TÜVRheinland®
Precisely Right.

CONFIRMATION

of Product Conformity (QAL1)

Approved AMS:	PowerCEMS100 for CO, NO, NO_2, N_2O, SO_2, CH_4, TOC, O_2 and CO_2
Manufacturer:	Endress+Hauser SICK GmbH + Co. KG Bergener Ring 27 01458 Ottendorf-Okrilla Germany
Test Institute::	TÜV Rheinland Energy & Environment GmbH

This is to certify that the AMS has been tested according to the standards

EN 15267-1 (2009), EN 15267-2 (2023), EN 15267-3 (2008), EN 12619 (2013) as well as EN 14181 (2014).

The AMS underwent independent expert testing and was accepted.
This confirmation is valid up to the publication of the certificate,
but no longer than 6 months from the date of issue
(this document contains 5 pages).

This confirmation is valid until: 30 April 2026

TÜV Rheinland Energy & Environment GmbH
Cologne, 4 July 2025

i. V. Dipl.-Ing. G. Baum

i. A. Dipl.-Ing. C. Röllig

www.umwelt-tuv.eu qal1-info@tuv.com Tel. +49 221 806-5200	TÜV Rheinland Energy & Environment GmbH Am Grauen Stein 51105 Köln

Test institute accredited to EN ISO/IEC 17025 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to certificate D-PL-11120-02-00.

Test Report:	EuL/21264646/A dated 17 February 2025
Expiry date:	30 April 2026

Approved application
The tested AMS is suitable for use at plants according to Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2021), chapter IV (waste incineration plants / 17th BImSchV:2023), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2021, 30th BImSchV:2019 and 27th BImSchV:2013. The measured ranges have been selected so as to ensure as broad a field of application as possible.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and field test up to 24 month at a power plant.

The AMS is approved for an ambient temperature range of +5 °C to 40 °C and with air conditioning up to +50 °C.

The notification of suitability of the AMS, performance testing and the uncertainty calculation have been effected on the basis of the regulations applicable at the time of testing. As changes in legal provisions are possible, any potential user should ensure that this AMS is suitable for monitoring the emission limit values and oxygen concentration relevant to the application.

Note
The legal regulations mentioned do not correspond to the current state of legislation in every case. Each user should, if necessary, in consultation with the competent authority, ensure that this AMS meets the legal requirements for the intended use. In addition, it cannot be ruled out that legal regulations governing the use of a measuring device for emission monitoring may change during the lifetime of the certificate.

Basis of the confirmation
This confirmation is based on:

- Test report EuL/21264646/A dated 17 February 2025 issued by TÜV Rheinland Energy & Environment GmbH
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body
- Suitability announced by the relevant body.

AMS designation: Modular System MAC GMS800
for CO, NO, NO_2, SO_2, CH_4, N_2O, CO_2 and O_2

Manufacturer: Endress+Hauser SICK GmbH + Co.KG, Ottendorf-Okrilla

Field of application:

For measurements at plants requiring official approval (i.e. Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2021), chapter IV (waste incineration plants / 17th BImSchV:2023), Directive 2015/2193/EC (44th BImSchV:2022), TA Luft:2021, 30th BImSchV:2019 and 27th BImSchV:2013)).

Measuring ranges during performance testing:

Component	Module	Certification range	Supplementary measuring ranges		Unit
	MAC GMS800				
CO	UNOR	0 - 75	0 - 750	0 - 3.000	mg/m³
	MULTOR	0 - 200	0 - 2.000	-	mg/m³
NO	UNOR	0 - 100	0 - 1.000	0 - 2.000	mg/m³
	MULTOR	0 - 250	0 - 2.500	-	mg/m³
	DEFOR	0 - 50	0 - 1.000	0 - 2.000	mg/m³
NO_2	DEFOR	0 - 50	0 - 500	-	mg/m³
NO_x	UNOR	0 - 100	0 - 1.000	0 - 2.000	mg/m³
	MULTOR	0 - 250	0 - 2.500	-	mg/m³
SO_2	UNOR	0 - 75	0 - 287	0 - 2.000	mg/m³
	MULTOR	0 - 250	0 - 2.000	-	mg/m³
	DEFOR	0 - 75	0 - 287	0 - 2.000	mg/m³
CH_4	UNOR	0 - 50	0 - 500	-	mg/m³
	MULTOR	0 - 286	0 - 500	-	mg/m³
N_2O	UNOR	0 - 50	0 - 500	-	mg/m³
CO_2	UNOR	0 - 25	-	-	Vol.-%
	MULTOR	0 - 25	-	-	Vol.-%
O_2	OXOR-P	0 - 25	-	-	Vol.-%
	OXOR-E	0 - 25	-	-	Vol.-%
TOC	FIDOR	0 - 15	0 - 50 / 0 - 150 / 0 - 500		mg/m³

Software version: PowerCEMS100

BCU:	9150883_4.006
UNOR/MULTOR:	9137995_4.002
DEFOR:	9139736_4.004
OXOR:	9138052_4.001
Gasmodul:	9134803_4.003

Restrictions:

1. Functionality of the respective combination of modules shall be verified during the checks for proper installation.
2. The maintenance interval shall be determined during the check for proper installation.

Notes:

1. Automatic calibration of zero points shall be carried out with humidified ambient air for all components except for O2 (OXOR-P and OXOR-E) once a week.
2. Automatic span point calibration for the OXOR-P and OXOR-E (O2) sensors shall be carried out once a week with humidified ambient air.
3. With the help of external air conditioning the AMS also fulfils the requirements at an ambient air temperature of 50 °C.
4. If the "GMS811-FIDOR for TOC" module is installed, the measuring system can only be operated with a fan unit up to an ambient temperature of 40 °C.The measuring system may be operated with cooler type MAK10-2 manufactured by AGT Thermotechnik as well as with type CSS-V2SK manufactured by M&C.
5. With weekly adjustments using the respective internal test gas cell or edge filter (NO_2 (DEFOR)), the maintenance intervals for the modules can be extended as follows:
   a. one year for the modules CO (UNOR), CH4 (UNOR and MULTOR)
   b. half a year for the modules CO (MULTOR), NO (MULTOR), SO_2 (DEFOR)
   c. three months for the modules NO (UNOR) und NO_2 (DEFOR
6. The measuring system can also be equipped with the SCU-P100 display unit.
7. The 19" slide-in housing with integrated BCU (GMS810) and without integrated BCU (GMS811) is used for the standard application in the PowerCEMS100.
8. In the modular PowerCEMS100 system, the entire measuring system is controlled via a central BCU and a downstream central signalling unit. The individual measurement modules are now not connected to the SCU/BCU as before, but individually to the signal I/O unit. The BCU is still connected to the measurement and I/O modules via CAN bus.
9. The BCU of the measuring system now has the digital Modbus interface (RTU and TCP/IP) in accordance with VDI 4201 Sheet 1 and Sheet 3. the results of the tests are described in report 936/21236082/A dated 10 October 2016 (PowerCEMS100) and in report 936/21236082/B dated 10 October 2016 (GMS811-FIDOR) from TÜV Rheinland Energy GmbH.
10. In future, the measuring system can be equipped with a housing purge using inert gas or clean air for the GMS800 DEFOR measuring module when installed in areas with contaminated ambient air. This purging can be carried out either for the entire 19" housing or for the filter wheel housing. Appropriate design modifications have been made to the housings to connect the purge air.
11. In future, the DEFOR module can also be equipped with alternative interference filters for NO2 measurement with the article numbers 5347371 and 5347372.
12. The "GMS811-FIDOR for TOC" module can alternatively be operated with the 6027504 catalytic converter for air treatment.
13. The "GMS811-FIDOR for TOC" module performs a daily zero point adjustment.
14. The measuring devices are also suitable for use in installations subject to the 44th BImSchV.
15. Supplementary testing (Integration of the GMS811-FIDORi into the PowerCEMS100 modular system) as regards Federal Environment Agency notices of 23 February 2012 (BAnz. 2 March 2012, No. 36, p. 920, chap. I No. 5.1) and of 2 April 2025 (BAnz AT 19.05.2025 B3, chap. IV notification 10).

Test Institute:
TÜV Rheinland Energy & Environment GmbH, Cologne
Report No.: EuL/21264646/A dated 17 February 2025

Tested product

This confirmation applies to automated measurement systems conforming to the following description:

The multi-component measuring system PowerCEMS100 is a modular sensor system. The essential part is the instrument cabinet including the interface modules, measuring gas pump, test gas supply unit, electronic unit and SCU/BCU control unit. It is possible to place up to three different measurement modules in this instrument cabinet All gas sensors are able to work independently from other sensors. Thus, the modular measuring system can be equipped according to different requirements, each with appropriate measurement modules.

The following gas senor modules have been certified so far: UNOR, MULTOR, DEFOR, OXOR.

All gas senor modules are connected by a BUS-system. The BUS system continuously outputs the measured values determined. It also allows to activate control functions of the sensor modules or read and, where necessary, change sensor parameters.

The following components are part of the complete system:

- heated probe (M&C SP 2000) with heated filter, test gas supply function and back purging,
- heated sample gas line (a heated line with a length of 10 m was used during the laboratory test, during the field test a heated line with a length of 50 m was used),
- instrument cabinet with interface modules, measuring gas pump, sample gas cooler, test gas supply unit, sensor modules with gas sensors, electronic- unit and SCU/BCU control unit.