

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

declares that the product

ULTRAMAT 23

7 MB 2335, 7 MB 2337

CO 0-150 mg/m³

complies with the requirements of QAL 1 according to the international
standards EN 14956 and EN 14181 for the following specified
operating conditions:



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 15.06.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 15.06.2005

Manufacturer's Declaration of Conformity for Automated Measuring Systems (AMS)
according to the requirements of EN 14956 and QAL 1 according to EN 14181

Specification of the Automated Measuring System

Gas analyzer
Order information
Measured component
Smallest TÜV certified measuring range

ULTRAMAT 23
7 MB 2335, 7 MB 2337
CO
0-150 mg/m³

Range of Applications

Test gas concentration /		
Emission limit value (daily average)	50	mg/m³
Ambient pressure range	990 ... 1010	hPa
Ambient temperature range	20 ... 35	°C
Flow range	30 ... 90	l/h
Voltage range	190 ... 250	V

Determined Standard Uncertainties referred to Daily Average Limit Value

Non-linearity	0,147	mg/m³
Drift	0,361	mg/m³
Pressure dependence	0,000	mg/m³
Ambient temperature dependence	-0,268	mg/m³
Flow dependence	0,000	mg/m³
Voltage dependence	0,000	mg/m³
Uncertainty of test gas	0,577	mg/m³
Leakage during sampling and sample transport	0,000	mg/m³
Reference measuring method	0,323	mg/m³
Reproducibility standard deviation	0,188	mg/m³
Selectivity (cross interference):		
O ₂	0,520	mg/m³
CO	0,000	mg/m³
CO ₂	2,078	mg/m³
CH ₄	0,000	mg/m³
N ₂ O	0,058	mg/m³
NO	0,000	mg/m³
NO ₂	0,297	mg/m³
NH ₃	0,000	mg/m³
SO ₂ (coal firing without desulfurization)	0,000	mg/m³
HCl (coal firing)	0,000	mg/m³
H ₂ O (sample conditioning with cooler)	0,000	mg/m³

Result

Target value	< 5	mg/m³	according to 13. BImSchV
Result 95% confidence intervall	4,64	mg/m³	equivalent to s _{AMS} acc. to EN 14181
<i>equals the extended measurement uncertainty</i>			
Combined standard uncertainty	2,32	mg/m³	95% confidence interval met

Response Time

Target response time	< 200	s	
Measured response time	67	s	requirement fulfilled

Data base on: suitability test Ultramat 23 7MB2337, December 2004
Report-No: 427899, TÜV Industrie Service GmbH, TÜV Süd Gruppe

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

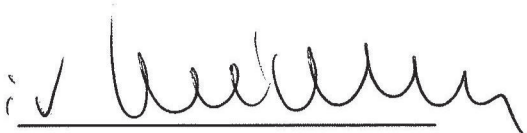
declares that the product

ULTRAMAT 23

7 MB 2335, 7 MB 2337

NO 0-100 mg/m³

complies with the requirements of QAL 1 according to the international
standards EN 14956 and EN 14181 for the following specified
operating conditions:



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 15.06.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 15.06.2005

Manufacturer's Declaration of Conformity for Automated Measuring Systems (AMS)
according to the requirements of EN 14956 and QAL 1 according to EN 14181

Specification of the Automated Measuring System

Gas analyzer
Order information
Measured component
Smallest TÜV certified measuring range

ULTRAMAT 23
7 MB 2335, 7 MB 2337
NO
0-100 mg/m³

Range of Applications

Test gas concentration /		
Emission limit value (daily average)	33	mg/m³
Ambient pressure range	990 ... 1010	hPa
Ambient temperature range	20 ... 35	°C
Flow range	30 ... 90	l/h
Voltage range	190 ... 250	V

Determined Standard Uncertainties referred to Daily Average Limit Value

Non-linearity	0,110	mg/m³
Drift	0,324	mg/m³
Pressure dependence	0,000	mg/m³
Ambient temperature dependence	0,650	mg/m³
Flow dependence	0,000	mg/m³
Voltage dependence	0,000	mg/m³
Uncertainty of test gas	0,381	mg/m³
Leakage during sampling and sample transport	0,000	mg/m³
Reference measuring method	0,426	mg/m³
Reproducibility standard deviation	0,375	mg/m³
Selectivity (cross interference):		
O ₂	0,000	mg/m³
CO	0,000	mg/m³
CO ₂	1,501	mg/m³
CH ₄	0,000	mg/m³
N ₂ O	0,038	mg/m³
NO	0,000	mg/m³
NO ₂	0,000	mg/m³
NH ₃	0,000	mg/m³
SO ₂ (coal firing without desulfurization)	0,055	mg/m³
HCl (coal firing)	0,000	mg/m³
H ₂ O (sample conditioning with cooler)	0,208	mg/m³

Result

Target value	< 6,6	mg/m³	according to 13. BImSchV
Result 95% confidence intervall	3,64	mg/m³	equivalent to s _{AMS} acc. to EN 14181
<i>equals the extended measurement uncertainty</i>			
Combined standard uncertainty	1,82	mg/m³	95% confidence interval met

Response Time

Target response time	< 200	s	
Measured response time	67	s	requirement fulfilled

Data base on: suitability test Ultramat 23 7MB2337, December 2004
Report-No: 427899, TÜV Industrie Service GmbH, TÜV Süd Gruppe

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

declares that the product

ULTRAMAT 23

7 MB 2338

CO 0-250 mg/m³

complies with the requirements of QAL 1 according to the international
standards EN 14956 and EN 14181 for the following specified
operating conditions:



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 15.06.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 15.06.2005

Manufacturer's Declaration of Conformity for Automated Measuring Systems (AMS) according to the requirements of EN 14956 and QAL 1 according to EN 14181

Specification of the Automated Measuring System

Gas analyzer
Order information
Measured component
Smallest TÜV certified measuring range

ULTRAMAT 23
7 MB 2338
CO
0-250 mg/m³

Range of Applications

Test gas concentration /		
Emission limit value (daily average)	80	mg/m ³
Ambient pressure range	990 ... 1010	hPa
Ambient temperature range	20 ... 35	°C
Flow range	30 ... 90	l/h
Voltage range	190 ... 250	V

Determined Standard Uncertainties referred to Daily Average Limit Value

Non-linearity	0,289	mg/m ³
Drift	0,600	mg/m ³
Pressure dependence	0,000	mg/m ³
Ambient temperature dependence	-1,269	mg/m ³
Flow dependence	0,000	mg/m ³
Voltage dependence	0,000	mg/m ³
Uncertainty of test gas	0,924	mg/m ³
Leakage during sampling and sample transport	0,000	mg/m ³
Reference measuring method	0,516	mg/m ³
Reproducibility standard deviation	0,922	mg/m ³
Selectivity (cross interference):		
O ₂	0,000	mg/m ³
CO	0,000	mg/m ³
CO ₂	3,031	mg/m ³
CH ₄	0,142	mg/m ³
N ₂ O	0,000	mg/m ³
NO	0,000	mg/m ³
NO ₂	0,124	mg/m ³
NH ₃	0,000	mg/m ³
SO ₂ (coal firing without desulfurization)	0,137	mg/m ³
HCl (coal firing)	0,000	mg/m ³
H ₂ O (sample conditioning with cooler)	0,000	mg/m ³

Result

Target value	< 8	mg/m ³	according to 13. BImSchV
Result 95% confidence intervall	7,28	mg/m ³	equivalent to s _{AMS} acc. to EN 14181
<i>equals the extended measurement uncertainty</i>			
Combined standard uncertainty	3,64	mg/m ³	95% confidence interval met

Response Time

Target response time	< 200	s	
Measured response time	67	s	requirement fulfilled

Data base on: suitability test Ultramat 23 7MB233, August 1997
Report-No: 24012833, TÜV Umwelttechnik GmbH, TÜV Süddeutschland AG

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

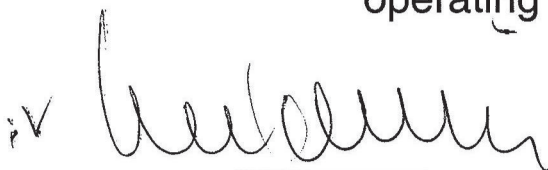
declares that the product

ULTRAMAT 23

7 MB 2338

NO 0-400 mg/m³

complies with the requirements of QAL 1 according to the international
standards EN 14956 and EN 14181 for the following specified
operating conditions:



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 15.06.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 15.06.2005

Manufacturer's Declaration of Conformity for Automated Measuring Systems (AMS)
according to the requirements of EN 14956 and QAL 1 according to EN 14181

Specification of the Automated Measuring System

Gas analyzer
Order information
Measured component
Smallest TÜV certified measuring range

ULTRAMAT 23
7 MB 2338
NO
0-400 mg/m³

Range of Applications

Test gas concentration /		
Emission limit value (daily average)	131	mg/m³
Ambient pressure range	990 ... 1010	hPa
Ambient temperature range	20 ... 35	°C
Flow range	30 ... 90	l/h
Voltage range	190 ... 250	V

Determined Standard Uncertainties referred to Daily Average Limit Value

Non-linearity	-0,462	mg/m³
Drift	1,134	mg/m³
Pressure dependence	0,000	mg/m³
Ambient temperature dependence	4,681	mg/m³
Flow dependence	0,000	mg/m³
Voltage dependence	0,000	mg/m³
Uncertainty of test gas	1,513	mg/m³
Leakage during sampling and sample transport	0,000	mg/m³
Reference measuring method	1,691	mg/m³
Reproducibility standard deviation	1,325	mg/m³
Selectivity (cross interference):		
O ₂	0,000	mg/m³
CO	0,231	mg/m³
CO ₂	3,695	mg/m³
CH ₄	0,000	mg/m³
N ₂ O	0,000	mg/m³
NO	0,000	mg/m³
NO ₂	0,000	mg/m³
NH ₃	0,000	mg/m³
SO ₂ (coal firing without desulfurization)	0,880	mg/m³
HCl (coal firing)	0,000	mg/m³
H ₂ O (sample conditioning with cooler)	0,000	mg/m³

Result

Target value	< 26,2	mg/m³	according to 13. BImSchV
Result 95% confidence intervall	13,39	mg/m³	equivalent to s _{AMS} acc. to EN 14181
<i>equals the extended measurement uncertainty</i>			
Combined standard uncertainty	6,69	mg/m³	95% confidence interval met

Response Time

Target response time	< 200	s	
Measured response time	67	s	requirement fulfilled

Data base on: suitability test Ultramat 23 7MB233, August 1997
Report-No: 24012833, TÜV Umwelttechnik GmbH, TÜV Süddeutschland AG

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

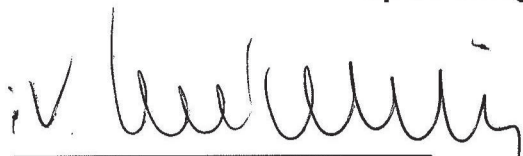
declares that the product

ULTRAMAT 23

7 MB 2335, 7 MB 2337, 7 MB 2338

SO₂ 0-400 mg/m³

complies with the requirements of QAL 1 according to the international
standards EN 14956 and EN 14181 for the specified
operating conditions.



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 15.06.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 15.06.2005

Manufacturer's Declaration of Conformity for Automated Measuring Systems (AMS)
according to the requirements of EN 14956 and QAL 1 according to EN 14181

Specification of the Automated Measuring System

Gas analyzer
Order information
Measured component
Smallest TÜV certified measuring range

ULTRAMAT 23
7 MB 2335, 7 MB 2337, 7 MB 2338
SO₂
0-400 mg/m³

Range of Applications

Test gas concentration /		
Emission limit value (daily average)	130	mg/m ³
Ambient pressure range	990 ... 1010	hPa
Ambient temperature range	20 ... 35	°C
Flow range	30 ... 90	l/h
Voltage range	190 ... 250	V

Determined Standard Uncertainties referred to Daily Average Limit Value

Non-linearity	-0,462	mg/m ³
Drift	1,651	mg/m ³
Pressure dependence	0,000	mg/m ³
Ambient temperature dependence	-4,393	mg/m ³
Flow dependence	0,000	mg/m ³
Voltage dependence	0,000	mg/m ³
Uncertainty of test gas	1,501	mg/m ³
Leakage during sampling and sample transport	0,000	mg/m ³
Reference measuring method	1,678	mg/m ³
Reproducibility standard deviation	1,150	mg/m ³
Selectivity (cross interference):		
O ₂	0,000	mg/m ³
CO	0,000	mg/m ³
CO ₂	0,924	mg/m ³
CH ₄	0,906	mg/m ³
N ₂ O	0,616	mg/m ³
NO	0,000	mg/m ³
NO ₂	0,000	mg/m ³
NH ₃	0,462	mg/m ³
SO ₂ (coal firing without desulfurization)	0,000	mg/m ³
HCl (coal firing)	0,000	mg/m ³
H ₂ O (sample conditioning with cooler)	0,235	mg/m ³

Result

Target value	< 26	mg/m ³	according to 13. BImSchV
Result 95% confidence intervall	11,13	mg/m ³	equivalent to s _{AMS} acc. to EN 14181
<i>equals the extended measurement uncertainty</i>			
Combined standard uncertainty	5,56	mg/m ³	95% confidence interval met

Response Time

Target response time	< 200	s	
Measured response time	67	s	requirement fulfilled

Data base on: suitability test Ultramat 23 7MB2333, August 1997
Report-No: 24012833, TÜV Umwelttechnik GmbH, TÜV Süddeutschland AG

Manufacturer's Declaration of Conformity

for Automated Measuring Systems (AMS)

according to the requirements of EN 14956 and
QAL 1 according to EN 14181

SIEMENS AG A&D PI 2
76181 Karlsruhe, Germany

declares that the manufacturer's declarations for the product

ULTRAMAT 23

are valid for all devices of this product series, irrespective to the order number,
according to the following conversion table:

Previous order no.	New order no.
7 MB 2331	7 MB 2335
7 MB 2333	7 MB 2337
7 MB 2334	7 MB 2338

This means that all devices that are tagged with order numbers of the previous system, also comply with the requirements of QAL 1 according to the international standards EN 14956 and EN 14181 for the operating conditions specified in the respective manufacturer's declarations.



Dr. Frank Diedrich
General Manager
A&D PI 2
Siemens AG
Datum: 01.08.2005



Peter Berghäuser
R&D Manager
A&D PI 2 RD
Siemens AG
Datum: 01.08.2005