



Calculation of the Standard Uncertainty according to the EN 14181:2004 QAL3 based on Performance Specifications of the prEN 15267-3:2005

Description of Gas Monitoring AMS

Automated Measuring System (AMS) based on	ACF-NT O2
ABB order number	
Intended for monitoring of	Waste incineration plant
Applicable EU directive	2000/76/EC
Name of plant	Colacem Rassina
Identification of measuring point	
Gas to be measured	O2
Smallest measurement range	25 Vol.-%
Largest measurement range (includes reference point)	25 Vol.-%

Field conditions of operation used in the uncertainty assessment

	Min. value	Max. value	
Ambient temperature range	25	35	°C
Ambient pressure range	970	1030	hPa
Flow range	30	100	l/h
Voltage range	190	250	V
Period of unattended operation, Zero point		1	day(s)
Period of unattended operation, Reference point		30	day(s)

Zero point performance specifications and resulting partial standard uncertainties

Drift	0,20	Vol.-%
$u_{\text{inst},0}$	0,12	Vol.-%
Shift due to ambient temperature change	0,50	Vol.-%
$u_{\text{temp},0}$	0,29	Vol.-%
Repeatability	0,20	Vol.-%
$u_{\text{others},0}$	0,12	Vol.-%

$$\text{Zero point } s_{\text{AMS}} = (u_{\text{inst},0}^2 + u_{\text{temp},0}^2 + u_{\text{others},0}^2)^{1/2}$$

Zero point s_{AMS} =	0,33	Vol.-%
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Reference point performance specifications and resulting partial standard uncertainties

Drift	0,20	Vol.-%
u_{inst}	0,12	Vol.-%
Shift due to ambient temperature change	0,50	Vol.-%
u_{temp}	0,29	Vol.-%
Effect of sample gas pressure	0,20	Vol.-% for 3 kPa change
u_{pres}	0,12	Vol.-%
Effect of sample gas flow	0,20	Vol.-%
u_{flow}	0,12	Vol.-%
Voltage effect	0,20	Vol.-%
u_{volt}	0,12	Vol.-%
Repeatability	0,20	Vol.-%
u_{others}	0,12	Vol.-%

$$\text{Reference point } s_{\text{AMS}} = (u_{\text{inst}}^2 + u_{\text{temp}}^2 + u_{\text{pres}}^2 + u_{\text{volt}}^2 + u_{\text{flow}}^2 + u_{\text{others}}^2)^{1/2}$$

Reference point s_{AMS} =	0,40	Vol.-%
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- ABB Automation GmbH assumes no warranty and no liability for the correctness of the above results -