Programmable universal transmitter
SINEAX V 604, EURAX V 604, SIRAX V 644

- For DC currents or voltages, temperature sensors, remote sensors or potentiometers
- Programmed on the PC
- Electric isolation of all circuits

Type of protection

II (1) G

[EEx ia] IIC

Certificates

Mechanical design	Ex	
Housing S17, SINEAX	PTB 97 ATEX 2074 X	/
Plug-in module, EURAX	PTB-No.: Ex-95.D.2054X	95,1 10423,02
Plug-in module, SIRAX	PTB 97 ATEX 2074 X	/

Measuring input

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

U_o = **6 V**
I_o = 3 mA
P_o = 5 mW
Linear characteristic

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

Temperature sensors, remote sensors and potentiometers in three- or four-wire connection
(see wiring diagram No. 5, 6, 7, 12 or 13 in data sheet)

U_o = **11 V**
I_o = 3 mA
P_o = 5 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 V
C_i = 6 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 V on the V 604 / V 644 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 circuit
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 V 604 / V 644 versions may only be programmed using the programming cable PRKAB 600 with the component certification PTB 97 ATEX 2082 U.
The Eurax V 604 must be installed in such a way that at least protection class IP20 acc. to EN 60 529 is attained.

SINEAX V 604-1 in housing S17

EURAX V 604-2 as 19″ plug-in module

SIRAX V644-6 as plug-in module

Verification of Intrinsic Safety

Housing S17 (SINEAX) and Plug-in-module (SIRAX)

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 L_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.