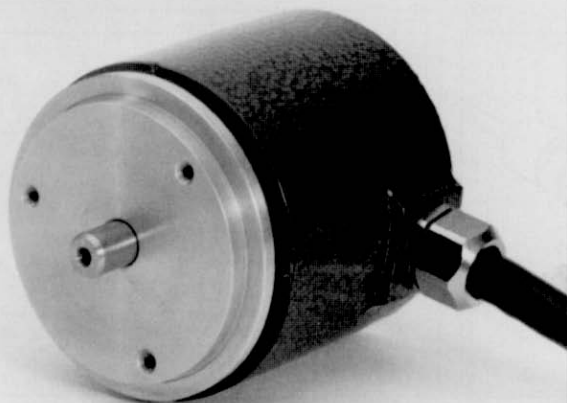


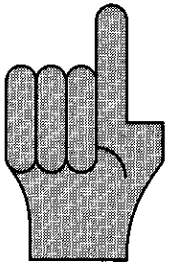


HEIDENHAIN

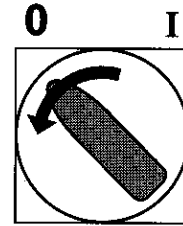


Montageanleitung
Mounting Instructions
Instructions de montage
Istruzioni di montaggio
Instrucciones de montaje

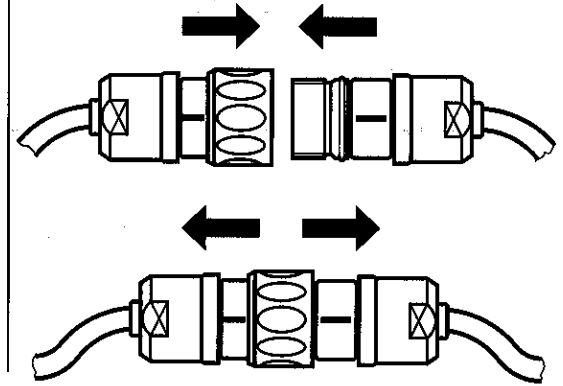
ROC 415
ROC 416
ROC 417



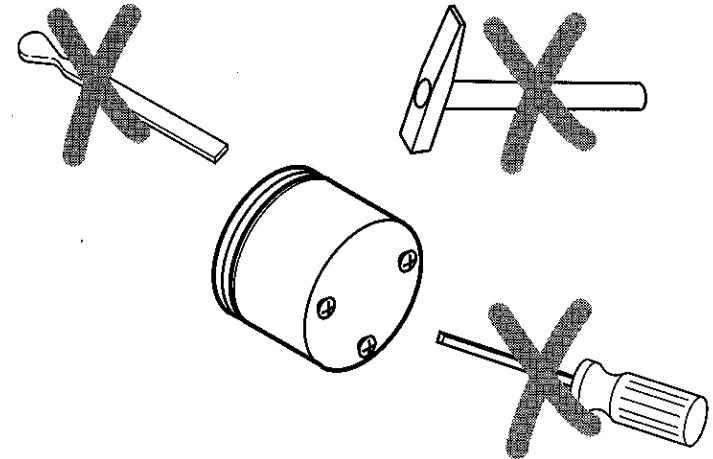
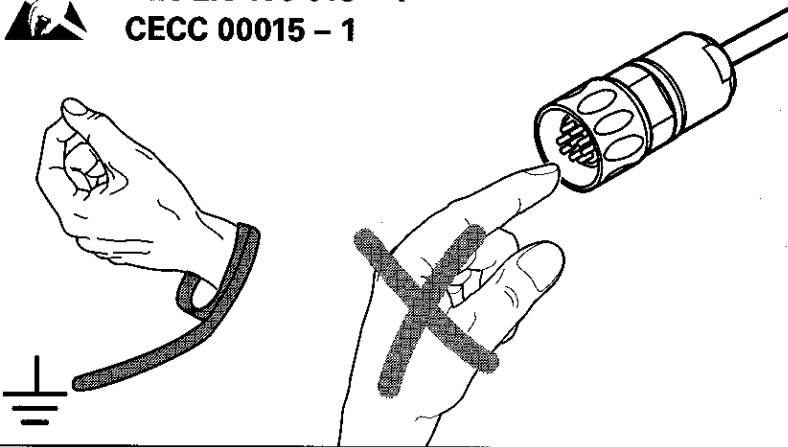
1.



2.



DIN EN 100 015 - 1
CECC 00015 - 1



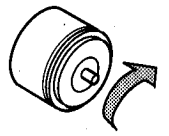
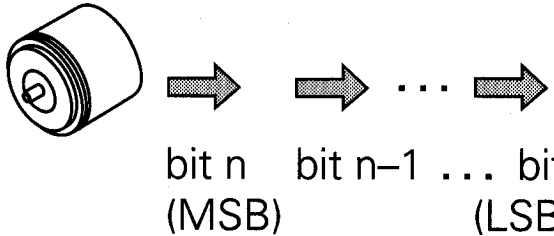
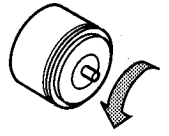
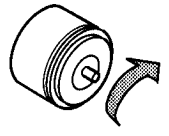
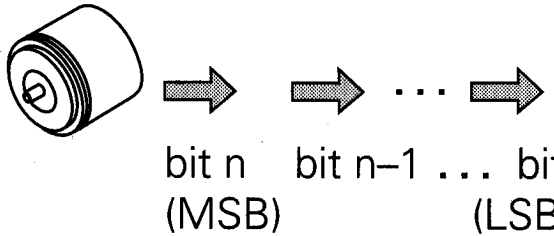
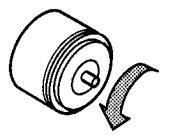
ROC 415. 5xSx
ROC 416. 5xSx
ROC 417. 5xSx

15	$2^{15} = 32\ 768 [1/360^\circ]$
16	$2^{16} = 65\ 536 [1/360^\circ]$
17	$2^{17} = 131\ 072 [1/360^\circ]$


5	$U_p = 5V \pm 5\%$
----------	--------------------

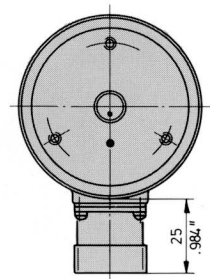
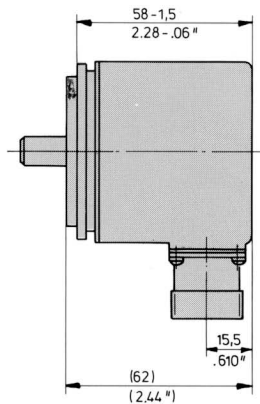
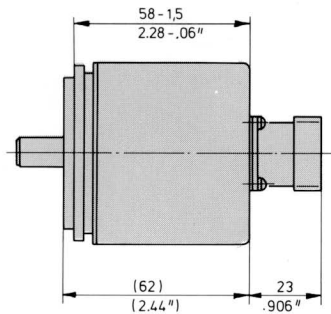
D	Dual
G	Gray

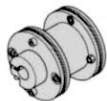
R O C 4 1 5 . 5 G S 5

S 5	TTL $U_p = 5V$		seriell serial série serie	 bit n (MSB) ... bit 1 (LSB)
S 6	TTL $U_p = 5V$			
S 7	TTL $U_p = 5V$		seriell serial série serie	 bit n (MSB) ... bit 1 (LSB) + Parity
S 8	TTL $U_p = 5V$			

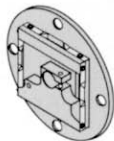
ROC 415/ROC 416/ROC 417

 mm/inch

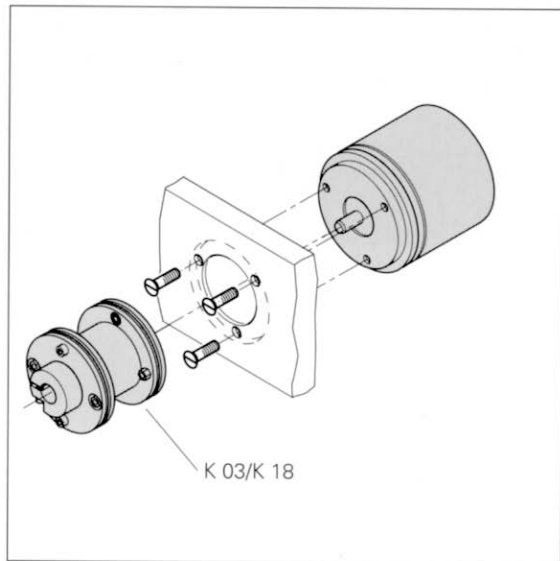
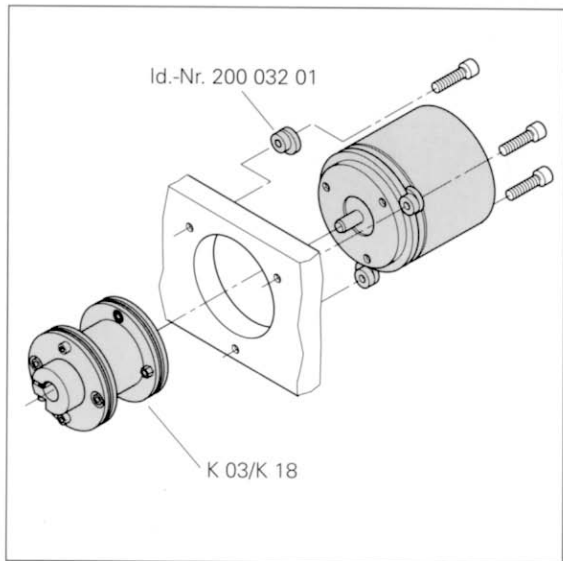
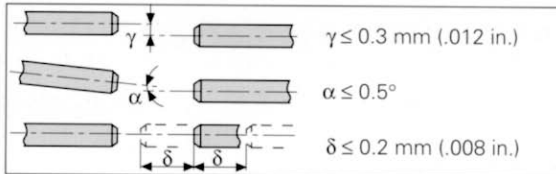


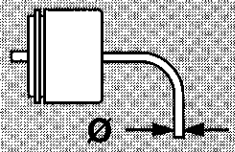
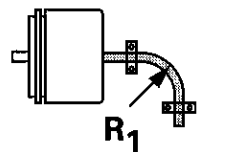
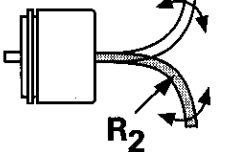
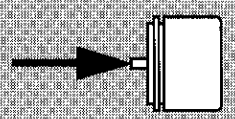
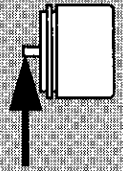


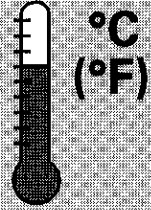
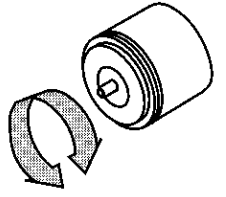
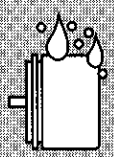
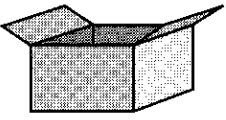
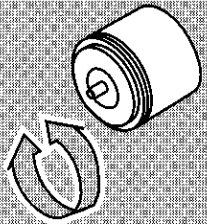
K 03
Id.-Nr. 200 313 02

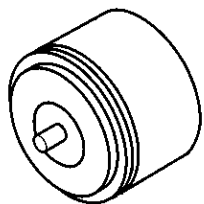


K 18
Id.-Nr. 202 227 01



				<p>max. 10 N ($\leq 10\,000\text{ min}^{-1}$)</p>
<p>Ø 8 mm (DIA .315 in.)</p>	<p>$R_1 \geq 40\text{ mm}$ (1.6 in.)</p>	<p>$R_2 \geq 100\text{ mm}$ (4 in.)</p>		<p>max. 20 N ($\leq 10\,000\text{ min}^{-1}$)</p>

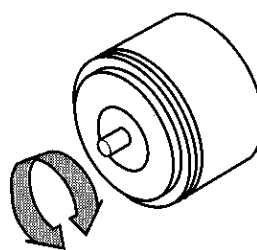
	 <p>-40 ... 80° C (-40 ... 176° F)</p>	 <p>IP 65 IEC 529 EN 60 529</p>
	 <p>-40 ... 100° C (-40 ... 212° F)</p>	 <p>M_d ≤ 0.01 Nm (20° C) I = 2.8 · 10⁻⁶ kgm²</p>



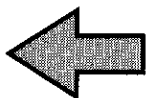
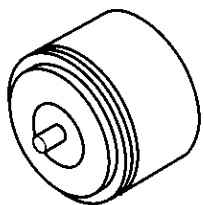
$U_p = 5V \pm 5\%$
(max. 270 mA)



IEC 742
EN 50 178



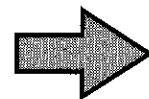
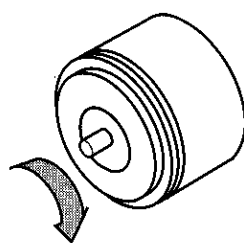
$n \leq \begin{cases} \text{Square wave} & 60 \text{ min}^{-1} \\ \text{Sine wave} & \frac{600 \text{ min}^{-1} (-3\text{dB: } 80\text{kHz})}{10\,000 \text{ min}^{-1} (\text{max.})} \end{cases}$



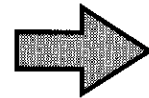
CLOCK
CLOCK



RS 422



DATA
DATA

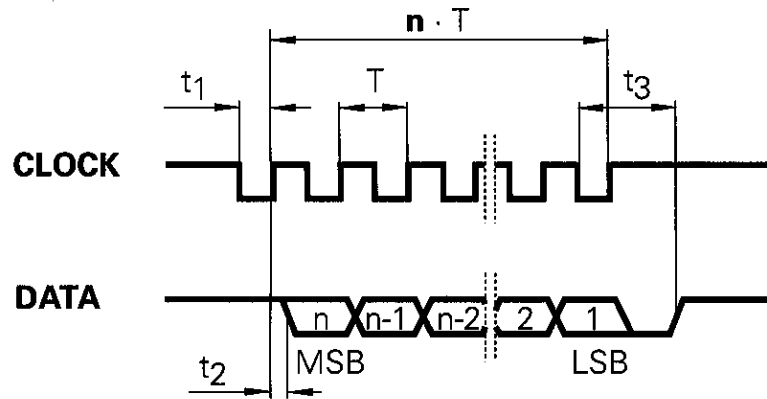


A · 8192/360°

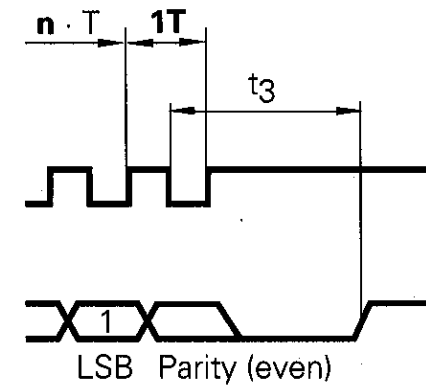
B · 8192/360°



RS 422



Parity



	n
ROC 415	15
ROC 416	16
ROC 417	17

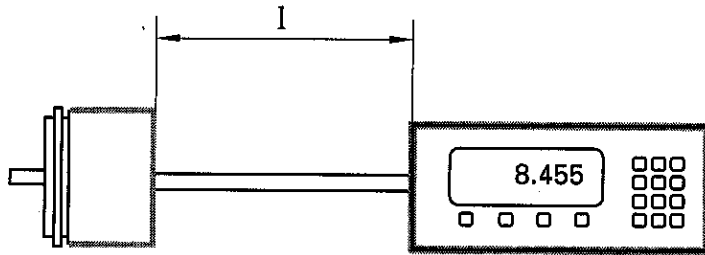
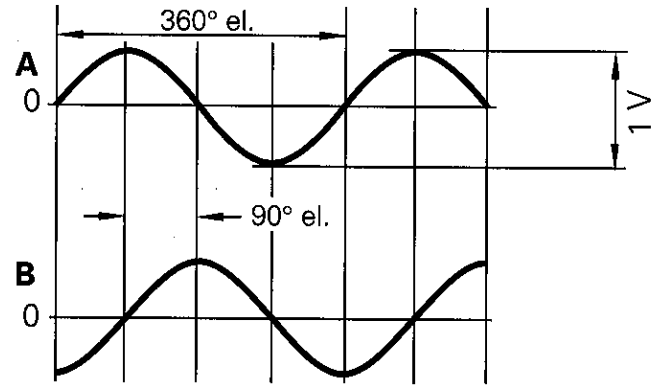
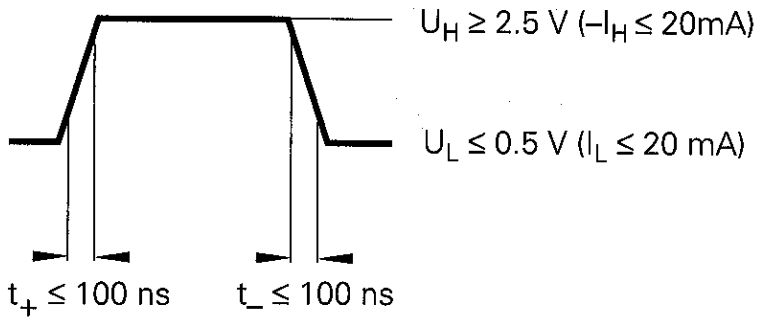
$$T = 0.9 \dots 11 \mu\text{s}$$

$$t_1 = 0.25 \dots 2.5 \mu\text{s}$$

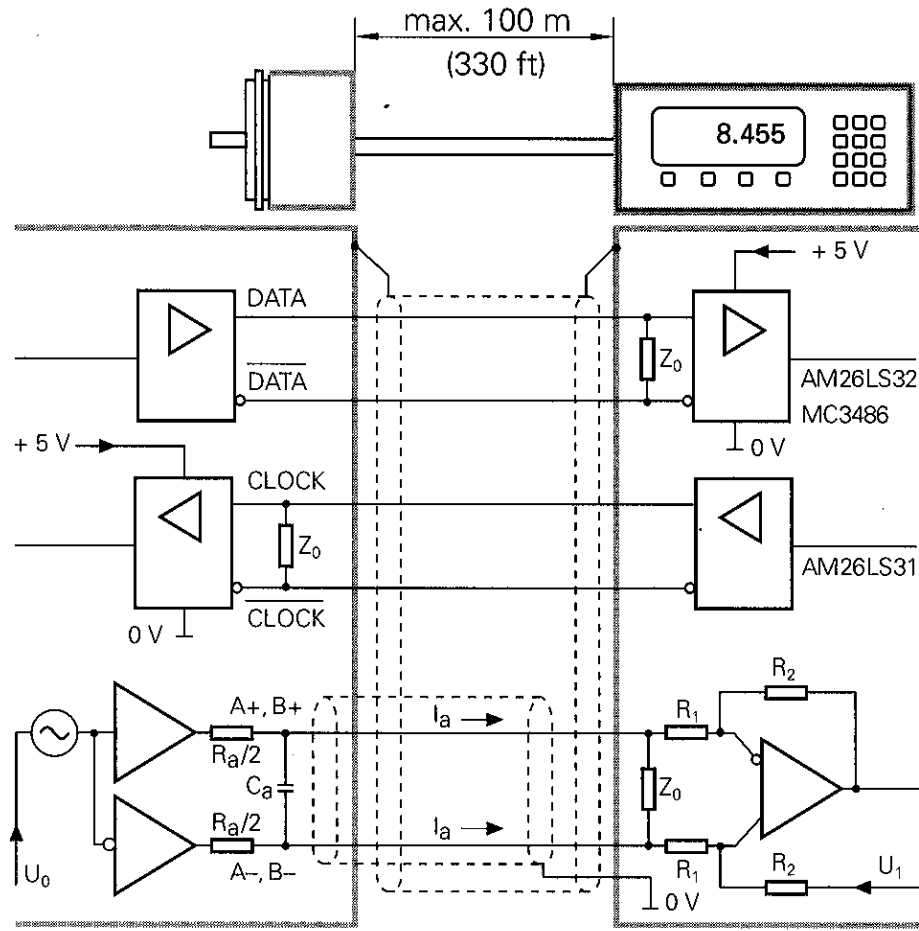
$$t_2 \leq 0.4 \mu\text{s}$$

$$t_3 = 12 \dots 25 \mu\text{s}$$

TTL

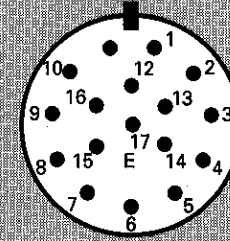
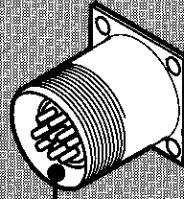
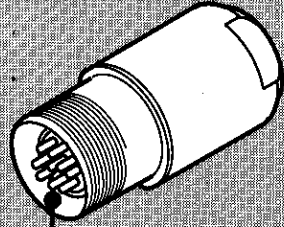


l	T	Δ	f
50 m 165 ft	0.9...11 μs	Δ	1100...90 kHz
100 m 330 ft	3.3...11 μs	Δ	300...90 kHz



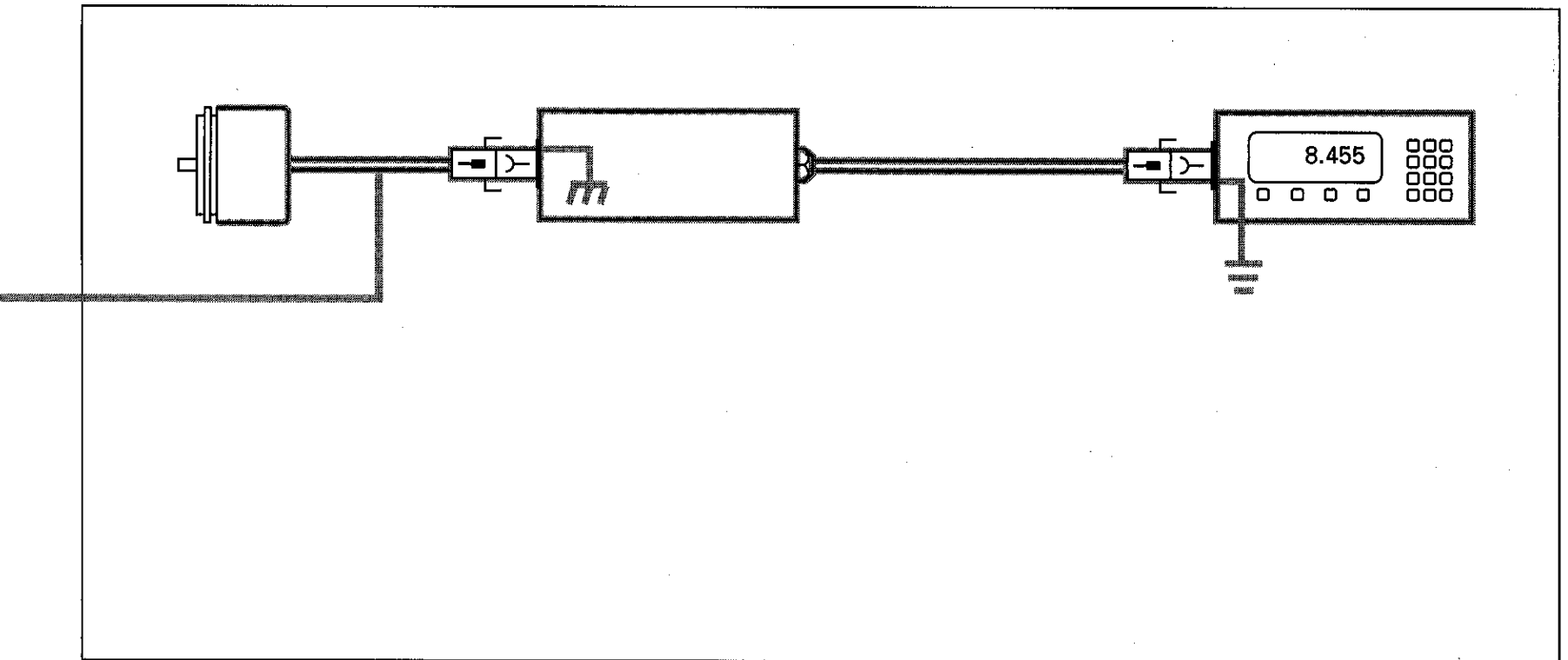
$R_a < 100 \Omega$
 $C_a < 50 \text{ pF}$
 $\sum I_a < 1 \text{ mA}$
 $U_0 = 2.5 \text{ V} \pm 0.5 \text{ V}$

$Z_0 = 120 \Omega$
 $U_1 \approx U_0$



Schirm
shield
 blindage
schermo
 blindaje

1	2	3	4	5	
+ 5 V sensor	/	/	0 V sensor	/	
blau <i>blue</i> bleu <i>azzurro</i> azul	schwarz <i>black</i> noir <i>nero</i> negro	rot <i>red</i> rouge <i>rosso</i> rojo	weiß <i>white</i> blanc <i>bianco</i> blanco	grün <i>green</i> vert <i>verde</i> verde	
6	7	8	9	10	11
/	+ 5 V U_P	CLOCK	CLOCK	0 V (U_N)	
braun <i>brown</i> brun <i>marrone</i> marrón	braun/grün <i>brown/green</i> brun/vert <i>marrone/verde</i> marrón/verde	violett <i>violet</i> violet <i>viola</i> violeta	gelb <i>yellow</i> jaune <i>giallo</i> amarillo	weiß/grün <i>white/green</i> blanc/vert <i>bianco/verde</i> blanco/verde	Innenschirm <i>internal shield</i> blindage interne <i>schermo interno</i> blindaje interno





12	13	14	15	16	17
B		DATA	A		$\overline{\text{DATA}}$
+	-		+	-	
blau/schwarz <i>blue/black</i> bleu/noir azzurro/nero azul/negro	rot/schwarz <i>red/black</i> rouge/noir rosso/nero rojo/negro	grau <i>gray</i> gris grigio gris	grün/schwarz <i>green/black</i> vert/noir verde/nero verde/negro	gelb/schwarz <i>yellow/black</i> jaune/noir giallo/nero amarillo/negro	rosa <i>pink</i> rose rosa rosa


HEIDENHAIN


DR. JOHANNES HEIDENHAIN GmbH


Dr.-Johannes-Heidenhain-Straße 5


D-83301 Traunreut, Deutschland

 (0 86 69) 31-0 ·  56 832

 (0 86 69) 50 61

 **Service** (0 86 69) 31-12 72

 TNC-Service (0 86 69) 31-14 46

 (0 86 69) 98 99

<http://www.heidenhain.de>

