



HEIDENHAIN

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

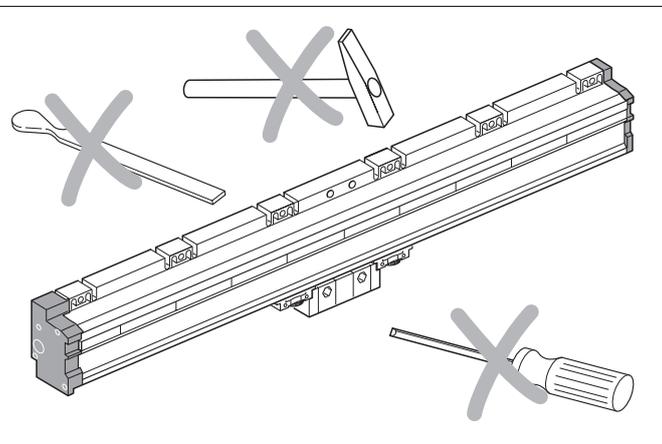
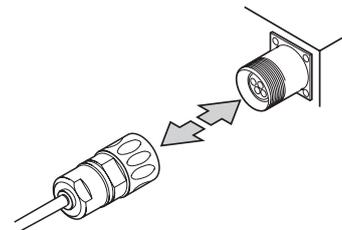
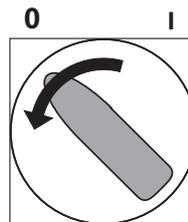
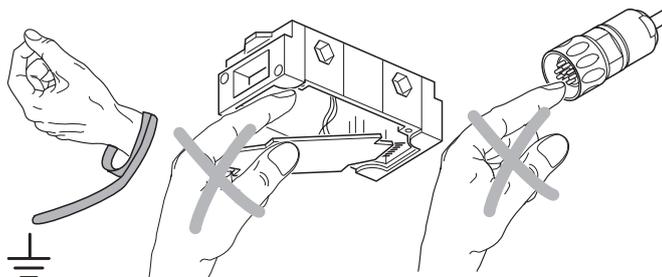
LS 106

LS 176

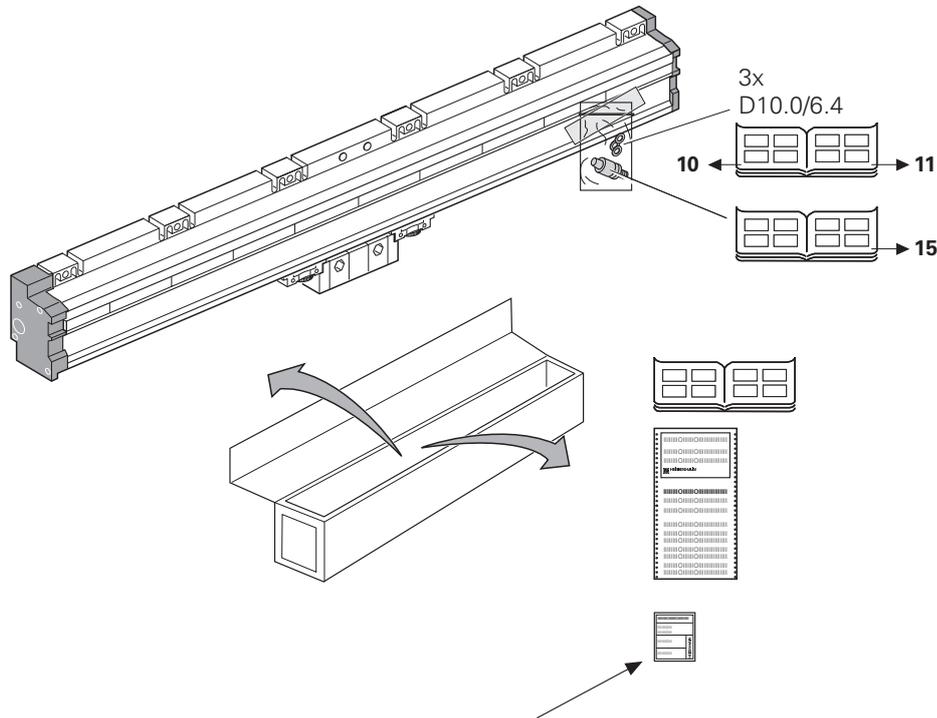
LS 186

2/2002

 DIN EN 100 015 – 1
CECC 00015 – 1



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



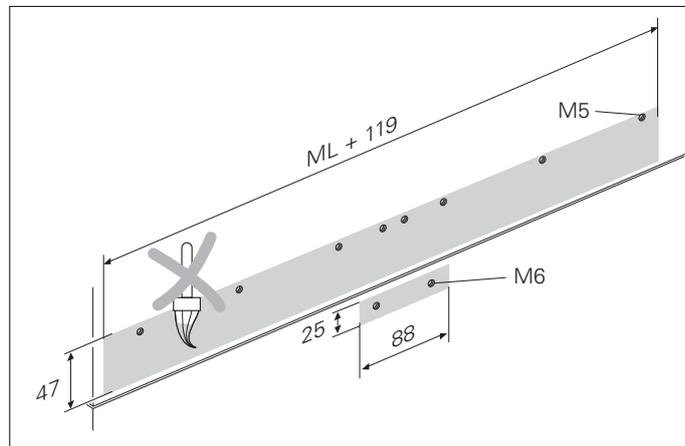
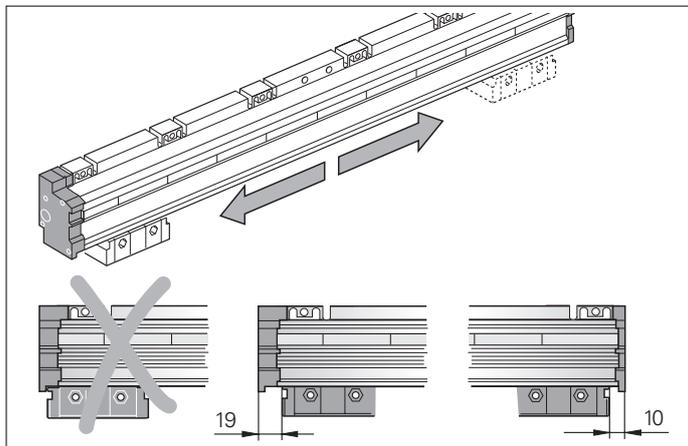
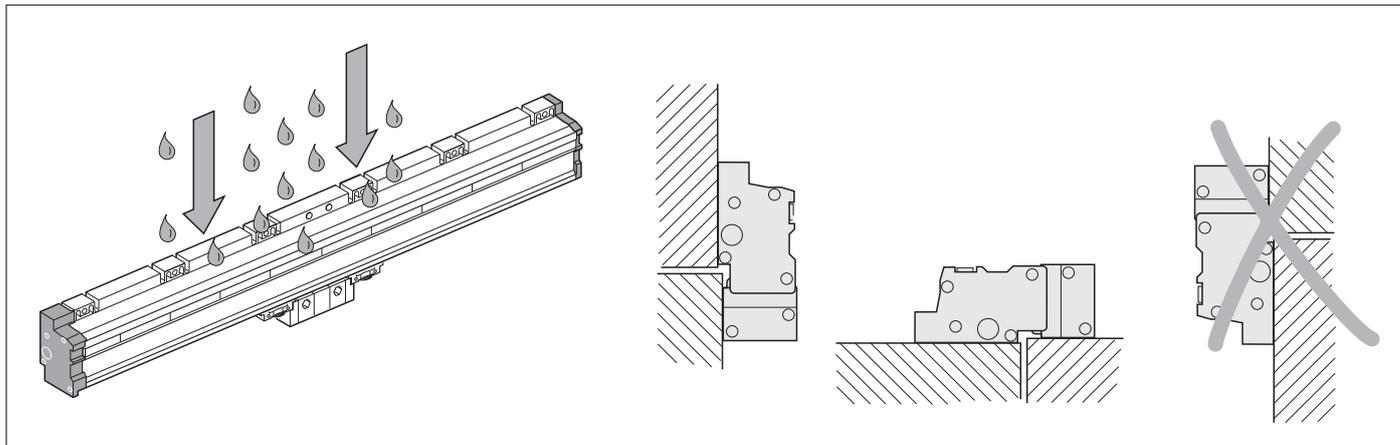
Bei Montage bitte Geräteschild-Aufkleber anbringen (Schaltschrank, Maschinen-Handbuch usw.)

Apply the encoder ID label to an appropriate surface, e.g. the electrical cabinet or machine manual

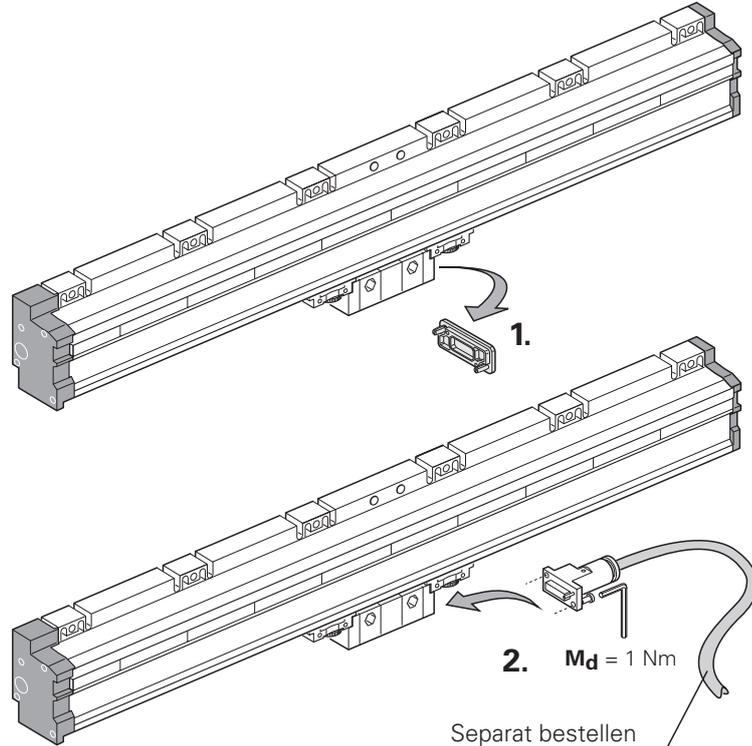
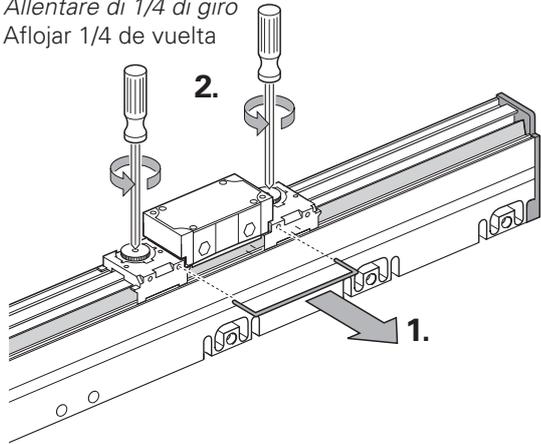
Lors du montage, accoler S.V.P. l'étiquette signalétique de l'appareil (armoire électrique, manuel de la machine, etc.)

Completato il montaggio, ricordarsi di applicare l'etichetta (manuale della macchina, quadro elettrico)

Por favor, durante el montaje, colocar el adhesivo del letrero del aparato (armario eléctrico, modo de empleo de la máquina, etc.)



1/4 Umdrehung lösen
Loosen by 1/4 revolution
Dévisser de 1/4 de tour
Allentare di 1/4 di giro
Aflojar 1/4 de vuelta



Separat bestellen
Order separately
Commander séparément
Ordinare separatamente
Pedir por separado

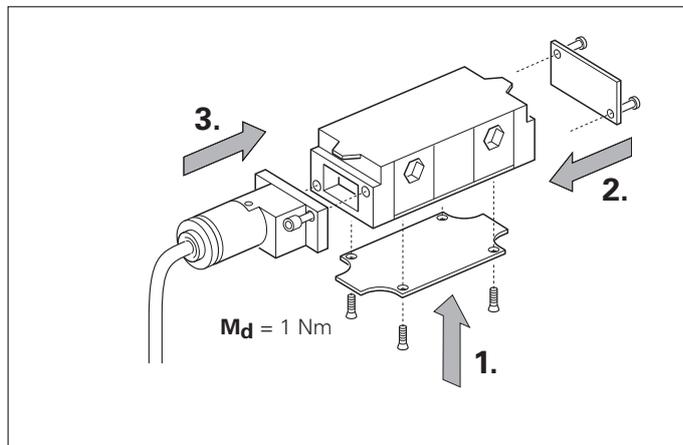
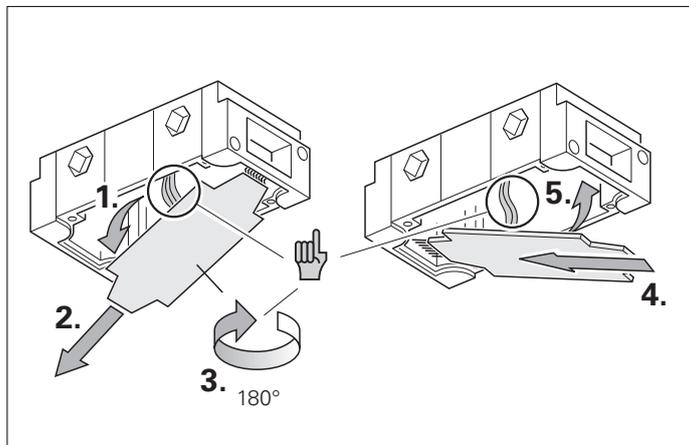
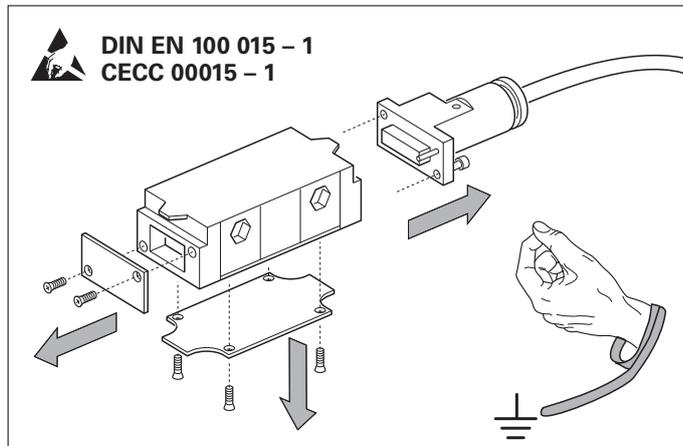
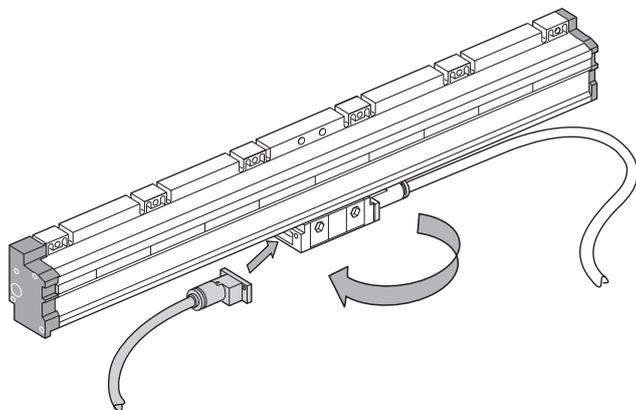
Kabelausgang
verlegen

· Changing the
Cable Outlet

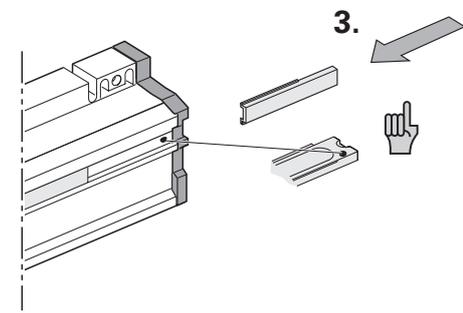
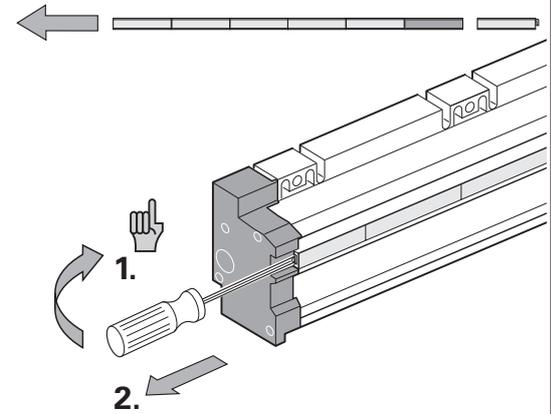
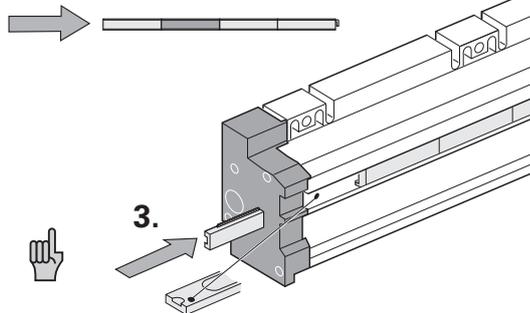
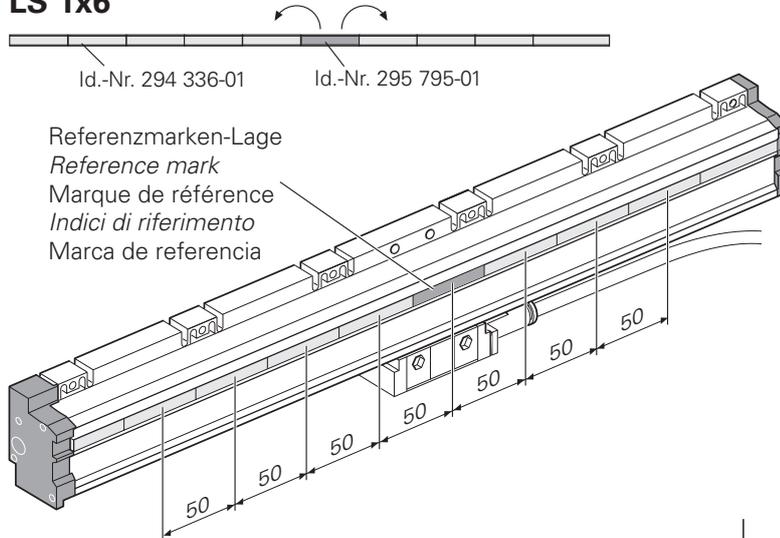
· Poser
la sortie du câble

· Configurazione
dell'uscita del cavo

· Colocar
cable de salida



LS 1x6



mm



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

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

Ⓧ = Druckluftanschluss
Compressed air inlet
Raccordement d'air comprimé
Ingresso per pressurizzazione
Conexión de aire comprimido

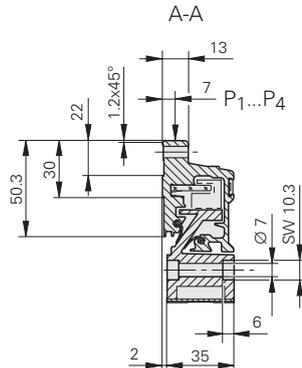
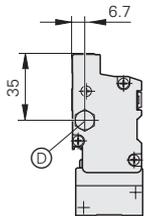
Ⓡ = Referenzmarken-Lage LS 106/LS 176/LS 186
Reference mark position LS 106/LS 176/LS 186
Marque de référence LS 106/LS 176/LS 186
Indici di riferimento LS 106/LS 176/LS 186
Marca de referencia LS 106/LS 176/LS 186

Ⓒ = Referenzmarken-Lage LS 106 C/LS 176 C/LS 186 C
Reference mark position LS 106 C/LS 176 C/LS 186 C
Marque de référence LS 106 C/LS 176 C/LS 186 C
Indici di riferimento LS 106 C/LS 176 C/LS 186 C
Marca de referencia LS 106 C/LS 176 C/LS 186 C

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

P = Messpunkte zum Ausrichten
Gauging points for alignment
Points de mesure pour dégauchissage
Punti di misura per allineamento
Puntos medición alineamiento

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

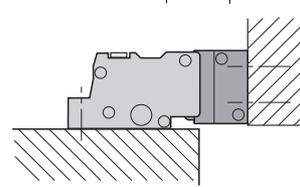
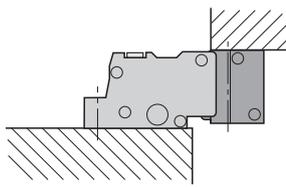
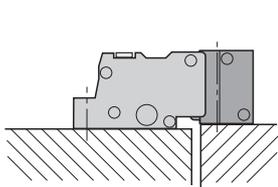
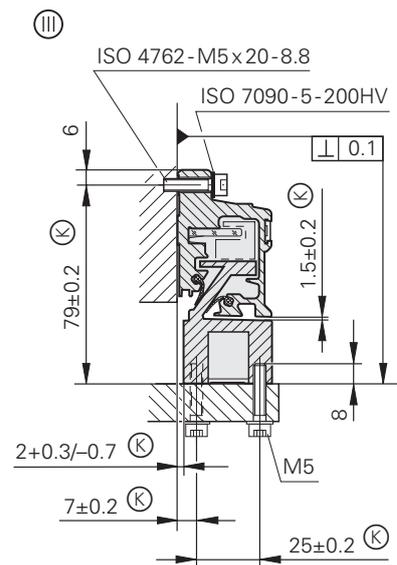
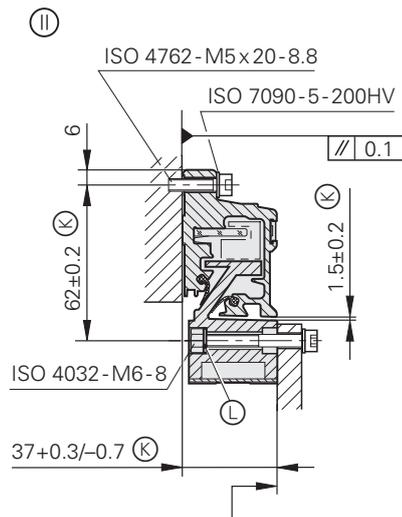
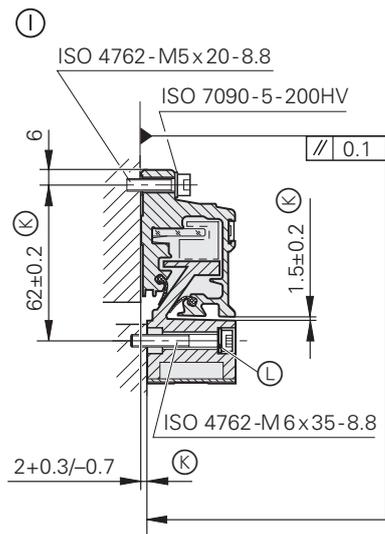


Anbaumaße · Mounting Dimensions · Cote d'encombrement · Dimensioni di montaggio · Medidas para el montaje

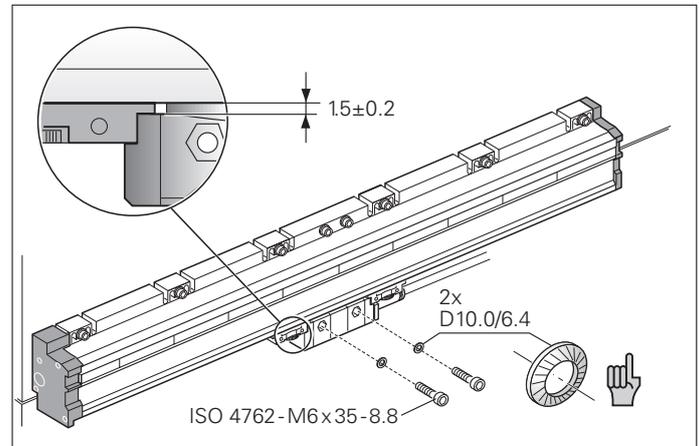
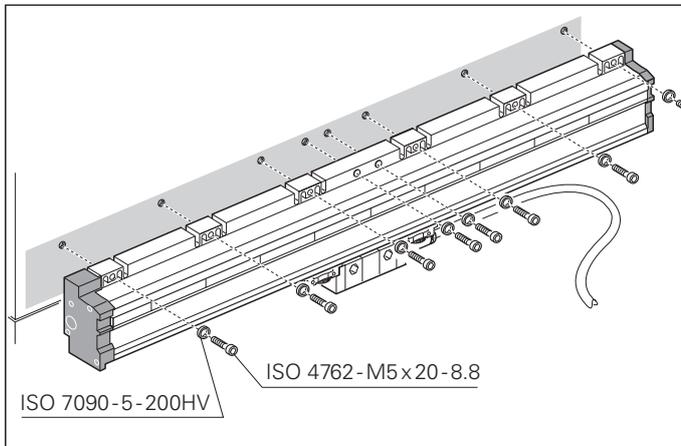
① ② ③ = Montage-Möglichkeiten
 Mounting possibilities
 Options de montage
 Possibilità di montaggio
 Posibilidades de montaje

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

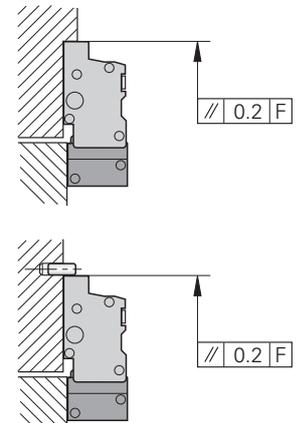
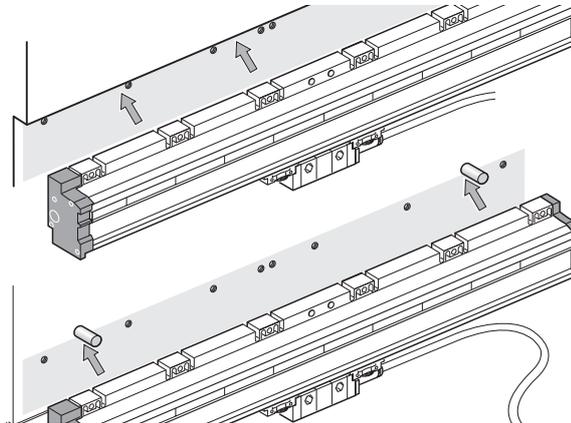
Ⓛ = Rippenscheibe D10.0/6.4 (Zubehör)
 Ribbed look washer D10.0/6.4 (accessories)
 Rondelle à nervures D10.0/6.4 (accessoires)
 Rondella alettata D10.0/6.4 (Accessori)
 Arandela nervada D10.0/6.4 (Accesorios)



Anbau · Mounting · Montage · Montaggio · Instalación

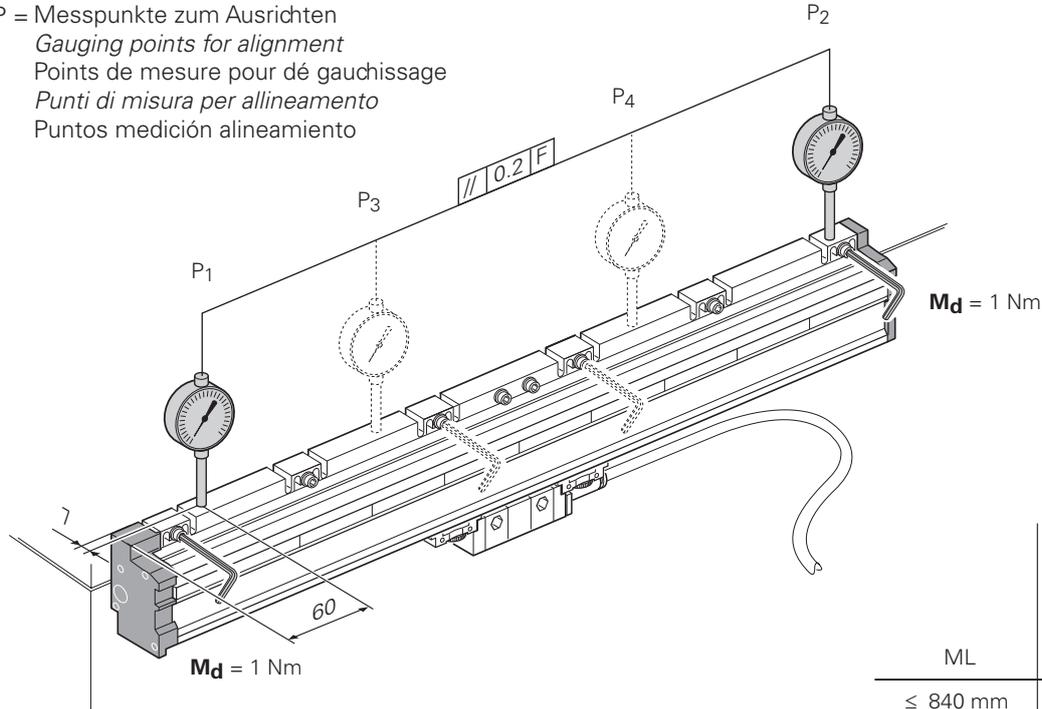


zusätzliche Anbaumöglichkeiten
 Additional mounting options
 Possibilités de montage supplémentaires
 Altre possibilità di montaggio
 Posibilidades de montaje adicionales

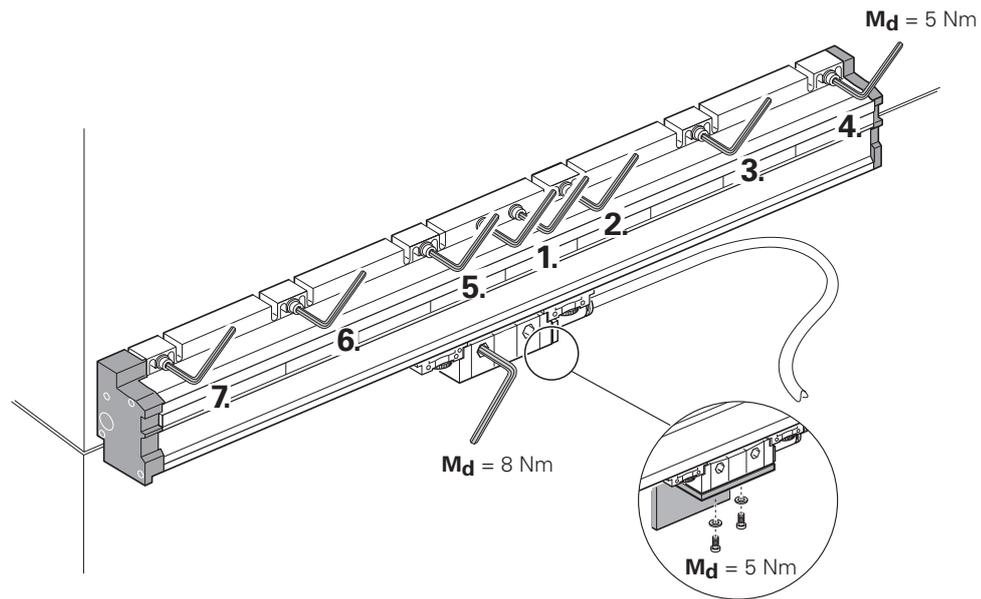


Ausrichten · Alignment · Alignement · Allineamento · Alinear

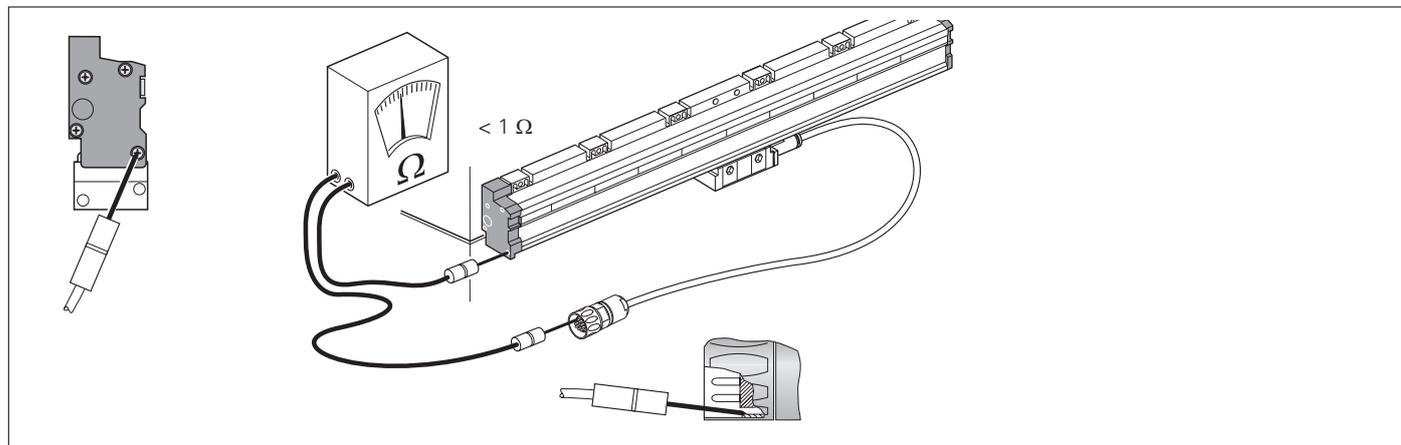
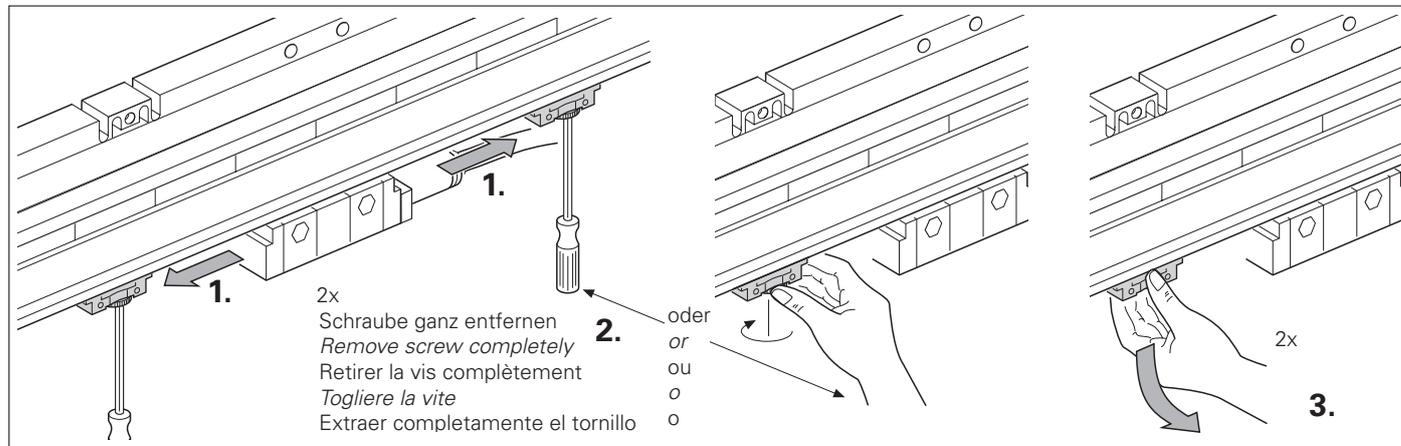
P = Messpunkte zum Ausrichten
Gauging points for alignment
 Points de mesure pour dé gauchissage
Punti di misura per allineamento
 Puntos medición alineamiento



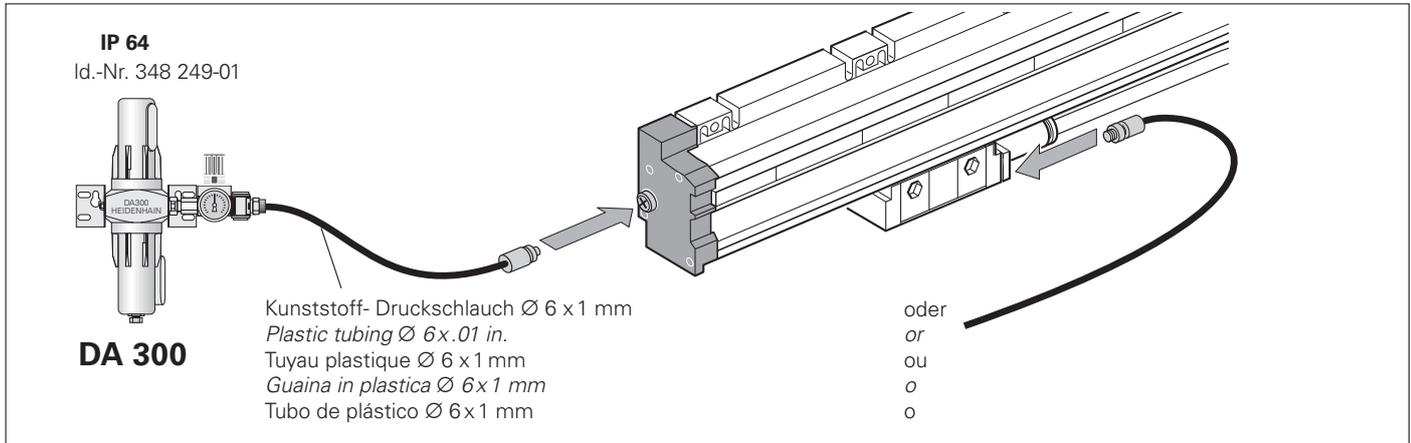
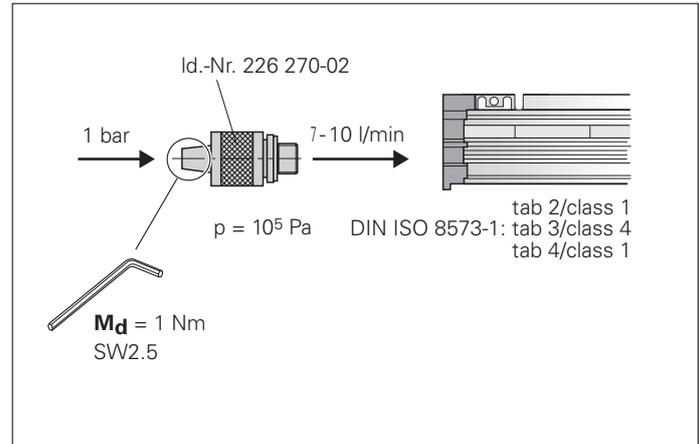
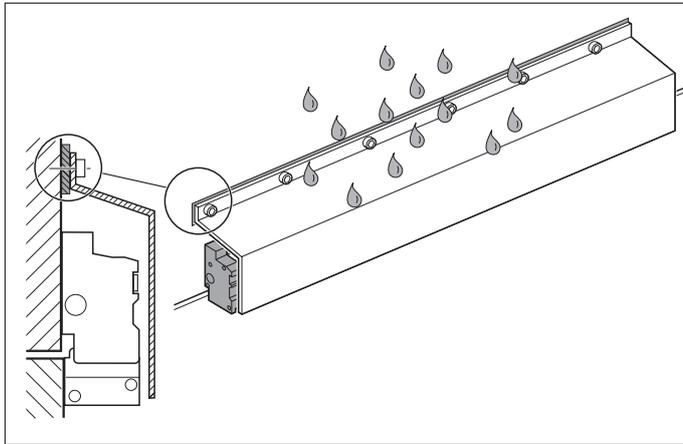
ML	
≤ 840 mm	2x
≤ 1740 mm	3x
≤ 3040 mm	4x



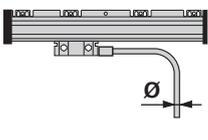
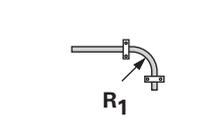
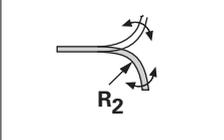
Abschließende Arbeiten · Final Steps · Opérations finales · Operazioni finali · Trabajos finales



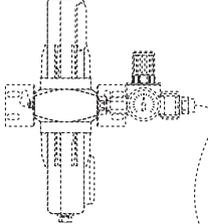
Schutzmaßnahmen · Protective Measures · Mesures préventives · Precauzioni · Medidas de protección



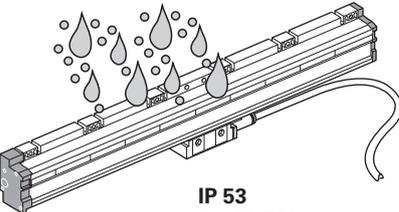
Technische Kennwerte · Specifications · Caractéristiques techniques · Dati tecnici · Datos técnicos

		
Ø 6 mm	$R_1 \geq 20 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
Ø 10 mm	$R_1 \geq 35 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
 Ø 8 mm	$R_1 \geq 40 \text{ mm}$	$R_2 \geq 100 \text{ mm}$

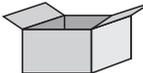
IP 64
EN 60 529



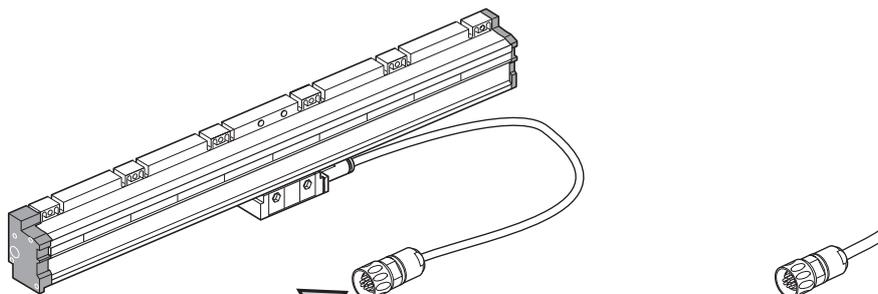
DA 300



IP 53
EN 60 529

 °C (°F)	 -20 ... 70 °C (- 4 ... 158 °F)
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LS 106/LS 106C

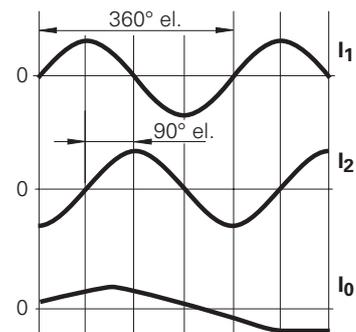


$U_p = 5V \pm 5\%$
(max. 100 mA)

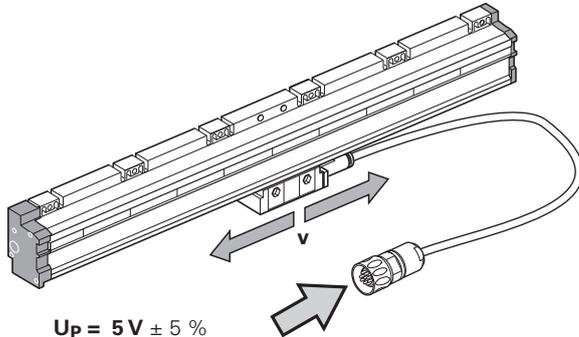


EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)
(siehe, see, voir, vedi, véase
HEIDENHAIN D 231 929)

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



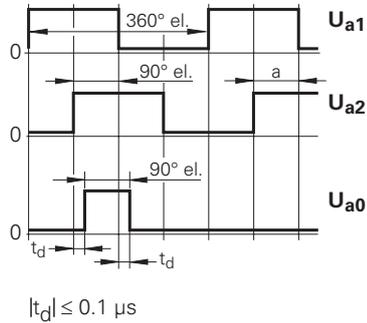
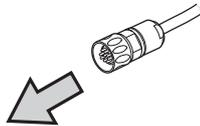
LS 176/LS 176 C



$U_p = 5V \pm 5\%$
(max. 140 mA)

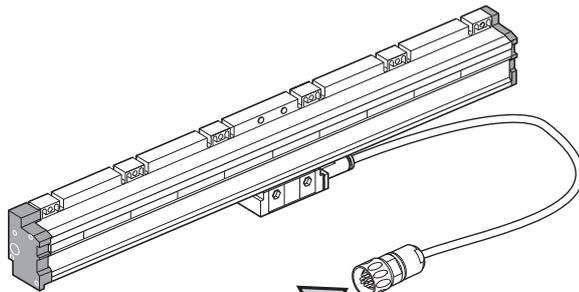
EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)
(siehe, see, voir, vedi, véase
HEIDENHAIN D 231 929)

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



	v	
	120 m/min	60 m/min
$a \triangleq 1 \mu m$	0.5 μs	1 μs
$a \triangleq 0.5 \mu m$	/	0.5 μs

LS 186/LS 186 C

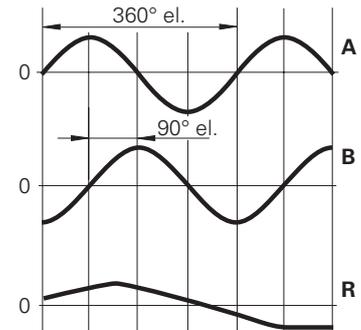
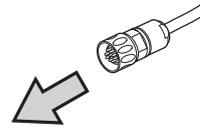


U_p = 5 V ± 5 %
(max. 150 mA)

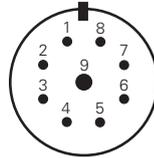
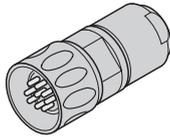


EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)
(siehe, see, voir, vedi, véase
HEIDENHAIN D 231 929)

A: 0.6 ... 1.2 V_{SS}
B: 0.6 ... 1.2 V_{SS}
R: 0.2 ... 0.85 V



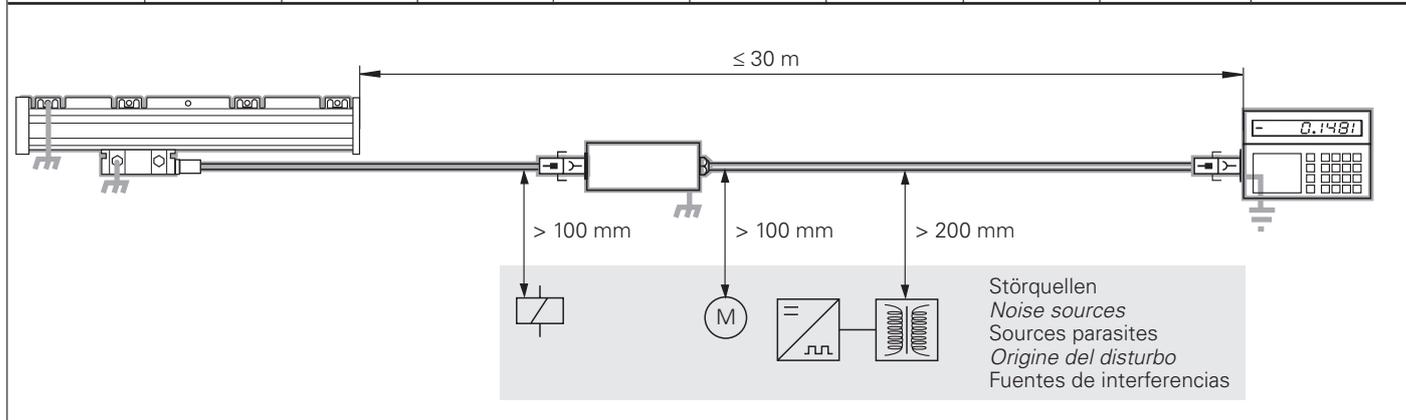
LS 106/LS 106C



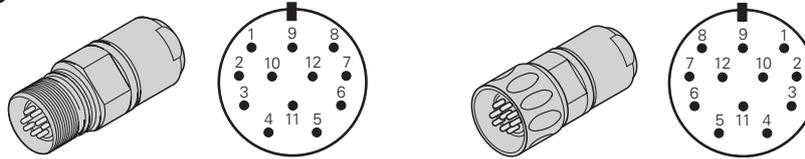
1) Außenschirm auf Gehäuse
External shield on housing
 Blindage externe sur boîtier
Schermo esterno sulla carcassa
 Blindaje externo a carcassa

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 ₁		I ₂		I ₀		5 V U _P	0 V U _N		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		

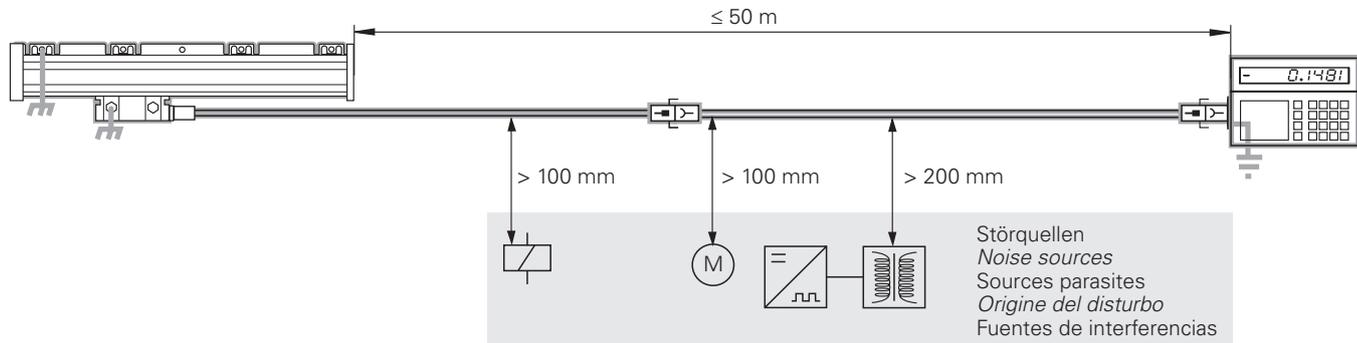


LS 176/LS 176C

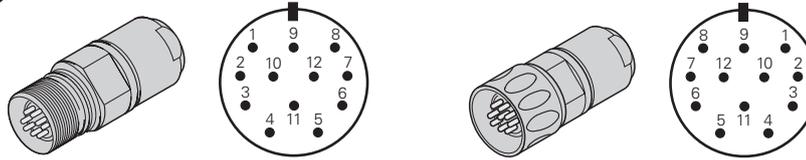


Schirm auf Gehäuse
Shield on housing
 Blindage sur boîtier
Schermo sulla carcassa
 Blindaje a carcasa

5	6	8	1	3	4	12	10	2	11	7	/
U_{a1}	$\overline{U_{a1}}$	U_{a2}	$\overline{U_{a2}}$	U_{a0}	$\overline{U_{a0}}$	5V U_P	0V U_N	5V sensor	0V sensor	$\overline{U_{aS}}$	/
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	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	blau <i>blue</i> bleu <i>azzurro</i> azul	weiß <i>white</i> blanc <i>bianco</i> blanco	violett <i>violet</i> violet <i>viola</i> violeta	gelb <i>yellow</i> jaune <i>giallo</i> amarillo

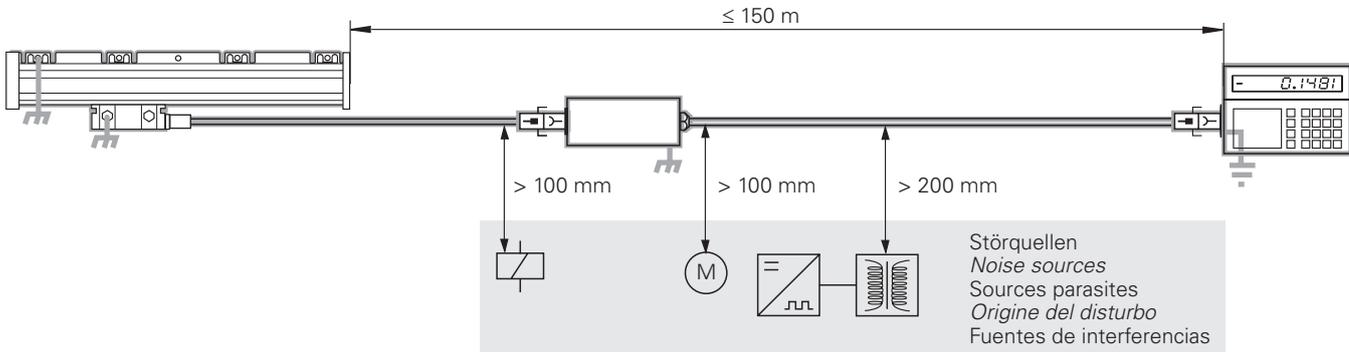


LS 186/LS 186 C



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		5V sensor	0V sensor	5V U _p	0V U _N	/	/	/
+	-	+	-	+	-							
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>violet</i> violeta	



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