



HEIDENHAIN

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

LS 406

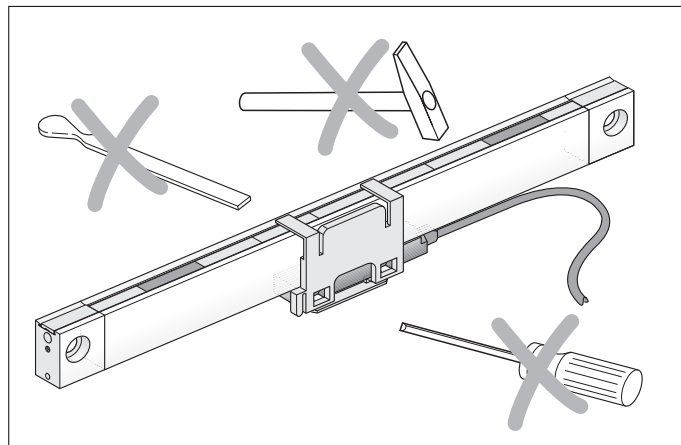
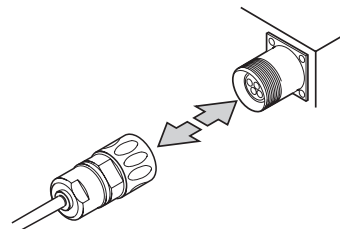
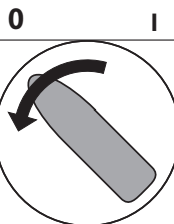
LS 476

LS 486

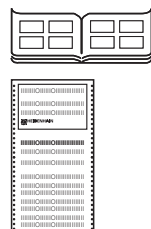
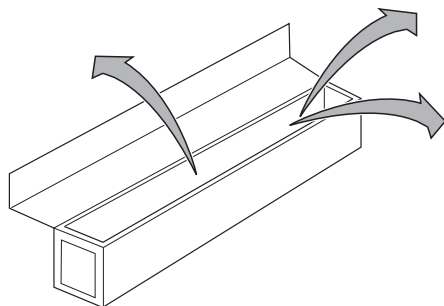
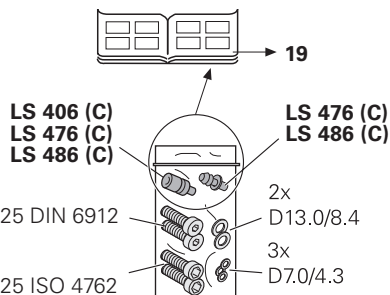
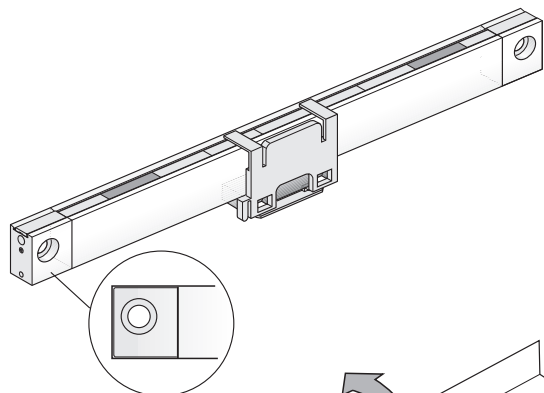
10/2003



DIN EN 100 015 - 1
CECC 00015 - 1



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



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



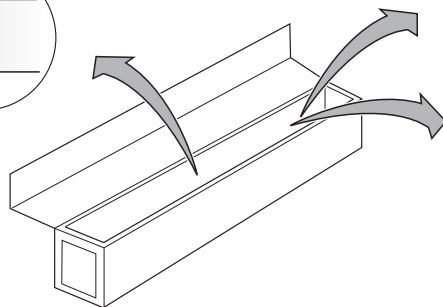
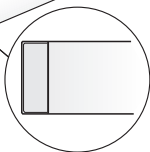
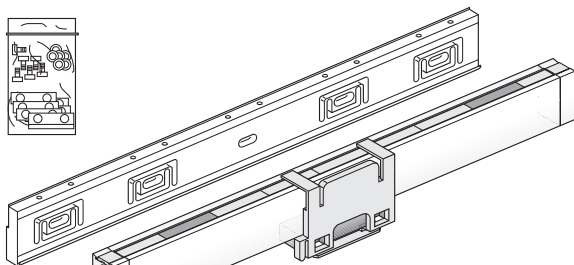
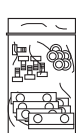
Bei Montage bitte Geräteschild-Aufkleber anbringen (Schaltschrank, Maschinen-Handbuch usw.)

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.)



→ 19

LS 406 (C)
LS 476 (C)
LS 486 (C)

LS 476 (C)
LS 486 (C)



3x
D7.0/4.3



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



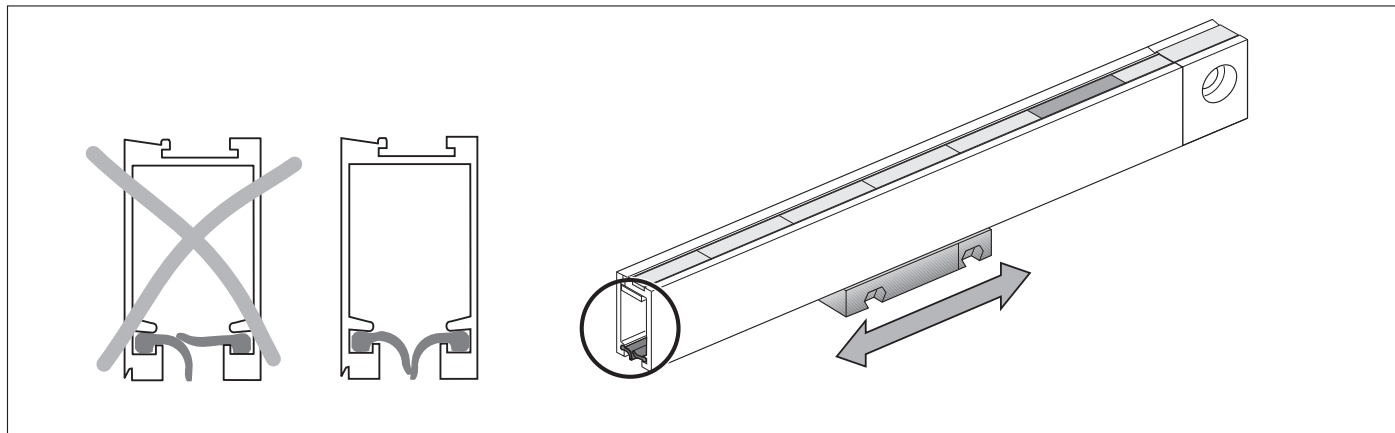
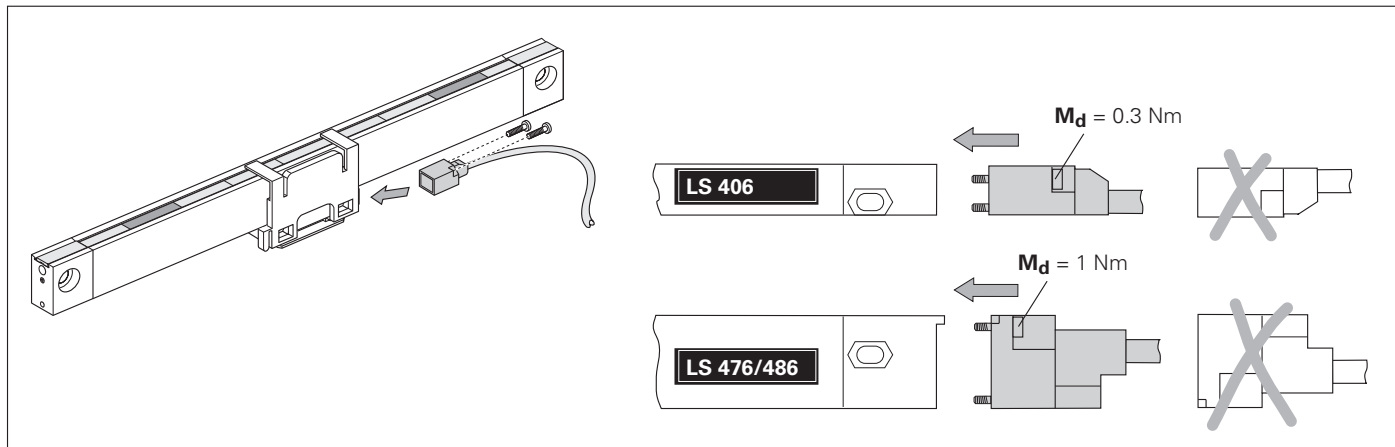
Bei Montage bitte Geräteschild-Aufkleber anbringen (Schaltschrank, Maschinen-Handbuch usw.)

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.)

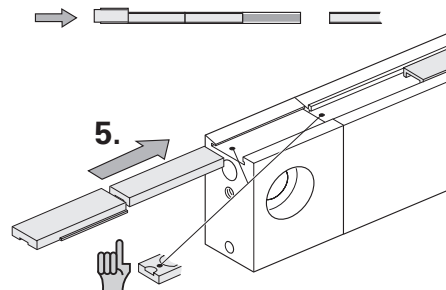
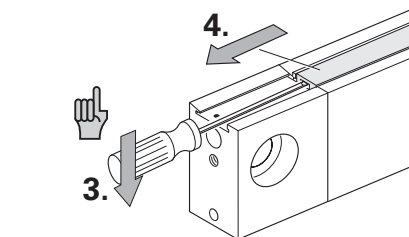
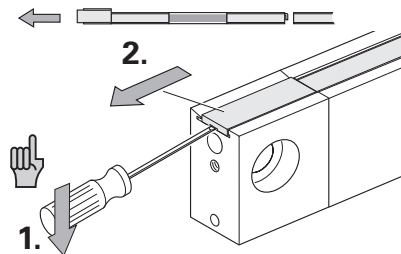
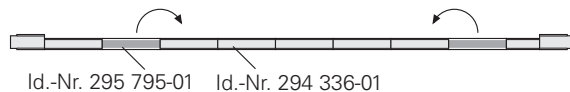
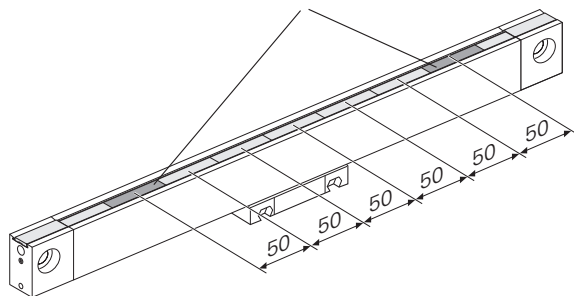
completato il montaggio, ricordarsi di applicare l'etichetta (manuale della macchina, quadro elettrico)

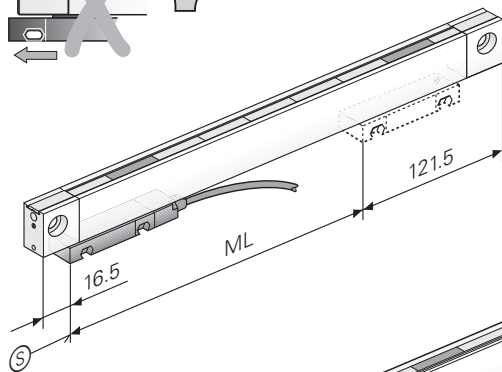
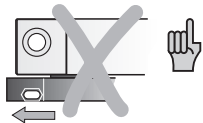
por favor, durante el montaje, colocar el adhesivo del letrero del aparato (armario eléctrico, modo de empleo de la máquina, etc.)



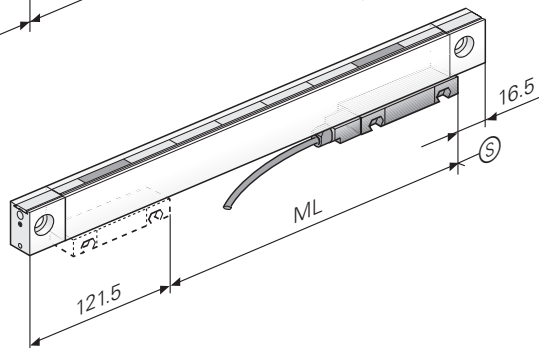
LS 4x6

Referenzmarken-Lage
Reference mark
marque de référence
indici di riferimento
marca de referencia

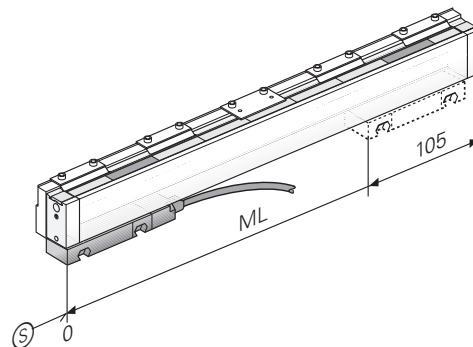


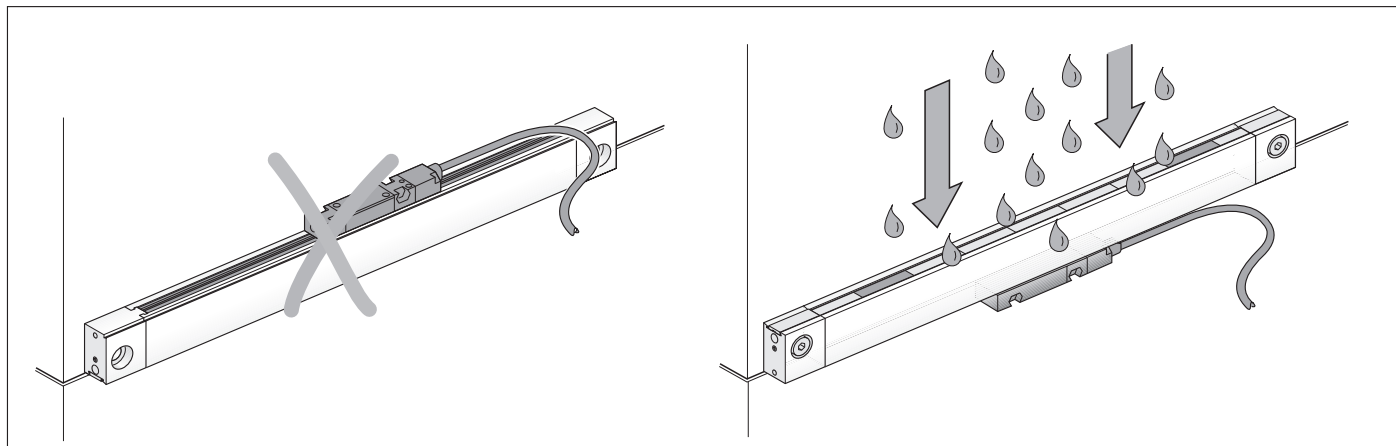


180° gedreht angebaut
Mounted rotated by 180°
 Montage avec rotation de 180°
 Montaggio ruotato di 180°
 Montado girado 180°

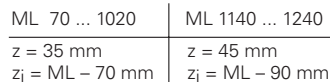


Ⓢ = Beginn der Messlänge ML
Begin. of meas. length ML
 début longueur utile ML
 inizio lunghezza di misura ML
 comienzo longitud útil ML





< 6 mm: ± 0.2 mm



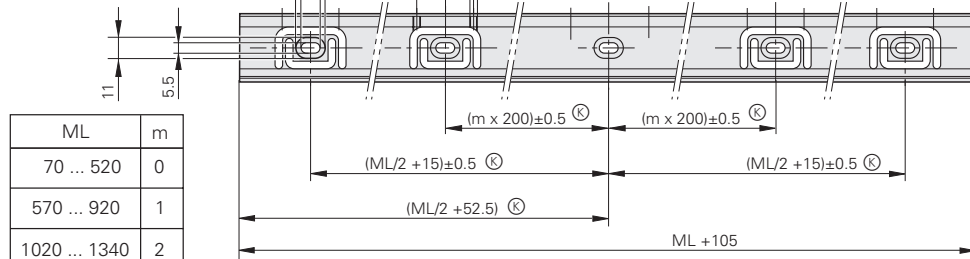
(R) = Referenzmarken-Lage
 (C) *Reference mark*
 marque de référence
indici di riferimento
 marca de referencia

LS 406 (C)

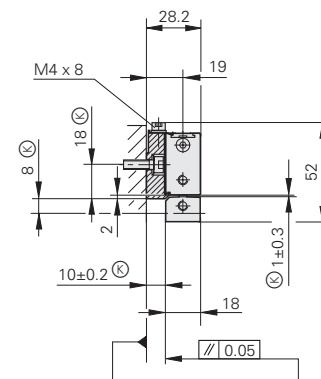
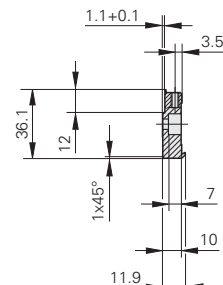
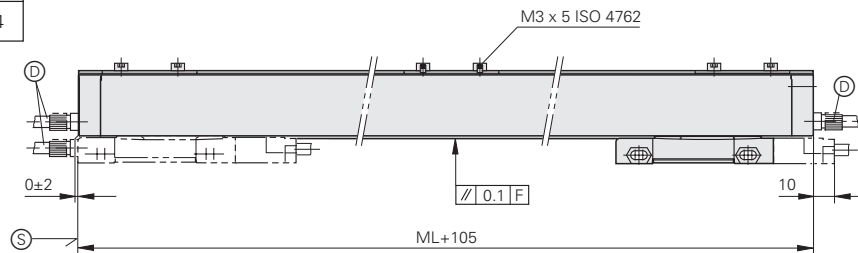
mm



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



ML	m
70 ... 520	0
570 ... 920	1
1020 ... 1340	2
1440 ... 1740	3
1840 ... 2040	4



(K) = 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

(D) = Druckluftanschluss
Compressed air inlet
raccordement d'air comprimé
ingresso per pressurizzazione
conexión de aire comprimido

LS 476/LS 486 (C)

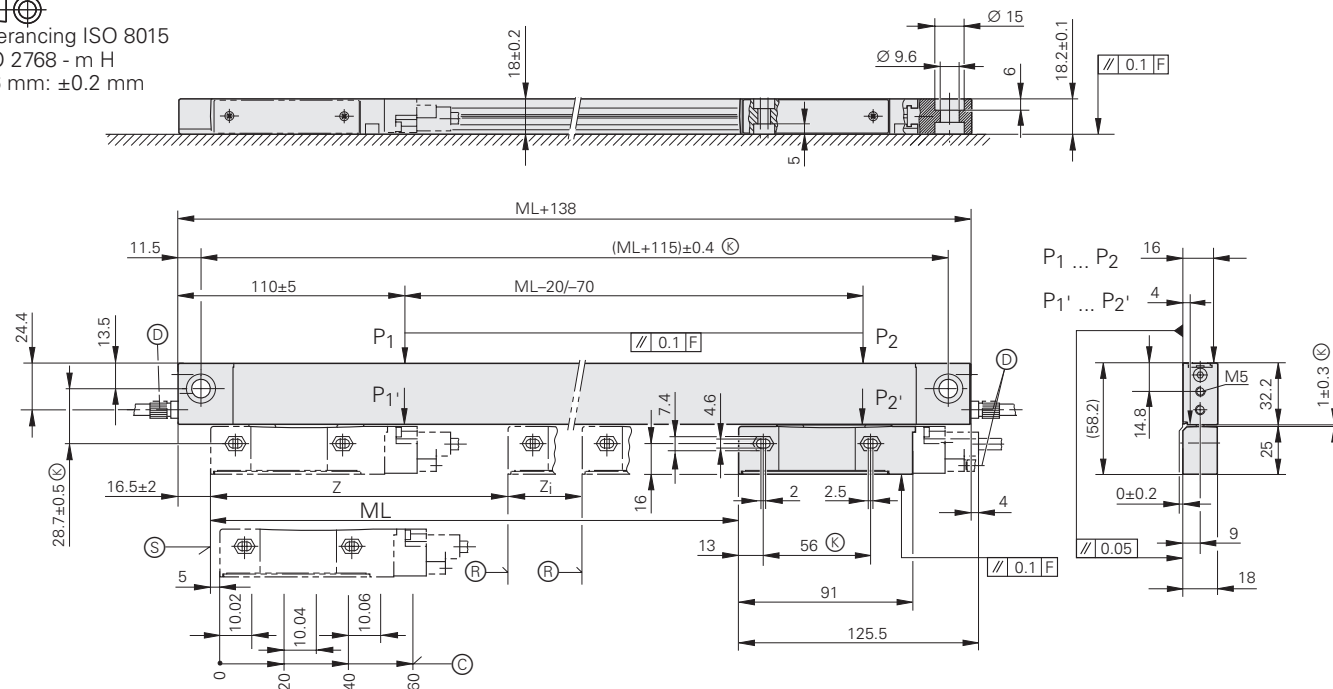
mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm



ML 70 ... 1020

ML 1140 ... 1240

z = 35 mm

z = 45 mm

z_i = ML - 70 mm

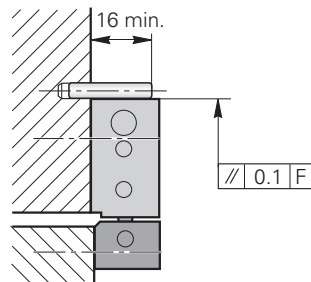
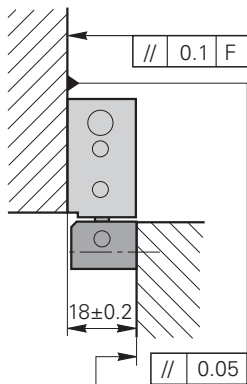
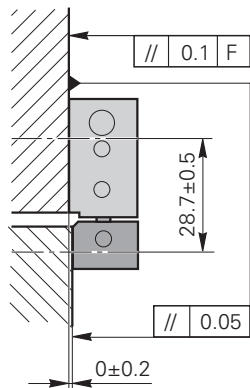
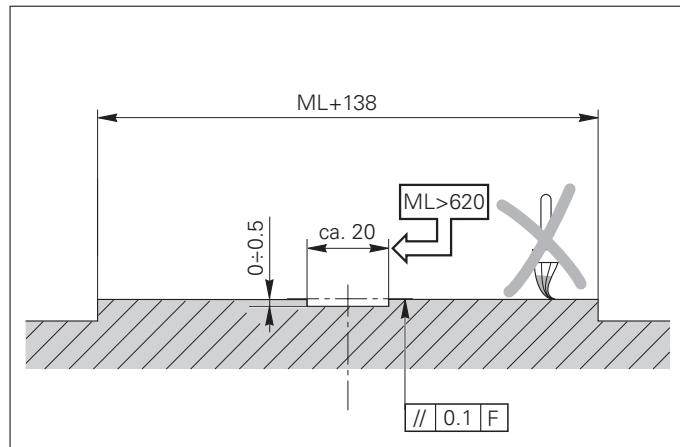
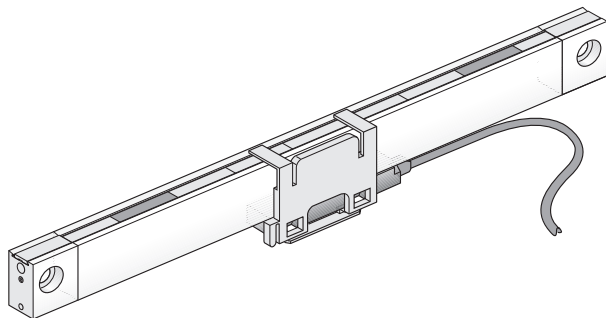
z_i = ML - 90 mm

P = Messpunkte zum Ausrichten
Gauging points for alignment
points de mesure pour dégauchissage
punti di misura per allineamento
puntos medición alineamiento

Ⓢ = Beginn der Messlänge ML
Begin. of meas. length ML
début longueur utile ML
inizio lunghezza di misura ML
comienzo longitud útil ML

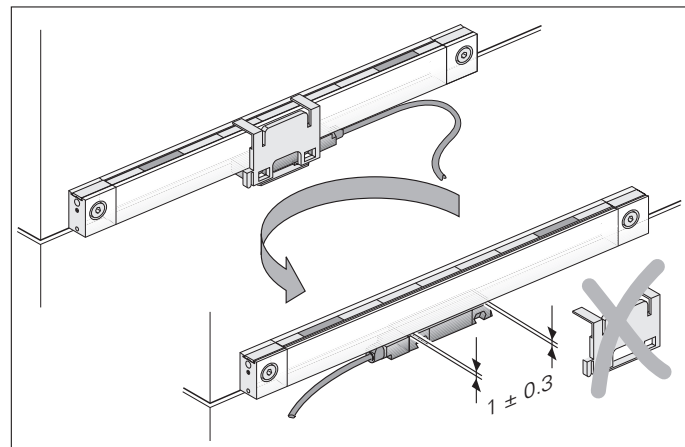
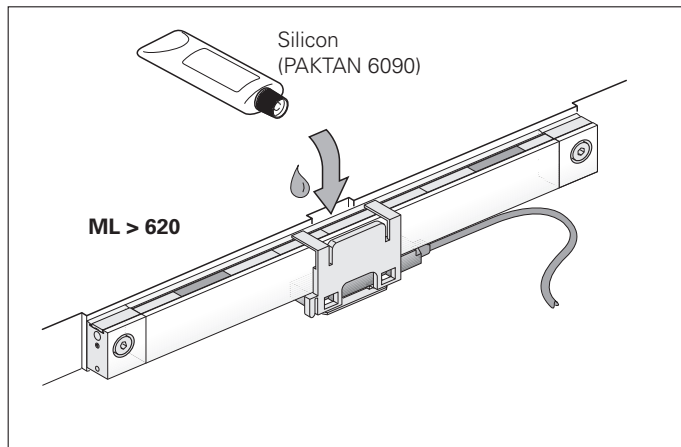
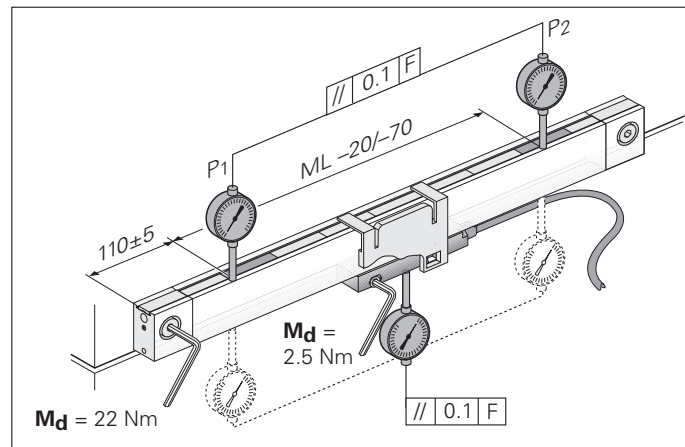
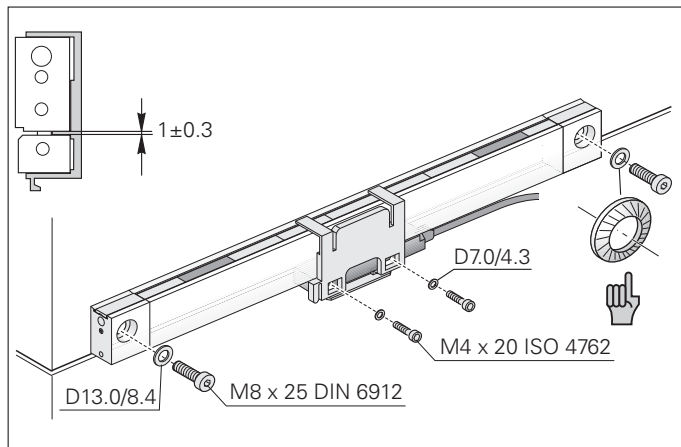
Ⓡ = Referenzmarken-Lage
Reference mark
marque de référence
indici di riferimento
marca de referencia

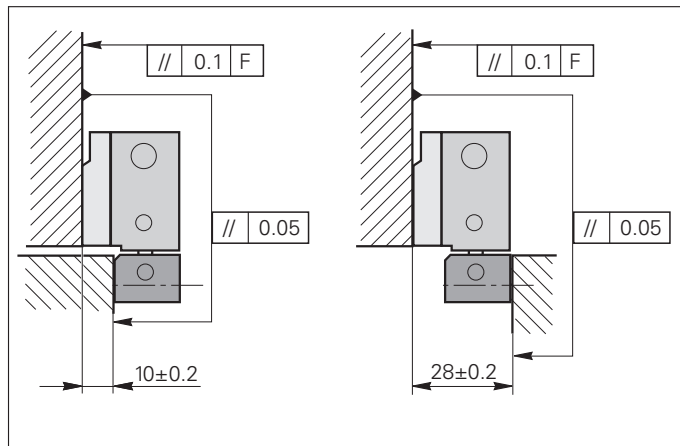
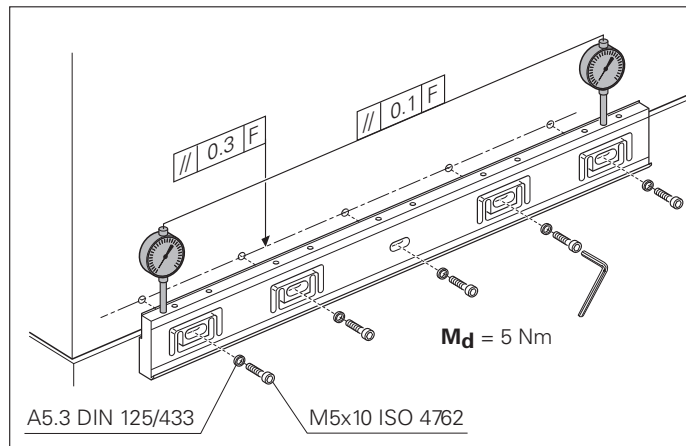
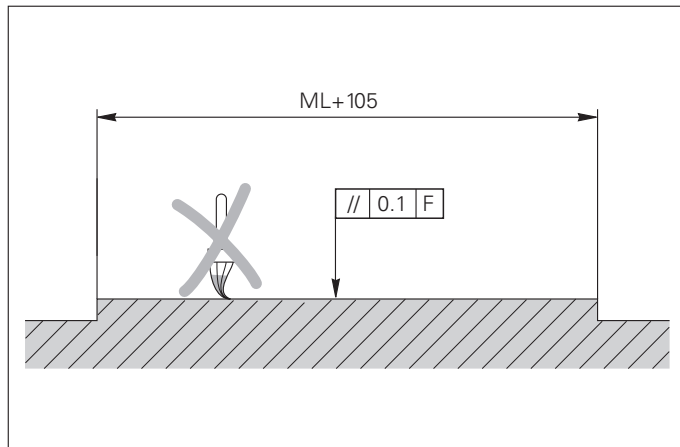
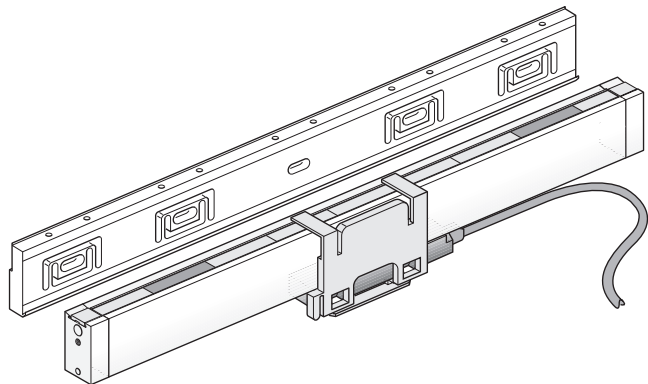
Anbau ohne Montageschiene · *Mounting without Mounting Spar* · Montage sans rail de guidage



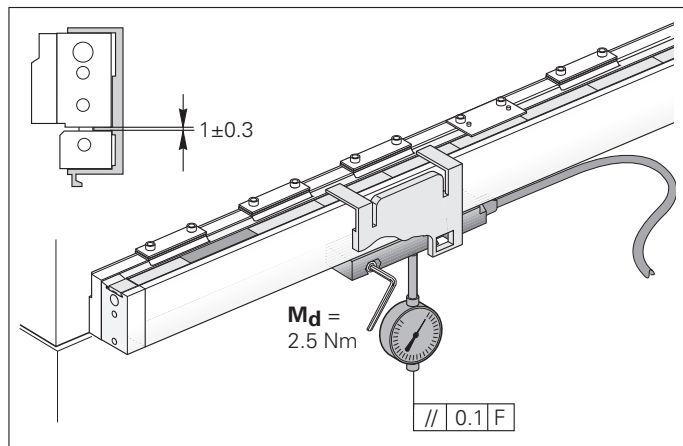
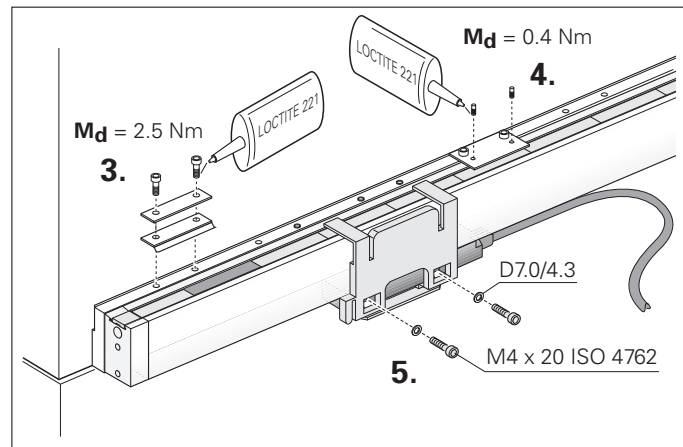
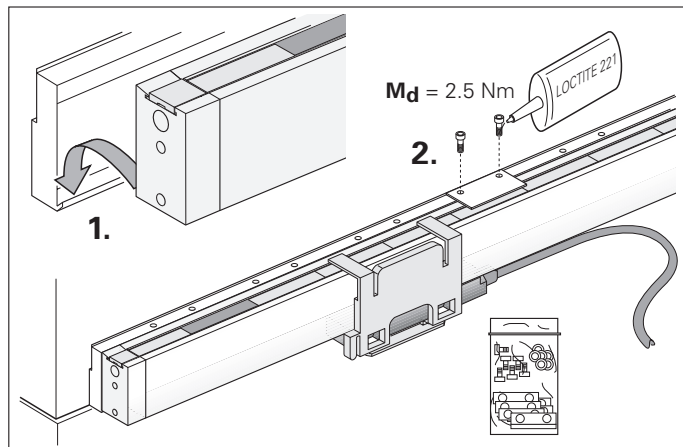
weitere Anbaumöglichkeit mit Anschlagstifte
Additional mounting option with stop pins
 autre possibilité de montage avec goupilles d'arrêt
 altra possibilità di montaggio con perno di battuta
 otra posibilidad de montaje con espigas de ajuste

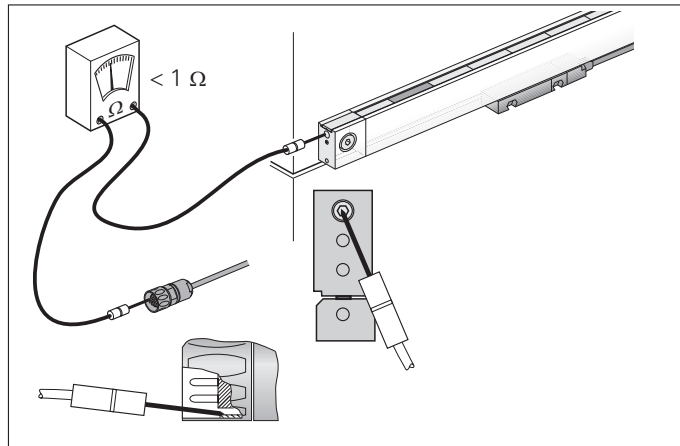
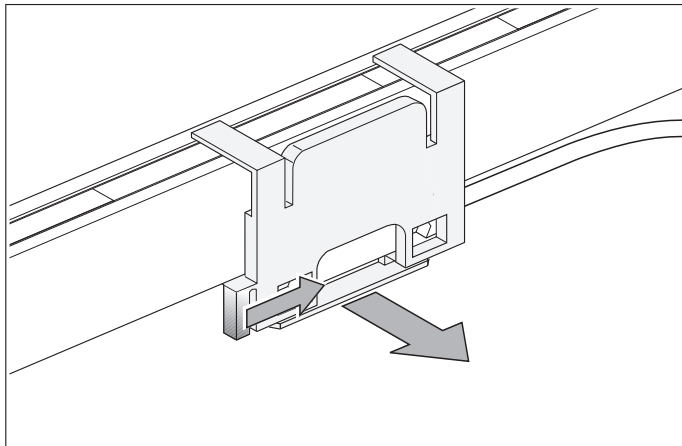
Montaggiosenza guida · Instalación sin guía de montaje





Montaggio con guida · Instalación con guía de montaje





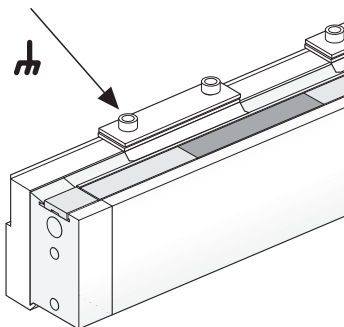
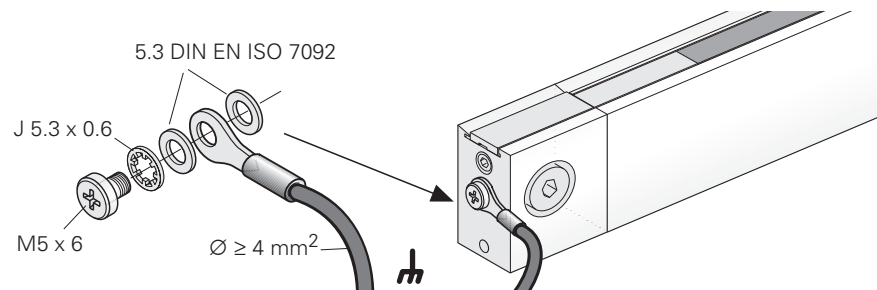
Bei Erdungsproblemen zusätzlich Endstück oder Montageschiene erden!

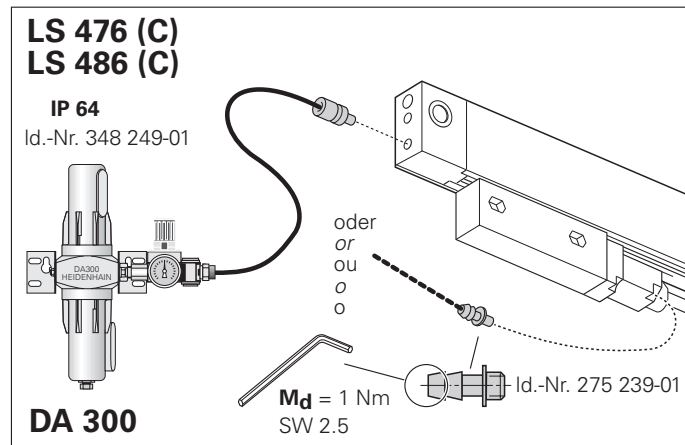
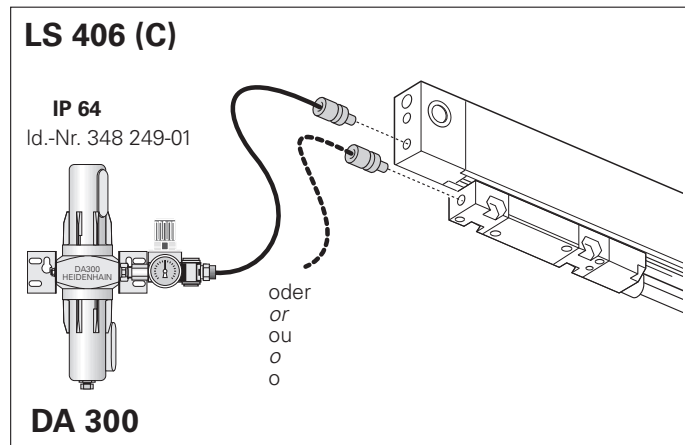
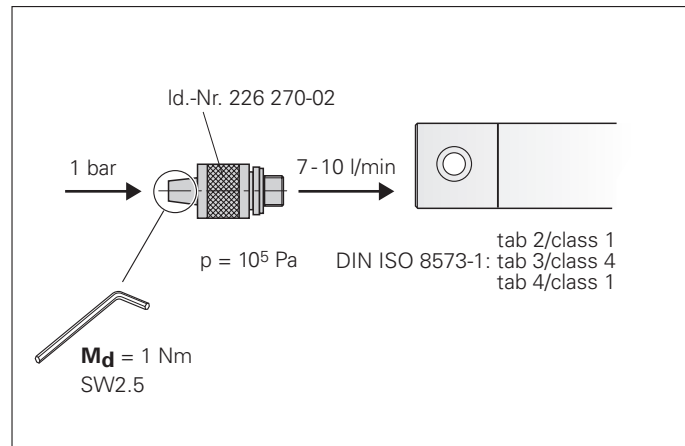
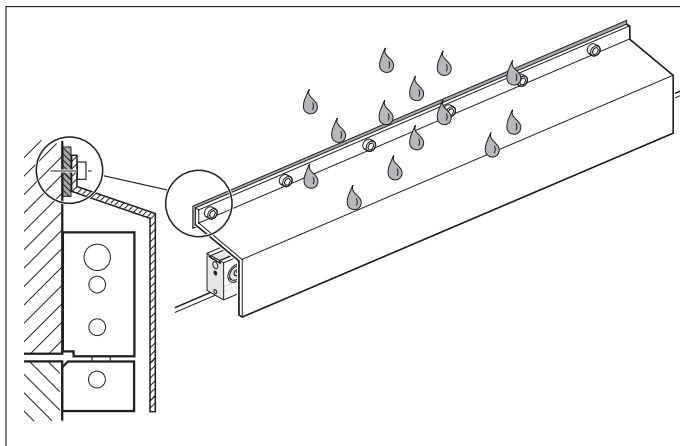
If grounding problems occur, ground also the end piece or mounting spar!

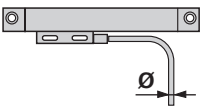

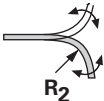

En cas de problèmes de mise à la terre, mettre aussi l'embout ou le rail de montage à la terre!

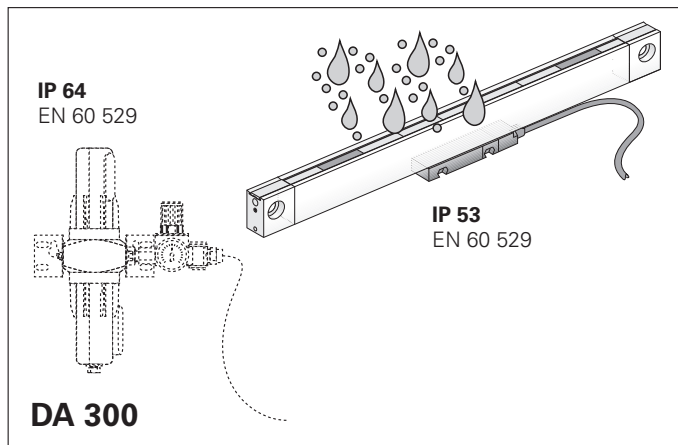
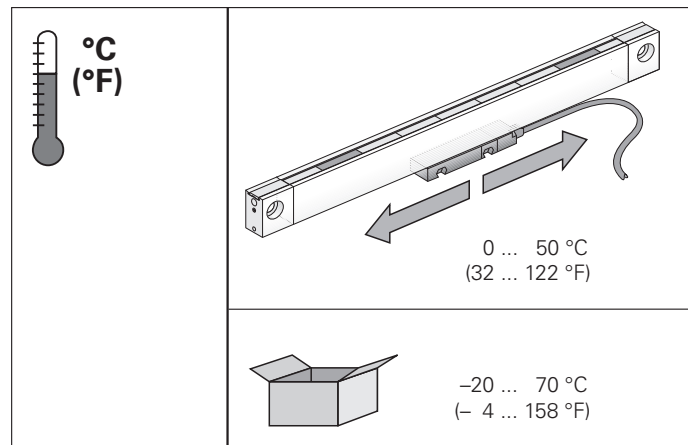
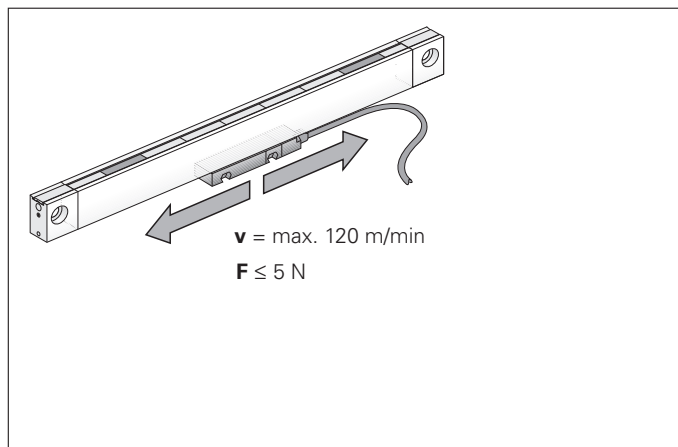
Nel caso di problemi di messa a terra, mettere a terra anche il blocchetto terminale o la guida di montaggio!

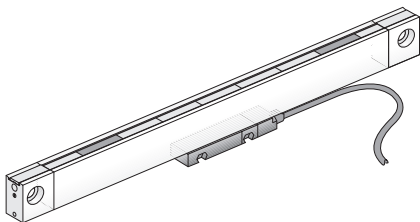
¡En caso de problemas de tierras, poner a tierra adicionalmente la pieza final o la guía de montaje!



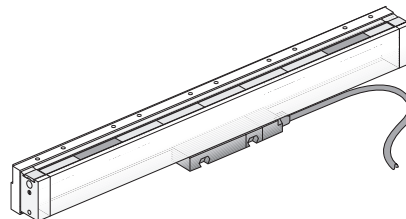


		
Ø 6 mm	$R_1 \geq 20 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
Ø 10 mm	$R_1 \geq 35 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
 Ø 8 mm	$R_1 \geq 40 \text{ mm}$	$R_2 \geq 100 \text{ mm}$





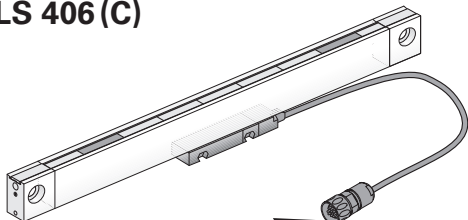
EN 60 068-2-6 (55 ... 2000 Hz): max. 100 m/s²
 EN 60 068-2-27 (11 ms): max. 300 m/s²



EN 60 068-2-6 (55 ... 2000 Hz): max. 200 m/s²
 EN 60 068-2-27 (11 ms): max. 300 m/s²

Elektrische Kennwerte · *Electrical Data* · Caractéristiques électriques · *Dati elettrici* · Datos eléctricos

LS 406 (C)



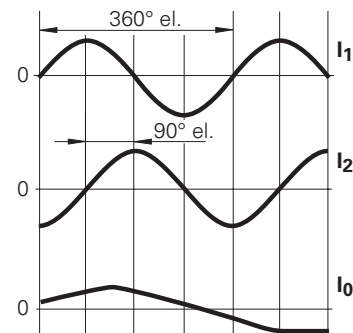
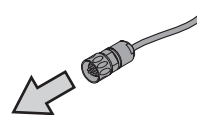
U_p = 5 V ± 5 %
 (max. 70 mA)



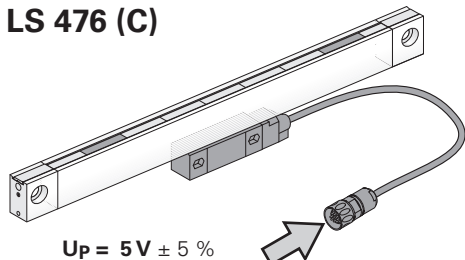
EN 50 178/4.98; 5.2.9.5
 IEC 364-4-41: 1992; 411(PELV/SELV)

(siehe, see, voir, vedi, véase
 HEIDENHAIN D 231 929)

I₁: 7 ... 16 µAss
I₂: 7 ... 16 µAss
I₀: 2 ... 8 µA



LS 476 (C)



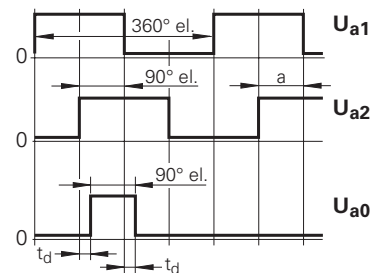
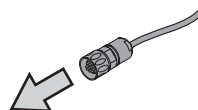
$U_P = 5V \pm 5\%$
(max. 140 mA)



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)

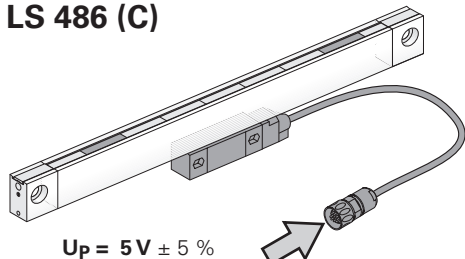
U_{a1}, U_{a2}, U_{a0}
 $\overline{U_{a1}}, \overline{U_{a2}}, \overline{U_{a0}}, \overline{U_{aS}}$



$|t_d| \leq 0.1 \mu s$

$a \geq 0.5 \mu s$

LS 486 (C)



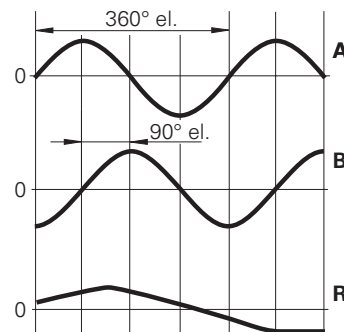
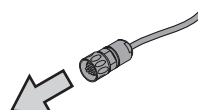
$U_P = 5V \pm 5\%$
(max. 150 mA)



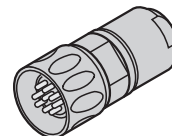
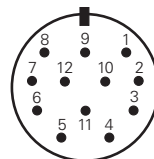
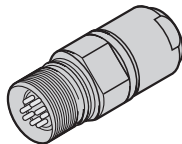
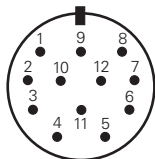
EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)

(siehe, *see, voir, vedi, véase*
HEIDENHAIN D 231 929)

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

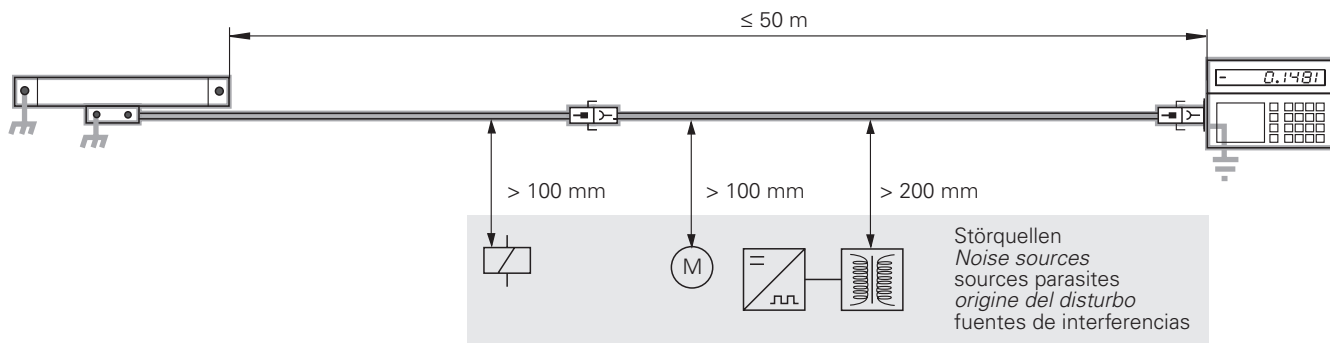


LS 476 (C)

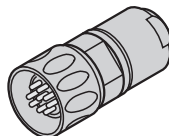
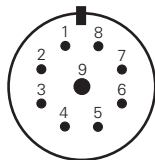
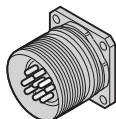
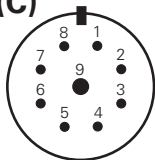


Schirm auf Gehäuse
Shield on housing
blindage sur boîtier
schermo sulla carcassa
blindaje a carcasa

5	6	8	1	3	4	12	10	2	11	7	/
U_{a1}	$\overline{U_{a1}}$	U_{a2}	$\overline{U_{a2}}$	U_{a0}	$\overline{U_{a0}}$	5 V U_p	0 V U_N	5 V sensor	0 V 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



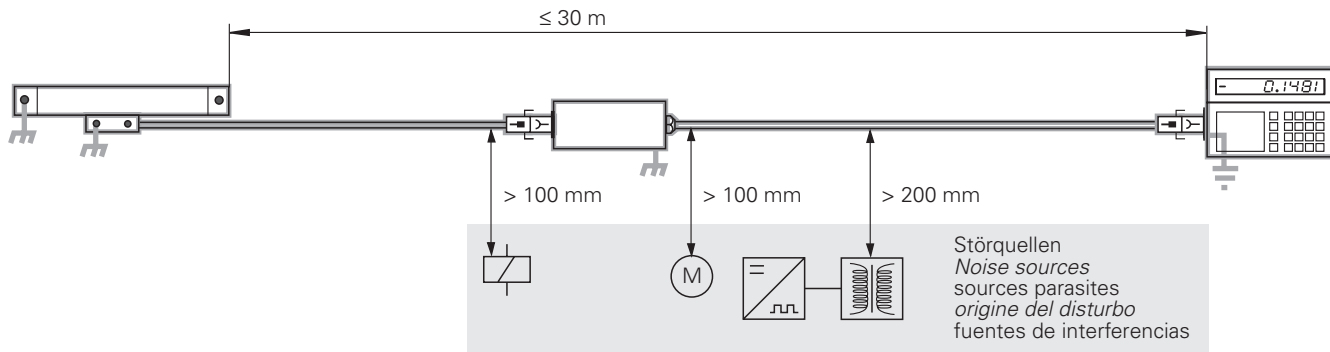
LS 406 (C)

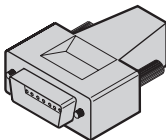
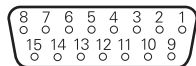


1) Außenschirm auf Gehäuse
External shield on housing
 blindage externe sur boîtier
 schermo esterno sulla carcassa
 blindaje externo a carcasa

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 green vert verde verde	gelb yellow jaune giallo amarillo	blau blue bleu azzurro azul	rot red rouge rosso rojo	grau gray gris grigio gris	rosa pink rose rosa rosa	braun brown brun marrone marrón	weiß white blanc bianco blanco		weiß/braun white/brown blanc/brun bianco/marrone bianco/marrone blanco/marrón

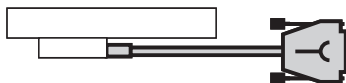




1) Außenschirm auf Gehäuse
External shield on housing
 blindage externe sur boîtier
 schermo esterno sulla carcassa
 blindaje externo a carcasa

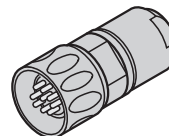
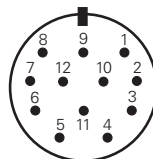
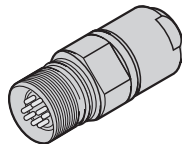
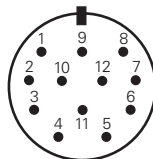
2) Innenschirm Pin 13
Internal shield pin 13
 blindage interne pin 13
 schermo interno pin 13
 blindaje interno pin 13

3	4	6	7	10	12	1	2	1)	13
I_1		I_2		I_0		5V U_P	0V U_N		2)
+	–	+	–	+	–				
grün green vert verde verde	gelb yellow jaune giallo amarillo	blau blue bleu azzurro azul	rot red rouge rosso rojo	grau gray gris grigio gris	rosa pink rose rosa rosa	braun brown brun marrone marrón	weiß white blanc bianco blanco		weiß/braun white/brown blanc/brun bianco/marrone blanco/marrón



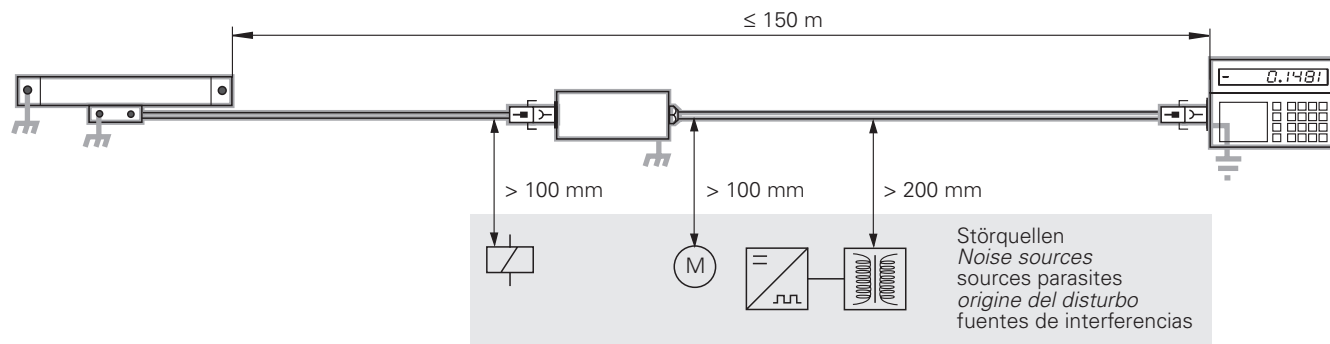
IK 220
TNC

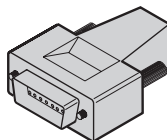
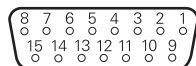
LS 486 (C)



Schirm auf Gehäuse
Shield on housing
blindage sur boîtier
schermo sulla carcassa
blindaje a carcasa

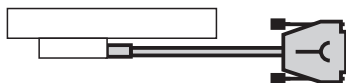
5	6	8	1	3	4	12	10	2	11	7	/
A		B		R		5 V U _P	0 V U _N	5 V sensor	0 V sensor	/	/
+	–	+	–	+	–						
braun brown brun marrone marrón	grün green vert verde verde	grau gray gris grigio gris	rosa pink rose rosa rosa	rot red rouge rosso rojo	schwarz black noir nero negro	braun/grün brown/green brun/vert marrone/verde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





Schirm auf Gehäuse
Shield on housing
 blindage sur boîtier
schermo sulla carcassa
 blindaje a carcasa

3	4	6	7	10	12	1	2	9	11	14	/
A		B		R		5 V U _P	0 V U _N	5 V sensor	0 V sensor	/	/
+	–	+	–	+	–						
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



IK 220
 TNC

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312 619-94 · 100 · 4/2006 · E · Printed in Germany

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