



HEIDENHAIN

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

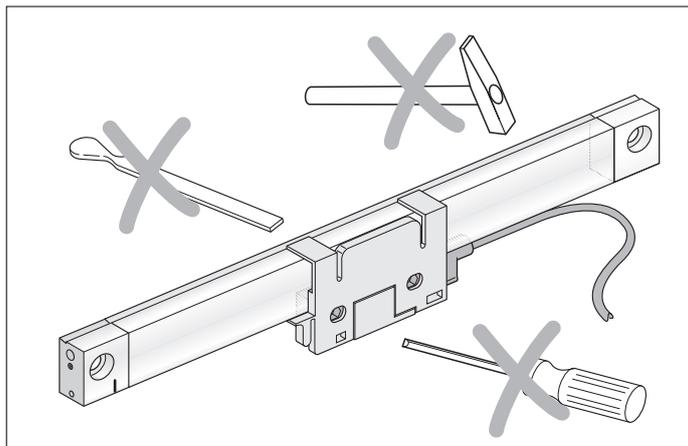
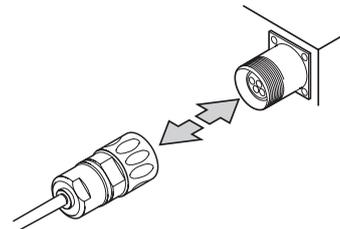
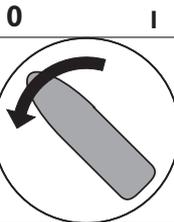
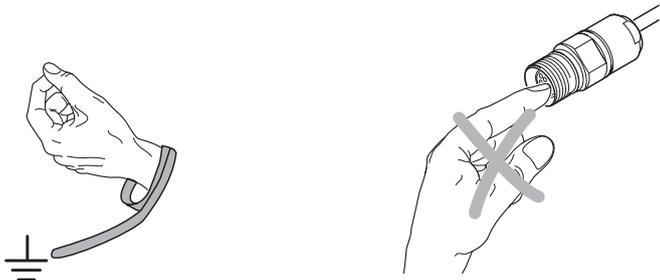
LC 491 F

Fanuc Serial Interface

2/2005



DIN EN 100 015 – 1
CECC 00015 – 1



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



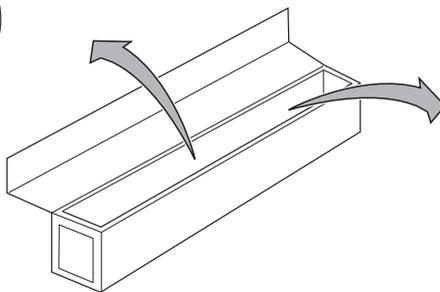
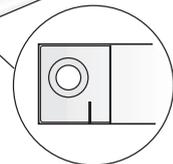
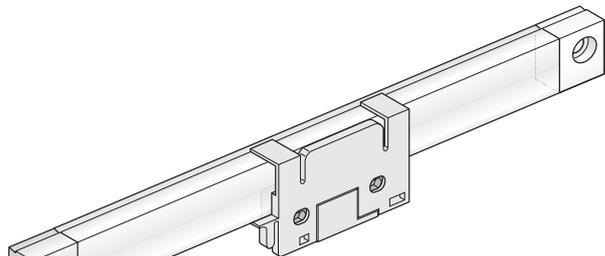
Die Inbetriebnahme des LC 491 F erfordert eine richtige Parametrierung der FANUC-Steuerung (Gefahr von Sach- und Personenschäden). Zur richtigen Parametrierung nehmen Sie bitte Kontakt zum Hersteller der Maschine auf.

The FANUC control parameters for the LC 491 F must be correctly configured for proper function. Improper configuration may result in damage to the equipment or even personal injury. Please contact the machine manufacture for the correct parameter configuration.

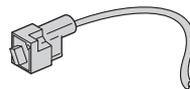
La mise en route du LC 491 F nécessite un paramétrage correct de la commande FANUC (risque matériels et corporels). Pour effectuer le paramétrage correctement, prenez S.V.P. contact avec le constructeur de la machine.

La messa in funzione della LC 491 F richiede una corretta parametrizzazione del controllo FANUC (rischio di danni alle cose e alle persone). Per una corretta parametrizzazione mettersi in contatto con il costruttore della macchina.

La puesta en marcha de la LC 491 F requiere una parametrización correcta del sistema de medida FANUC (peligro de daños en cosas y personas). Para la parametrización correcta contacten con el constructor de la máquina.



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



17



2x
 M8x25 DIN 6912

 2x
 M8x25 ISO 4762

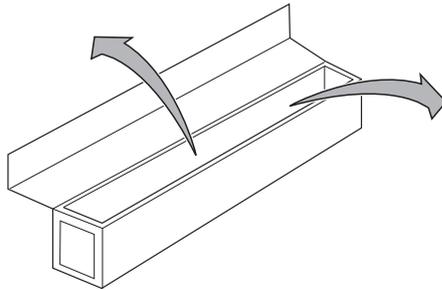
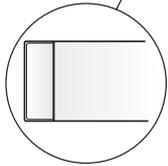
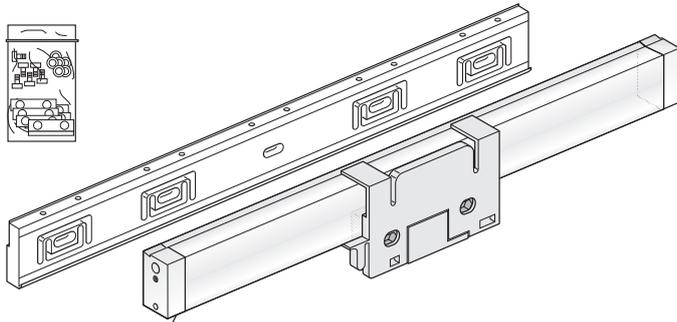
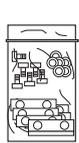


2x
 D13.0/8.4

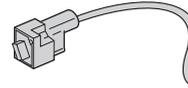
 3x
 D7.0/4.3



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.)



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



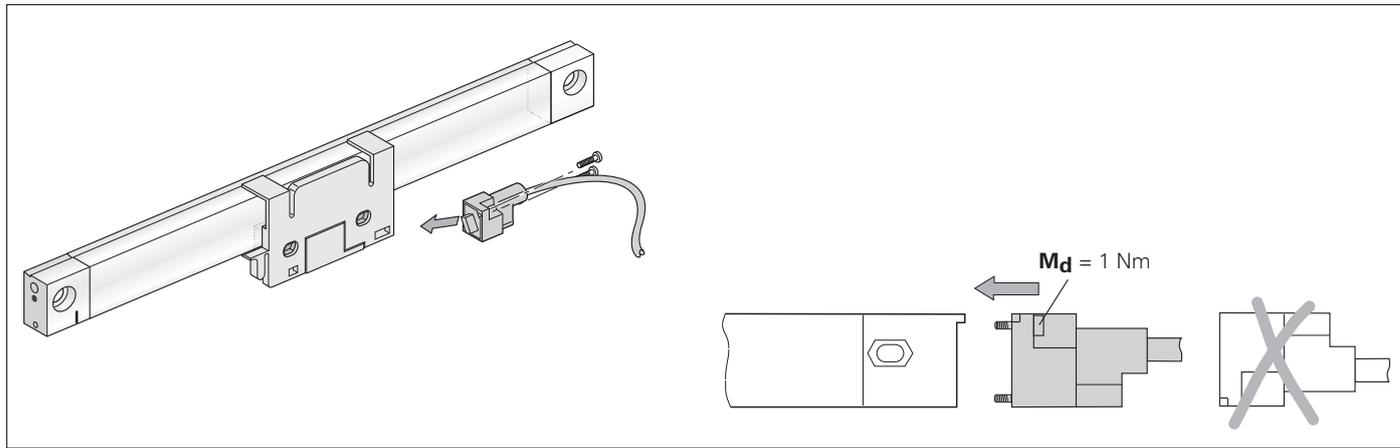
17

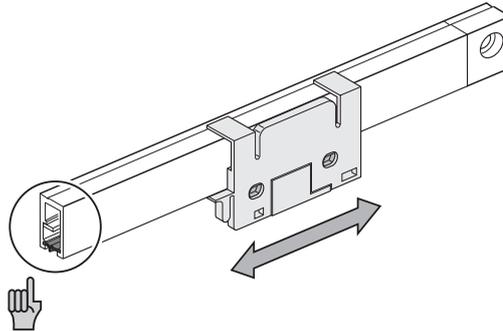
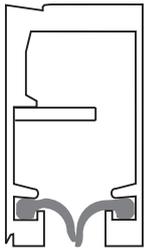
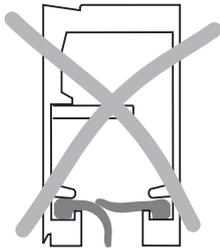


3x
D7.0/4.3

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.)

Kabelanschluss · Cable Connection · Raccordement du cable · Cavo di colleganto · Conexión de cable





Achtung: Nur mit Transportsicherung manuell verfahren!

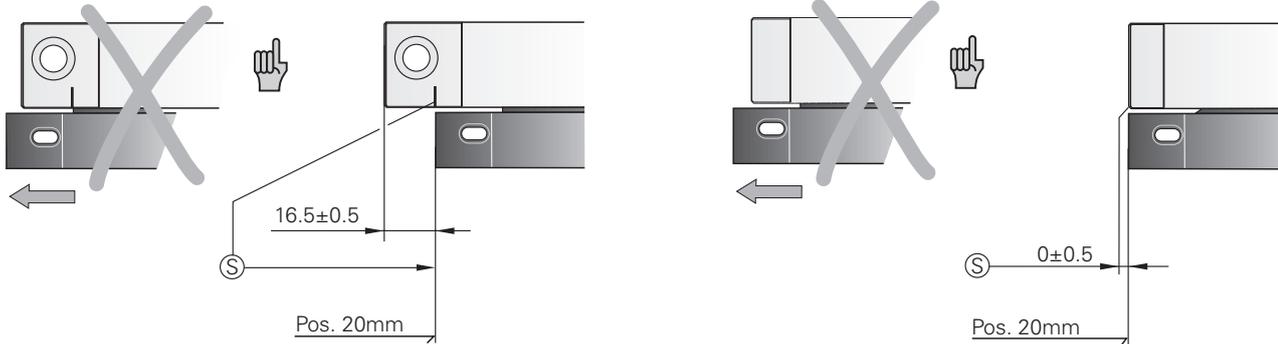
Caution: Move manually only with the shipping brace!

Attention: déplacement manuel seulement avec sécurité de transport!

Attenzione: Muovere manualmente solo con dispositivo di sicurezza per il trasporto installato

¡Atención: Desplazar manualmente sólo con seguro de transporte!

Hinweise zur Montage · Mounting Procedure · Procédures pour le montage



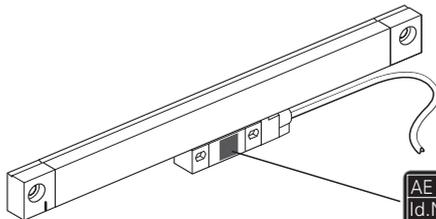
Ⓢ = Der Absolutwert beim Beginn der Messlängen beträgt 20 mm. Je nach Auflösung errechnet sich der Positionswert.

At the beginning of the measuring lengths, the absolute value is 20 mm. The calculated position value depends on the resolution.

La valeur absolue au début des longueurs de mesure est de 20 mm. La valeur de position est calculée en fonction de la résolution.

All'inizio della corsa utile, il valore assoluto della posizione è di 20 mm. Il calcolo del valore di posizione dipende dalla risoluzione.

Al comienzo del curso útil, el valor absoluto es de 20 mm de los extremos. El valor de posición se calcula en función de la resolución.



Messschritt z.B. 50 nm oder 0 = programmierbar für Service

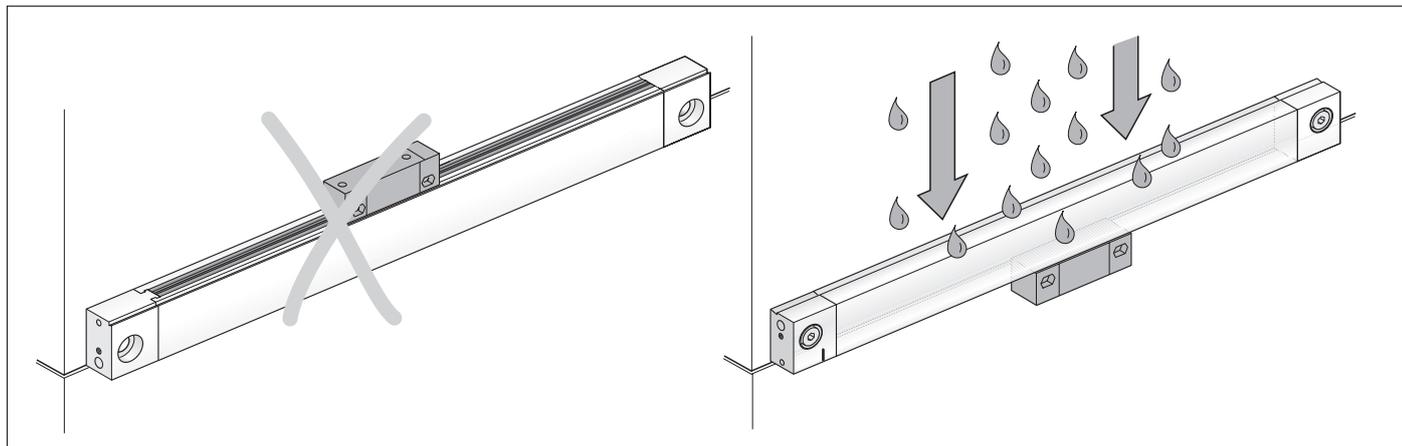
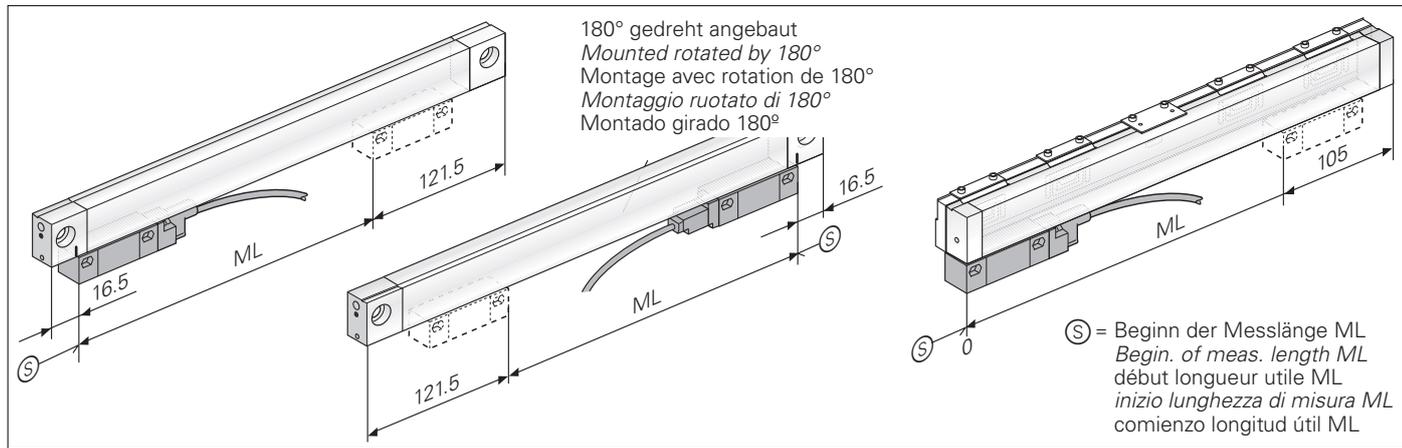
Measuring step e.g. 50 nm or 0 = programmable for Service

Pas de mesure ex. 50 nm ou 0 = programmable pour SAV

Passo di misura ad. es. 50 nm oppure 0 = programmabile per assistenza tecnica

Paso de medición p.ej. 50 nm ó 0 = programable para servicio

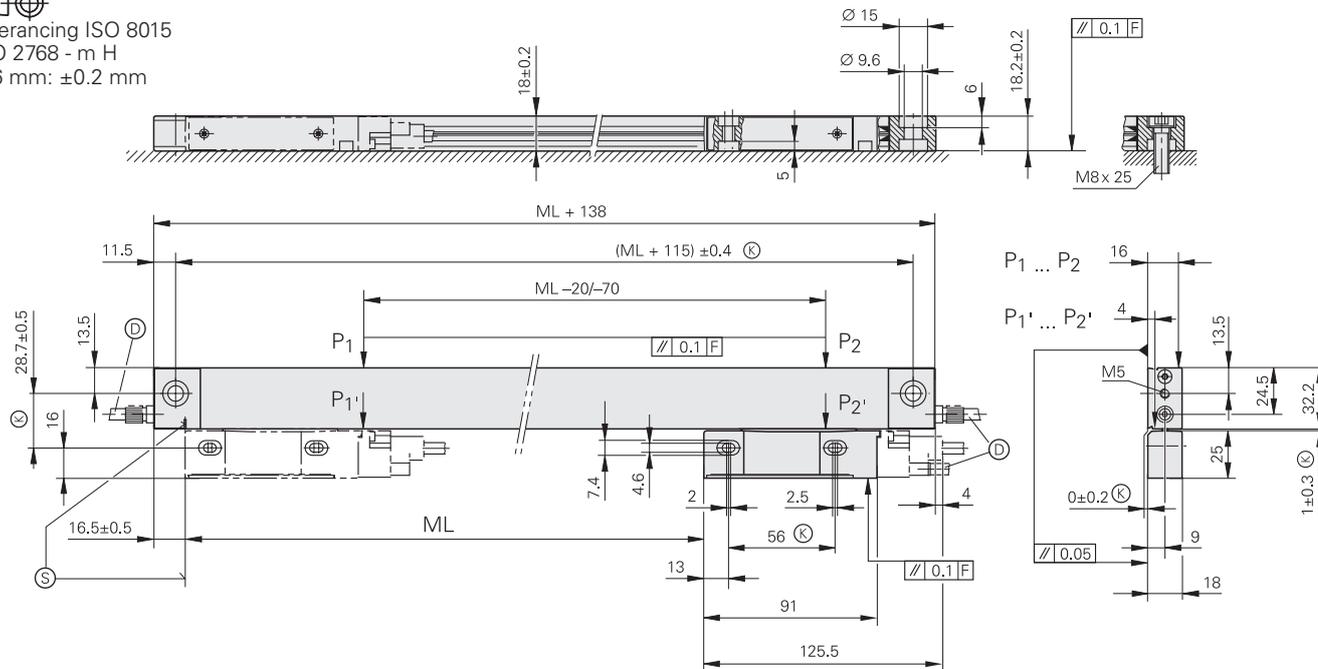
Avvertenze per il montaggio · Indicaciones para el montaje



mm



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

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

**Abmessungen
mit Montageschiene**

**· Dimensions with
Mounting Spar**

**· Dimensions
avec rail de guidage**

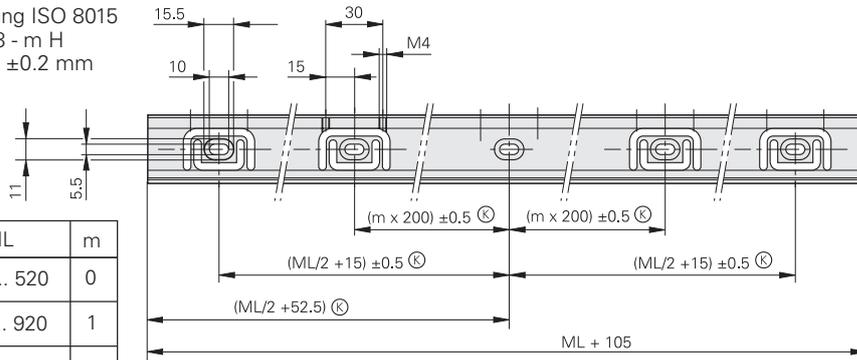
**· Dimensioni
con guida**

**· Dimensiones
con guía de montaje**

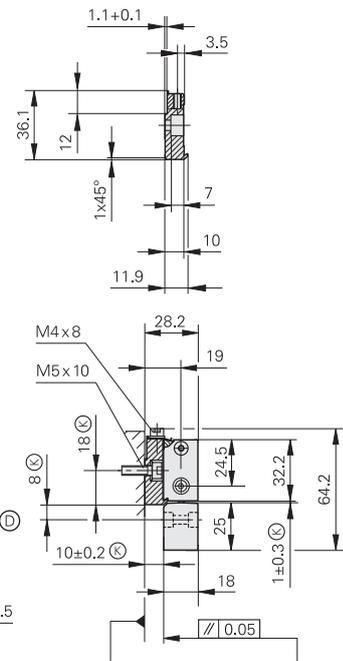
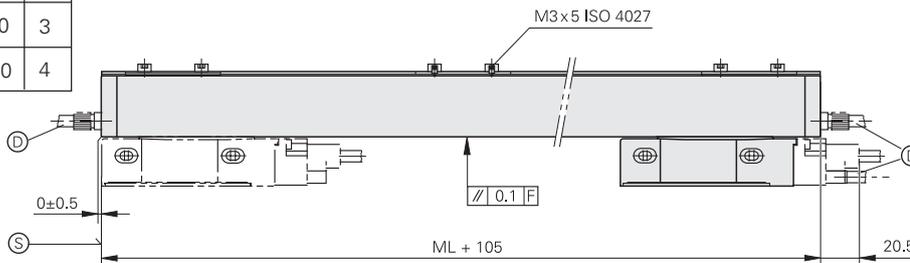
mm



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



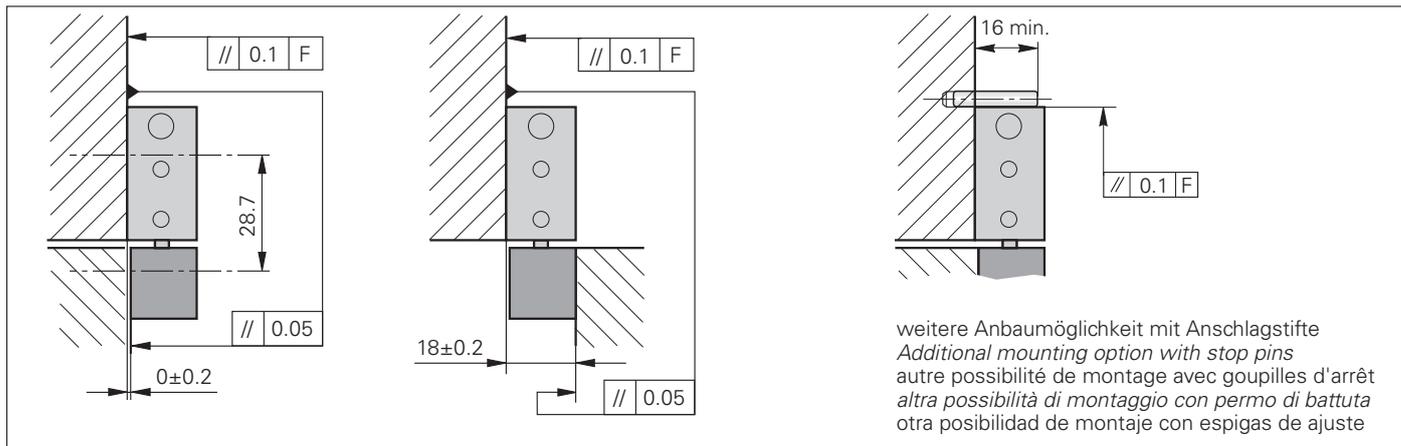
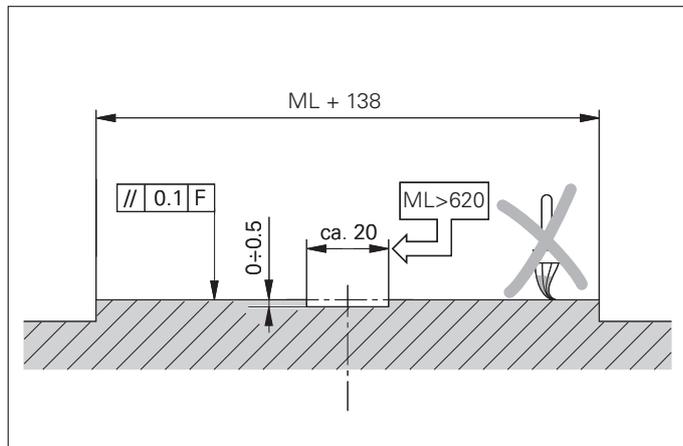
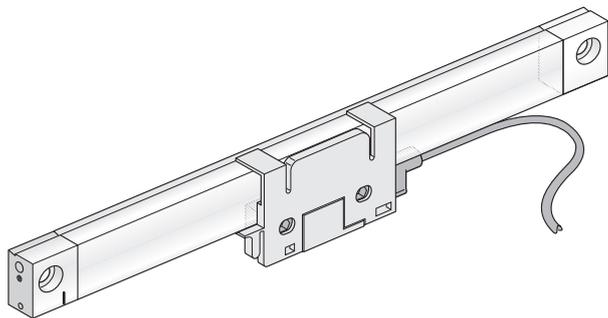
| ML | m |
|---------------|---|
| 70 ... 520 | 0 |
| 570 ... 920 | 1 |
| 1020 ... 1340 | 2 |
| 1440 ... 1740 | 3 |
| 1840 ... 2040 | 4 |



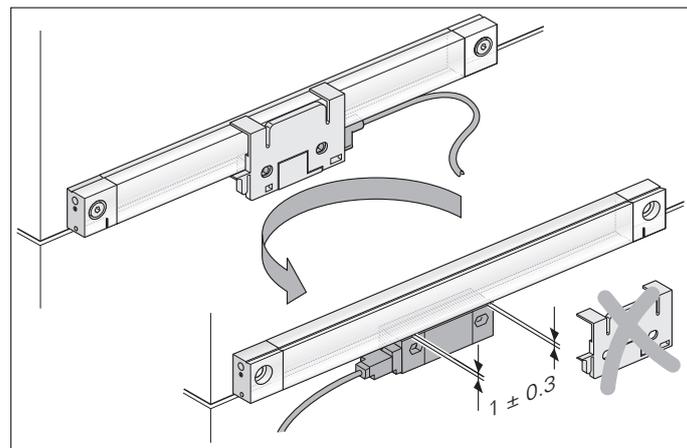
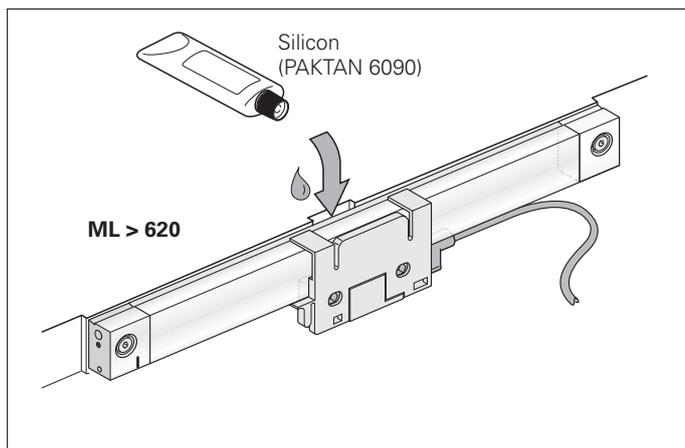
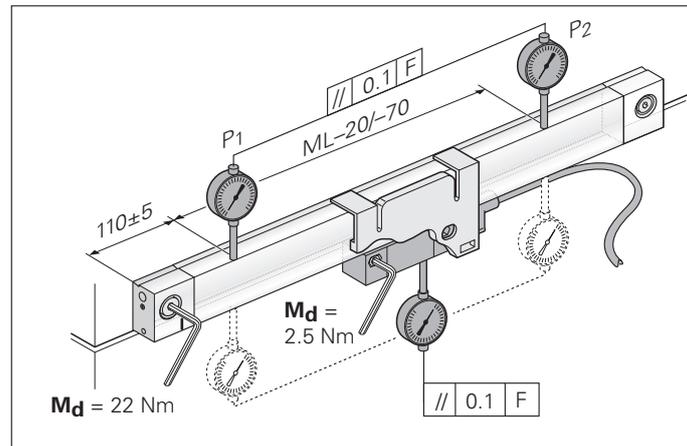
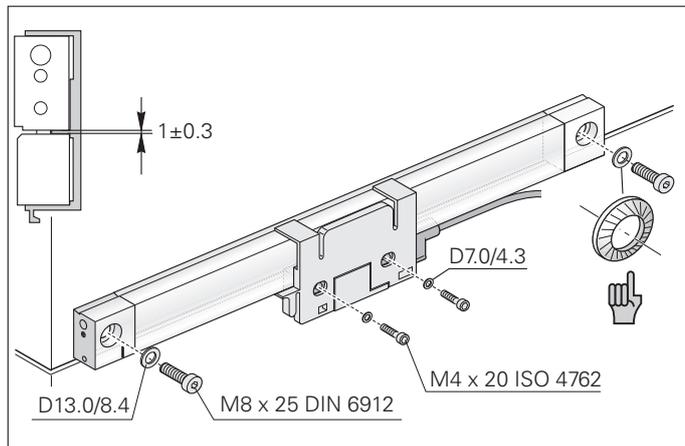
Ⓚ = Kundenseitige Anschlussmaße
Required mating dimensions
conditions requises pour le montage
dimensioni di collegamento lato cliente
cotas de montaje requeridas

F = Maschinenführung
Machine guideway
guidage de la machine
guida della macchina
guía de la máquina

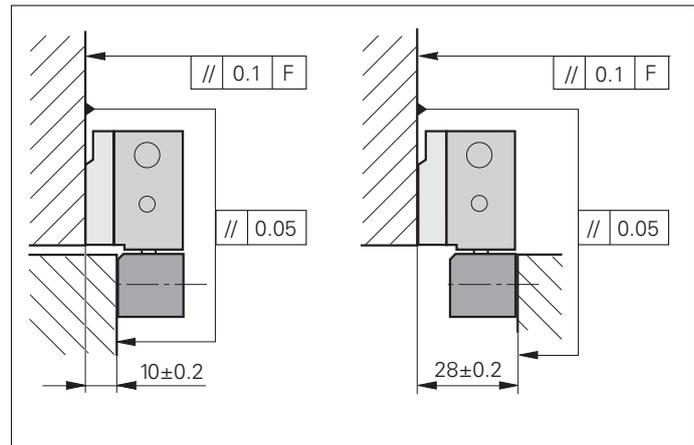
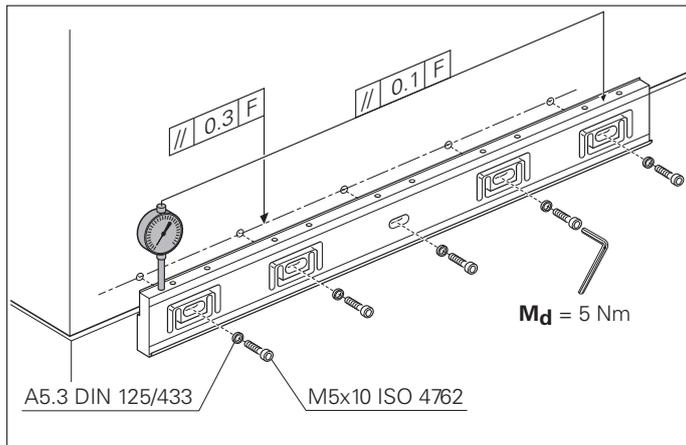
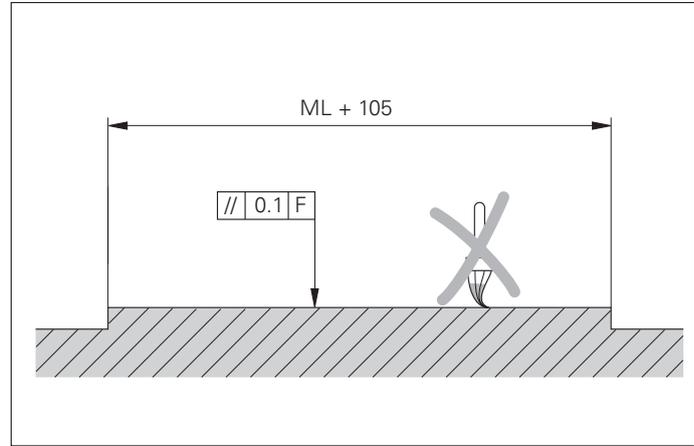
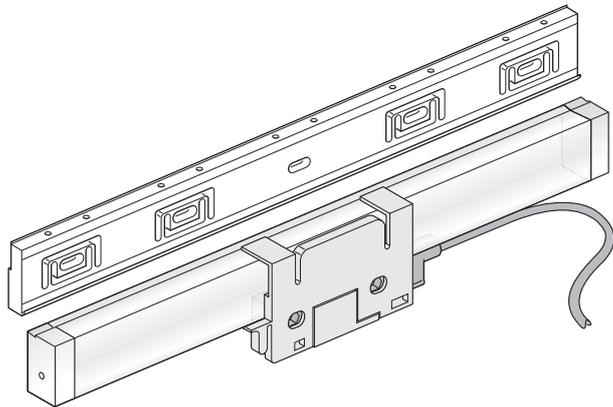
Anbau ohne Montageschiene · *Mounting without Mounting Spar* · Montage sans rail de guidage



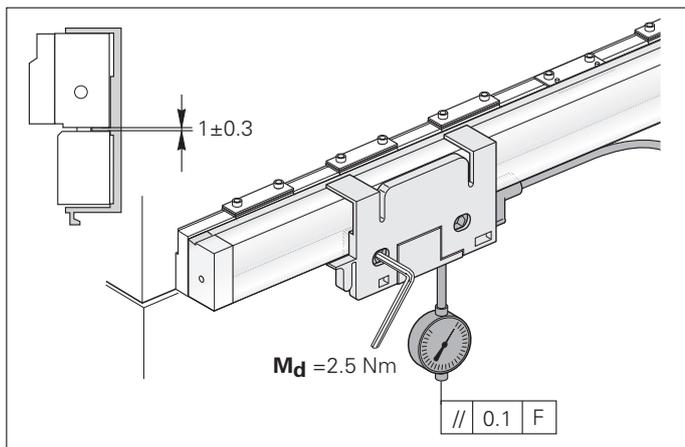
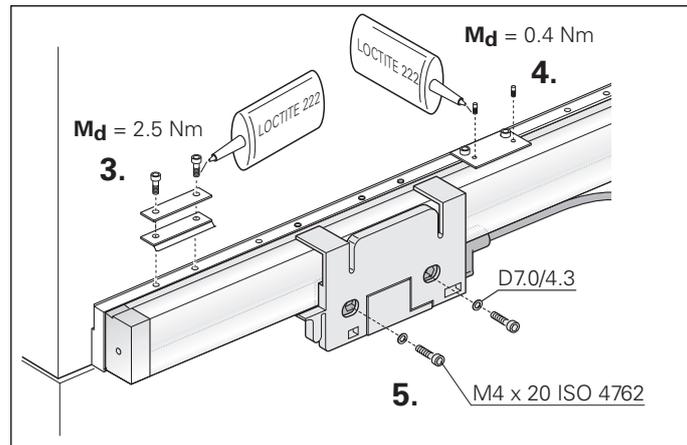
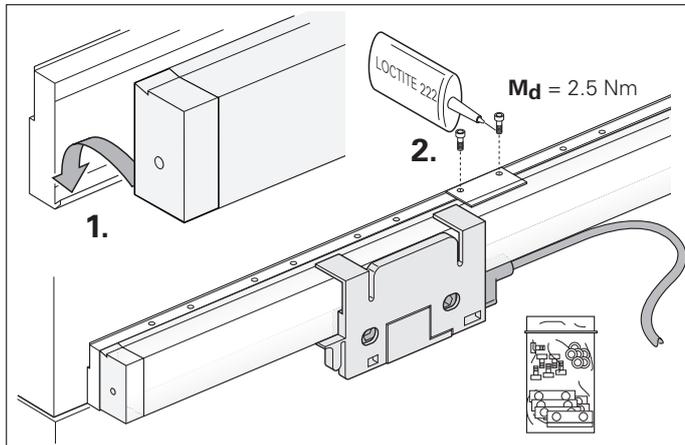
Montaggiosenza guida · Instalación sin guía de montaje



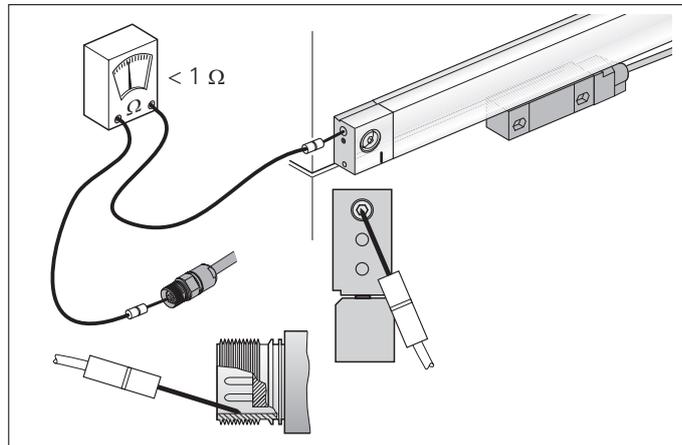
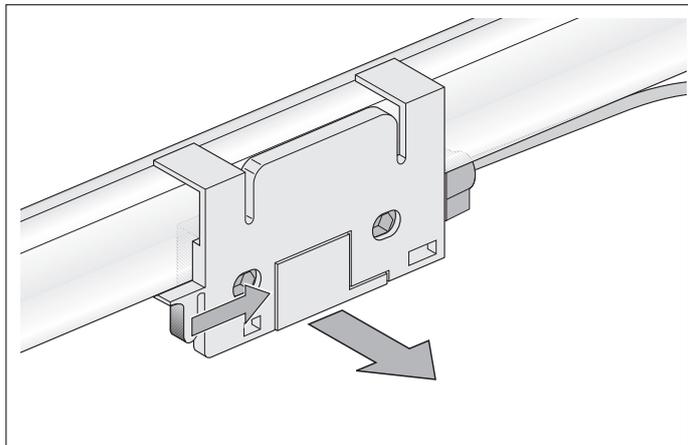
Anbau mit Montageschiene · *Mounting with Mounting Spar* · Montage avec rail de guidage



Montaggio con guida · Instalación con guía de montaje



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



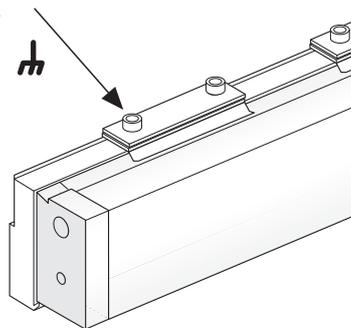
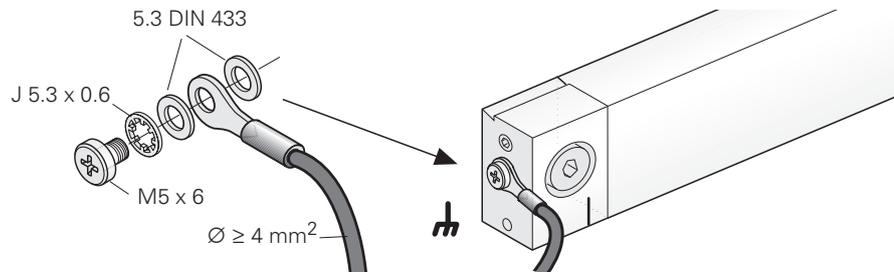
Bei Erdungsproblemen zusätzlich Endstück oder Montageschiene erden!

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

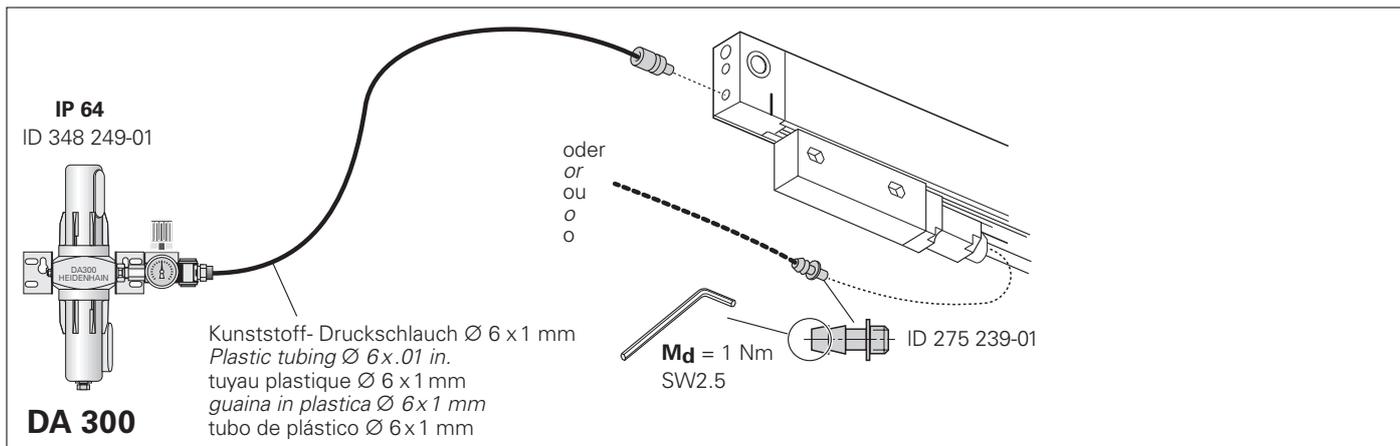
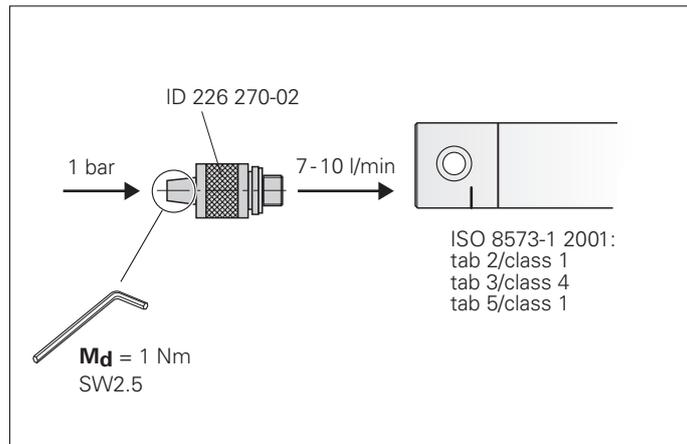
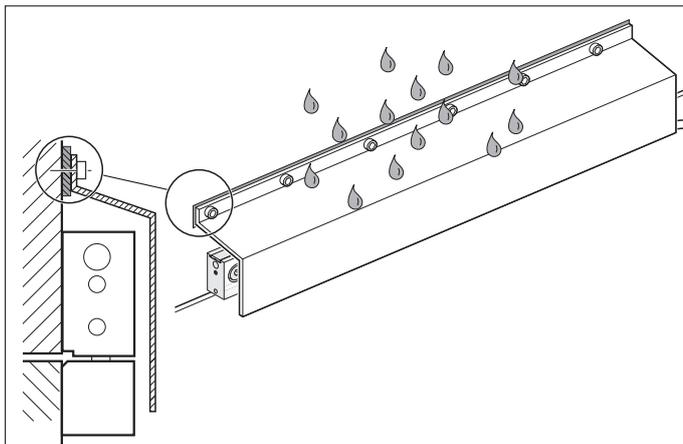
En cas de problèmes de mise à terre, mettre aussi l'embout ou le rail de montage à la terre!

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

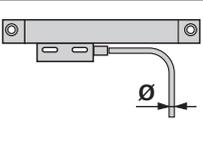
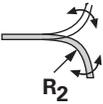
¡En caso de problemas de tierras, poner a tierra adicionalmente la pieza final o la guía de montaje!

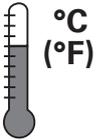
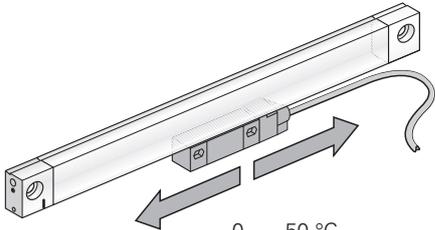
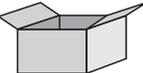


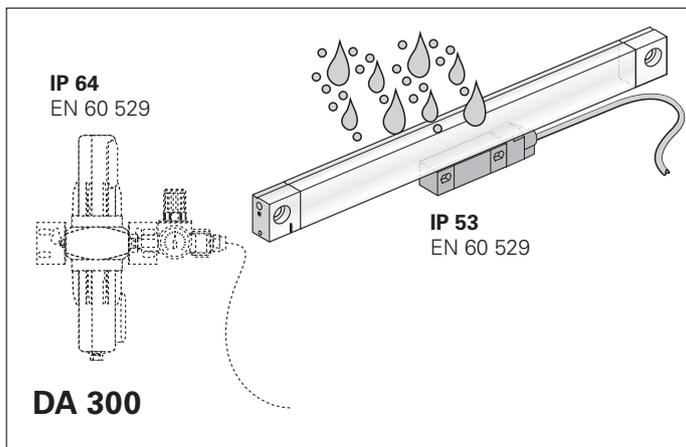
Schutzmaßnahmen · Protective Measures · Mesures préventives · Precauzioni · Medidas de protección



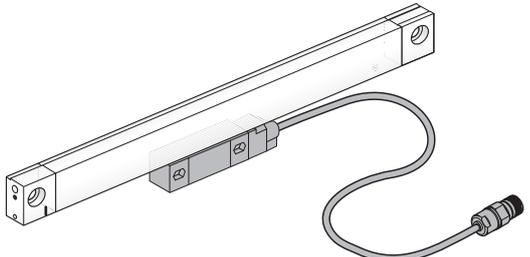
Technische Kennwerte · Specifications · Caractéristiques techniques · Dati tecnici · Datos técnicos

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

| | |
|---|---|
|  |  |
| | $0 \dots 50 \text{ °C}$ ($32 \dots 122 \text{ °F}$) |
|  | $-20 \dots 70 \text{ °C}$ ($-4 \dots 158 \text{ °F}$) |



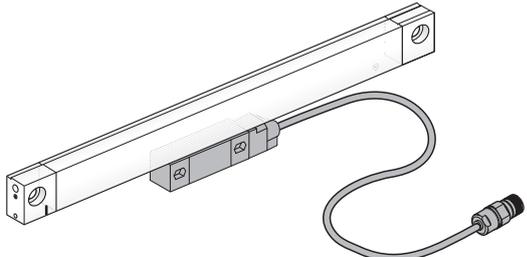
Elektrische Kennwerte · *Electrical Data* · Caractéristiques électriques · *Dati elettrici* · Características eléctricas



 RS-485
 **Request**
 **Request**

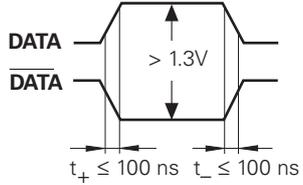
 **U_P = 5 V ± 5 %** (Remote Sensing)
 (max. 300 mA)

 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)

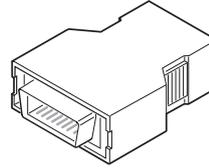
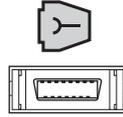
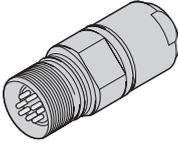
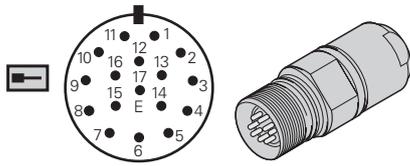


 RS-485

 **DATA**
 **DATA**

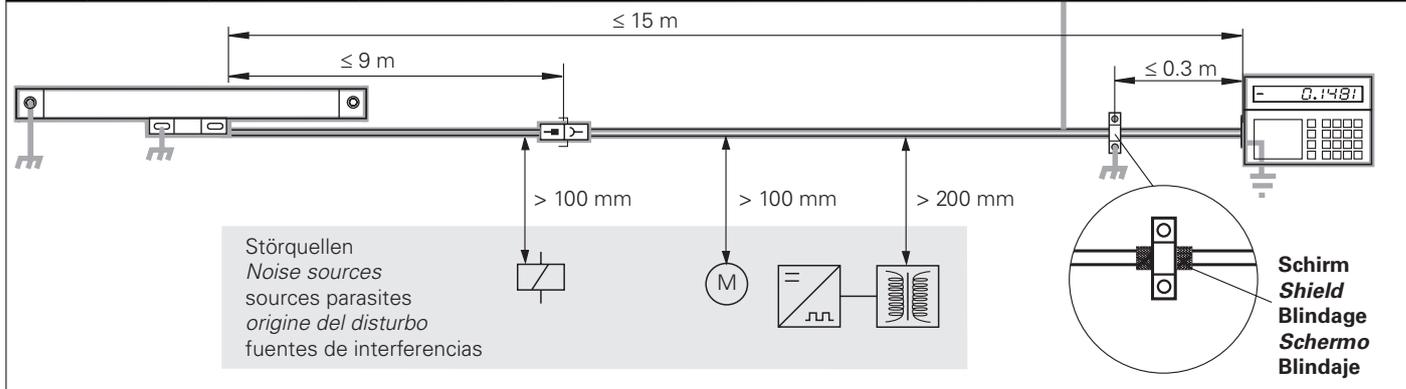
RS-485


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



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

| | | | | | | | | | |
|--|--|--------------------------------------|---|---|---|---|---|--|--|
| | 14 | 17 | 8 | 9 | 7 | 1 | *) | 10 | 4 |
| | 1 | 2 | 5 | 6 | 9 | 18/20 | 16 | 12 | 14 |
| | DATA | DATA | Request | Request | 5V Up | 5V sensor | Schirm Shield Blindage Schemo Blindaje | 0V UN | 0V sensor |
| | grau gray gris grigio gris | rosa pink rose rosa rosa | violett violet violet viola violeta | gelb yellow jaune giallo amarillo | braun/grün brown/green brun/vert marrone/verde marron/verde | blau blue bleu azzurro azul | | weiß/grün white/green blanc/vert bianco/verde blanco/verde | weiß white blanc bianco blanco |





Um einen möglichst geringen Spannungsabfall auf dem Kabel zu bekommen, ist es empfehlenswert Versorgungsspannung und Sensorleitung (Pin 9 mit Pin 18/20 und Pin 12 mit Pin 14/16) in der Folgeelektronik zu verbinden.

To reduce voltage drop in the cable, we recommend connecting the power supply with the sensor line (pin 9 with pin 18/20 and pin 12 with pin 14/16) in the subsequent electronics.

Pour que la chute de tension sur le câble soit aussi faible que possible, il est conseillé de relier dans l'électronique consécutive la tension d'alimentation à la ligne de retour (plot 9 sur plot 18/20 et plot 12 sur plot 14/16).

Per ridurre al minimo il calo di tensione sul cavo, si consiglia di collegare la tensione di alimentazione e la linea sensore all'elettronica successiva (Pin 9 con Pin 18/20 e Pin 12 con Pin 14/16).

A fin de evitar una caída de tensión excesiva en el cable, se recomienda unir en la electrónica subsiguiente la línea de alimentación con la línea sensor (pin 9 con pin 18/20, y pin 12 con pin 14/16).

HEIDENHAIN

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