 3G certificate; restricted breathing enclosure, non-flammable gases	E11
ATEX II 3G certificate; flammable gases	E12
FM/CSA certificate – Class I Div 2	E20
ATEX II 3D certificate; potentially explosive dust atmospheres	
<ul style="list-style-type: none"> In non-hazardous gas zone 	E40
<ul style="list-style-type: none"> In Ex zone acc. to ATEX II 3G, non-flammable gases 	E41
<ul style="list-style-type: none"> In Ex zone acc. to ATEX II 3G, flammable gases¹⁾ 	E42
BARTEC Ex p purging unit "Leakage compensation"	E71
BARTEC Ex p purging unit "Continuous purging"	E72
Clean for O ₂ service (specially cleaned gas path)	Y02
Measuring range indication 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 (only in conjunction with an application no., e.g. determination of cross-interferences)	Y13
QAL1 according to SIRAMCERTS	Y17
<u>Additional units for Ex versions</u>	Article No.
<u>Category ATEX II 2G (zone 1)</u>	
BARTEC Ex p purging unit, 230 V, "leakage compensation"	7MB8000-2BA
BARTEC Ex p purging unit, 115 V, "leakage compensation"	7MB8000-2BB
BARTEC Ex p purging unit, 230 V, "continuous purging"	7MB8000-2CA
BARTEC Ex p purging unit, 115 V, "continuous purging"	7MB8000-2CB
Ex i isolating transformer	7MB8000-3AB
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	7MB8000-6BB
<u>Category ATEX II 3G (Zone 2)</u>	
BARTEC Ex p purging unit, 230 V, "continuous purging"	7MB8000-2CA
BARTEC Ex p purging unit, 115 V, "continuous purging"	7MB8000-2CB
<u>FM/CSA (Class I Div. 2)</u>	
Ex purging unit MiniPurge FM	7MB8000-1AA
<u>Accessories</u>	Article No.
RS 485/Ethernet converter	A5E00852383
RS 485/RS 232 converter	C79451-Z1589-U1
RS 485/USB converter	A5E00852382
AUTOCAL function with 8 digital inputs/outputs	A5E00064223
AUTOCAL function with 8 digital inputs/outputs and PROFIBUS PA	A5E00057315
AUTOCAL function with 8 digital inputs/outputs and PROFIBUS DP	A5E00057318
AUTOCAL function with 8 digital inputs/outputs and PROFIBUS PA Ex i (firmware 4.1.10 required)	A5E00057317
Set of Torx screwdrivers	A5E34821625

¹⁾ Only in connection with an approved purging unit

Extractive continuous process gas analysis

Series 6
ULTRAMAT 6

Field device

1

Selection and ordering data			Article No.	
ULTRAMAT 6 gas analyzer			7MB2112- - - - - A	
For installation in the field, single-channel, 2 components			Cannot be combined	
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.				
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
<u>Measured component</u>	<u>Smallest measuring range</u>	<u>Largest measuring range</u>		
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 (QAL1; see table "Based on QAL1 according to SIRA/MCERTS (2 components in series)", page 1/65)				
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		
<u>Internal gas paths</u>	<u>Sample chamber (lining)</u>	<u>Reference chamber (flow-type)</u>		
Hose made of FKM (Viton)	Aluminum	Non-flow-type	0	0 → A28, A29
	Aluminum	Flow-type	1	
Pipe made of titanium	Tantalum ¹⁾	Non-flow-type	2	2 → A28, A29, Y02
	Tantalum ¹⁾	Flow-type	3	
Stainless steel pipe (mat. no. 1.4571)	Aluminum	Non-flow-type	6	6 → A28, A29
	Tantalum ¹⁾	Non-flow-type	8	
<u>Add-on electronics</u>				
Without			0	
AUTOCAL function				
• With 8 additional digital inputs/outputs			1	
• With 8 digital inputs/outputs and PROFIBUS PA interface			6	
• With 8 digital inputs/outputs and PROFIBUS DP interface			7	
• With 8 digital inputs/outputs and PROFIBUS PA Ex i			8	
<u>Power supply</u>				
Standard unit and acc. to ATEX II 3G version (Zone 2)				
• 100 ... 120 V AC, 48 ... 63 Hz			0	
• 200 ... 240 V AC, 48 ... 63 Hz			1	
ATEX II 2G versions (Zone 1), incl. certificate				
• 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: leakage compensation)			2	2 → 2
• 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: leakage compensation)			3	3 → 3
• 100 ... 120 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: continuous purging)			6	6 → 6
• 200 ... 240 V AC, 48 ... 63 Hz, according to ATEX II 2G ²⁾ (operating mode: continuous purging)			7	7 → 7
<u>Heating of internal gas paths and analyzer unit</u>				
none				
With (max. 65 °C)			A B	

Extractive continuous process gas analysis

Series 6

ULTRAMAT 6

Field device

1

Selection and ordering data

ULTRAMAT 6 gas analyzer

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

Article No.

7MB2112-  Cannot be combined

Language (supplied documentation, software)

German
English
French
Spanish
Italian

0
1
2
3
4

1) Only for cell length 20 to 180 mm.

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

Additional versions

Order code

Add "-Z" to Article 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

TAG labels (specific lettering based on customer information)

B03

Kalrez gaskets in sample gas path

B04

SIL conformity declaration (SIL 2) Functional Safety according to IEC 61508 and IEC 61511

C20

Ex versions

Possible combinations: see table "Ex configurations – principle selection criteria (Series 6), chapter "General information"

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

E42

BARTEC Ex p purging unit "Leakage compensation"

E71

BARTEC Ex p purging unit "Continuous purging"

E72

Clean for O₂ service (specially cleaned gas path)

Y02

Measuring range indication 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)

QAL1 according to SIRA/MCERTS

Y17

Additional units for Ex versions

Article No.

Category ATEX II 2G (zone 1)

BARTEC Ex p purging unit, 230 V, "leakage compensation"

7MB8000-2BA

BARTEC Ex p purging unit, 115 V, "leakage compensation"

7MB8000-2BB

BARTEC Ex p purging unit, 230 V, "continuous purging"

7MB8000-2CA

BARTEC Ex p purging unit, 115 V, "continuous purging"

7MB8000-2CB

Ex i isolating transformer

7MB8000-3AB

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 arrester

7MB8000-6BA

Hastelloy flame arrester

7MB8000-6BB

Category ATEX II 3G (Zone 2)

BARTEC Ex p purging unit, 230 V, "continuous purging"

7MB8000-2CA

BARTEC Ex p purging unit, 115 V, "continuous purging"

7MB8000-2CB

FM/CSA (Class I Div. 2)

Ex purging unit MiniPurge FM

7MB8000-1AA

Accessories

Article No.

RS 485/Ethernet converter

A5E00852383

RS 485/RS 232 converter

C79451-Z1589-U1

RS 485/USB converter

A5E00852382

AUTOCAL function with 8 digital inputs/outputs

A5E00064223

AUTOCAL function with 8 digital inputs/outputs and PROFIBUS PA

A5E00057315

AUTOCAL function with 8 digital inputs/outputs and PROFIBUS DP

A5E00057318

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

A5E00057317

Set of Torx screwdrivers

A5E34821625

Based on QAL1 according to SIRAMCERTS (single component)

Only with additional suffix Z (Y17, Y18)

Component Measuring range identification	CO (QAL1)		SO ₂ (QAL1)		NO (QAL1)	
	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

Example for ordering

ULTRAMAT 6, QAL1 (1-component unit)

Component: CO

Measuring range: 0 to 50 / 1 000 mg/m³

with hoses, non-flow-type reference compartment

without automatic adjustment (AUTOCAL)

230 V AC; without heating, German

7MB2111-0XD00-1AA0-Z +Y17**Based on QAL1 according to SIRAMCERTS (2 components in series)**

Component Measuring range identification	CO (QAL1)		NO (QAL1)	
	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

Example for ordering

ULTRAMAT 6, QAL1 (2 components in series)

Components: CO/NO

Measuring range CO: 0 to 75 / 1 000 mg/m³, NO: 0 to 200 / 2 000 mg/m³

with hoses, non-flow-type reference compartment

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 vpm / 3 000 vpm.

Version: Standard device

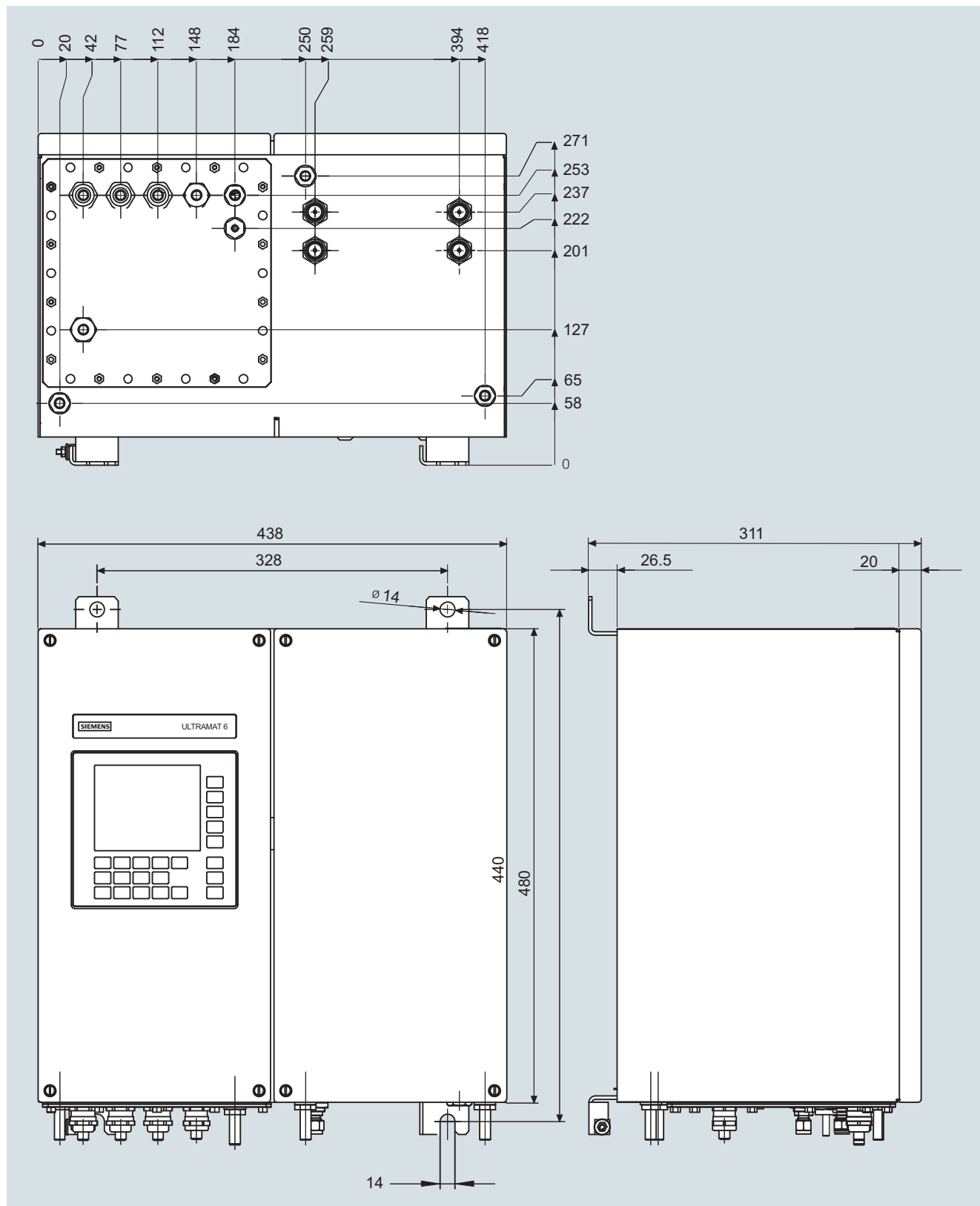
Extractive continuous process gas analysis

Series 6

ULTRAMAT 6

Field device

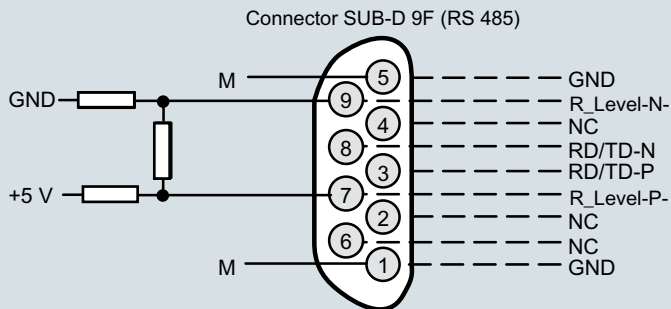
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Dimensional drawings

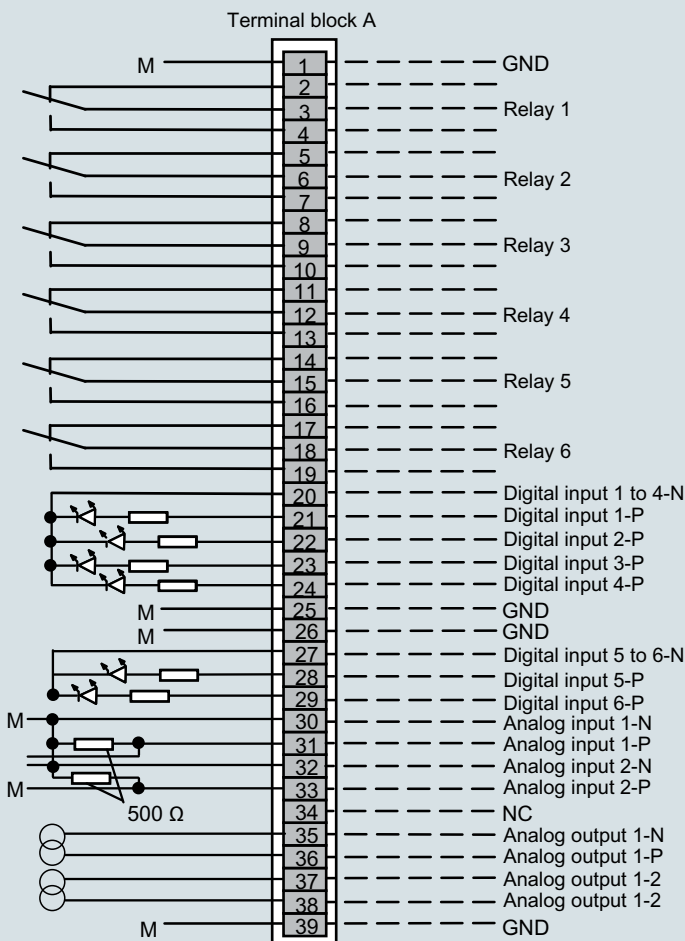
ULTRAMAT 6, field unit, dimensions in mm

Circuit diagrams

Pin assignment (electrical and gas connections)



It is possible to connect bus terminating resistors to pins 7 and 9.



Contact load max.
24 V/1 A, AC/DC; relay contacts
shown: relay coil has zero current

Isolated via optocoupler
"0" = 0 V (0 ... 4.5 V)
"1" = 24 V (13 ... 33 V)

Isolated via optocoupler
"0" = 0 V (0 ... 4.5 V)
"1" = 24 V (13 ... 33 V)
} Correction of cross-interference } Analog inputs non-isolated,
} Pressure correction } 0 ... 20 mA or 0 ... 10 V (internal resistance ≤ 500 Ω)
} Component 1 } Analog outputs isolated
} Component 2 (if available) }

Note:
All cables to the connectors or terminal blocks must be shielded and rest against the enclosure potential.

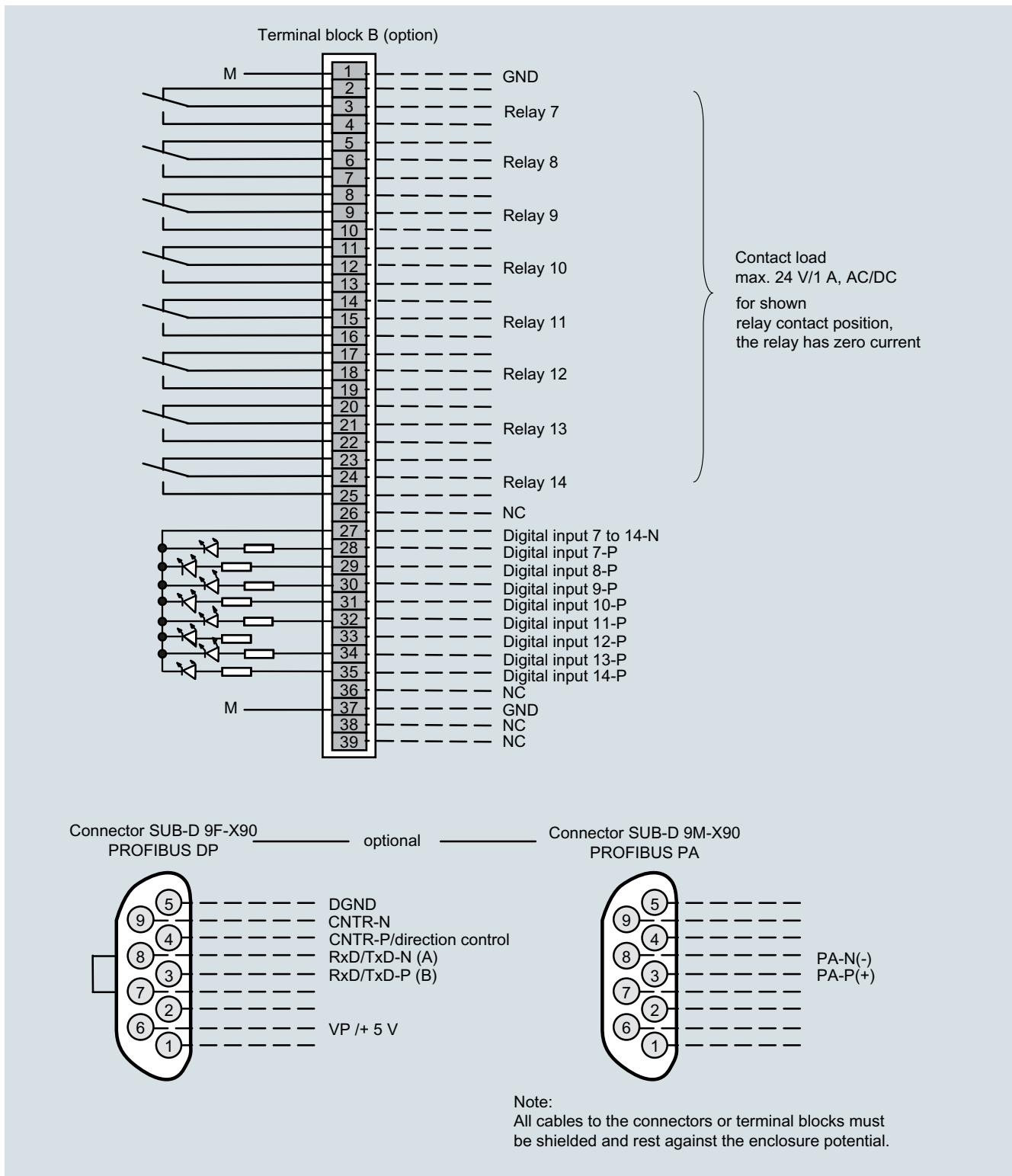
ULTRAMAT 6, field device, pin and terminal assignment

Extractive continuous process gas analysis

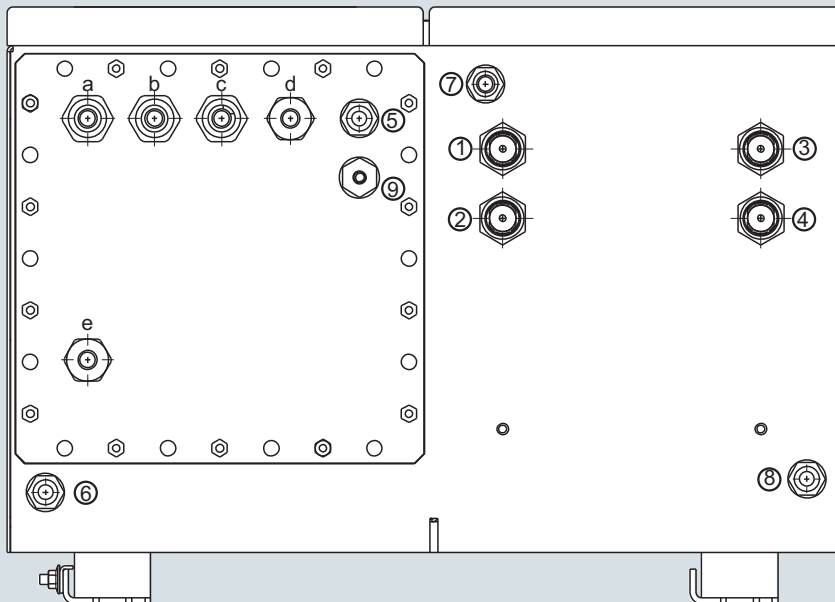
Series 6
ULTRAMAT 6

Field device

1



ULTRAMAT 6, field device, pin and terminal assignment of the AUTOCAL board and PROFIBUS connectors



Gas connections

- | | | |
|-----|--|---|
| ① | Sample gas inlet | } Clamping gland for pipe
Ø 6 mm or 1/4" |
| ② | Sample gas outlet | |
| ③ | Reference gas inlet (option) | |
| ④ | Reference gas outlet (option) | |
| ⑤-⑧ | Purging gas inlets/outlets, stubs Ø 10 mm or 3/8" | |
| ⑨ | Connection atmospheric pressure sensor, stubs Ø 1/4" | |

Electrical connections

- | | |
|-------|--|
| a - c | Signal cable (Ø 10 ... 14 mm)
(analog + digital): cable gland M20x1.5 |
| d | Interface connection: (Ø 7 ... 12 mm)
cable gland M20x1.5 |
| e | Power supply: (Ø 7 ... 12 mm)
cable gland M20x1.5 |

ULTRAMAT 6, field device, gas connections and electrical connections