



# HEIDENHAIN



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

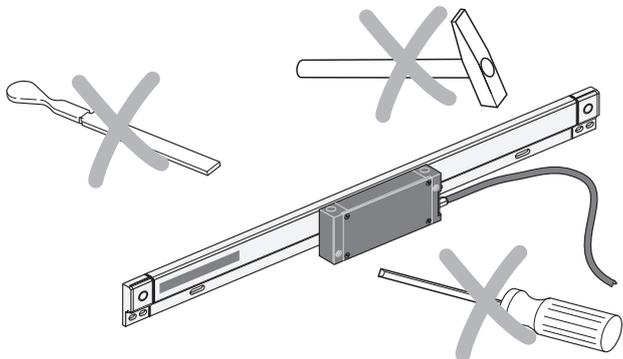
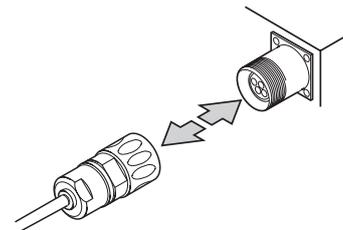
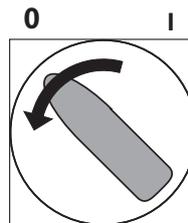
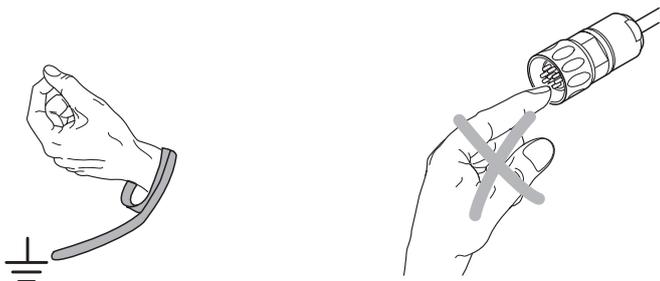
**LIM 501**

**LIM 571**

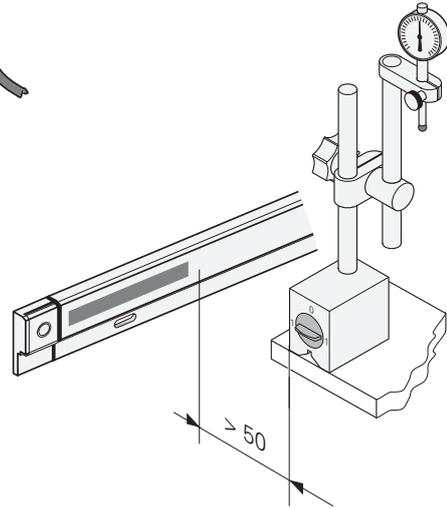
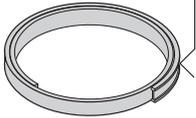
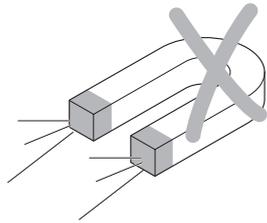
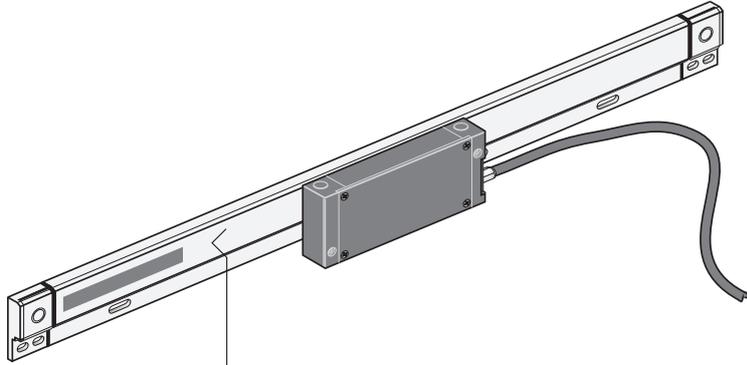
**LIM 581**

12/2000

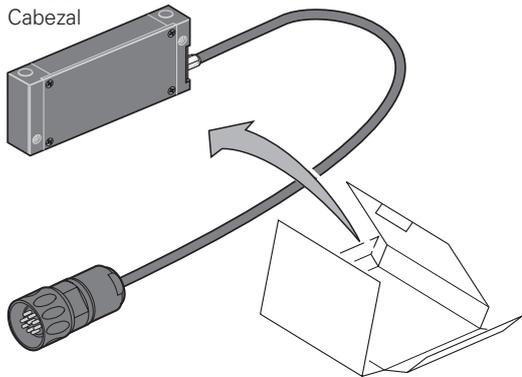
 **DIN EN 100 015 – 1**  
**CECC 00015 – 1**



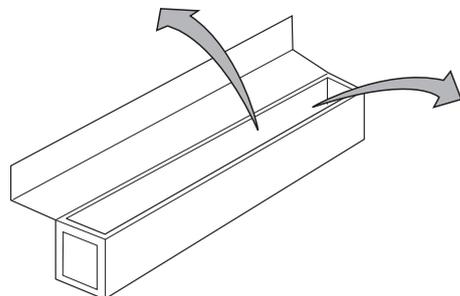
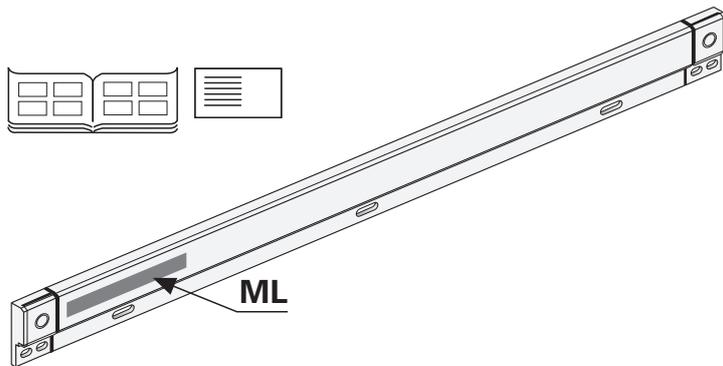
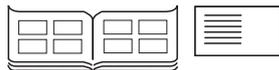
**Maße in mm**  
**Dimensions in mm**  
**Cotes en mm**  
**Dimensioni in mm**  
**Dimensiones en mm**



Abtastkopf  
*Scanning Head*  
Tête caprice  
*Testina*  
Cabezal



**ML = 440 ... 2040 mm**



**RI** = Magnet  
*Magnet*  
Aimant  
*Magnete*  
Imán

Separat bestellen  
*Order separately*  
A commander séparément  
*Ordinare a parte*  
Para pedir por separado

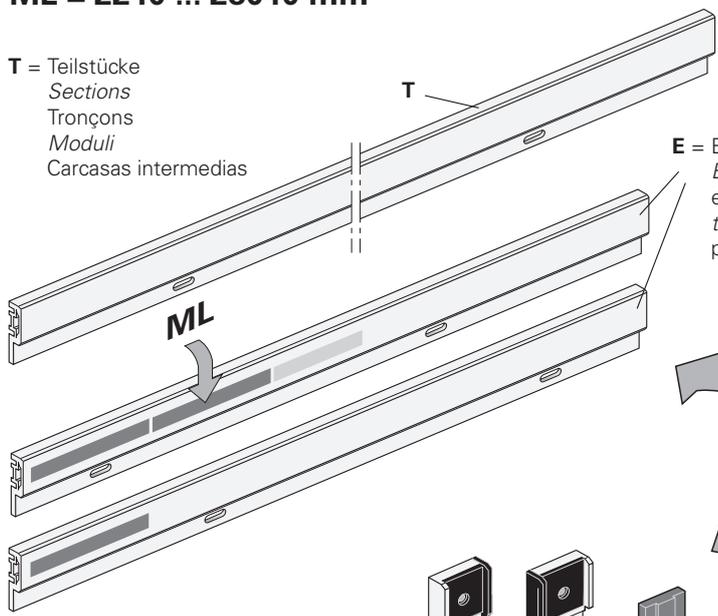


Justagestück für **RI**  
*Adjusting tool for RI*  
Pièce de réglage pour **RI**  
*Elemento di taratura per RI*  
Pieza de ajuste para **RI**

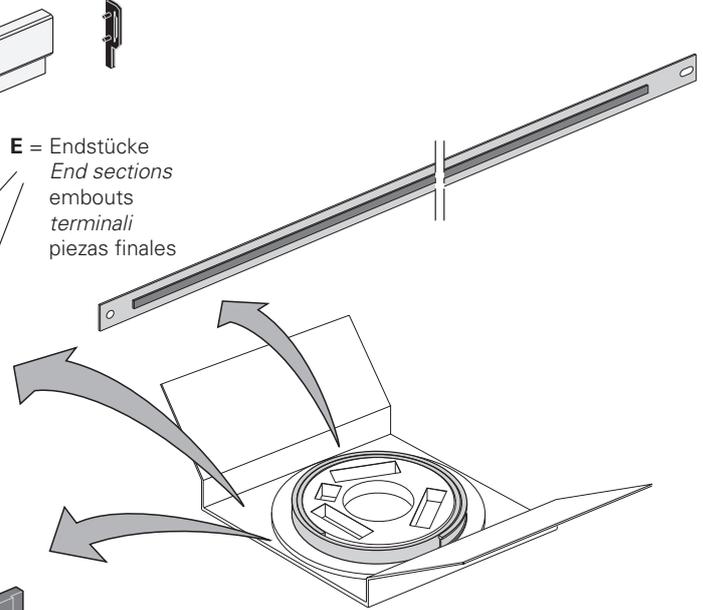
Id.-Nr. 331 326-01

# ML = 2240 ... 28040 mm

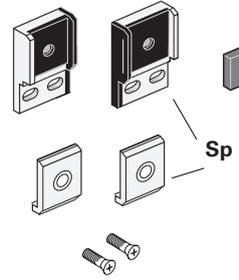
**T** = Teilstücke  
 Sections  
 Tronçons  
 Moduli  
 Carcasas intermedias



**E** = Endstücke  
 End sections  
 embouts  
 terminali  
 piezas finales



**D**



**RI** = Magnet  
 Magnet  
 Aimant  
 Magnete  
 Imán

**D** = Dichtung  
 Seal  
 Joint  
 Guarnizione  
 Junta

**Sp** = Spanner  
 Clamps  
 Pièce de serrage  
 Elementi di tensionamento  
 Tensor

Abmessungen · Dimensions · Dimensions · Dimensioni · Dimensiones

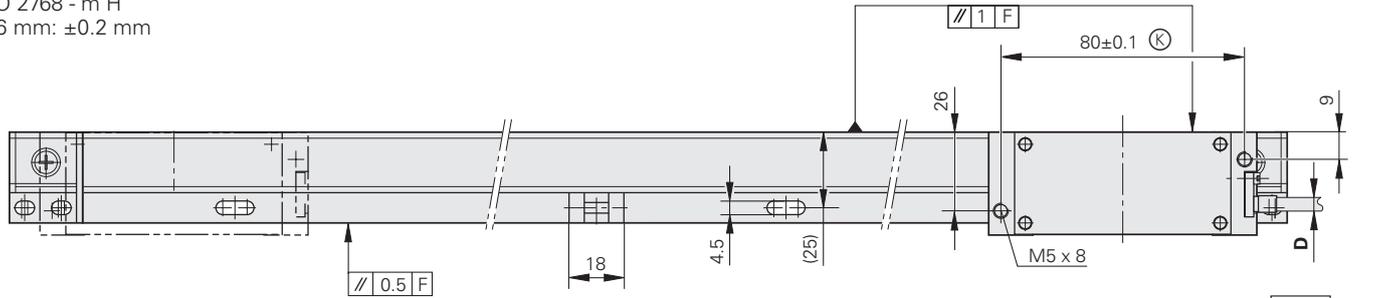
mm



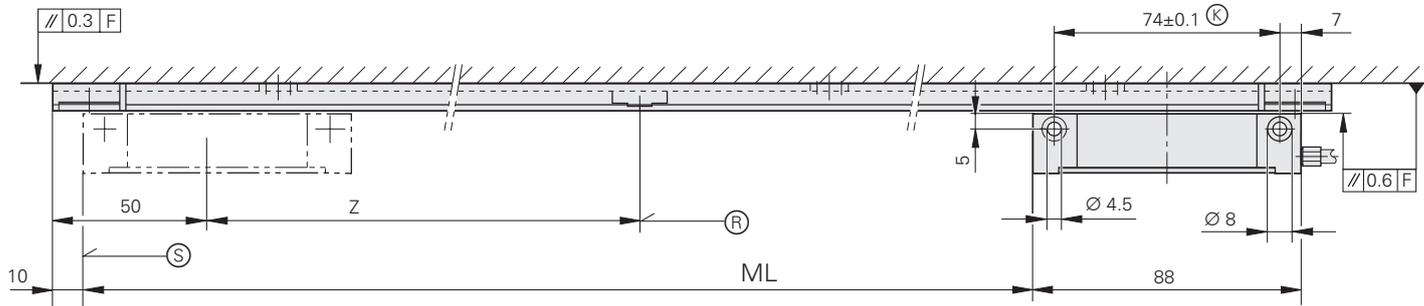
Tolerancing ISO 8015

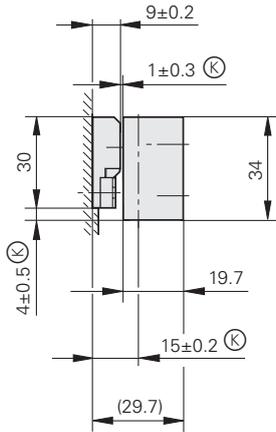
ISO 2768 - m H

< 6 mm: ±0.2 mm



D
∅ 4.5
∅ 10





F = Maschinenführung  
*Machine guideway*  
 Guidage de la machine  
*Guida della macchina*  
 Guía de la máquina

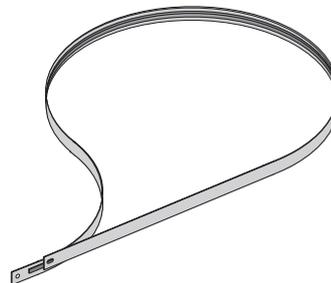
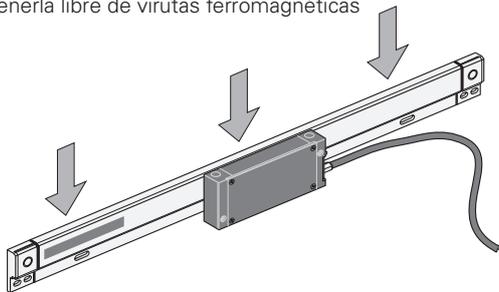
Ⓜ = Referenzmarken-Lage  
*Reference mark position*  
 Marque de référence  
*Indici di riferimento*  
 Marca de referencia

Ⓢ = Beginn der Messlänge ML  
*Begin. of meas. length ML*  
 Début longueur utile ML  
*Inizio lunghezza di misura ML*  
 Comienzo longitud útil ML

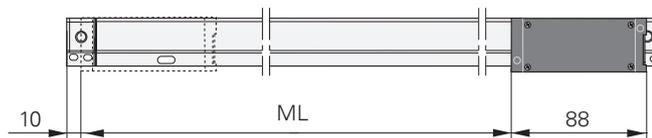
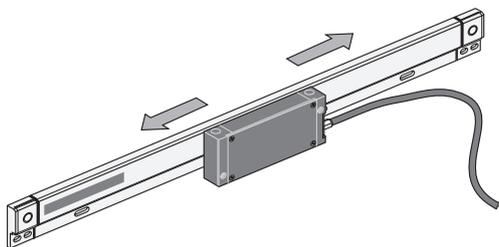
Ⓚ = Kundenseitige Anschlussmaße  
*Required mating dimensions*  
 Conditions requises pour le montage  
*Dimensioni di collegamento lato cliente*  
 Cotas de montaje requeridas

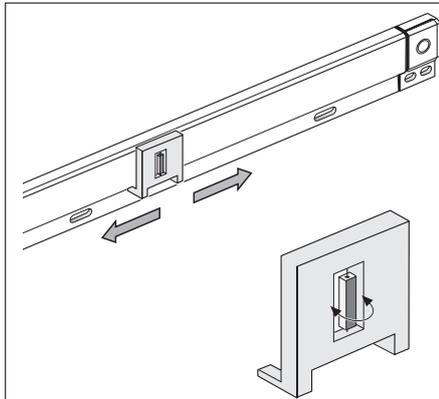
z = eine Referenzmarke z = beliebig  
*One reference mark z = any location*  
 une marque de référence z = au choix  
*un indice di riferimento z = a scelta*  
 una marca de referencia z = cualquier posición

Frei von ferromagnetischen Spänen halten  
*Keep free of ferromagnetic chips*  
Maintenir à l'abri des copeaux ferromagnétiques  
*Mantenero pulito da trucioli ferromagnetici*  
Mantenerla libre de virutas ferromagnéticas



Magnetband nicht gegenseitig berühren lassen  
*Do not allow magnetic tape to fold back on itself*  
Ne pas laisser se toucher lui-même le ruban magnétique  
*Evitare il contatto tra le due parti del nastro magnetico*  
Evitar el contacto de la cinta magnética consigo misma





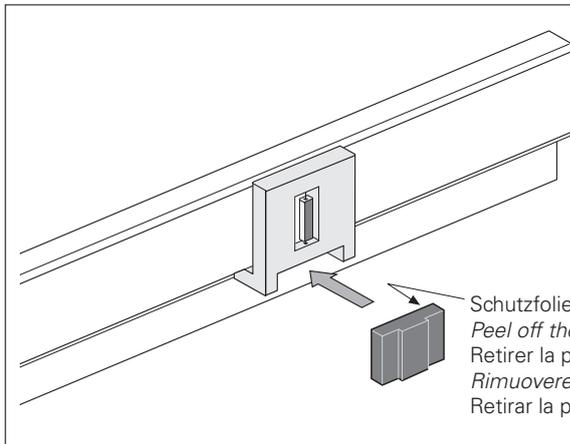
Zulässige Position der Referenzmarke:  
 Grüne Fläche des Justagestücks muss oben stehen.  
 Es ist jede beliebige Referenzmarkenlage im Raster von 10,24 mm möglich

*Permissible position of the reference mark:  
 Green surface of the adjusting tool must face outward.  
 Any desired reference mark position in an interval of 10.24 mm is possible*

position admissible de la marque de référence:  
 Surface verte de la pièce de réglage vers le haut.  
 Marque de référence au choix par pas de 10,24 mm

*posizione ammessa dell'indice di riferimento:  
 La superficie di colore verde dell'elemento di taratura deve essere rivolta verso l'alto.  
 Gli indici di riferimento possono essere collocati in qualsiasi posizione a intervalli di 10,24 mm*

posición de la marca de referencia admisible:  
 La superficie verde de la pieza de ajuste tiene que estar arriba.  
 Es posible cualquier posición de la marca de referencia en intervalos de 10,24 mm



Schutzfolie abziehen und Magnet **RI** aufkleben  
*Peel off the protective foil and apply the **RI** magnet*  
 Retirer la pellicule de protection et coller l'aimant **RI**  
*Rimuovere la pellicola protettiva dell'adesivo e applicare il magnete **RI***  
 Retirar la película protectora y pegar el imán **RI**

## Abmessungen · Dimensions · Dimensions · Dimensioni · Dimensiones

Einteilige Maßstabausführung

*Single-section scale*

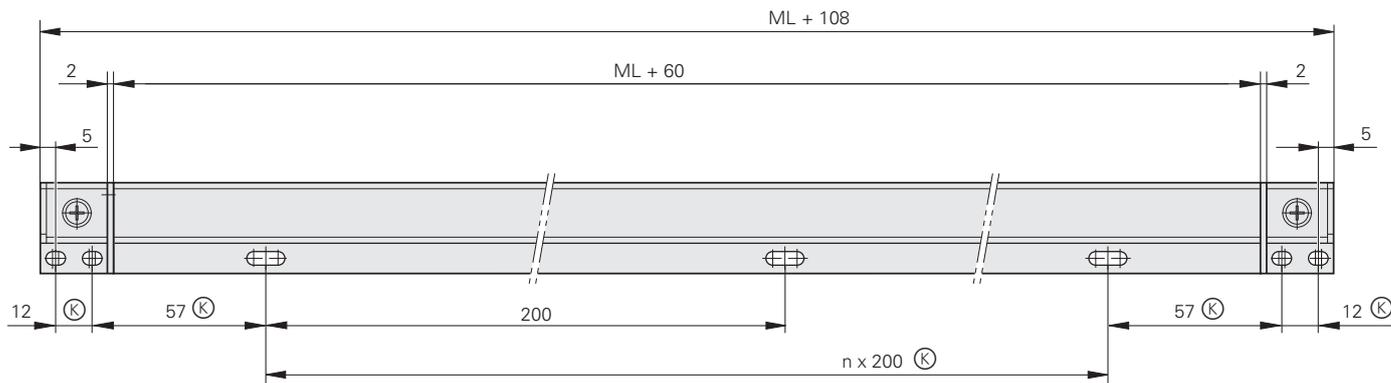
Règle de mesure monobloc

*Riga premontata*

Regla en una única sección

**ML ≤ 2040**

**ML ≤ 80"**



mm



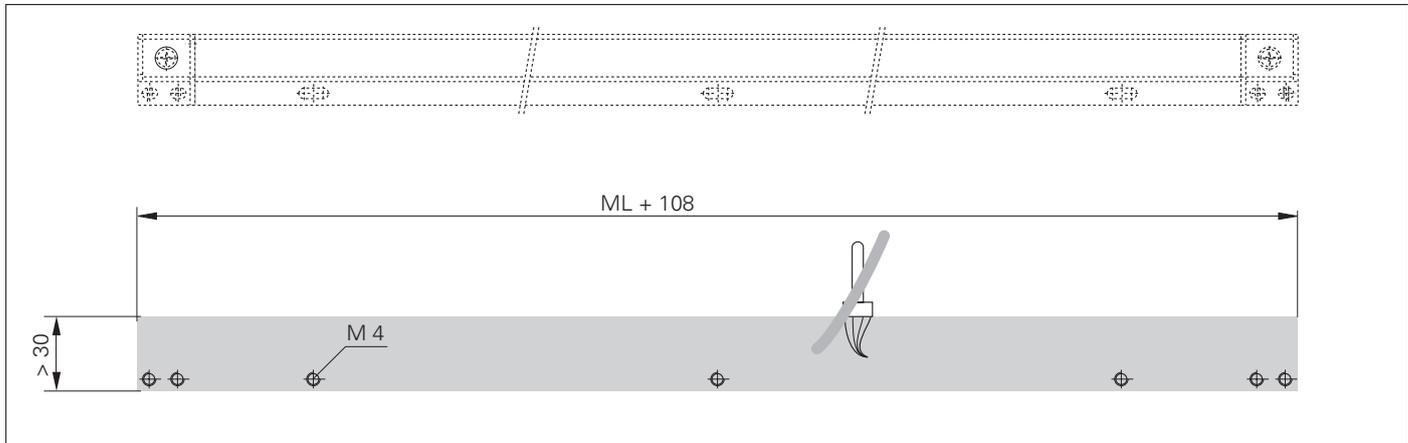
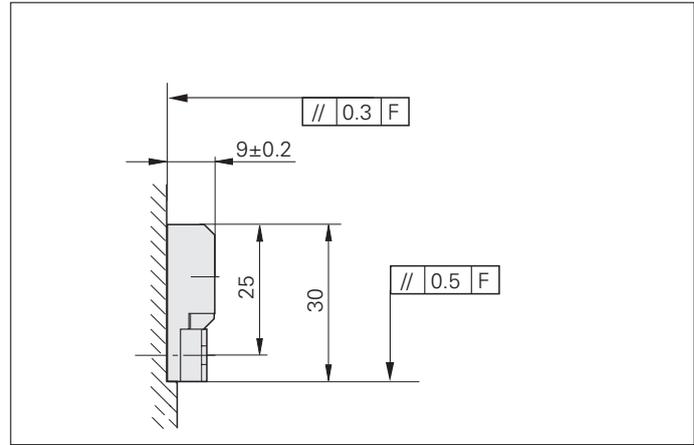
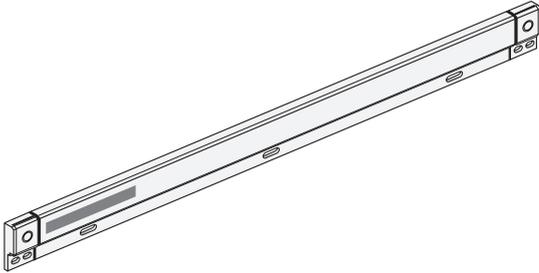
Tolerancing ISO 8015

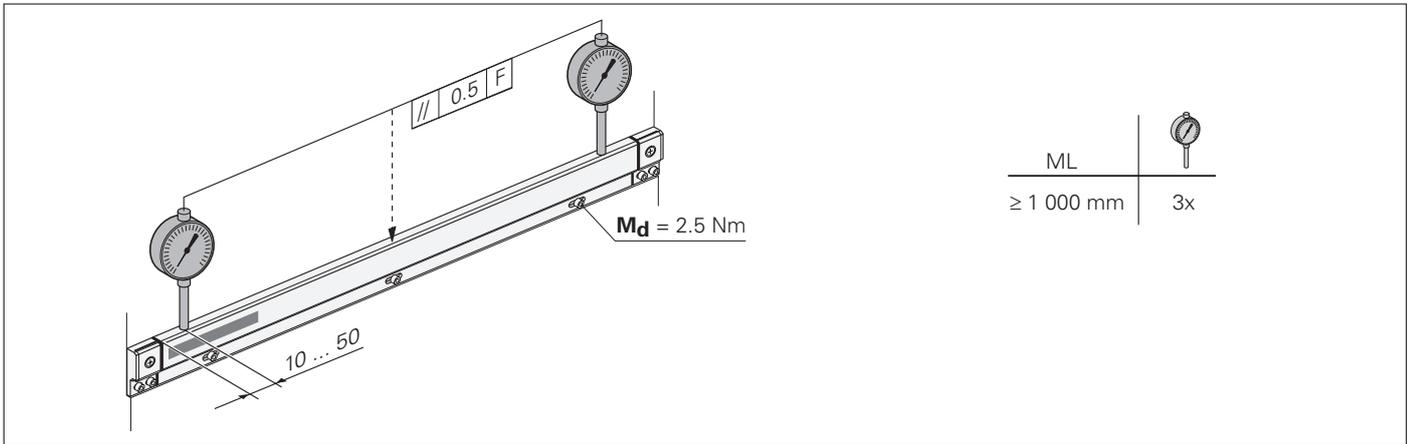
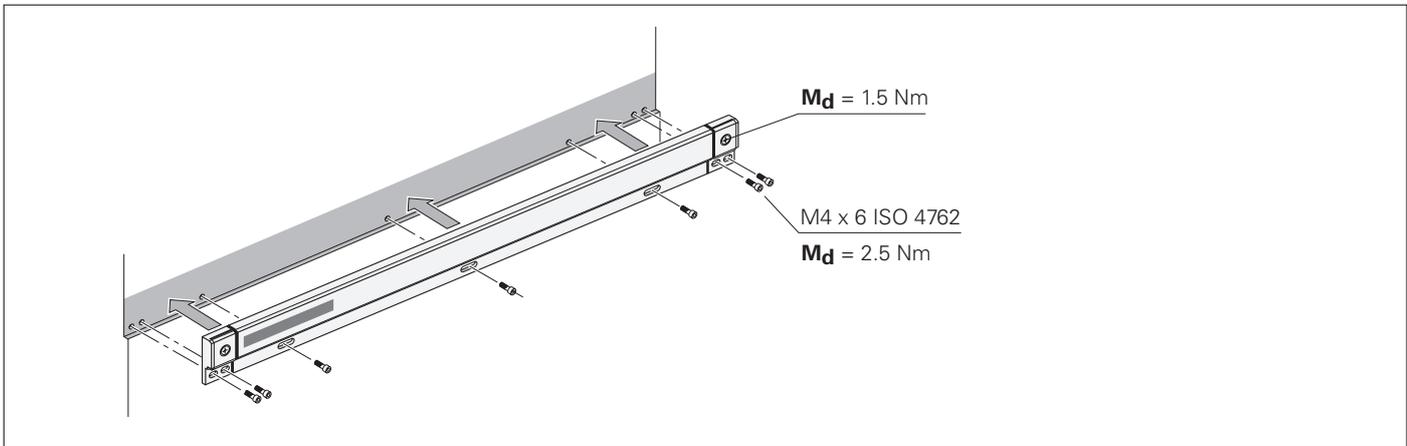
ISO 2768 - m H

< 6 mm:  $\pm 0.2$  mm

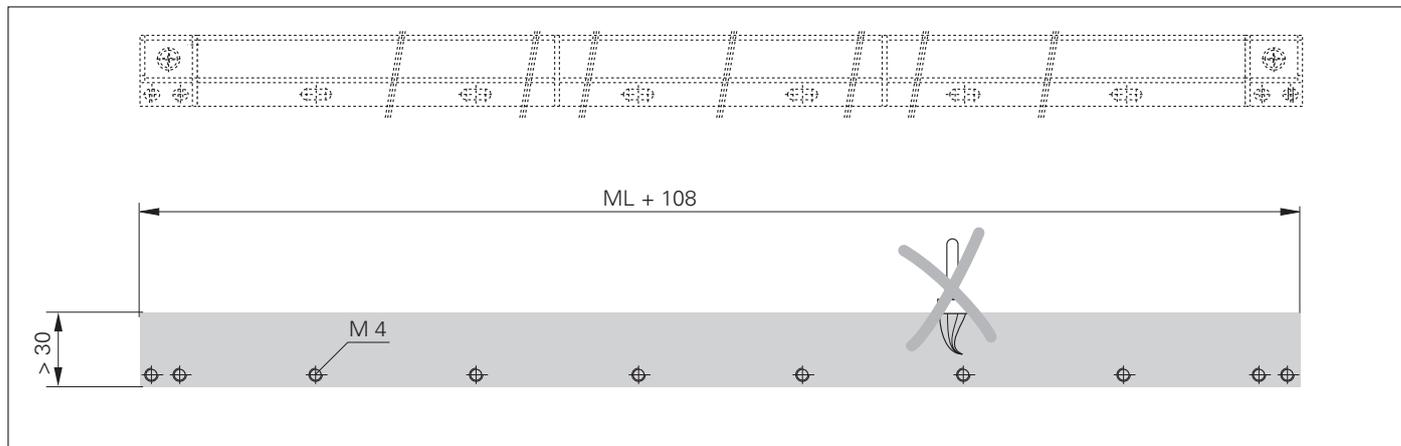
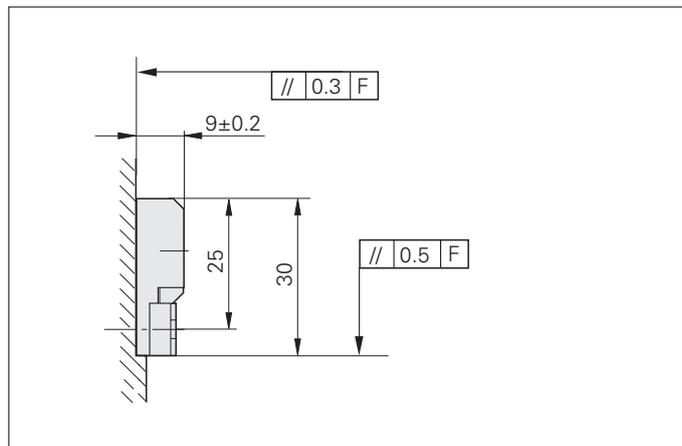
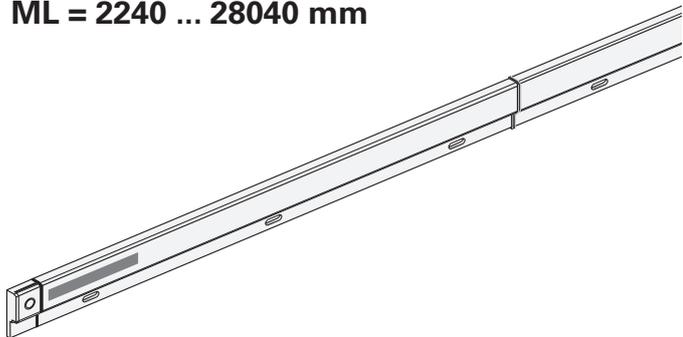


ML = 440 ... 2040 mm

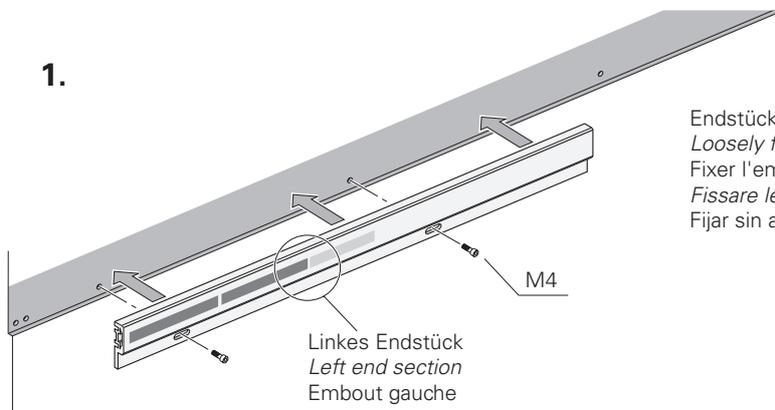




ML = 2240 ... 28040 mm



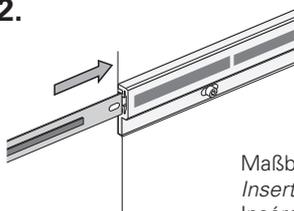
1.



Linkes Endstück  
Left end section  
Embout gauche  
Terminale sinistro  
Pieza final izquierda

Endstück lose befestigen  
*Loosely fix the end block*  
Fixer l'embout sans serrer  
*Fissare leggermente il terminale*  
Fijar sin apretar la pieza final

2.

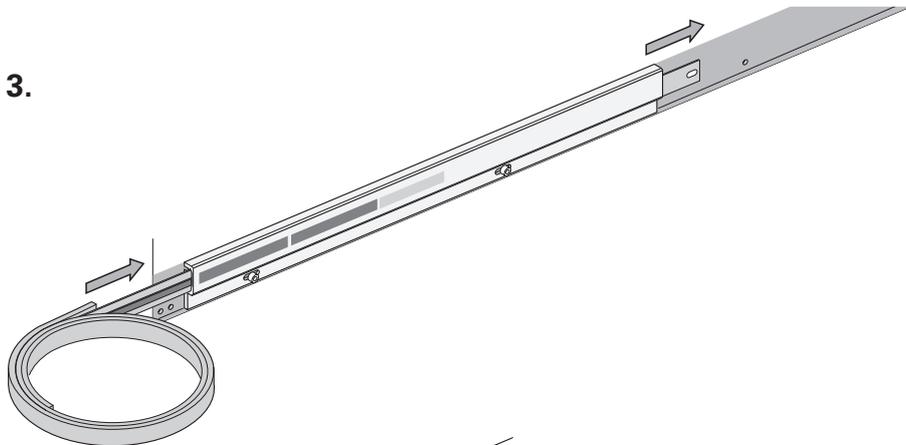


Maßband einführen  
*Insert the scale tape*  
Insérer le ruban de mesure  
*Inserire il nastro graduato*  
Introducir cinta de medición

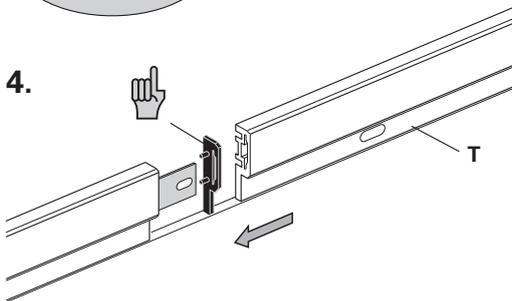


**Achtung:** Maßband nicht knicken  
**CAUTION:** Do not bend the scale tape  
**Attention:** ne pas couder le ruban de mesure  
**Attenzione:** non piegare il nastro graduato  
**Atención:** No doblar la cinta de medición

3.

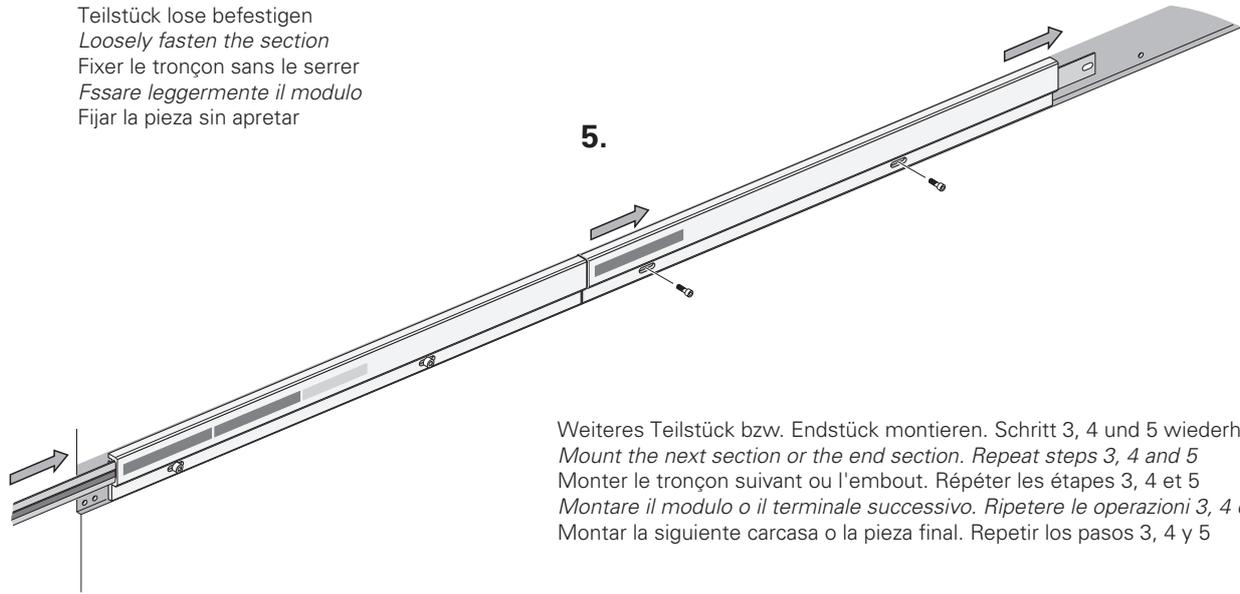


4.



Maßband so weit durchschieben, bis Teilstück-Länge erreicht ist. Dichtung und Teilstück auf Maßband schieben  
*Insert the scale tape until it reaches the housing section length. Slide the seal and next section onto the scale tape*  
Faire glisser le ruban jusqu'à atteindre la longueur du tronçon. Pousser le joint et le tronçon sur le ruban de mesure  
*Far scorrere il nastro graduato fino a coprire l'intera lunghezza del modulo. Spingere guarnizione e modulo sul nastro graduato*  
Introducir la cinta de medición hasta alcanzar la longitud de la carcasa. Desplazar la junta y la carcasa sobre la cinta de medición

Teilstück lose befestigen  
*Loosely fasten the section*  
Fixer le tronçon sans le serrer  
*Fissare leggermente il modulo*  
Fijar la pieza sin apretar



5.  
Weiteres Teilstück bzw. Endstück montieren. Schritt 3, 4 und 5 wiederholen  
*Mount the next section or the end section. Repeat steps 3, 4 and 5*  
Monter le tronçon suivant ou l'embout. Répéter les étapes 3, 4 et 5  
*Montare il modulo o il terminale successivo. Ripetere le operazioni 3, 4 e 5*  
Montar la siguiente carcasa o la pieza final. Repetir los pasos 3, 4 y 5

## Ausrichten und Befestigen · *Align and faste* · *Aligner et fixer* · *Allineamento e fissaggio* · *Alinear y fijar*

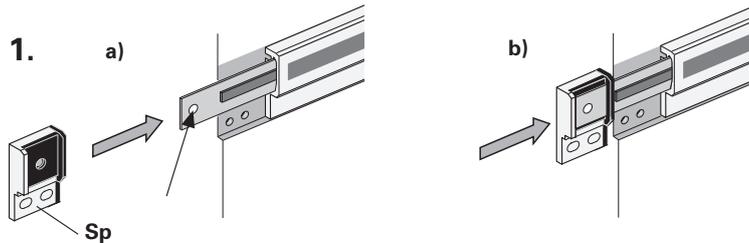
Wenn alle Teilstücke und das Endstück lose befestigt sind, wird an dem Maßbandende mit dem Rundloch mit der Montage begonnen

*When all sections and the end sections are loosely fastened, begin fastening at the circular hole at the end of the scale tape*

Lorsque tous les tronçons et l'embout ont été fixés sans les serrer, débiter le montage par l'extrémité du ruban de mesure avec le trou rond

*Una volta fissati leggermente tutti i moduli e il terminale, procedere al montaggio sull'estremità del nastro graduato con il foro circolare*

Cuando se han fijado sin apretar todas las carcasas y la pieza final, se comienza el montaje por el extremo de la cinta de medición con el taladro circular



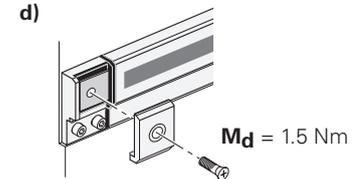
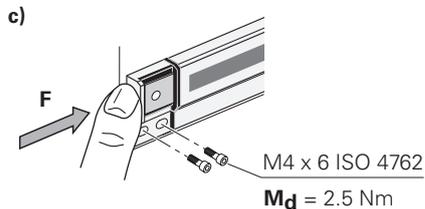
Spanner mit Maßband durchschieben

*Slide the clamp and scale through*

Faire glisser la pièce de serrage avec le ruban de mesure

*Far scorrere gli elementi di tensionamento con il nastro graduato*

Desplazar el tensor con la cinta de medición



Schrauben lose eindrehen, Endstück mit Daumen auf Anschlag leicht andrücken und Schrauben festziehen

*Loosely tighten the screws. With your thumb, lightly press the end section onto the stop and firmly tighten the screws*

Poser légèrement les vis, presser légèrement l'embout en butée avec les pouces, puis serrer les vis

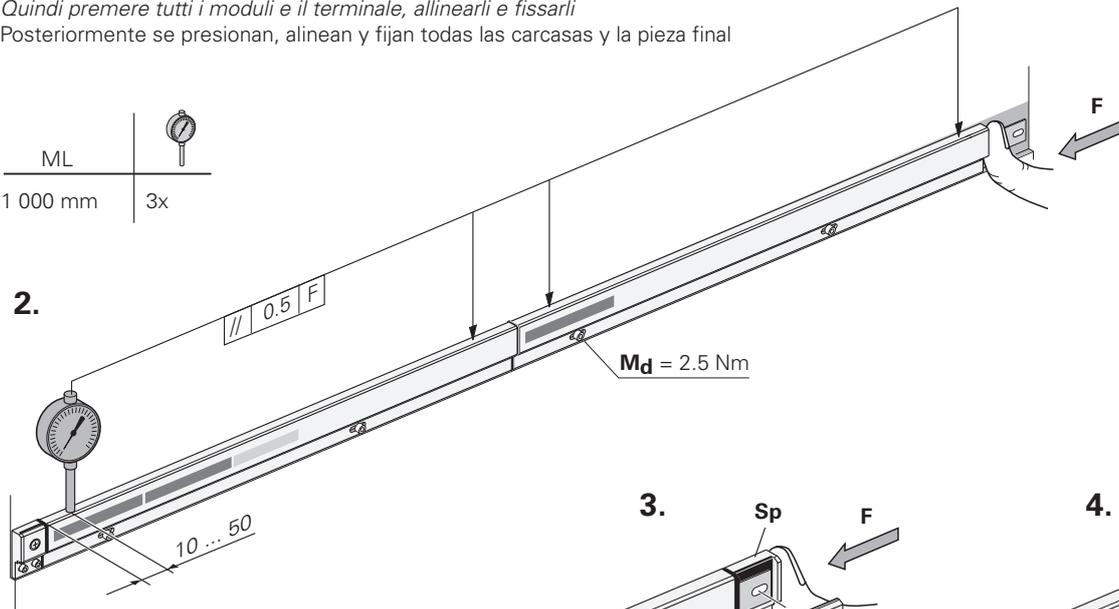
*Avvitare leggermente, spingere delicatamente con le dita il terminale a battuta e stringere a fondo le viti*

Colocar los tornillos sin apretar, presionar ligeramente la pieza final con el pulgar y apretar los tornillos

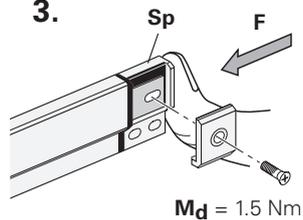
Weiterhin werden alle Teilstücke und das Endstück angedrückt, ausgerichtet und befestigt  
*In sequence, press all other sections and the end section into position, align and fasten*  
 Tous les tronçons et l'embout sont ensuite également pressés, alignés et fixés  
*Quindi premere tutti i moduli e il terminale, allinearli e fissarli*  
 Posteriormente se presionan, alinean y fijan todas las carcasas y la pieza final



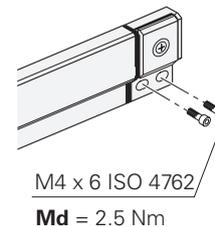
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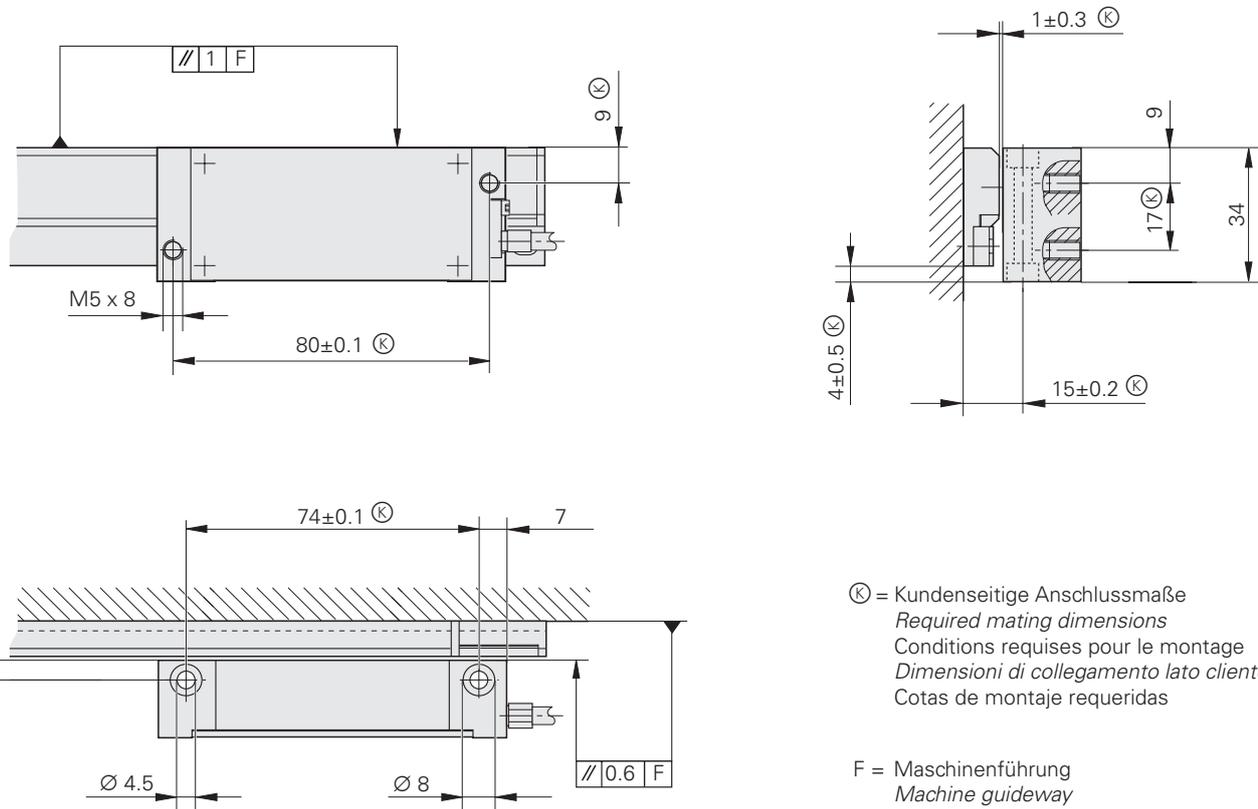


**3.**



**4.**

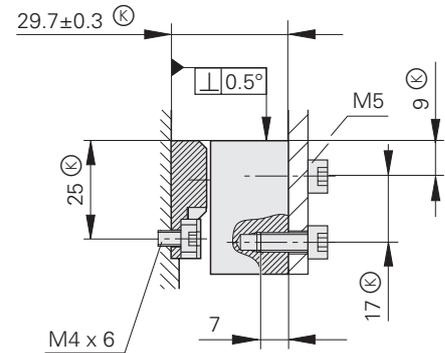
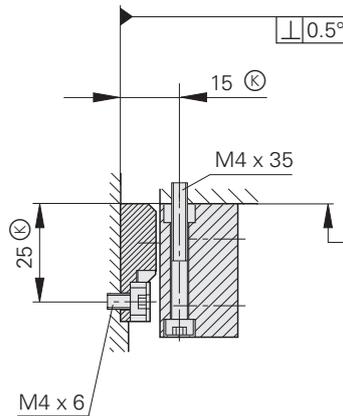
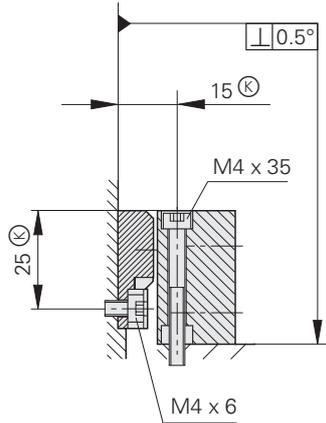


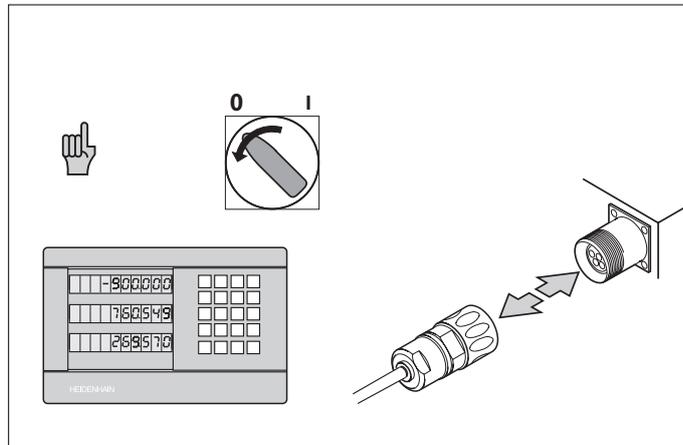
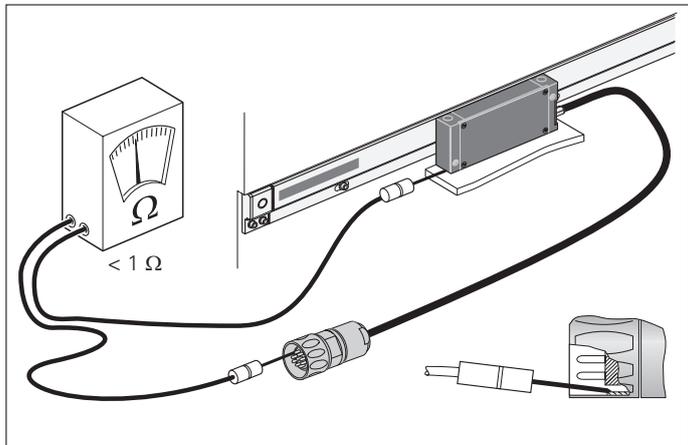


Ⓚ = Kundenseitige Anschlussmaße  
 Required mating dimensions  
 Conditions requises pour le montage  
 Dimensioni di collegamento lato cliente  
 Cotas de montaje requeridas

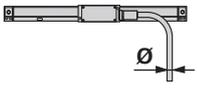
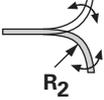
F = Maschinenführung  
 Machine guideway  
 Guidage de la machine  
 Guida della macchina  
 Guía de la máquina

Montage-Möglichkeiten  
*Mounting possibilities*  
Options de montage  
*Possibilità di montaggio*  
Posibilidades de montaje

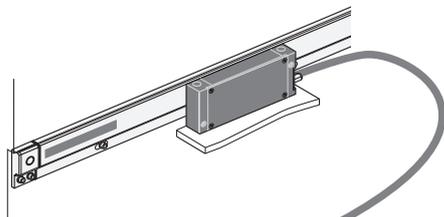




Technische Kennwerte · *Specifications* · Caractéristiques techniques · *Dati tecnici* · Datos técnicos

		
<p><b>Ø 4.5 mm</b></p>	<p><math>R_1 \geq 10 \text{ mm}</math></p>	<p><math>R_2 \geq 50 \text{ mm}</math></p>
<p><b>Ø 10 mm</b></p>	<p><math>R_1 \geq 35 \text{ mm}</math></p>	<p><math>R_2 \geq 75 \text{ mm}</math></p>
<p><b>Ø 8 mm</b></p> 	<p><math>R_1 \geq 40 \text{ mm}</math></p>	<p><math>R_2 \geq 100 \text{ mm}</math></p>

## LIM 501

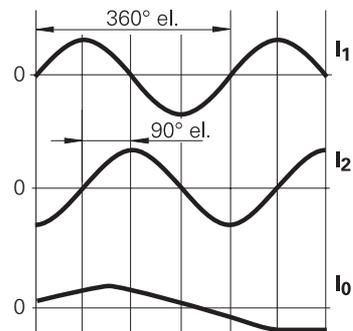


$U_P = 5V \pm 5\%$   
(max. 120 mA)

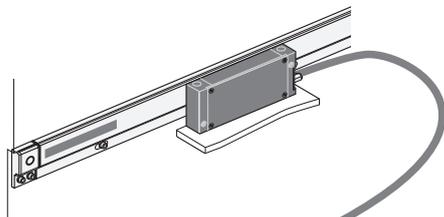


EN 50 178/4.98; 5.2.9.5  
IEC 364-4-41: 1992; 411(PELV/SELV)  
(siehe, see, voir, vedi, véase  
HEIDENHAIN D 231 929)

$I_1: 7 \dots 16 \mu A_{SS}$   
 $I_2: 7 \dots 16 \mu A_{SS}$   
 $I_0: 2 \dots 8 \mu A$



## LIM 581

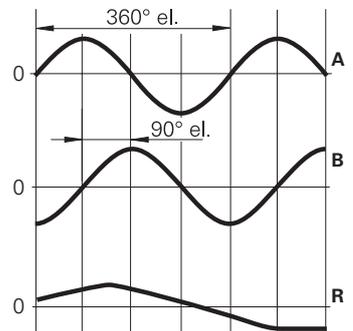


$U_P = 5V \pm 5\%$   
(max. 150 mA)

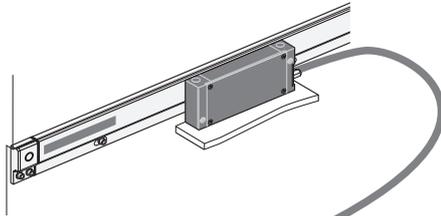


EN 50 178/4.98; 5.2.9.5  
IEC 364-4-41: 1992; 411(PELV/SELV)  
(siehe, see, voir, vedi, véase  
HEIDENHAIN D 231 929)

$A: 0.6 \dots 1.2 V_{SS}$   
 $B: 0.6 \dots 1.2 V_{SS}$   
 $R: 0.2 \dots 0.85 V$



# LIM 571



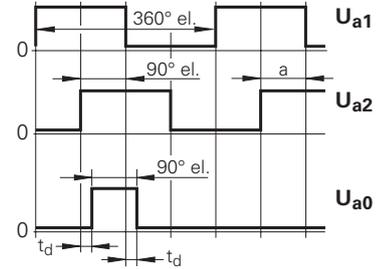
$U_p = 5V \pm 5\%$   
(max. 240 mA)



TTL

$U_{a1}, U_{a2}, U_{a0}$

$\overline{U_{a1}}, \overline{U_{a2}}, \overline{U_{a0}}, \overline{U_{aS}}$



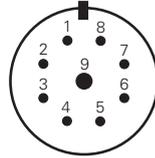
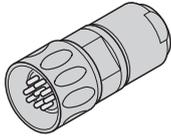
$|t_d| \leq 0.1 \mu s$

$a = 0.5 \mu s$



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)

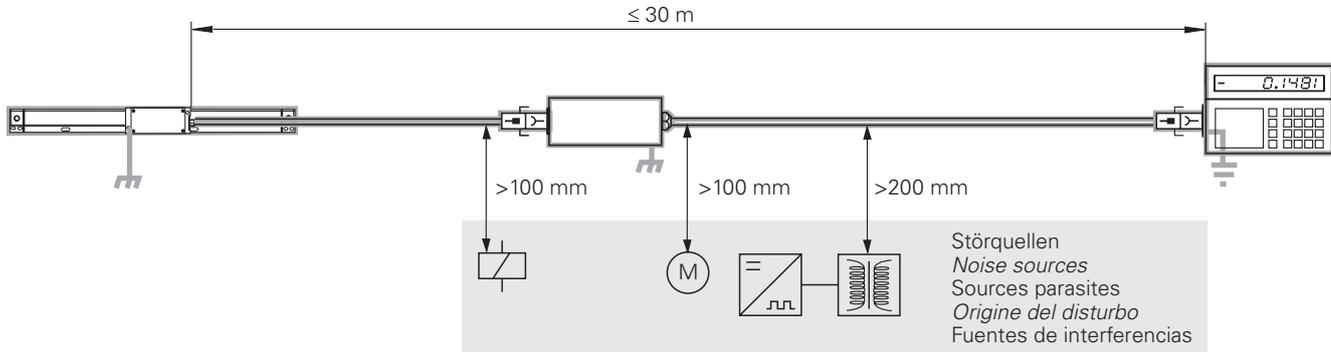
## LIM 501



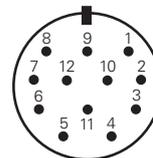
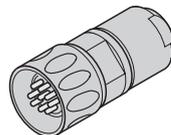
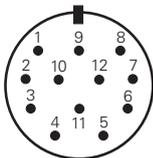
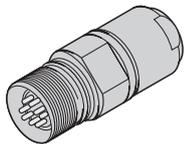
1) Außenschirm auf Gehäuse  
*External shield on housing*  
 Blindage externe sur boîtier  
*Schermo esterno sulla carcassa*  
 Blindaje externo a carcassa

2) Innenschirm Pin 9  
*Internal shield pin 9*  
 Blindage interne pin 9  
*Schermo interno pin 9*  
 Blindaje interno pin 9

1	2	5	6	7	8	3	4	1)	9
I <sub>1</sub>		I <sub>2</sub>		I <sub>0</sub>		5 V U <sub>P</sub>	0 V U <sub>N</sub>		2)
+	-	+	-	+	-				
grün <i>green</i> vert <i>verde</i> verde	gelb <i>yellow</i> jaune <i>giallo</i> amarillo	blau <i>blue</i> bleu <i>azzurro</i> azul	rot <i>red</i> rouge <i>rosso</i> rojo	grau <i>gray</i> gris <i>grigio</i> gris	rosa <i>pink</i> rose <i>rosa</i> rosa	braun <i>brown</i> brun <i>marrone</i> marrón	weiß <i>white</i> blanc <i>bianco</i> blanco		

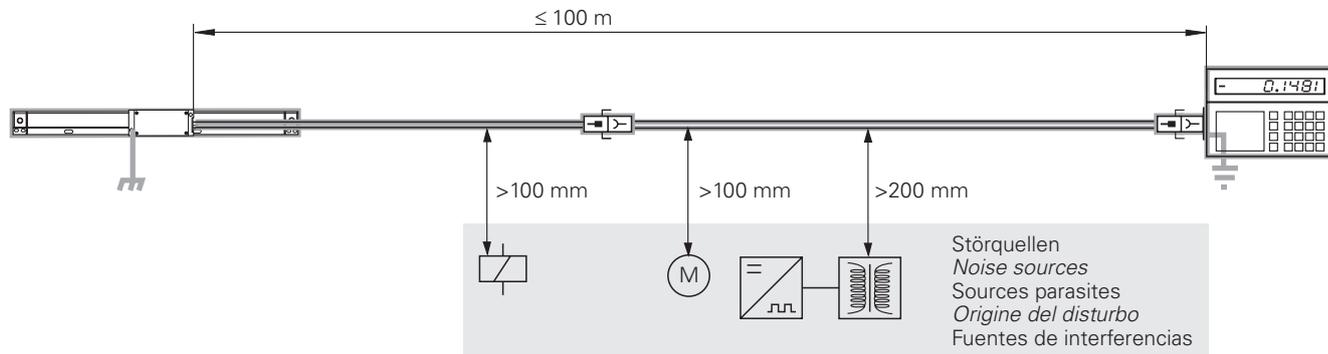


# LIM 571



Schirm auf Gehäuse  
Shield on housing  
Blindage sur boîtier  
Schermo sulla carcassa  
Blindaje a carcasa

1	2	3	4	5	6	7	8	9	10	12	11	/
$\overline{U_{a2}}$	<b>5V sensor</b>	$U_{a0}$	$\overline{U_{a0}}$	$U_{a1}$	$\overline{U_{a1}}$	$\overline{U_{aS}}$	$U_{a2}$	/	<b>0V</b> $U_N$	<b>5V</b> $U_p$	<b>0V</b> <b>sensor</b>	/
rosa pink rose rosa rosa	blau blue bleu azzurro azul	rot red rouge rosso rojo	schwarz black noir nero negro	braun brown brun marrone marrón	grün green vert verde verde	violett violet violet viola violeta	grau gray gris grigio gris	gelb yellow jaune giallo amarillo	weiß/grün white/green blanc/vert bianco/verde blanco/verde	braun/grün brown/green brun/vert marrone/verde marron/verde	weiß white blanc bianco blanco	/

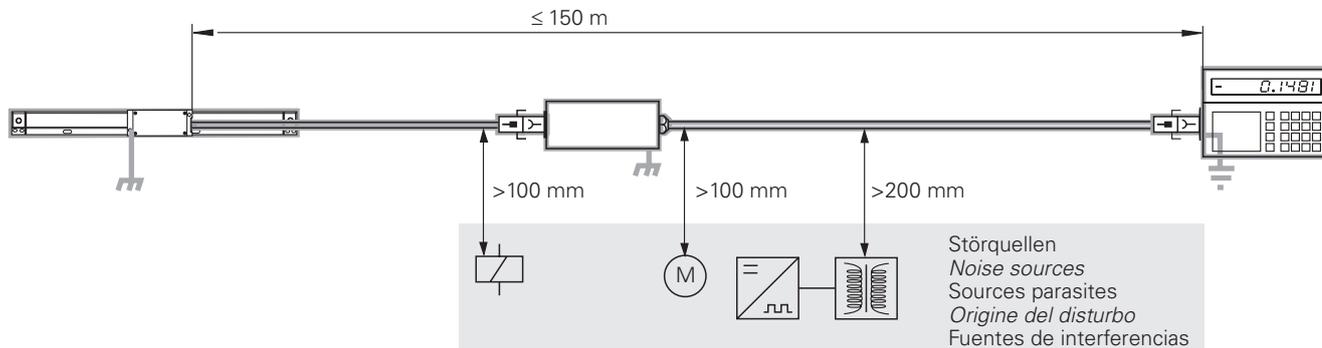


# LIM 581



Schirm auf Gehäuse  
*Shield on Housing*  
 Blindage sur boîtier  
*Schermo sulla carcassa*  
 Blindaje a carcasa

5	6	8	1	3	4	2	11	12	10	/	7	9
A		B		R		5 V sensor	0 V sensor	5V U <sub>p</sub>	0V U <sub>N</sub>	/	/	/
+	-	+	-	+	-							
braun <i>brown</i> brun <i>marrone</i> marrón	grün <i>green</i> vert <i>verde</i> verde	grau <i>gray</i> gris <i>grigio</i> gris	rosa <i>pink</i> rose <i>rosa</i> rosa	rot <i>red</i> rouge <i>rosso</i> rojo	schwarz <i>black</i> noir <i>nero</i> negro	blau <i>blue</i> bleu <i>azzurro</i> azul	weiß <i>white</i> blanc <i>bianco</i> blanco	braun/grün <i>brown/green</i> brun/vert <i>marrone/verde</i> marron/verde	weiß/grün <i>white/green</i> blanc/vert <i>bianco/verde</i> blanco/verde	gelb <i>yellow</i> jaune <i>giallo</i> amarillo	violett <i>violet</i> violet <i>viola</i> violeta	





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