

DOL 119 CO₂ sensor

A new generation CO₂ sensor that withstands high-pressure cleaning.

Improve livestock welfare and reduce mortality

DOL 119 CO₂ sensor measures the carbon dioxide level and air quality in livestock houses to ensure that the broilers enjoy optimum climate conditions and to avoid a higher FCR and higher mortality.

At dol-sensors we constantly improve your product due to our customers' requests. Therefore we designed a new and life-time improved CO₂ sensor to **replace the DOL 19**. Our new CO₂ sensor DOL 119 is IP 67 protected which means that it is waterproof and can withstand high-pressure cleaning. We made sure that the replacement of your old DOL 19's is easily made.

DOL 119 is robust and well-suited for the harsh conditions in livestock houses. Since the sensor is placed in the middle of the stable and not on the wall as many other CO₂ sensors, it measures the level of CO₂ where it is most accurate and therefore delivers a reliable and accurate measurement.

The sensor can be customized for any farm management system in the world which makes it unique on the market.

Simply mount the protection cap attached to the cable to make the sensor withstand high-pressure cleaning.

Benefits

- Avoid CO₂ accumulation
- No more removing or destruction of sensors during high-pressure cleaning
- Improve animal welfare
- Avoid higher FCR
- Avoid higher mortality
- Collect data for management purpose

Advantages

- Easily replacement of DOL 19
- Can be customized for any farm management system
- Reliable and accurate monitoring of the CO₂ level
- CO₂ measurement time improved by over 100%
- Easy mounted protection cap



DOL 119 CO2 sensor



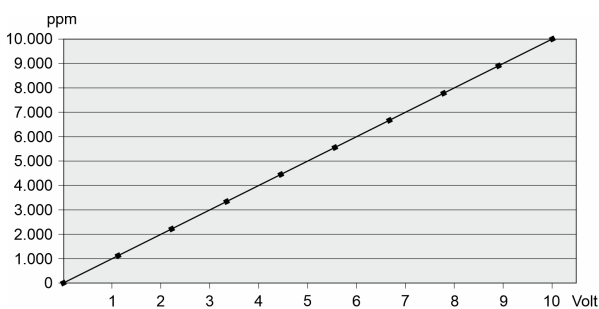
DOL 119 is a sensor for measuring carbon dioxide/CO2. The sensor is intended for measurement in live-stock houses and industrial environments.

The measuring range of the sensor is partly based on monitoring the comfort area of the animals and partly supervising fault conditions, if any, in livestock houses integrating direct combustion.

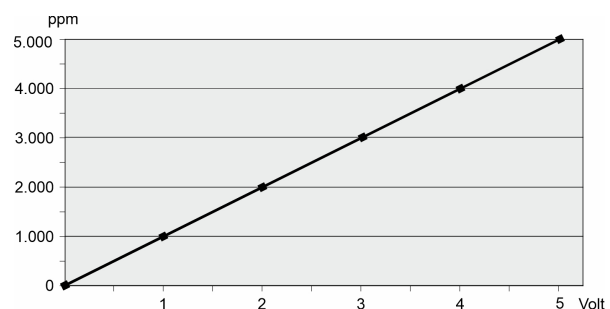
The sensor has two analogue outputs one 0-10V and one 0-5V output. Both are with low output impedance and are protected against short circuiting and incorrect connection.

The sensor is protected by a sturdy casing and behind a carefully selected filter. The sensor is supplied with cable and a cap for protection of the sensor during washing and disinfection.

The sensor must be placed in the middle of the house.



Operation curve output 1.



Operation curve output 2.

Product survey



140331 DOL 119 CO2 sensor 5000/10000 ppm

Sensor for measuring the CO2 content in the air. Supplied with a M12 plug and sealing plug as well as protection cap for DOL 119.



140330 DOL 119 CO2 sensor med adapter cable

Sensor for measuring the CO2 content in the air. Supplied with a M12 plug and sealing plug as well as protection cap for DOL 119, also including adapter cable for fast replacement of DOL 19 with DOL 119 0-10V.

Accessories



140261 DOL 119/139 Protection cap plug 5 pcs.

Protection cap for DOL 119/139 for protection of the sensor during, for example, cleaning.



140269 Cable 2 m M12 plug incl. sealing plug

2 meter cable for sensor with M12 plug and sealing plug.



140329 Adapter cable for DOL 119

Adapter cable is used when replacing DOL 19 with DOL 119 in an existing installation.

Technical data

		DOL 119 0-10V	
Specification		Parameter	Unit
Output	Measurement range (Output 1)	0 - 10	VDC
	Measurement range (Output 2)	0 - 5	VDC
	Limited output power per port	20	mA
	Output impedance	<1	Ω
	Recommended load impedance	>100	k Ω
	Max. Cable length @ 0.75 mm ²	100	m
	Max. cable length @ 1.50 mm ²	200	m
	Load impedance	0.5 – 10000	k Ω
CO ₂ – Output 1	Measurement range	0-10000	ppm
	Output resolution	0.001	V/ppm CO ₂
	Accuracy 400 – 10000 ppm	50 ppm \pm 5% of measured value	ppm
	Temperature stability (0-50°C)	\pm 2.5	ppm/°C
	Time constant: T63	2 min. at 0.5 m/s air speed	
CO ₂ – Output 2	Measurement range	0 - 5000	ppm
	Output resolution	0.001	V/ppm CO ₂
	Accuracy 400 – 10000 ppm	50 ppm \pm 5% of measured value	ppm
	Temperature stability	\pm 2.5	ppm/°C
	Time constant T63	2 min. at 0.5 m/s air speed	
Supply voltage		13.5 - 30	VDC
Supply current	No load	8	mA
	Max. load	55	mA
Temperature, operation CO ₂	CO ₂ valid	0 - +50	°C
Temperature, operation		-40 - +60	°C
Temperature, storage		-40 - +70	°C
IP classification		IP67 (DIN 40050-9)	
		NEMA 1, 3, 4, 6	
Cable length		2	m
Cable conductor size		4 x 0.34 (4 x AWG22)	mm ²
Dimensions (diameter/width)		33.3	mm
Dimensions (length)		128.3	mm
Weight			g
Approvals		CE	

Dimensions

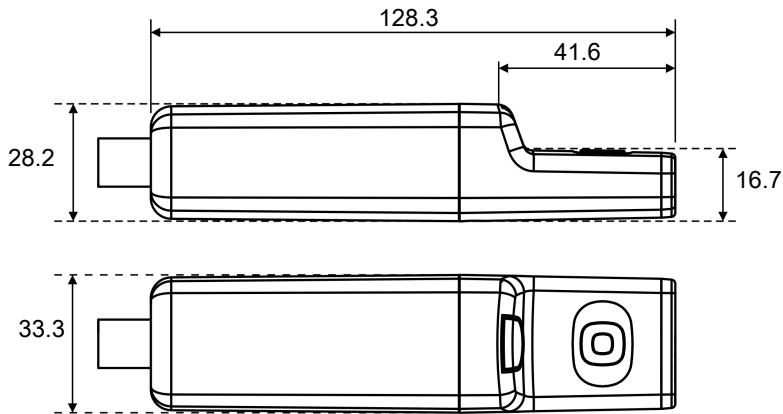


Figure 1: In mm.

DOL 119 CO2 sensor

4-20 mA



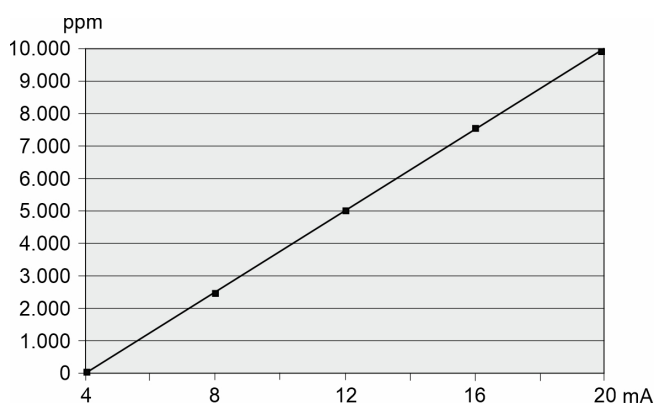
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The measuring range of the sensor is partly based on monitoring the comfort area of the animals and partly supervising fault conditions, if any, in livestock houses integrating direct combustion.

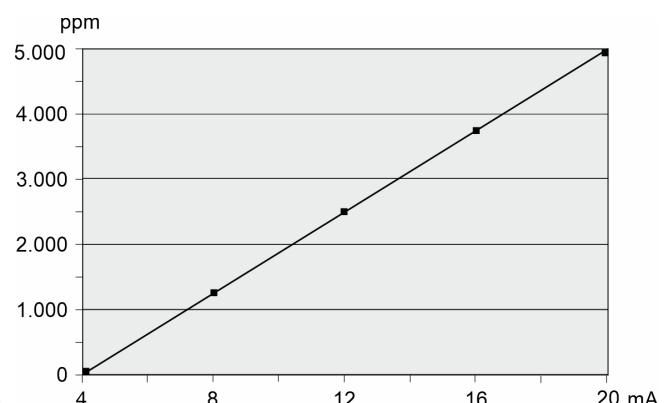
DOL 119 4-20 mA has two analogue current outputs, both are set up to supply 4-20 mA. Output 1 has a measuring range of 0-10000ppm, output 2 has a measuring range of 0-5000ppm. The outputs are protected against short circuiting and incorrect connection.

The sensor is protected by a sturdy casing and behind a carefully selected filter. The sensor is supplied with cable and a cap for protection of the sensor during washing and disinfection.

The sensor must be placed in the middle of the house.



Operation curve output 1.



Operation curve output 2.

Product survey



140331 DOL 119 CO2 sensor 5000/10000 ppm

Sensor for measuring the CO2 content in the air. Supplied with a M12 plug and sealing plug as well as protection cap for DOL 119.



140330 DOL 119 CO2 sensor med adapter cable

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140332 DOL 119 CO2 sensor 4-20 mA

Sensor for measuring the CO2 content in the air. Supplied with a M12 plug and sealing plug as well as protection cap for DOL 119.

Accessories



140261 DOL 119/139 Protection cap plug 5 pcs.

Protection cap for DOL 119/139 for protection of the sensor during, for example, cleaning.



140269 Cable 2 m M12 plug incl. sealing plug

2 meter cable for sensor with M12 plug and sealing plug.



140329 Adapter cable for DOL 119

Adapter cable is used when replacing DOL 19 with DOL 119 in an existing installation.

Technical data

		DOL 119 0-10V	
Specification		Parameter	Unit
Output	Current range (Output 1)	4 – 20	mA
	Current range (Output 2)	4 – 20	mA
	Limited output power per port	20	mA
	Output impedance	See Graph “Load vs. Supply”	
	Recommended load impedance		
	Max. Cable length @ 0.75 mm ²		
	Max. cable length @ 1.50 mm ²		
	Load impedance		
CO ₂ – Output 1	Measurement area	0-10000	ppm
	Resolution	0.0016	mA/ppm CO ₂
	Accuracy 400 – 10000 ppm	50 ppm ± 5% of measured value	ppm
	Temperature stability (0-50°C)	± 2.5	ppm/°C
	Time constant: T63	2 min. at 0.5 m/s air speed	
CO ₂ – Output 2	Measurement area	0 – 5000	ppm
	Resolution	0.0032	mA/ppm CO ₂
	Accuracy 400 – 10000 ppm	50 ppm ± 5% of measured value	ppm
	Temperature stability	± 2.5	ppm/°C
	Time constant T63	2 min. at 0.5 m/s air speed	
Supply voltage		13.5 – 30	VDC
Supply current	No load	8	mA
	Max. load	55	mA
Temperature, operation CO ₂	CO ₂ valid	0 – +50	°C
Temperature, operation		-40 – +60	°C
Temperature, storage		-40 – +70	°C
IP classification		IP67 (DIN 40050-9)	
		NEMA 1, 3, 4, 6	
Cable length		2	m
Cable conductor size		4 x 0.34 (4 x AWG22)	mm ²
Dimensions (diameter/width)		33.3	mm
Dimensions (length)		128.3	mm
Weight			g
Approvals		CE	

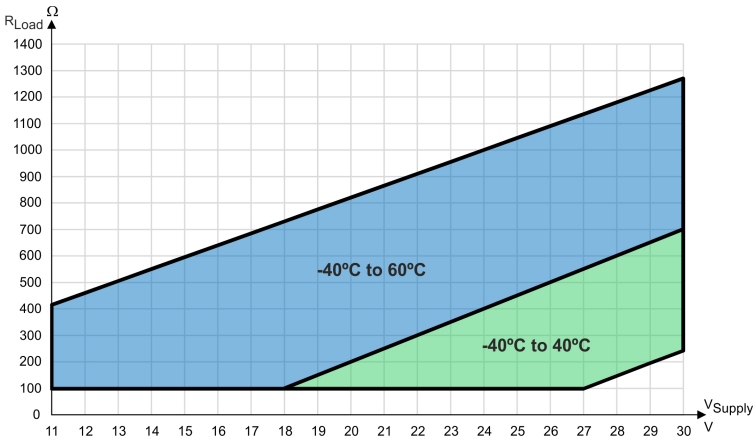


Figure 6. Graph: Load vs Supply.

Dimensions

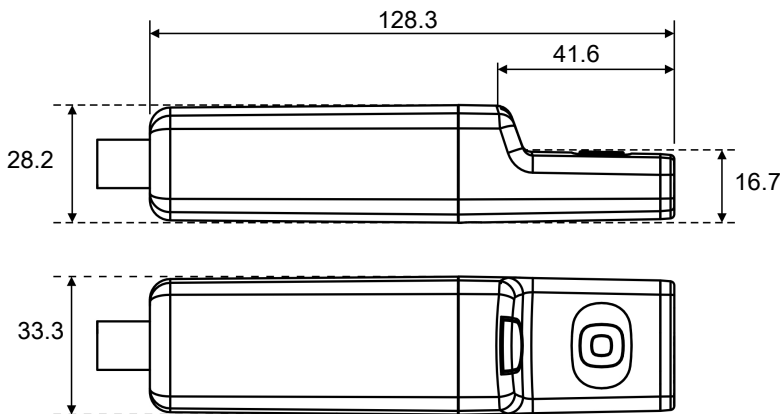


Figure 1: In mm.