



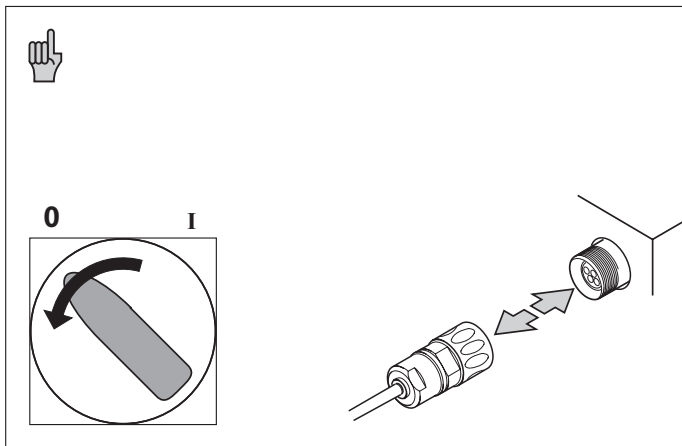
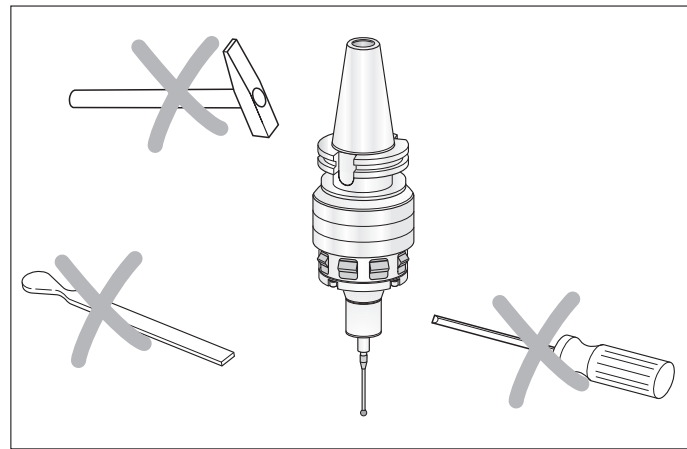
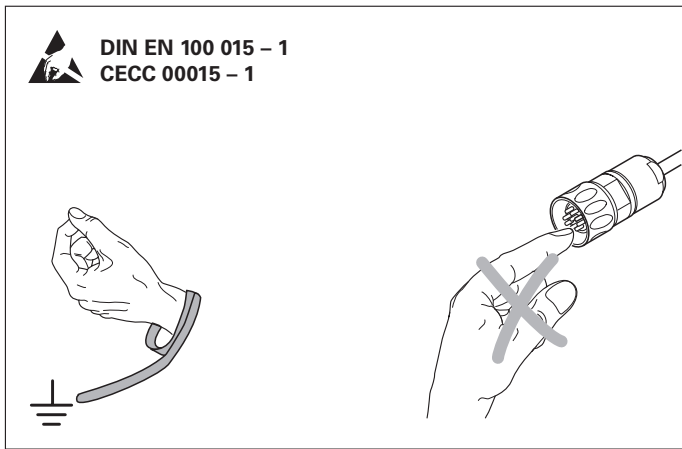
HEIDENHAIN

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

TS 641
SE 641
APE 652

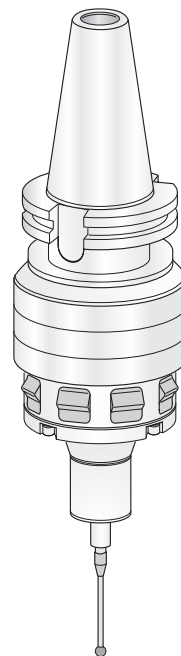
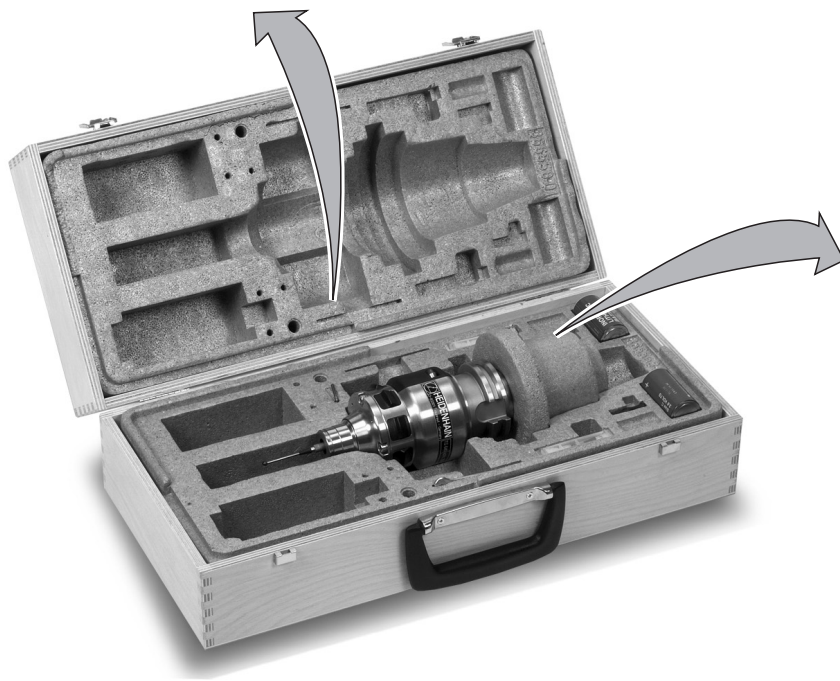
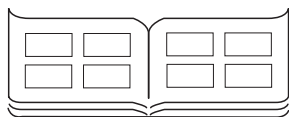
12/2004

Warnhinweise · Warnings · Recommendations · Avvertenze · Advertencias



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

TS 641



SE 641

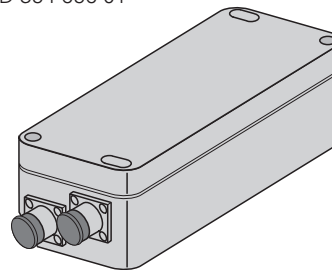


TS 641

SK-AD/B 40	DIN 69871	/S81	517 352-51
SK-AD/B 50	DIN 69871	/S75	517 352-42
HSK-E 50	DIN 69893	/S68	517 352-13
HSK-A 63	DIN 69893	/S69	517 352-14
HSK-A 100	DIN 69893	/S72	517 352-17
BT 40	JIS B 6339	/S88	517 352-18
BT 50	JIS B 6339	/S71	517 352-16

APE 652

ID 354 656-01

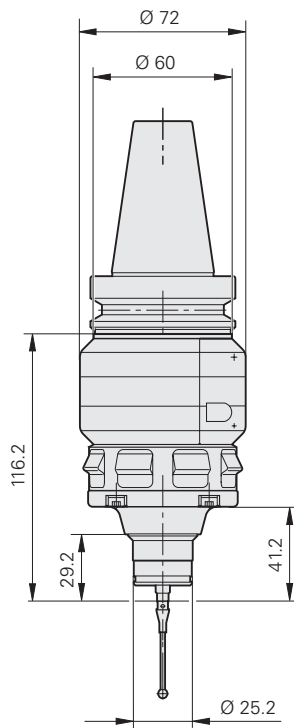


TS 640

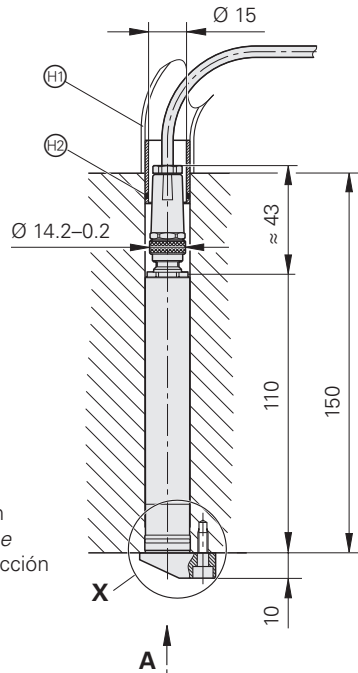
mm



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

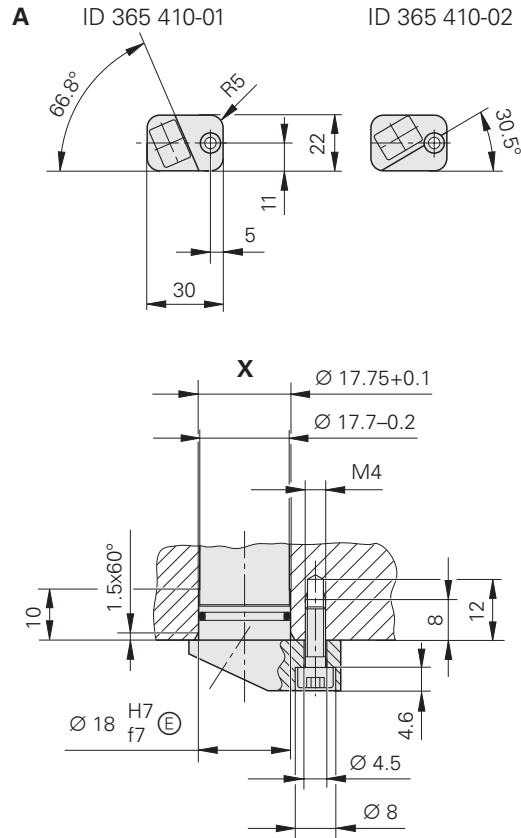


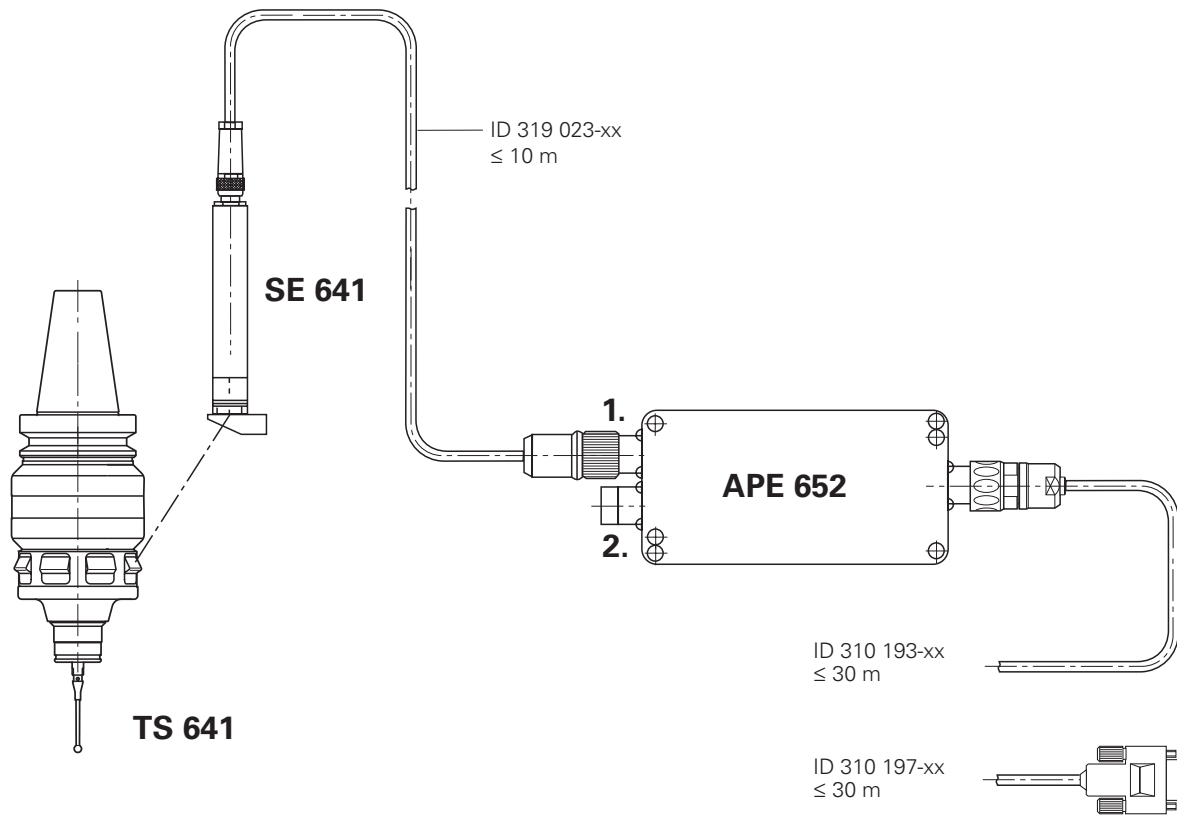
SE 641



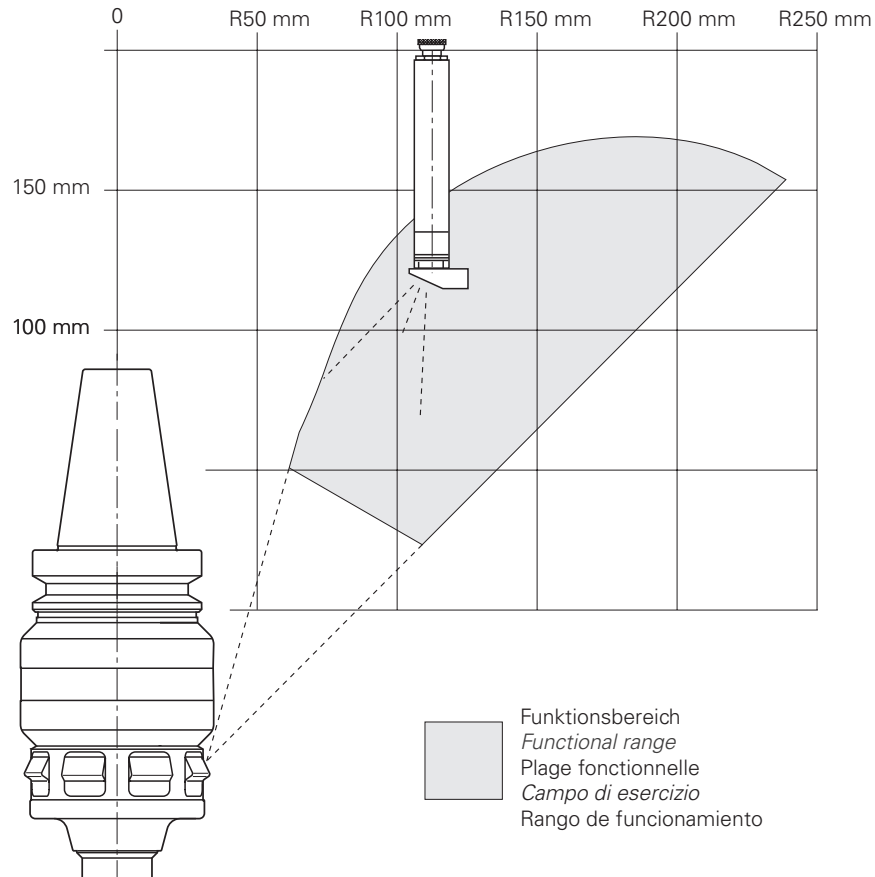
(H1) = Schutzschlauch
 Metal armor
 Gaine de protection
 Guaina di protezione
 Manguera de proteccion

(H2) = O-Ring 16x1
 O-ring 16x1
 Joint torique 16x1
 O-ring 16x1
 Anillo obturador toroidal 16x1

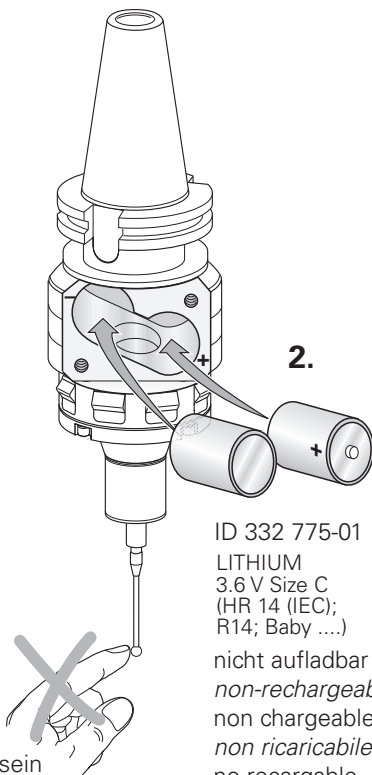
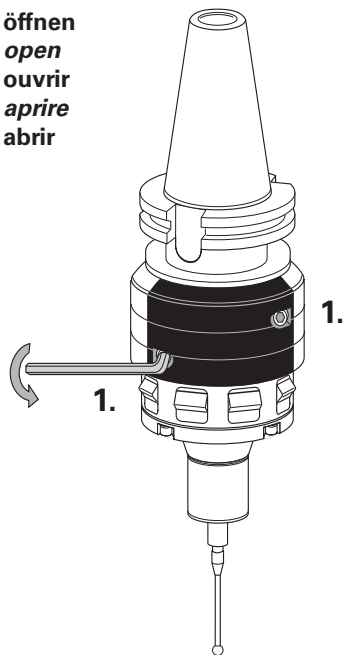




Abstrahlbereich · *Transmission range* · Plage de rayonnement · *Campo di riflessione* · Campo de irradiación

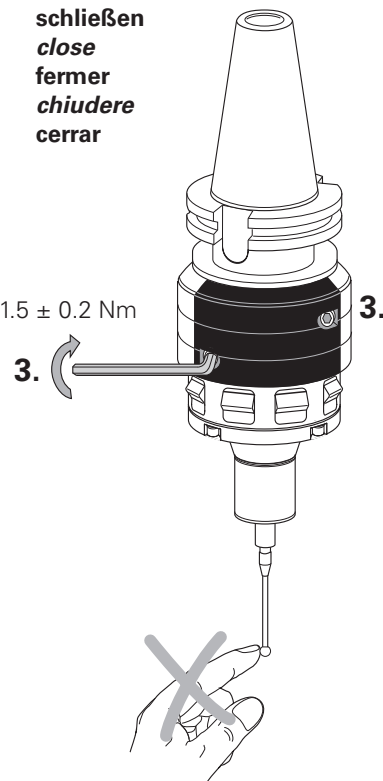


öffnen
open
ouvrir
aprire
abrir



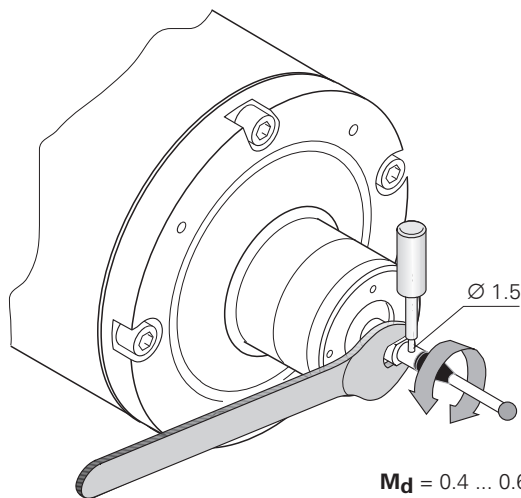
schließen
close
fermer
chiudere
cerrar

2x
 $M_d = 1.5 \pm 0.2 \text{ Nm}$

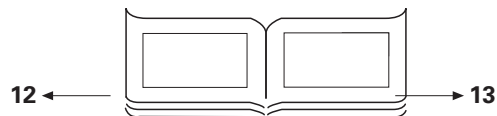
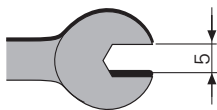


Wegen Selbstkalibrierung, muss Taststift frei sein
The stylus must hang loose for the self-calibration
En raison de l'auto-étalonnage, la tige de palpage doit être libre
Lo stilo deve essere libero per autocalibrazione
Debido a la autocalibración, el vástago debe estar libre

Taststiftwechsel · Stylus Exchange · Changement de la tige de palpague · Sostituzione dello stilo · Cambio vástago palpación



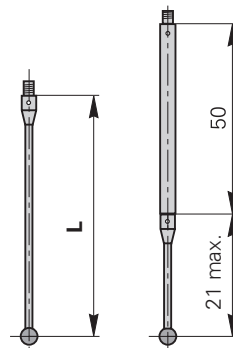
$M_d = 0.4 \dots 0.6 \text{ Nm}$



Neu zentrieren
Recenter
Recentrer
Rifare in centraggio
Centrar de nuevo

$L = 21 / 40 \text{ mm}$

mit Taststiftverlängerung nur **L 21 mm** verwenden
For stylus extension use only **L 21 mm**
n'utiliser que **L 21 mm** avec prolongation de tige de palpague
con la prolunga dello stilo utilizzare solo **L 21 mm**
con prolongador de vástago utilizar únicamente **L 21 mm**



Elektronisch
Electronic
électronique
elettronico
electrónico

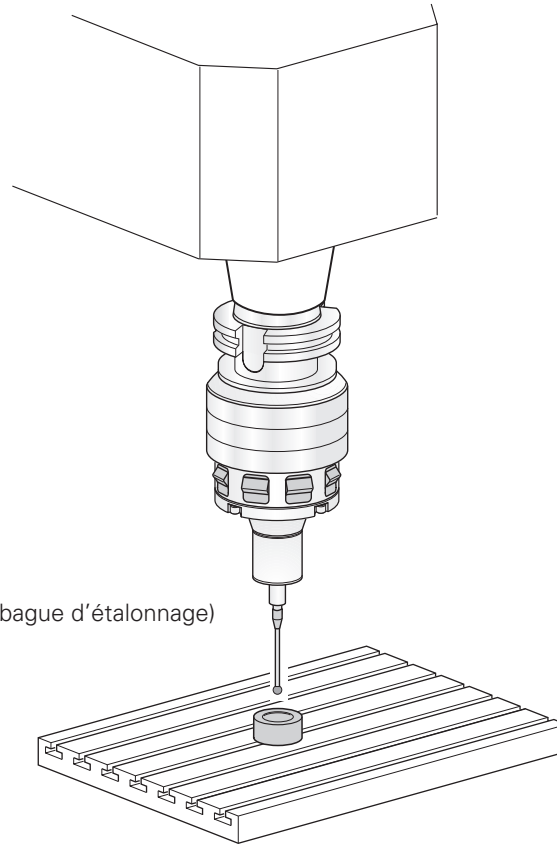
in NC durch Umschlagmessung (Kalibrierring)

In NC through probing from opposite directions (calibration ring)

Dans la CN par mesure avec rotation dans les deux sens à 180°(bague d'étalonnage)

Tramite CN eseguire tastatura su due punti diametrali opposti

En NC mediante medición iniciada (anillo de calibración)



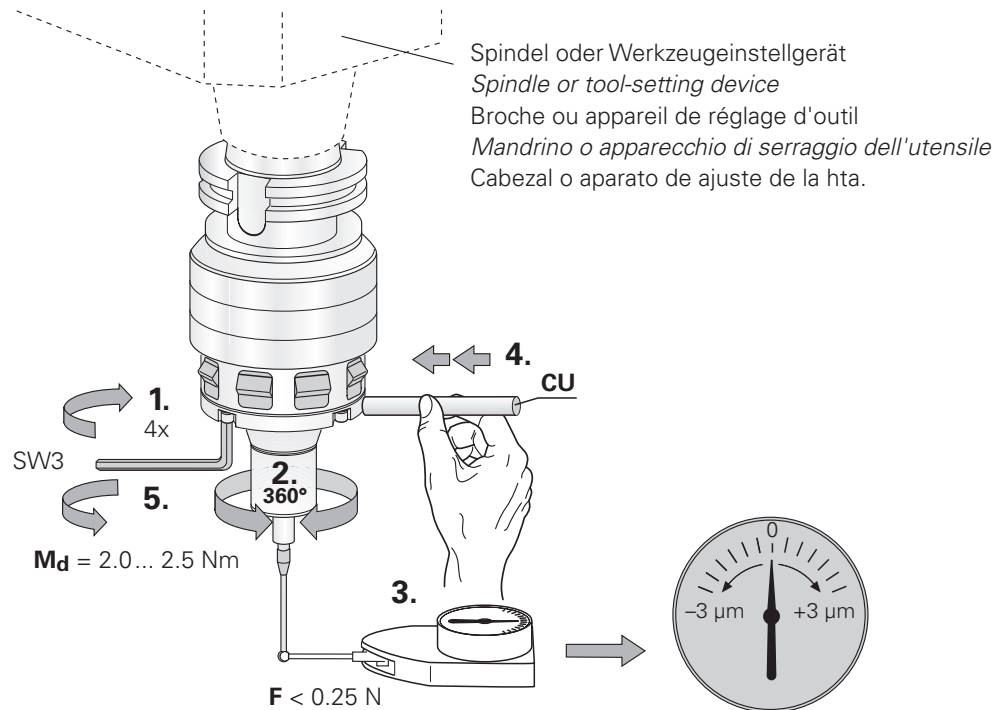
Mechanisch Zentrieren, nur nötig wenn keine elektronische Zentrierung möglich ist.

Mechanical centering. Only necessary if electronic centering is not possible.

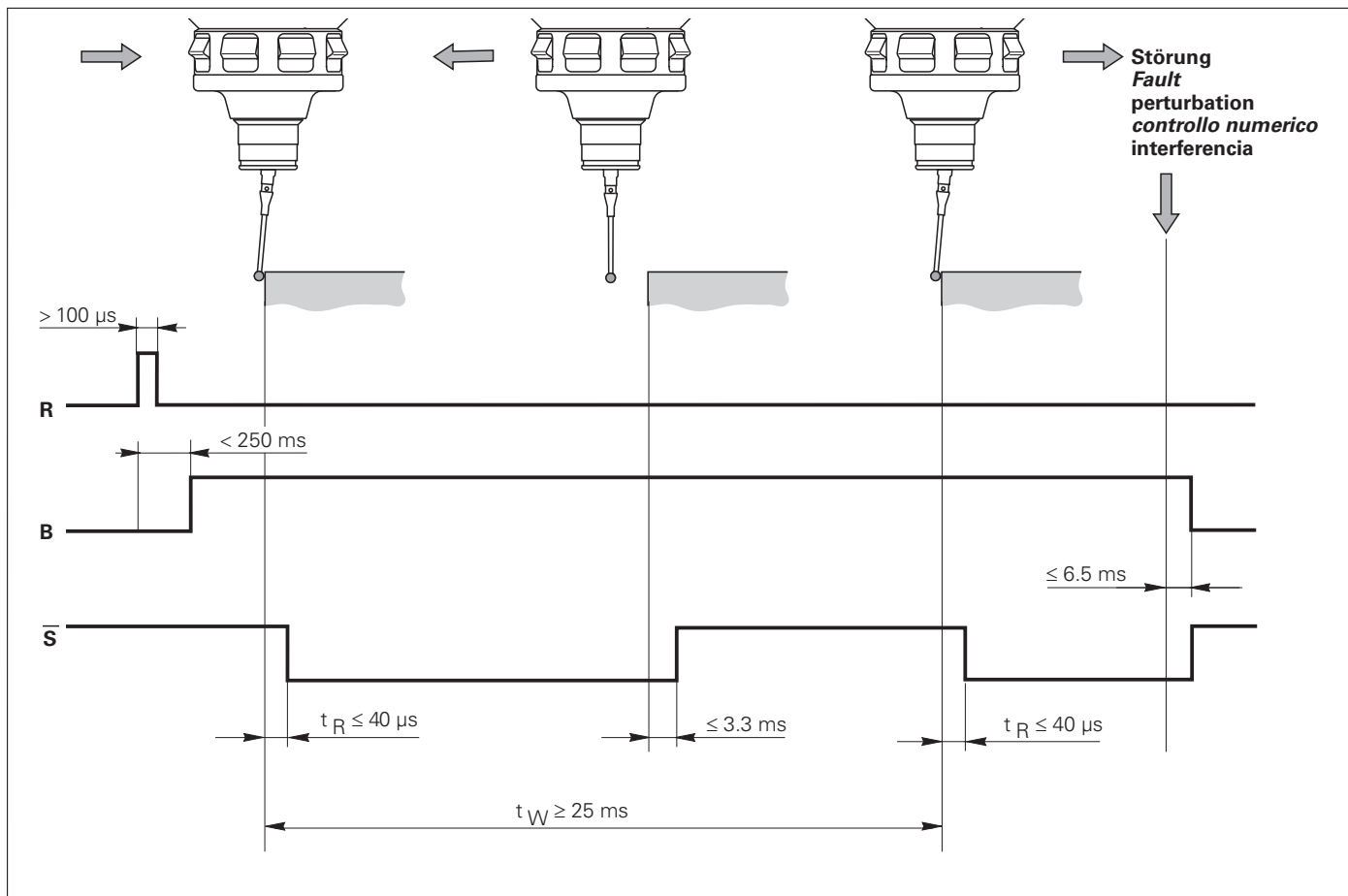
Centrage mécanique, n'est nécessaire que si le centrage électronique s'avère impossible.

Centrare meccanicamente solo se non è possibile il centraggio elettronico

Centraje mecánico, necesario sólo en el caso de no ser posible el centrage electrónico.

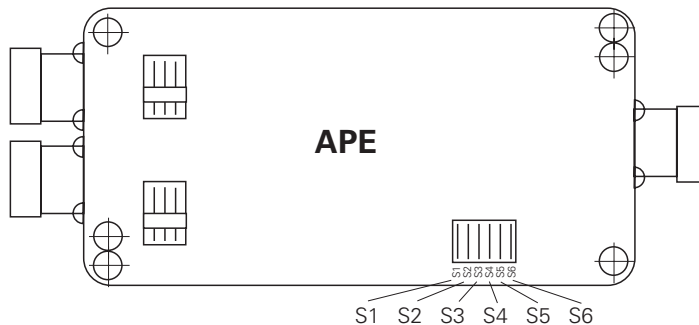
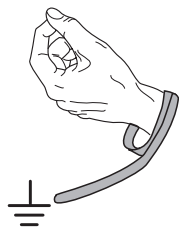


Signalfolge · *Signal sequence* · Train du signal · *Sequenza segnali* · sucesión de señales





DIN EN 100 015 - 1
CECC 00015 - 1



	Standard <i>Standard</i> <i>standard</i> <i>estándar</i>	Signal <i>Signal</i> <i>signal</i> <i>segnale</i> <i>señal</i>	Optional <i>Optional</i> <i>en option</i> <i>opzionale</i>	Signal <i>Signal</i> <i>signal</i> <i>segnale</i> <i>señal</i>
S1		\bar{S}		S
S2		\bar{W}		W
S3		B		\bar{B}
S4		R		\bar{R}
S5		$\frac{B}{B} = \frac{B}{B}$		$\frac{B}{B} = \frac{B + \bar{W}}{B + \bar{W}}$
S6		$\frac{\bar{S}}{S} = \frac{\bar{S}}{S}$		$\frac{\bar{S}}{S} = \frac{B + \bar{S}}{B + S}$



← U_P, R

→ B, \bar{W}, \bar{S}

R = Startsignal
Start signal
 Signal de
Segnale di
 Señal de

U_P _____

$U_P = 15 \text{ V} \dots 30 \text{ V}$
 ($\leq 75 \text{ mA}$)



R:
 $U_H = (10 \dots 30) \text{ V}$
 $U_L \leq 2 \text{ V}$ ($I_H = \frac{U_H - 10 \text{ V}}{10 \text{ k}\Omega}$)
 $I_L \leq 100 \mu\text{A}$
 $t \geq 100 \mu\text{s}$

B = Bereitschaftssignal
Ready signal
 Signal de réponse
Segnale di pronto
 Señal de disposición

B _____

B, \bar{S} , \bar{W} :
 $U_H \geq [U_P - 2,2 \text{ V}]$
 ($-I_H \leq 20 \text{ mA}$)

\bar{S} = Schaltsignal
Trigger signal
 Signal de commutation
Segnale di commutazione
 Señal de conexión

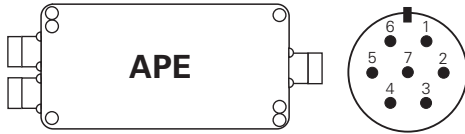
\bar{S} _____

$U_L \leq 1.8 \text{ V}$
 ($I_L \leq 100 \text{ mA}$)

\bar{W} = Batteriewarnung (Batteriekapazität < 10%)
Battery warning (Battery capacity < 10%)
 Témoins batterie (capacité batterie < 10%)
Allarme batteria (capacità batteria < 10%)
 Aviso de batería (capacidad de la batería < 10%)

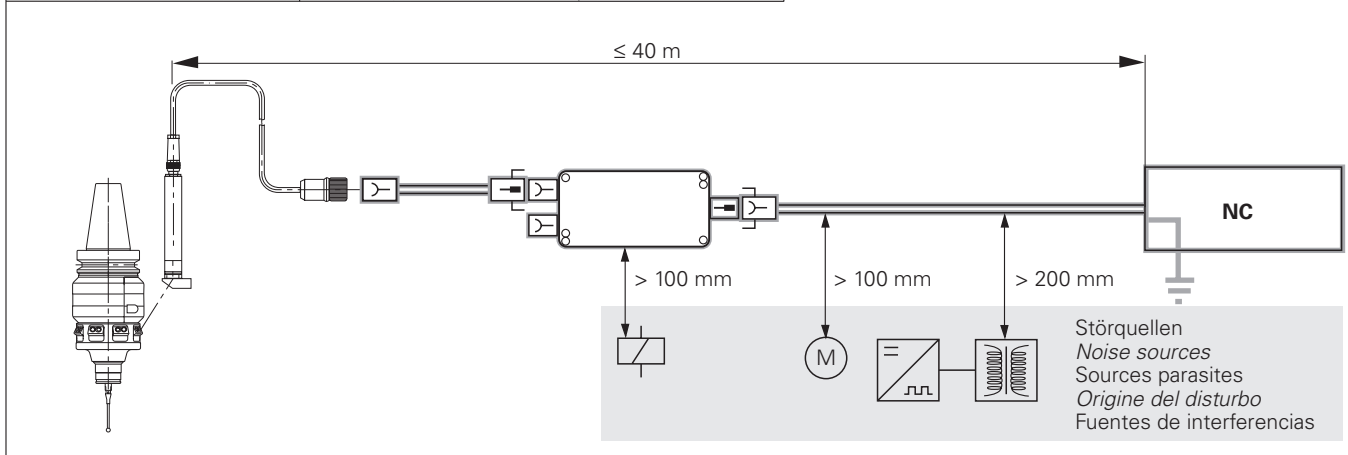
\bar{W} _____

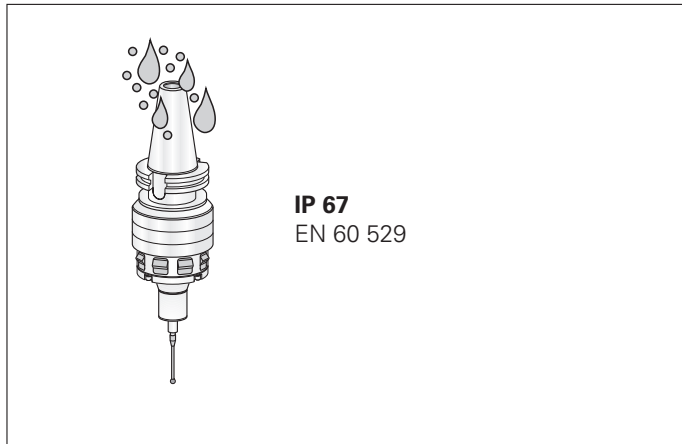
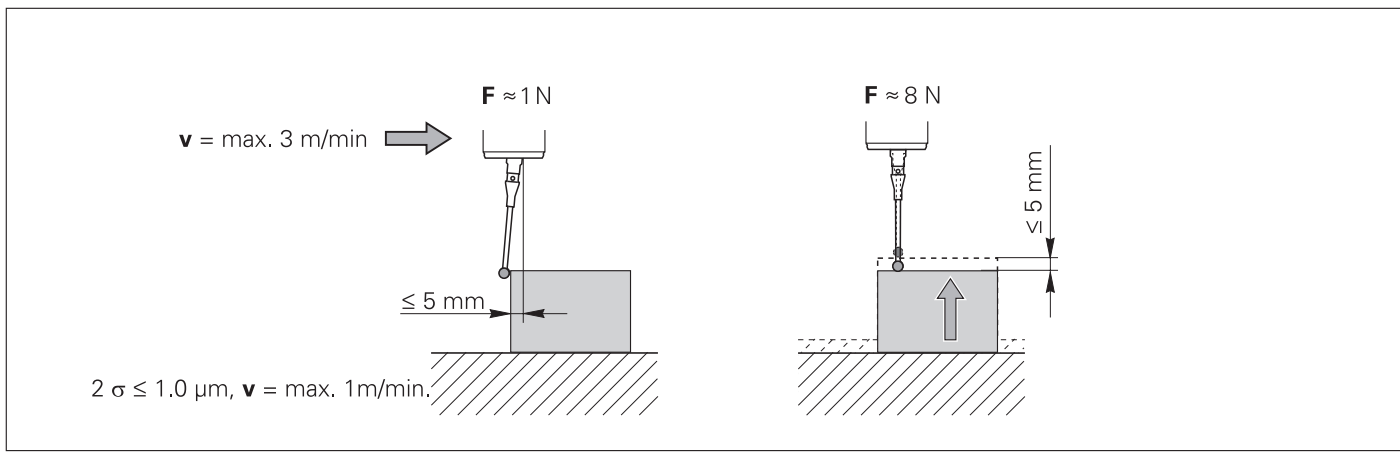
Elektrischer Anschluss · *Electrical Connection* · Raccordement électrique · *Collegamento elettrico* · Conexión eléctrica



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)

1	2	3	4	5	6	7
0 V U _N	15 ... 29 V U _P	R	\bar{S}	B	\bar{W}	Innenschirm <i>Internal shield</i> blindage interne <i>schermo interno</i> pantalla interna
weiß white blanc bianco blanco	braun brown brun marrone marrón	gelb yellow jaune giallo amarillo	grün green vert verde verde	grau gray gris grigio gris	blau blue bleu azzurro azul	weiß/braun white/brown blanc/brun bianco/marrone blanco/marrón





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