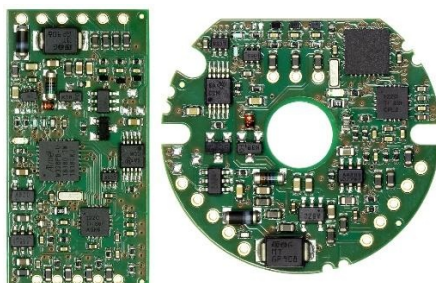
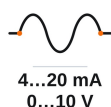


UNIVERSAL TRANSMITTER EX



- ATEX EX IA IIC · ZONE 0
- II 1 G · II 2 G
- EX DUTY +75/+50 °C
- 4...20 mA OR 0...10 V
- 24 BIT RESOLUTION



KEY DATA

Property	Value	Property	Value
Marking	II 1 G Ex ia [ia] IIC Ga	Zones	0, 1 and 2 · gases
	II 2 G Ex ia [ib] IIC Gb	Certificates	ATEX and IECEx, see CONFORMITY
Input	universal, programmable	Output	4 ... 20 mA or 0 ... 10 V
Resolution	24 bit	Accuracy	max. 0.1 % of nominal range
Ex operating temp.	-40 ... +75 °C / +50 °C (1)	Order code	EOMB · maker ID GC

The EOMA with explosion protection: the same programmable OEM board, certified as an intrinsically safe Ex component for zones 0, 1 and 2. The "U" in both certificate numbers means component, not equipment — the approval of the finished device is the installer's responsibility, and the four conditions of installation are in CONFORMITY. In Ex duty a narrower operating temperature applies than in the general data.



TECHNICAL DATA

INPUT

Sensor types	universal, programmable
Pt100, Pt1000	4-wire / 3-wire / 2-wire · sensor current 0.25 mA
Thermocouples	type J / type K / type N
Strain gauge bridge	min. 350 Ω
Bridge excitation	1.25 VDC (2-wire) · 3 VDC (3-wire)
Current / voltage	0 ... 20 mA / 0 ... 1 V / 0 ... 10 V
Potentiometer	min. 350 Ω , max. 100 k Ω
Digital I/O	3 x, level 3.3 V / 2 mA (option)
Measuring range	depends on the sensor, programmable

OUTPUT AND PERFORMANCE

Current output	4 ... 20 mA · 2-wire or 3-wire
Voltage output	0 ... 10 V · 0.5 ... 10.5 V · 2 ... 10 V · 3-wire only
Load, current output	$R = (U_B - 9 \text{ V}) / 22 \text{ mA}$
Load, voltage output	560 k Ω minimum
Fault signal	< 3.6 mA short circuit or under range
	> 21 mA sensor break, open circuit, over range
Accuracy -40...0 °C	max. 0.1 % $\pm$ 0.0015 % FS/K
... 0...+40 °C	max. 0.1 % FS
... +40...+80 °C	max. 0.1 % $\pm$ 0.019 % FS/K
With sensor	plus the sensor error
Resolution	24 bit
Filter	5 ... 5000 ms · switch-on delay 1 s

POWER SUPPLY

Supply, current output	9 ... 35 VDC
Supply, voltage output	12 ... 35 VDC
Reverse polarity	protected — no function, no damage
Short circuit	protected

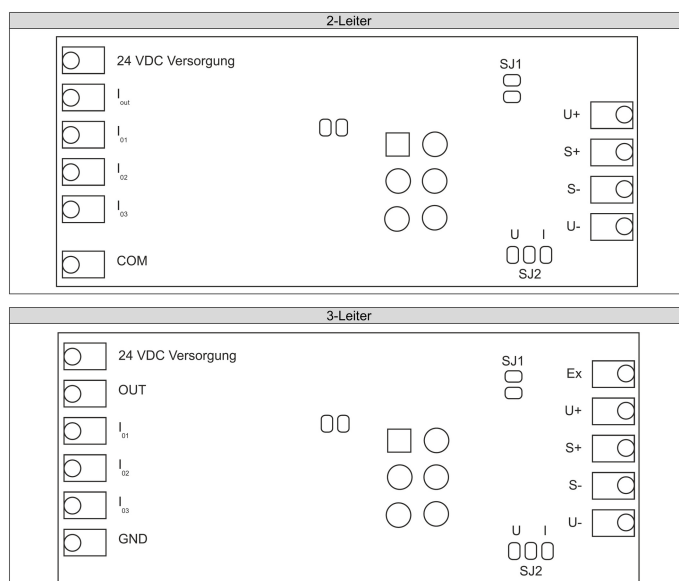
MECHANICS AND ENVIRONMENT

Dimensions, rect.	35 x 18 x 4 mm
Dimensions, round	31.4 x 28.6 x 4.8 mm, hole $\varnothing$ 8 mm
Material	FR4, PBT
Protection	IP00 — min. IP20 required in Ex duty
Connection	solder pads 2.9 x 1.9 mm
Mounting position	any
Weight	approx. 3.5 g
Operating temperature	-40 ... +85 °C
... in Ex duty	-40 ... +75 °C / +50 °C (1)
Storage temperature	-40 ... +85 °C
Humidity	30 ... 90 % rH, non-condensing
... reference	40 °C
EMC	EN 61000-6-2:2019-11
	EN 61000-6-4:2020-09

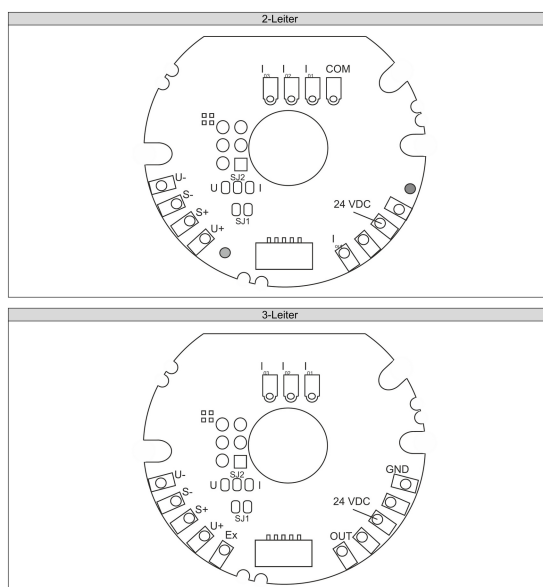
(1) In Ex duty the operating temperature is narrower than in the general data: -40 ... +75 °C with the current output, -40 ... +50 °C with the voltage output. Anyone relying on the approval must design to these figures.



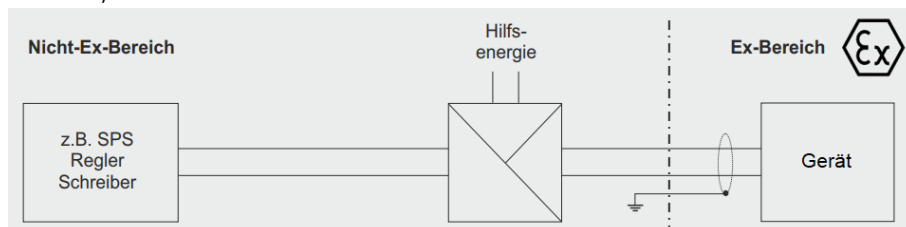
TERMINAL ASSIGNMENT AND EX INSTALLATION



Solder pads of the rectangular board, 2-wire above and 3-wire below. SJ1 and SJ2 are soldered jumpers and select the input. SJ1 is closed on delivery.



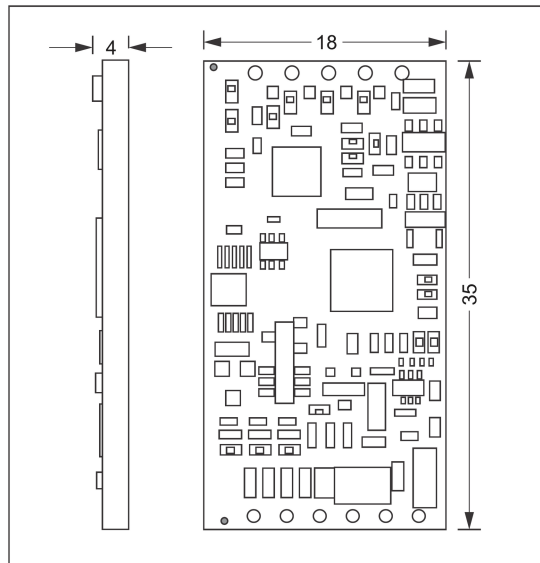
Solder pads of the round board, 2-wire above and 3-wire below.



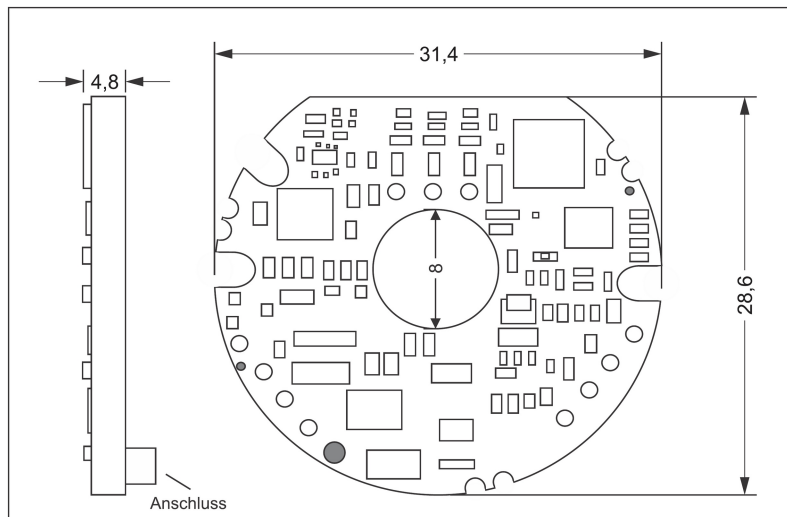
Intrinsically safe circuit: the transmitter sits in the hazardous area, the supply and the output circuit are fed through an isolating barrier from the safe area. The barrier is not part of the delivery.



DIMENSIONS



Rectangular form: 35 × 18 × 4 mm.



Round form: 31.4 × 28.6 × 4.8 mm with a hole Ø 8 mm.



CONFORMITY

Directive	2014/34/EU (ATEX)
Marking	II 1 G Ex ia [ia] IIC Ga · II 2 G Ex ia [ib] IIC Gb
Zones	For gases; installation in zone 0, zone 1 and zone 2
ATEX certificate	TÜV 21 ATEX 309041 U — the U means Ex component, not equipment
IECEx certificate	TUN 22.0017 U — likewise a component certificate
Intrinsic safety, input	Ui 30 VDC · Ii 110 mA · Pi 1 W · Ci and Li negligible
... sensor circuit	Uo 4.1 V · Io 51 mA (current) / 52 mA (voltage) · Po 52 mW · linear
... voltage output	Uo 12.6 V · Io 48 mA · Po 148 mW · linear
External reactances	23 mH / 1.7 µF · 10 mH / 3 µF · 0.5 mH / 6.4 µF · 0.2 mH / 8.1 µF (sensor circuit); 22 mH / 0.22 µF · 10 mH / 0.36 µF · 0.5 mH / 0.86 µF · 0.2 mH / 0.97 µF (voltage output)
Ex operating temp.	-40 ... +75 °C with the current output, -40 ... +50 °C with the voltage output
Condition — enclosure	To be installed so that at least IP20 to DIN EN 60529 is reached
Condition — potting	To be potted to DIN EN 60079-11 so that the permissible junction temperature of the zener diodes is not exceeded
Condition — isolation	Supply and output circuit must be safely galvanically isolated from earth potential
Condition — personnel	Installation and commissioning only by staff trained in types of protection
EMC	Tested to EN 61000-6-2:2019-11 and EN 61000-6-4:2020-09

ORDER INFORMATION

Accessories

- Configurator DEV-KMA, article number 1310-00564. The configuration and calibration software TrComm is included with it and can also be downloaded from the manufacturer.

ORDER KEY

Field	Value	Meaning
Product	EOMB	octagon product code — universal transmitter Ex, OEM board
Manufacturer key	GC · 5 digits	the manufacturer runs the series under ID GC
Digit 1 — input	0 · 1	0 universal · 1 universal with digital I/O
Digit 2 — output	0 ... 4	0 = 4 ... 20 mA (2-wire) · 1 = 4 ... 20 mA (3-wire) · 2 = 0 ... 10 V · 3 = 0.5 ... 10.5 V · 4 = 2 ... 10 V
Digit 3 — form	0 · 1	0 rectangular 35 × 18 × 4 mm · 1 round 31.4 × 28.6 × 4.8 mm
Digit 4 — setup	0 · 1	0 to customer specification (state sensor type and range) · 1 factory setting
Digit 5 — special	0 · 1	0 no · 1 yes (please specify)

Factory settings if no configuration is stated: Pt100 -200 ... +800 °C · Pt1000 -200 ... +600 °C · type K -200 ... +1350 °C · type N -200 ... +1300 °C · type J -210 ... +1200 °C · voltage 0 ... 10 V · current 0 ... 50 mA · strain gauge 2 mV/V. Current and voltage inputs can afterwards only be changed by re-soldering the jumpers; SJ1 is closed on delivery.

The order code is formed from the product code and the five digits.

