mm

Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm

Ⓚ

EN 60529

$\boxed{\nearrow\ 0.3\ A}$

$\boxed{\nearrow\ 0.03\ A}$
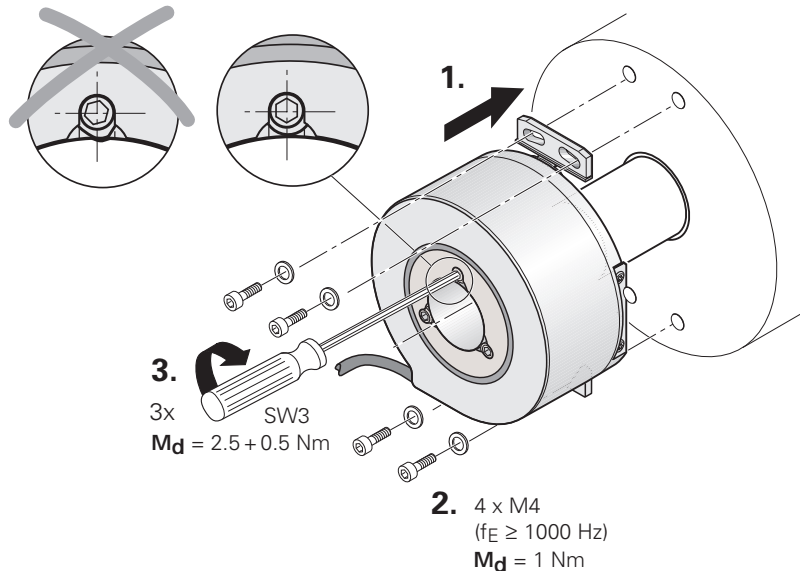
±1.5

$\boxed{A}$

$\varnothing$ 110 min.

D Ⓔ

1 max.

L1 min.

L2 min.

$\varnothing$ 96±0.2

4x M4

27°±1°
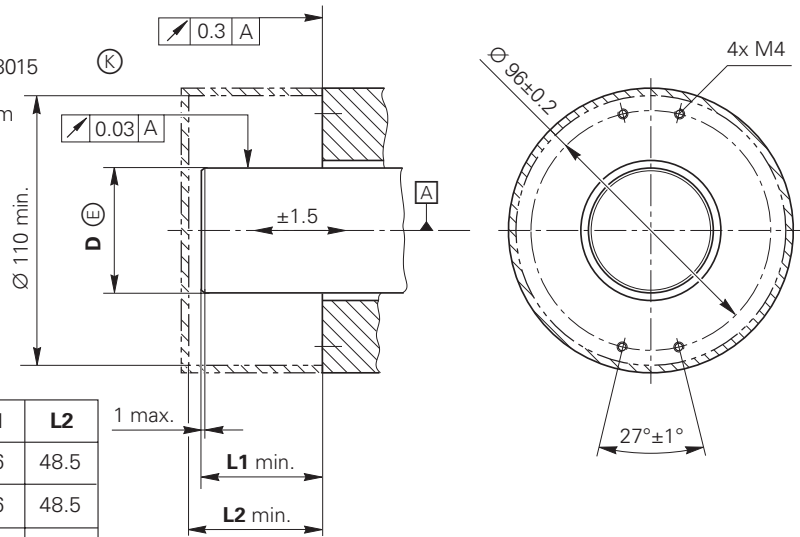
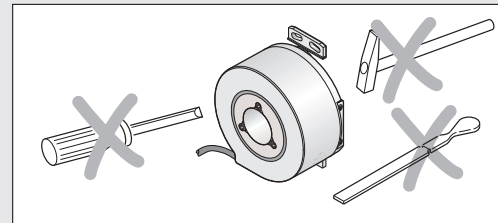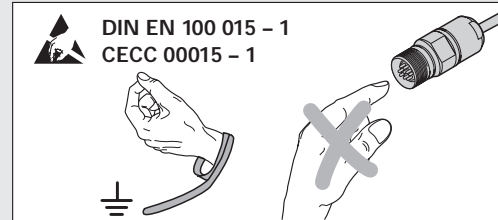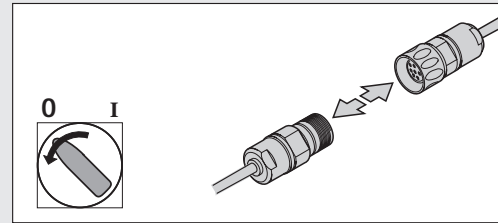| D	L1	L2
$\varnothing$ 20h7	46	48.5
$\varnothing$ 24h7	46	48.5
$\varnothing$ 25h7	46	48.5
$\varnothing$ 30h7	46	48.5
$\varnothing$ 38h7	56	58.5
$\varnothing$ 50h7	56	58.5

Ⓚ = Kundenseitige Anschlussmaße
Required mating dimensions
Conditions requises pour le montage
Quote per il montaggio
Cotas de montaje requeridas

$\boxed{A}$ = Lagerung
Bearing
Roulement
Cuscinetto
Rodamiento

1.

3.

3x   SW3
M_d = 2.5 + 0.5 Nm

2.   4 x M4
($f_E \geq$ 1000 Hz)
M_d = 1 Nm

0   I

DIN EN 100 015 – 1
CECC 00015 – 1

HEIDENHAIN

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

ECN 113 EnDat
ECN 113 SSI

10/2003

CE

ECN 113 SSI
ECN 113 EnDat

RS-485

CLOCK	
$\overline{\text{CLOCK}}$	

U_P = 5 V ± 5 %
U_P = 10 ... 30 V
(max. 180 mA)

EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)

(siehe, *see,* voir, *vedi,* véase
HEIDENHAIN D 231 929)

RS-485

CLOCK
$\overline{\text{CLOCK}}$
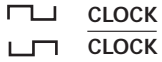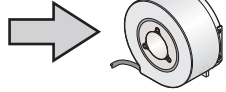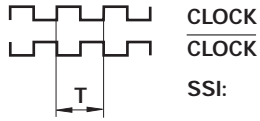
SSI: T = 1 ... 10 µs
f = 1000 ... 100 kHz
EnDat: T = 0.5 ... 10 µs
f = 2000 ... 100 kHz

RS-485

DATA
$\overline{\text{DATA}}$
A
B

RS-485

DATA   > 1.5 V (54 Ω)
$\overline{\text{DATA}}$ > 1.7 V (120 Ω)

$t_+ \le 100$ ns $t_- \le 100$ ns

360° el.   A   0.8 ...1.2 V_{SS} (≈ 1 V_{SS})
90° el.   B
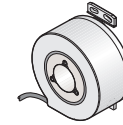
Außenschirm auf Gehäuse
External shield on housing
blindage externe sur boîtier
schermo esterno sulla carcassa
blindaje externo a carcasa

1) Innenschirm
Internal shield
blindage interne
schermo interno
blindaje interno

U_P = 5 V ± 5%
U_P = 10 ... 30 V

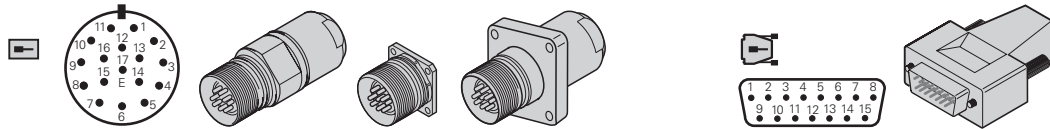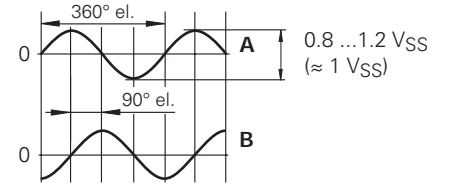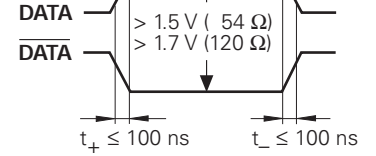|	15	16	12	13	14	17	8	9	7	10	1	4	11	2	3	5	6
	1	9	3	11	5	13	8	15	4	2	12	10	6	7	14	/	/
	A		B		DATA	$\overline{\text{DATA}}$	CLOCK	$\overline{\text{CLOCK}}$	U_P	0 V U_N	U_P sensor	0 V sensor	1)	/	/	/	/
	+	−	+	−													
	grün/schwarz *green/black* vert/noir *verde/nero* verde/negro	gelb/schwarz *yellow/black* jaune/noir *giallo/nero* amarillo/negro	blau/schwarz *blue/black* bleu/noir *azzurro/nero* azul/negro	rot/schwarz *red/black* rouge/noir *rosso/nero* rojo/negro	grau *gray* gris *grigio* gris	rosa *pink* rose *rosa* rosa	violett *violet* violet *viola* violeta	gelb *yellow* jaune *giallo* amarillo	braun/grün *brown/green* brun/vert *marrone/verde* marrón/verde	weiß/grün *white/green* blanc/vert *bianco/verde* blanco/verde	blau *blue* bleu *blu* azzurro azul	weiß *white* blanc *bianco* blanco		schwarz *black* noir *nero* negro	rot *red* rouge *rosso* rojo	grün *green* vert *verde* verde	braun *brown* brun *marrone* marrón

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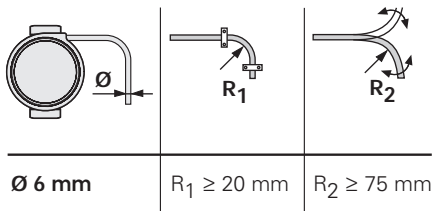
L	T		f
10 m	0.5...10µs	≙	2000...100 kHz
50 m	1.0...10µs	≙	1000...100 kHz
100 m	2.0...10µs	≙	500...100 kHz
150 m	3.3...10µs	≙	300...100 kHz

Ø 6 mm $R_1 \ge$ 20 mm $R_2 \ge$ 75 mm

L

> 100 mm   > 100 mm   > 200 mm

Schirm
Shield
blindage
schermo
blindaje

Störquellen
Noise sources
sources parasites
origine del disturbo
fuentes de interferencias