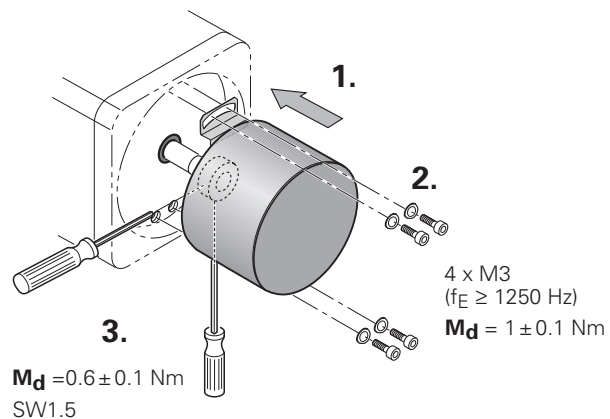
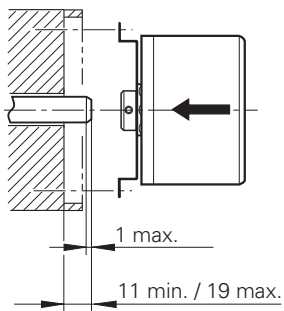


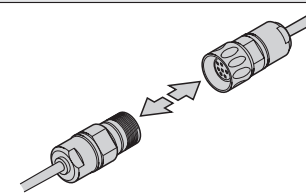
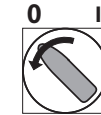
Maße in mm  
 Dimensions in mm  
 Cotes en mm  
 Dimensioni in mm  
 Dimensiones en mm

A = Lagerung  
 Bearing  
 Roulement  
 Cuscinetto  
 Rodamiento

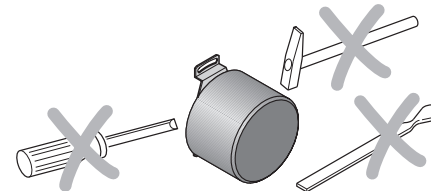
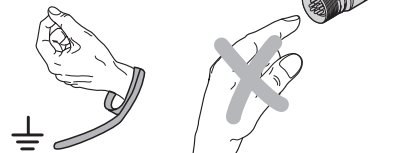
EN 60529



# HEIDENHAIN



DIN EN 100 015 - 1  
 CECC 00015 - 1



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

## ECN 413 EnDat ECN 413 SSI

9/99

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Subject to change without notice · Sous réserve de modifications · Con riserva di modifiche · Sujeto a modificaciones



RS-485  
**CLOCK**  
**CLOCK**  
**Up = 5 V ± 5 %**  
**Up = 10 ... 30 V**  
(max. 250 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**  
**CLOCK**  
**SSI: T = 1 ... 10 μs**  
**f = 1000 ... 100 kHz**  
**EnDat: T = 0.5 ... 10 μs**  
**f = 2000 ... 100 kHz**

RS-485  
**DATA**  
**DATA**  
**A**  
**B**

0 360° el. **A** 0.8 ... 1.2 V<sub>SS</sub>  
(≈ 1 V<sub>SS</sub>)  
0 90° el. **B**

RS-485  
**DATA** > 1.5 V ( 54 Ω)  
**DATA** > 1.7 V (120 Ω)  
t<sub>+</sub> ≤ 100 ns t<sub>-</sub> ≤ 100 ns

Ø 6 mm  
 R<sub>1</sub> ≥ 20 mm  
T ≥ -40 °C (-40 °F)  
 R<sub>2</sub> ≥ 75 mm  
T ≥ -10 °C (14 °F)

Ø 8 mm  
R<sub>1</sub> ≥ 40 mm  
R<sub>2</sub> ≥ 100 mm

°C (°F)  
 -30 ... 80 °C (-22 ... 176 °F)

**Up = 5 V ± 5 %**  
**Up = 10 ... 30 V**

1) Innenschirm  
Internal shield  
Blindage interne  
Schermo interno  
Blindaje interno

1	2	3	4	5	6	8	9	Schirm Shield Blindage Schermo Blindaje	7	10	11	12	13	14	15	16	17
Up sensor	/	/	0V sensor	/	/	CLOCK	CLOCK		Up	0V UN	1)	B		DATA	A		DATA
												+	-		+	-	
blau blue bleu azzurro azul	schwarz black noir nero negro	rot red rouge rosso rojo	weiß white blanc bianco blanco	grün green vert verde verde	braun brown brun marrone marrón	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/schwarz blue/black bleu/noir azzurro/nero azul/negro	rot/schwarz red/black rouge/noir rosso/nero rojo/negro	grau gray gris grigio gris	grün/schwarz green/black vert/noir verde/nero verde/negro	gelb/schwarz yellow/black jaune/noir giallo/nero amarillo/negro	rosa pink rose rosa rosa

**Störquellen**  
Noise sources  
Sources parasites  
Origine del disturbo  
Fuentes de interferencias

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