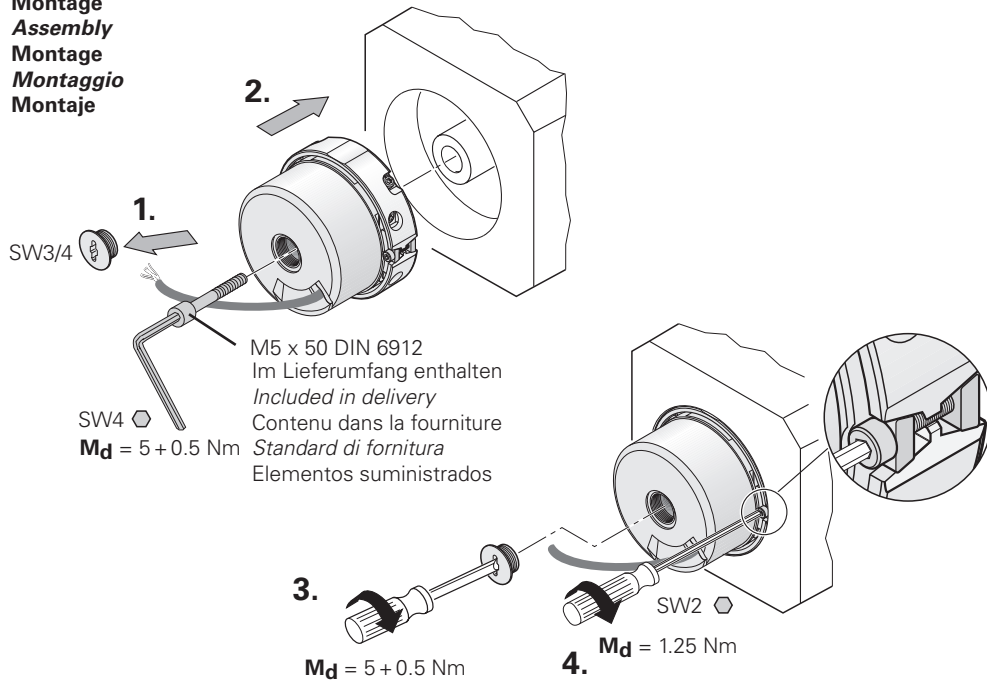
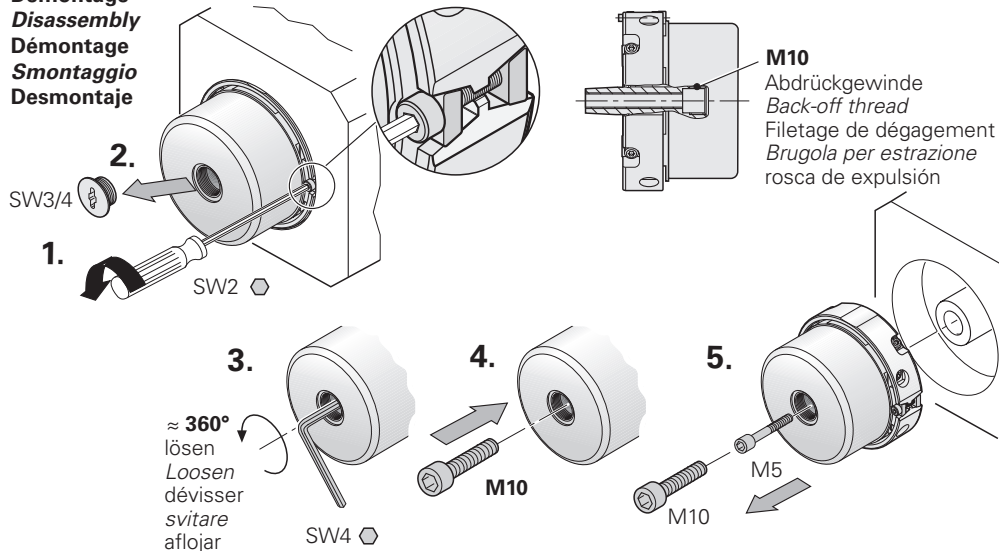


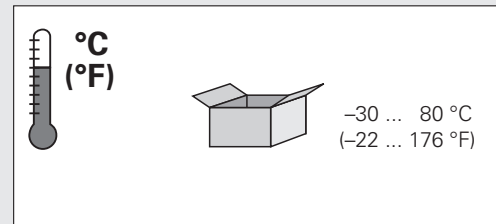
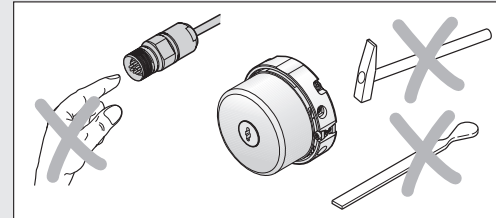
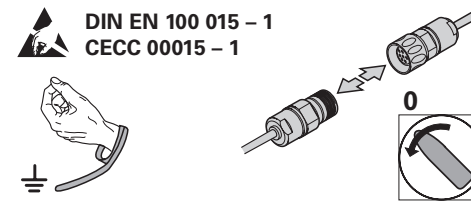
**Montage  
Assembly  
Montage  
Montaggio  
Montaje**



**Demontage  
Disassembly  
Démontage  
Smontaggio  
Desmontaje**



**M10** Schraube nur soweit eindrehen, bis sich die Konusverbindung löst.  
Turn the **M10** screw only far enough in to release the taper shaft.  
Ne tourner la vis **M10** que jusqu'è0 ce que l'attache du cône se desserre.  
Ruotare la brugola **M10** fino al distacco della sede conica dell'albero.  
Apretar el tornillo **M10** sólo hasta que la conexión cónica se suelte.



# HEIDENHAIN

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

## ECN 413 EnDat01

2/2006

**DR. JOHANNES HEIDENHAIN GmbH**

Dr.-Johannes-Heidenhain-Straße 5

**83301 Traunreut, Germany**

☎ +49 (8669) 31-0

FAX +49 (8669) 5061

E-Mail: info@heidenhain.de

**Technical support** ☎ +49 (8669) 31-1000

**Measuring systems** ☎ +49 (8669) 31-3104

E-Mail: service.ms-support@heidenhain.de

**TNC support** ☎ +49 (8669) 31-3101

E-Mail: service.nc-support@heidenhain.de

**NC programming** ☎ +49 (8669) 31-3103

E-Mail: service.nc-pgm@heidenhain.de

**PLC programming** ☎ +49 (8669) 31-3102

E-Mail: service.plc@heidenhain.de

**Lathe controls** ☎ +49 (711) 9528 03-0

E-Mail: service.hsf@heidenhain.de

[www.heidenhain.de](http://www.heidenhain.de)



Ve 00

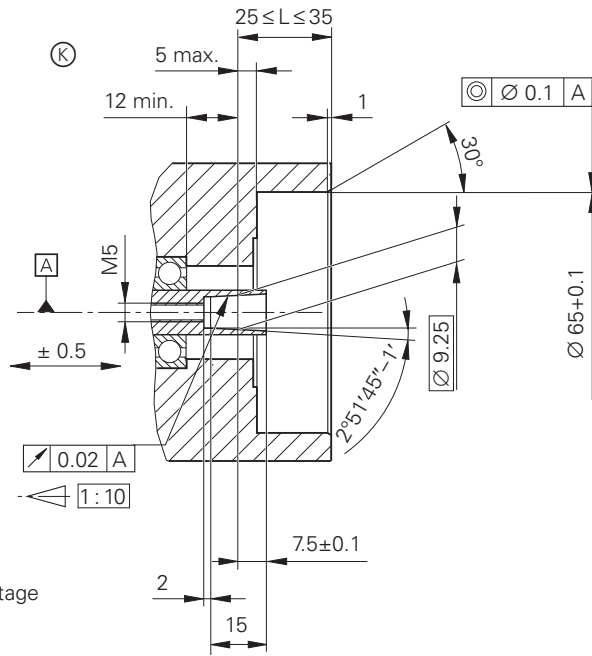
578 817-91 · 6 · 3/2006 · E · Printed in Germany · Änderungen vorbehalten

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



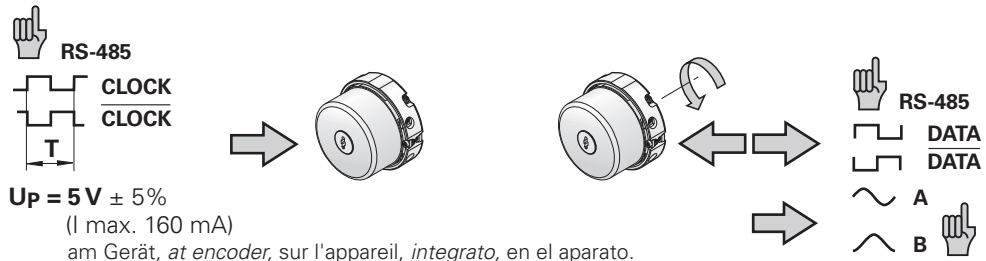
# ECN 413 EnDat01

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



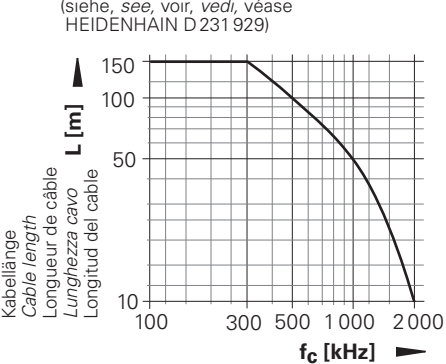
**A** = Lagerung  
Bearing  
Roulement  
Cuscinetto  
Rodamiento

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

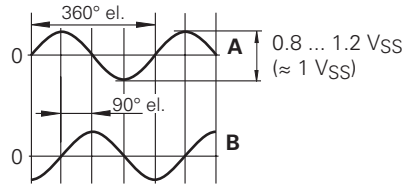


**Up = 5 V ± 5%**  
(I max. 160 mA)  
am Gerät, *at encoder*, sur l'appareil, *integrato*, en el aparato.

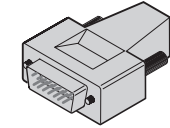
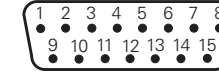
EN 50 178/4.98; 5.2.9.5  
IEC 364-4-41: 1992; 411 (PELV/SELV)  
(siehe, *see*, voir, *vedi*, véase  
HEIDENHAIN D 231 929)



$$f_c = \frac{1}{T}$$



16S15-58

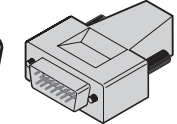
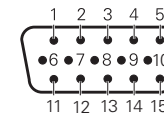


1) Innenschirm  
Internal shield  
Blindage interne  
Schermo interno  
Blindaje interno

4	12	2	10	1	9	3	11	5	13	8	15	6
Up	sensor Up	0V	sensor 0V	A+	A-	B+	B-	DATA	DATA	CLOCK	CLOCK	1)
br/gn BN/GN	bl BL	ws/gn WH/GN	ws WH	gn/sw GN/BK	ge/sw YL/BK	bl/sw BL/BK	rt/sw RD/BK	gr GY	rs PK	vio VI	ge YL	

Innenschirm auf Pin 14, 0V  
Internal shield on pin 14, 0V  
Blindage interne sur plot 14, 0V  
Schermo interno su Pin 14, 0V  
Blindaje interno a pin 14, 0V

56S15-P5

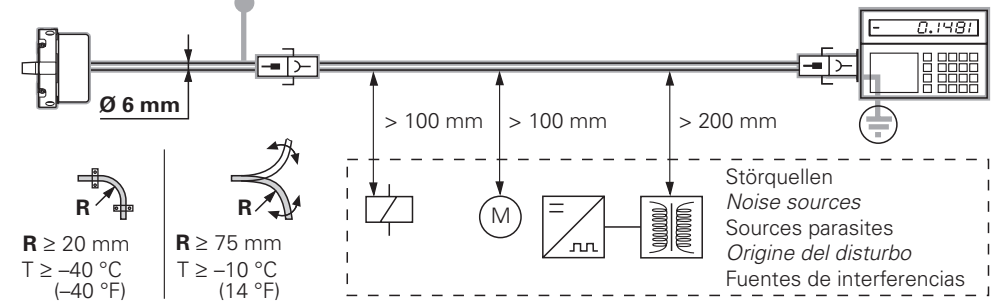


13	14	1	2	3	4	5	6	11	12
Up	0V	A+	A-	B+	B-	DATA	DATA	CLOCK	CLOCK
br/gn BN/GN	ws/gn WH/GN	gn/sw GN/BK	ge/sw YL/BK	bl/sw BL/BK	rt/sw RD/BK	gr GY	rs PK	vio VI	ge YL

**Nichtverwendete Pins oder Litzen dürfen nicht belegt werden!**  
**Vacant pins or wires must not be used!**  
**Les plots ou fils non utilisés ne doivent pas être raccordés!**  
**I pin o i fili inutilizzati non devono essere occupati!**  
**¡No conectar los pins o hilos no utilizados!**

Außenschirm auf Gehäuse  
External shield on housing  
Blindage externe sur boîtier  
Schermo esterno sulla carcassa  
Blindaje externo a carcasa

Empfohlene Eingangsbeschaltung beachten!  
Refer to the recommended input circuitry.  
Tenir compte du circuit d'entrée conseillé!  
Considerare il circuito di ingresso consigliato  
¡Tener en cuenta la conexión de entrada!



Störquellen  
Noise sources  
Sources parasites  
Origine del disturbo  
Fuentes de interferencias