# INTERPOLATION ELECTRONIC UNIT   SIM 110

GENERAL DESCRIPTION:

Purpose of the SIM 110 is to digitize and subdivide sinusoidal output signals from the linear of rotary measuring tranducer.

Electronic circuit of SIM 110 subdivided sinusoidal incremental signals generated by linear or rotary transducer with the aid of resistor network. Subdivisional factor can be 1, 2, 5 or 10.

SIM 110 in case of any mistake in transducer (damaged cable, lampe error, scale contamination ...) generated E impulse and setup outputs in high impendance state.

MECHANICAL DATA:

|	
Operating temperature	0°C to 50°C
Storage temperature	-10°C to 50°C
Weight	cca 0.4 kg
Degree of mechanical protection	IP 53
Cable length	max. 20 m

ELECTRICAL DATA:

Supply voltage	5 V ± 5%
Supply current (without transducer)	70 mA ± 10%
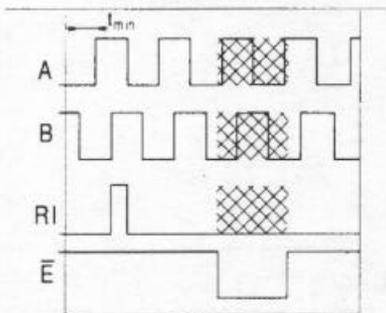
Output signals: $t_{min} = f$ (input frequency):
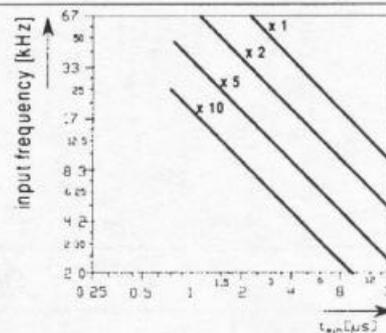
Output connector:
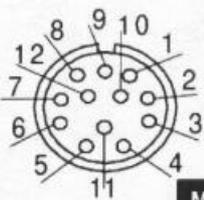
pin	1	2	3	4	5	6	7	8	9	10	11	12
signal	$\overline{B}$	5 V	RI	$\overline{RI}$	A	$\overline{A}$	$\overline{E}$	B	shield	0 V	0 V	5 V
color	pink	blue	red	black	brown	green	violet	grey		white	white	blue

Measuring signals:

Diferential digital in accordance with RS 422 A EIA standard	$A, \overline{A}, B, \overline{B}, RI, \overline{RI}, \overline{E}$

| Signal's level:	Error signal:
at I_{sink} = 20 mA U_{OL} <= 0.5 V at I_{source} = -20mA U_{OH} <=2.5 V	1 Digital impuls with same fan out like measuring signals. When is E signal aktiv (LOW), measuring signals becames high impendance state.

INTERPOLATION ELECTRONIC UNIT — SIM110

ELECTRICAL DATA:

Input signals:

SV	SI	Sinusoidal current I_a, I_b, I_{ri}
A	Ia	
B	Ib	
RI	Iri	

Input connector (contact side view) female, screw type

SI

SV
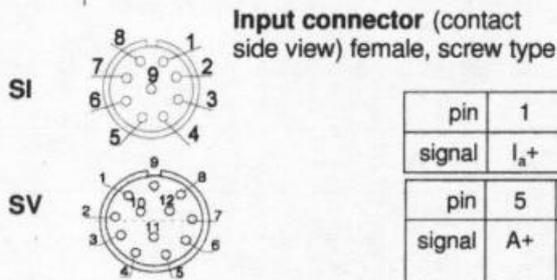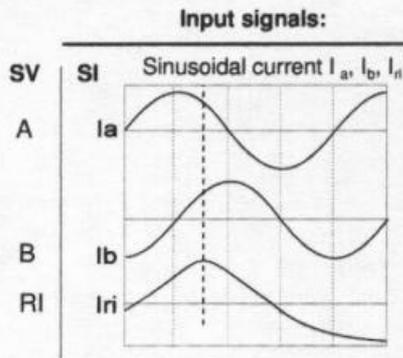
Amplitude:		
	SI	SV
$8\ \mu A \leq /a \leq 16\ \mu A$		$0{,}6\ V \leq Ua \leq 1{,}2\ V$
$8\ \mu A \leq /b \leq 16\ \mu A$		$0{,}6\ V \leq Ub \leq 1{,}2\ V$
$2\ \mu A \leq /ri \leq 8\ \mu A$		$0{,}2\ V \leq Uri \leq 0{,}85\ V$

Input frequencies							
interpolations:				interpolations:			
1	2	5	10	1	2	5	10
250 kHz	125 kHz	50 kHz	25 kHz	250 kHz	125 kHz	50 kHz	25 kHz

pin	1	2	3	4	5	6	7	8	9
signal	I_a+	I_a-	+5 V	0 V	I_b+	I_b-	I_{ri}+	I_{ri}-	0V

pin	5	6	8	1	3	4	12	10	2	11
signal	A+	A-	B+	B-	RI+	RI-	5V	0V	5V sense	0V sense

DIMENSIONS:

Option - SIM 110-A:

From transducer (female socket)

to subsequent electronic

139

36 · 84 · 14

6 · 86 · 98

26 · 34

From transducer

to subsequent electronic (male socket)

Option - SIM 110 B

single bending	> 40 mm
permanent bending	> 100 mm

134

36 · 84 · 14

6 · 86 · 98

26 · 34

45
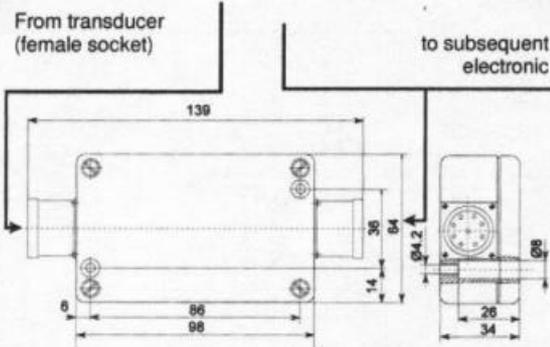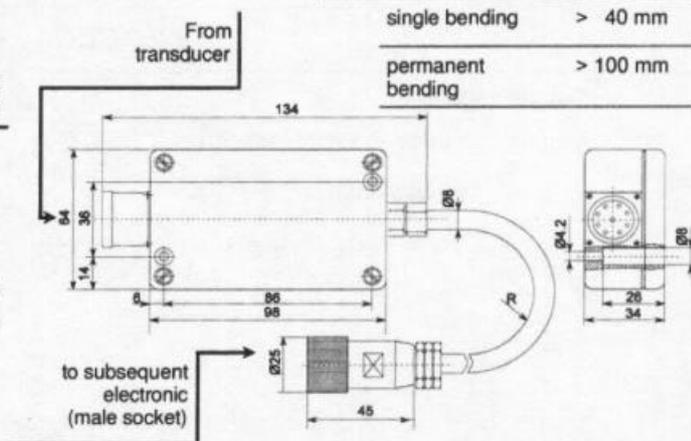
ORDERING DATA:

SIM 110	- X -	- XX -	-XX

Place of output connector:
A ... on housing
B ... on cable

Intepolation factor:
1 ... without
2 ... x 2
5 ... x 5
0 ... x10

Type of input signals
SI - SI signals
SV - SV signals