CC33 Transmitter

Stainless steel housing with Type "D" protection

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If combustible gases and vapors need to be monitored in hazardous areas and there is a requirement for a flameproof gas detector, the CC33 transmitter is a reliable solution. It meets the requirements of ignition protection type "d" for safe use in Ex zone 1.

Thanks to the proven measuring principle of catalytic combustion, the CC33 detects flammable gases with shortest response times (t_{90} ≤ 9 s; sensor dependent). This is due to the chimney effect of the sensor housing, which ensures a faster gas flow.

Installation, service and operation

Connection and signal transmission are conducted through 4-20 mA industrial standard (ACDC-capable) or digitally through the RS-485 interface (Modbus / RTU). Smart Sensor technology simplifies sensor replacement. Maintenance and calibration can be performed by a single person.

When mounted close to the ceiling, a remote calibration adapter can be used for test gas supply without affecting the sensor's chimney effect.

The current measured value including unit, gas type and the menu can be read on the color backlit 2.2 inch display. Operation is conducted using a magnetic pen. Four colored LEDs indicate operating, special and alarm status in green, yellow or red.

Reliable measurement and minimal operating costs

The transmitter's built-in electronics compensate for temperature fluctuations and always ensure the highest measurement accuracy. Long-life sensors reduce operating costs.

Versions and options for every application

For applications such as the food or petrochemical industries, the CC33 is available in an insensitive stainless steel housing with a reinforced bulletproof glass (15 mm) and without painting. For all other applications, the basic version in an aluminum housing with epoxy paint and a 10 mm thick glass is suitable.

The CC33 can be operated as a stand-alone solution that both detects hazards from combustible gases such as methane, butane or propane early enough and controls alarms and safety measures.

For an additional on-site alarm, the transmitter is available with an optional buzzer for Ex zone 1, which accompanies the visual alarm (red LEDs and red backlit display) with a loud acoustic signal.

The CC33 can also be optionally configured with three freely programmable relays for the connection of additional visual and audible alarm devices. A colored LED for status indication is provided for each relay.

Also, in combination with GfG's powerful controllers, the CC33 is the right choice for monitoring flammable gases and vapors up to the lower explosion limit (LEL) as well as ammonia (% volume).

*Unpainted stainless steel housing
and explosion-proof buzzer*

Operation by means of magnetic pin

The three magnetic switches behind the protective glass, which is up to 15 mm thick, can be operated using the GfG magnetic pin. The GfG typical three-button operation is easy to understand. The menu is clearly structured and logical.

All transmitters of the 22, 29 and 33 series have a uniform user interface. The uniform operation and the logical system structure keep your training and maintenance effort as low as possible.

« *Innovation and Technology with Functional Design.* »

Advanced sensor technology

With improved sensor technology and the unique GfG "chimney effect", the CC33 transmitter for combustible gases has one of the fastest response times in the world. There are more crucial seconds left to initiiate countermeasures and to bring people to safety.

Smart sensors

Pre-calibrated sensor modules can be screwed directly into the sensor receptacle on the housing of the CC33. The smart GfG sensors are pre-programmed with all the necessary parameters and can be used without much effort "plug and play". Sensor changes are shown in the display.

Color graphic display

The clearly laid-out graphic display makes it easy to read the device status, the current measured value and many other important peices of information. In the event of an alarm, the display turns red. The large LEDs signal the current device status from a distance, providing rapid information to workers about any alamrs or malfunctions.

Using the display to navigate through the menu, make changes to settings and perform calibration is easy and various user authorizations can be set.

Calibration

To perform regular function control with gas application, a calibration adapter is placed on the transmitter for a safe and consistent gas supply.

Three freely programmable internal relays

The 33 series transmitters can be used as a "stand-alone system". The two alarm thresholds can be set individually and freely program the optional three relays. There is no need for a cable run to a controller and the safety-related devices can easily be switched.

Horn

Flashing Light

Ventilation
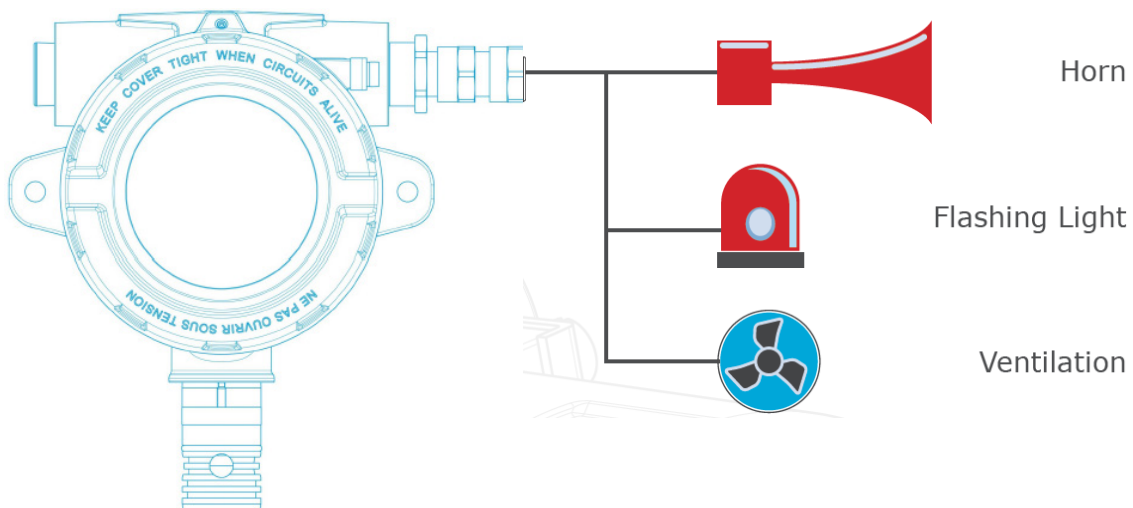
CC33 Stainless Steel

Feature summary

- » Ideal for food or petrochemical industries
- » Stainless steel housing with a reinforced bulletproof glass (15 mm) and without painting
- » Optionally configured with three freely programmable relays for the connection of additional visual and audible alarm devices
- » Meets the requirements of ignition protection type "d" for safe use in Ex zone 1

Technical Data: CC33

Measuring principle:	Catalytic combustion (CC)
Gas supply:	Diffusion or gassing per calibration adapter
Detection range:	0-100% LEL 0-4% volume (ammonia only)
Response time:	$t_{90} \leq 10$ s Sensor dependent
Displays and controls:	
Status LEDs:	1x 5 mm green for operation (left of the display) 1x 5 mm yellow for fault or service (right of the display) 3x 5 mm red for relay or buzzer (top)
Alarm LEDs:	2x 10 mm red for gas alarm (left and right above the display)
Display:	2.2 inch graphic display
Buttons:	3 function buttons (can only be operated with a magnetic pin)
Power supply:	
Operating voltage:	24 V DC (12-30 V DC permitted)
Max. error voltage:	60 V DC (with alarm)

Power consumption	**RS485 version**	**4-20 mA version**
without alarm with MK217:	typ. 48/58/82 mA @24V/18V/12V	max. 70/80/104 mA @24V/18V/12V
with MK208:	typ. 65/84/123 mA @24V/18V/12V	max. 87/106/145 mA @24V/18V/12V
without alarm with MK217:	max. 60/77/113 mA @24V/18V/12V	max. 82/99/135 mA @24V/18V/12V
with MK208:	max. 80/103/152 mA @24V/18V/12V	max. 102/125/174 mA @24V/18V/12V
Fuses:	250 mA (not exchangeable)	

Service connection:	
Design:	3.5 mm stereo jack socket (internal)
Digital input:	for configuration and firmware update
Output signal:	
Analog:	4-20 mA (ACDC capable) max. load: 800Ω/800Ω/500Ω @12V/18V/24V supply
Digital:	RS-485; Half-Duplex; max. 38,400 Baud; Modbus RTU protocol, slide switch for 120Ω Terminating resistor
Connection cable:	
Cable glands:	1 or 2 pieces
Connection terminals:	3, 8, 12 or 17 pieces depending on the version (for 0.08...2.5mm2 conductor cross-section)
Cable (analog):	3-core e.g. 3x 0.5 / 3x 0.75 / 3x 1.5mm2
Cable (digital):	4-core e.g. 4x 0.5 / 4x 0.75 / 4x 1.5mm2
Environmental conditions:	
Short-term storage temperature:	-13 to +140 °F / -25 to +60 °C
Recommended storage temperature:	+32 °F to +86 °F / 0 to +30 °C
Operating temperature:	-4 to +131 °F / -20 to 55 °C or +104 °F / +40 °C (Ex-protection- and sensor dependent)
Humidity:	5 to 95% r.h. (sensor dependent)
Pressure:	80 to120 kPa (sensor dependent)
Housing:	
Protection class:	IP67 when using a thread seal (e.g. with Teflon tape) IP54 without additional thread sealing
Material:	Die-cast aluminium or stainless steel
Dimensions:	5.7 x 6.7 x 5 in / 145 x 169 x 128 mm (W x H x D) with sensor
Weight:	3.5 lb / 1.60 kg with die-cast aluminium housing 7 lb / 3.13 kg with stainless steel housing
Approvals / Certifications:	
Markings and ignition protection types:	Ⓔ II 2G Ex db IIC T6 Gb -20°C≤Ta≤+55°C (without Buzzer) Ⓔ II 2G Ex db ib IIC T4/T6 Gb -20°C≤Ta≤+55°C/+40°C (with Buzzer) Ⓔ II 2G Ex db ib IIC T6 Gb -20°C≤Ta≤+40°C (with Buzzer)
Electromagnetic compability:	DIN EN 50270:2015 Interference emission: Type class I Interference immunity: Type class II

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smart
GasDetection
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