

Programmable combined transmitter/alarm unit SINEAX VC 603, EURAX VC 603

- For DC currents or voltages, temperature sensors, remote sensors or potentiometers
- Programmed on the PC
- Two alarm circuits

Type of protection



[EEx ia] IIC

Certificates

Mechanical design		
Housing S35, SINEAX	PTB 97 ATEX 2074 X	/
Plug-in module, EURAX	PTB-No.: Ex-95.D.2054X	95,1 10423,02

Measuring input

Temperature sensors in two-wire connection (see wiring diagram No. 4, 8, 9, 10 or 11 in data sheet)

$U_o = 6\text{ V}$
 $I_o = 3\text{ mA}$
 $P_o = 5\text{ mW}$
 Linear characteristic

	IIC	IIB
L_o	1 H	1 H
C_o	40 μF	1000 μF

Temperature sensors, remote sensors or potentiometers in three- or four-wire connection

(see wiring diagram No. 5, 6, 7, 12 or 13 in data sheet)

$U_o = 11\text{ V}$
 $I_o = 3\text{ mA}$
 $P_o = 5\text{ mW}$
 Linear characteristic

	IIC	IIB
L_o	1 H	1 H
C_o	1.97 μF	13.8 μF

DC current or voltage

(see wiring diagram No. 1, 2 or 3 in data sheet)

$U_i = 30\text{ V}$
 $C_i = 6\text{ nF}$
 $L_i = 0$

Verification of the Intrinsic Safety acc. to EN 60 079-14

Only intrinsically safe DC currents and voltages may be measured. $U_o = 6\text{ V}$ on the VC 603 as well for this kind of measurement and therefore two intrinsically safe circuits are connected. The **certified** tables on page 2 and 3 give the values for L_o and C_o for typical applications. **The tables are calculated by PTB and serve to be used as the verification of the intrinsic safety.**

	Output	Power supply	Contact circuits
Rated data	15 V / 25 mA	24-60 V resp. 85-230 V AC / 110 V DC	250 V AC / 2 A resp. 125 V DC / 0.24 A resp. 30 V / 1 A
U_m	253 V	253 V AC resp. 125 V DC	253 V

Special features:

All VC 603 versions may only be programmed using the programming cable PRKAB 600 with the component certification PTB 97 ATEX 2082 U. The Eurax VC 603 must be installed in such a way that at least protection class IP20 acc. to EN 60 529 is attained.



SINEAX VC 603-1 in housing S35



EURAX VC 603-2 as 19" plug-in module

Verification of Intrinsic Safety

Housing S35 (SINEAX)

Table 1: 97 ATEX 2074 X

Values of L_o and C_o for measuring DC currents or voltages in intrinsically safe circuits which **linearly** limit the current.

U_i	I_i	Explosion group			
		IIC		IIB	
		L_o	C_o	L_o	C_o
13 V	27 mA	40 mH	262 nF	150 mH	1600 nF
19 V	27 mA	40 mH	112 nF	150 mH	850 nF
24 V	27 mA	40 mH	67 nF	150 mH	564 nF
30 V	27 mA	40 mH	42 nF	150 mH	370 nF
13 V	57 mA	10 mH	262 nF	40 mH	1600 nF
19 V	57 mA	10 mH	112 nF	40 mH	850 nF
24 V	57 mA	10 mH	67 nF	40 mH	564 nF
30 V	57 mA	10 mH	42 nF	40 mH	370 nF
13 V	77 mA	6 mH	262 nF	22 mH	1600 nF
19 V	77 mA	6 mH	112 nF	22 mH	850 nF
24 V	77 mA	6 mH	67 nF	22 mH	564 nF
30 V	77 mA	6 mH	42 nF	22 mH	370 nF
13 V	100 mA	3 mH	262 nF	12 mH	1600 nF
19 V	100 mA	3 mH	112 nF	12 mH	850 nF
24 V	100 mA	3 mH	67 nF	12 mH	564 nF
30 V	100 mA	3 mH	42 nF	12 mH	370 nF

Table 2: 97 ATEX 2074 X

Values of L_o and C_o for measuring DC currents or voltages in intrinsically safe circuits which **linearly** limit the current.

U_i	I_i	Both L_o and C_o			
		Explosion group			
		IIC		IIB	
		L_o	C_o	L_o	C_o
13 V	27 mA	5 mH	150 nF	2 mH	630 nF
19 V	27 mA	5 mH	66 nF	10 mH	340 nF
24 V	27 mA	5 mH	38 nF	10 mH	220 nF
30 V	27 mA	5 mH	20 nF	10 mH	130 nF
13 V	57 mA	5 mH	144 nF	5 mH	630 nF
19 V	57 mA	5 mH	66 nF	10 mH	330 nF
24 V	57 mA	5 mH	38 nF	10 mH	220 nF
30 V	57 mA	2 mH	16 nF	10 mH	130 nF
13 V	77 mA	4 mH	150 nF	5 mH	630 nF
19 V	77 mA	4 mH	66 nF	10 mH	330 nF
24 V	77 mA	2 mH	31 nF	10 mH	220 nF
30 V	77 mA	2 mH	16 nF	10 mH	130 nF
13 V	100 mA	4 mH	150 nF	5 mH	630 nF
19 V	100 mA	2 mH	60 nF	5 mH	330 nF
24 V	100 mA	2 mH	31 nF	5 mH	220 nF
30 V	100 mA	1 mH	16 nF	5 mH	130 nF

Table 3: 97 ATEX 2074 X

Values of L_o and C_o for measuring DC currents or voltages in intrinsically safe circuits with **electronic** current limitation.

U_i	I_i	Type of protection			
		EEx ib IIC		EEx ib IIB	
		L_o	C_o	L_o	C_o
13 V	27 mA	5 mH	143 nF	10 mH	626 nF
19 V	27 mA	5 mH	57 nF	25 mH	319 nF
24 V	27 mA	2 mH	31 nF	25 mH	232 nF
30 V	27 mA	not permitted	not permitted	25 mH	141 nF
13 V	57 mA	2 mH	149 nF	10 mH	626 nF
19 V	57 mA	0.5 mH	38 nF	10 mH	292 nF
24 V	57 mA	not permitted	not permitted	10 mH	162 nF
13 V	77 mA	1 mH	139 nF	10 mH	475 nF
19 V	77 mA	not permitted	not permitted	5 mH	259 nF
24 V	77 mA	not permitted	not permitted	0.5 mH	61 nF
13 V	100 mA	0.5 mH	150 nF	5 mH	487 nF
19 V	100 mA	not permitted	not permitted	1 mH	232 nF

All tables have been calculated by PTB.

The tables 1 and 3 are an integral part of the certificate.

Verification of Intrinsic Safety

19" plug-in module (EURAX)

Table 1: PTB-Nr.: Ex-95.D.2054X

Values of L_o and C_o for measuring DC currents or voltages in intrinsically safe circuits which **linearly** limit the current.

U_i	I_i	Type of protection			
		EEx ia IIC		EEx ib IIB	
		L_o	C_o	L_o	C_o
13 V	27 mA	5 mH	145 nF	40 mH	240 nF
19 V	27 mA	5 mH	65 nF	40 mH	105 nF
24 V	27 mA	5 mH	36 nF	40 mH	62 nF
30 V	27 mA	5 mH	20 nF	40 mH	40 nF
13 V	57 mA	5 mH	144 nF	10 mH	240 nF
19 V	57 mA	5 mH	65 nF	10 mH	105 nF
24 V	57 mA	5 mH	37 nF	10 mH	62 nF
30 V	57 mA	2 mH	15 nF	10 mH	40 nF
13 V	77 mA	4 mH	144 nF	6 mH	240 nF
19 V	77 mA	4 mH	65 nF	6 mH	105 nF
24 V	77 mA	2 mH	36 nF	6 mH	62 nF
30 V	77 mA	2 mH	15 nF	6 mH	40 nF
13 V	100 mA	2 mH	149 nF	3 mH	240 nF
19 V	100 mA	2 mH	60 nF	3 mH	105 nF
24 V	100 mA	2 mH	31 nF	3 mH	62 nF
30 V	100 mA	1 mH	15 nF	3 mH	40 nF

Tabelle 3: PTB-Nr.: Ex-95.D.2054X

Values of L_o and C_o for measuring DC currents or voltages in intrinsically safe circuits with **electronic** current limitation.

U_i	I_i	Type of protection			
		EEx ib IIC		EEx ib IIB	
		L_o	C_o	L_o	C_o
13 V	27 mA	5 mH	143 nF	10 mH	626 nF
19 V	27 mA	5 mH	57 nF	25 mH	319 nF
24 V	27 mA	2 mH	31 nF	25 mH	232 nF
30 V	27 mA	not permitted	not permitted	25 mH	141 nF
13 V	57 mA	2 mH	149 nF	10 mH	626 nF
19 V	57 mA	0.5 mH	38 nF	10 mH	292 nF
24 V	57 mA	not permitted	not permitted	10 mH	162 nF
13 V	77 mA	1 mH	139 nF	10 mH	475 nF
19 V	77 mA	not permitted	not permitted	5 mH	259 nF
24 V	77 mA	not permitted	not permitted	0.5 mH	61 nF
13 V	100 mA	0.5 mH	150 nF	5 mH	487 nF
19 V	100 mA	not permitted	not permitted	1 mH	232 nF

The tables are an integral part of the certificate and have been calculated by PTB.