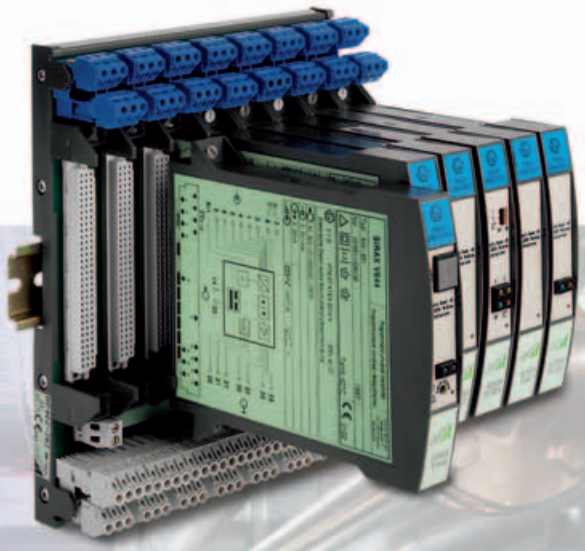
CAMILLE BAUER

Rely on us.

Signal isolation and sensor technology

SINEAX, SIRAX

Signal isolators



SINEAX Series

The single channel SINEAX series stands out by its small space requirements. To achieve this we have not made any compromises with safety. The type test certificates, which are also available in English, simplify the export of complete systems.

SIRAX Series

The 2-channel SIRAX series combines the benefits of the top-hat rail and the Euroboard systems. All the connections and the installation tests can easily be made on the pre-installed backplane. By simply plugging in the modules any measuring function is available at any location. The coded modules prevent incorrect positioning, which therefore protects the system components against damage.

Housing

The compact housing, which is only 17 mm wide, is one of the smallest on the market.

A version with plug-in, coded terminals is also available. This has advantages for the replacement of devices.

Safety

The housing material is halogen-free and is tested to UL 94 V0, the highest flammability class.

The circuits of all devices are isolated to IEC 1010 respectively EN 61 010.

Backplane and modules

Up to 8 modules can be mounted on one backplane. In this way up to 24 channels can be implemented with a passive isolator.

Compared with the traditional top-hat rail mounting, the backplane has the advantage that the cables do not make the connections more difficult.

Series	Type	Measuring Function	Special Feature	No. of channels	Ex	NEx	HART	program-mable	AC/DC power pack 24 - 60V, 85-230V
SINEAX	V624	Temperature transmitter		1	•	•		•	•
	TV 809	Isolating amplifier		1	•	•		•	•
	TV 819	Isolating amplifier		1		•			•
	TI 807	Passive DC signal isolator	Loop powered	1	•	•			–
	B812	Power pack		1	•	•	•		•
	SI 815	Power pack	Loop powered	1	•	•	•		–
SIRAX	V606	Temperature transmitter		2	•	•		•	•
	V644	Universal transmitter	Temperature, DC quantities, resistance	1	•	•		•	•
	TV 808	Isolating amplifier		2		•	•		•
	TV 808	Isolating amplifier	Output Ex	1	•		•		•
	TV 808	Isolating amplifier	Input Ex	1	•		•		•
	SV 824	Switch amplifier		2	•				•
	TI 807	Passive DC signal isolator	Loop powered	3	•	•			–
	C402	Alarm unit	2 trip points	1	•	•			•
	SD 810	Solenoid driver		1	•				•
	B811	Power pack		1		•	•		•

SINEAX, KINAX

Sensor technology

The intrinsically safe transducers for angular position are designed for use in zone 1 and for temperature class T6. They convert an angular position to a proportional DC current of 4…20 mA. The patented measurement acquisition is non-wearing and reactionless.

Camille Bauer offers a comprehensive range of products for temperature measurement based on an ASIC developed in-house. The devices are designed for use in zone 1 and for temperature class T6. All the temperature transducers can be parameterized via PC software respectively HART or Profibus.

Suitable thermocouples, sheath thermometers and resistance thermometers with ATEX approval complete the range.

Series	Type	Measuring Function	Special Feature	Ex	NEx	HART	Profibus PA	program-mable
SINEAX	VK 616	Head-mounted transmitter	with or without electrically isolation	•	•			•
	VK 626	Head-mounted transmitter	HART	•	•	•		•
	VK 636	Head-mounted transmitter	Profibus PA	•	•		•	•
	V608	Temperature transmitter	Housing width 17 mm	•	•			•
	V611	Temperature transmitter	Housing width 7 mm		•			•
KINAX	3W2	Transmitter for angular position	Incorporated mounting	•	•			
	WT 710	Transmitter for angular position	Unit in field	•	•			
	WT 707	Transmitter for angular position	Ruggedized version	•	•			
	SR 709	Transmitter for position feedback	with NAMUR valve fitting	•	•			
	2W2	Transmitter for angular position	Incorporated mounting	•	•			•
	WT 711	Transmitter for angular position	Unit in field	•	•			•
	WT 717	Transmitter for angular position	Ruggedized version	•	•			•
	SR 719	Transmitter for position feedback	with NAMUR valve fitting		•			•

RL 94/9/EG / ATEX

Explosion protection

The CAMILLE BAUER product range is designed for Zone 1, Explosion Group IIC. It is thus permissible to use them in Zone 2 and also as Group IIB or IIA devices. All interface devices fulfil the requirements for Zone 0. Note, however, that Category 1 is only one of the conditions required for Zone 0. The standards EN 60 079-14 and EN 50 284 also apply.

Explosion Protection with Intrinsic Safety „i“
Camille Bauer I&C instruments for the acquisition of signals in potentially explosive atmospheres are designed to comply with the explosion protection category “intrinsically safe” according to EN 50 020. Intrinsically safe electrical circuits are incapable of igniting potentially explosive atmospheres either by means of sparking or thermal effect under the fault conditions specified below. To this end, the electrical energy of the circuit is restricted by voltage and current limiters. The term intrinsic safety is generally abbreviated to the letter „i“.

Intrinsically Safe Electrical Apparatus
- All electrical circuits are intrinsically safe
- Apparatus is installed in the explosion hazard area

Marking and Electrical Data
EEx ia IIC T6
- T6 — Temperature class
- IIC — Explosion group
- ia — Type of protection
- EEx — Complies with EN 50 …

Ui: max. permissible input voltage
Ii: max. permissible input current
Pi: max. permissible input power
Ci: internal capacitance
Li: internal inductance

The temperature class indicates the max. surface temperature of the apparatus.

T1: 450 °C **T2: 300 °C** **T3: 200 °C**
T4: 135 °C **T5: 100 °C** **T6: 85 °C**

The lowest ignition temperature of the potentially explosive atmosphere must be greater than the max. surface temperature.

Associated Electrical Apparatus
- Electrical circuits are intrinsically safe and non intrinsically safe
- Apparatus is installed outside of the potentially explosive atmosphere

Marking and Electrical Data
[EEx ia] IIC
- IIC — Explosion group
- ia — Type of protection
- EEx — Complies with EN 50 …
- [ ] — Associated electrical apparatus

Uo: max. output voltage
Io: max. output current
Po: max. permissible output power
Co: max. permissible external capacitance
Lo: max. permissible external inductance

The manufacturer, the device type, the mark and the test number from the testing authority are affixed to both apparatus types.

Guideline 94/9/EC / ATEX
This guideline has been in effect since 1.7.2003. This requires that a manufacturer classifies his Ex device into one of three categories, which is then assigned to a zone that is valid throughout Europe.

Since Guideline 94/9/EC has been incorporated in the VGSEB, this also applies in Switzerland.

Device category	Safety	Zone	Potentially explosive atmosphere
1	very high, for 2 faults	0 / 20	continuous/ long-term/ frequent
2	high, for 1 fault	1 / 21	occasional
3	normal	2 / 22	seldom, short-term

Devices with approvals conforming to Ex Guideline 94/9/EC and a Type Examination Certificate is issued for them. Depending on the category, various QA measures must be implemented for the manufacture of explosion protected devices. E.g. Category 1 requires that the quality management system in production must be audited by a “Notified Body” in addition to ISO 900x. The ref. number of the NB is located next to the CE mark. The group, category and letter G (gas) or D (dust) explosion protection must appear next to the Ex mark on the label.

Marking
PTB 97 ATEX 2074 X
- X — Special condition(s)
- 2074 — Test laboratory no
- ATEX — EC guideline
- 97 — Year of approval

Additional Markings
- Intrinsically safe appar.: e.g. Ex II 1 G CE 0102
- Associated appar.: e.g. Ex II (1) GD CE 0102

Installation acc. to EN 60 079-14
Additional specifications for intrinsic safety are given in Section 12 of EN 60 079-14. Most importantly, this standard sets forth installation rules for Zones 1 and 2, supplementary precautions for Zone 0 and the wiring requirements for and verification of intrinsic safety. The following applies where active and passive devices are interconnected:
Ui ≥ Uo and Ii ≥ Io and Pi ≥ P.

Providing the circuit does not include energy storing components, the cable length is determined on the basis of its C and L values.
The maximum permissible cable length is given by Co-Ci and Lo-Li and the specific C and L of the cable.

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