


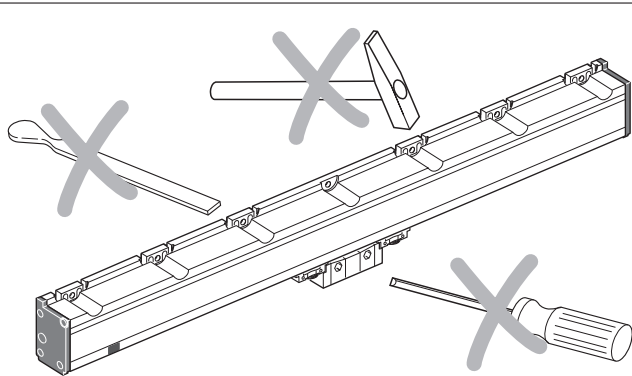
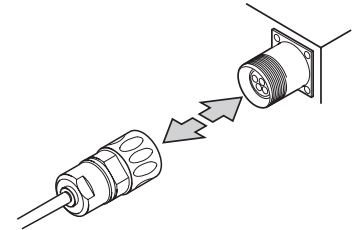
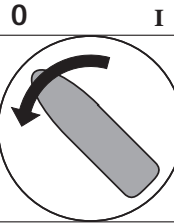


HEIDENHAIN

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

LC 191 F
FANUC SERIAL Interface

 DIN EN 100 015 - 1
CECC 00015 - 1



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



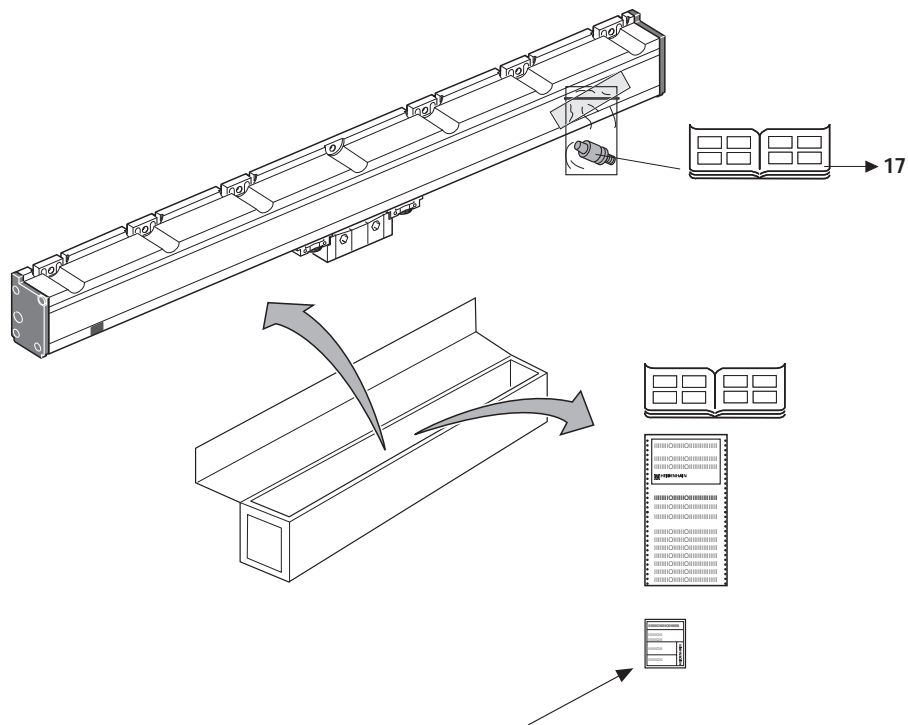
Die Inbetriebnahme des LC 191 F erfordert eine richtige Parametrierung der FANUC-Steuerung (Gefahr von Sach- und Personenschäden). Zur richtigen Parametrierung nehmen Sie bitte Kontakt zum Hersteller der Maschine auf.

The FANUC control parameters for the LC 191 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 191 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 191 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 191 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.



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 · Commander séparément · Ordinare separatamente · Pedir por separado

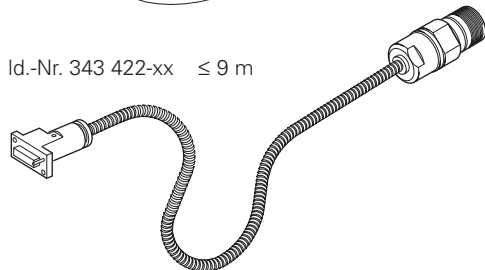
Id.-Nr. 343 421-xx ≤ 9 m



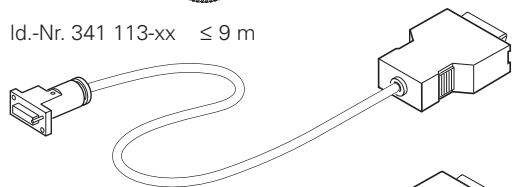
Id.-Nr. 360 472-xx



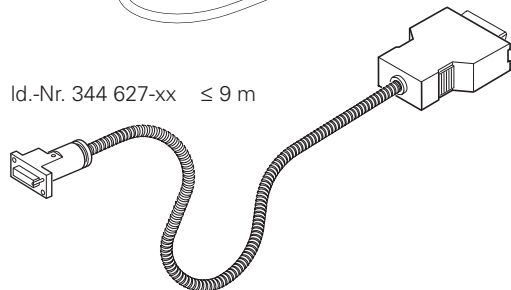
Id.-Nr. 343 422-xx ≤ 9 m



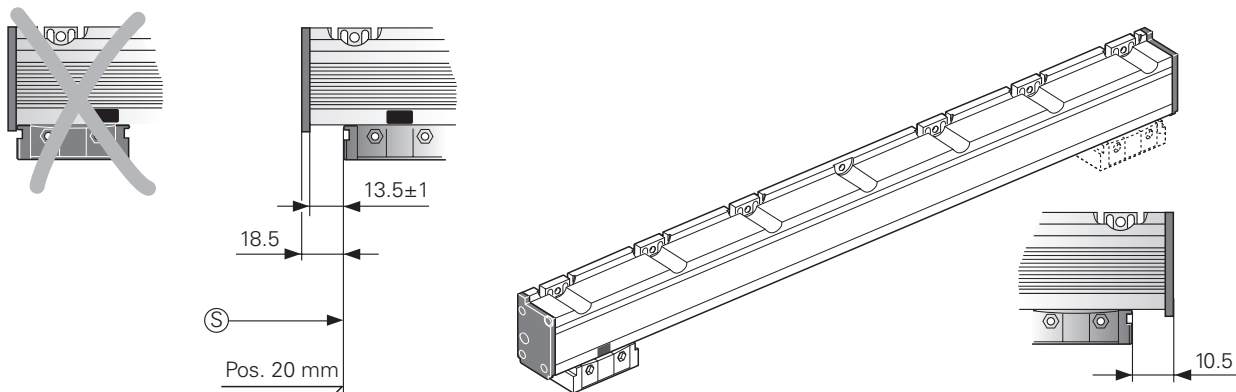
Id.-Nr. 341 113-xx ≤ 9 m



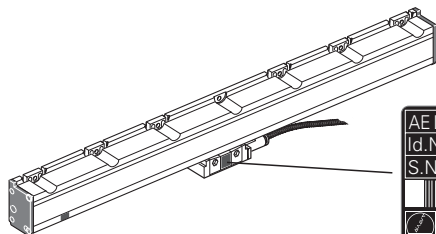
Id.-Nr. 344 627-xx ≤ 9 m



Hinweise zur Montage · Mounting Procedure · Procédures pour le montage

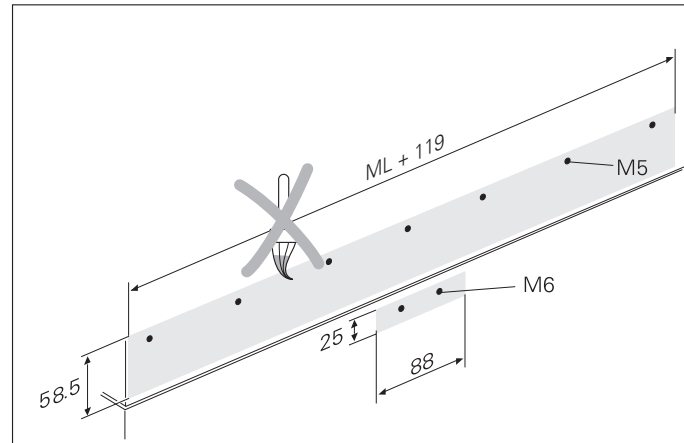
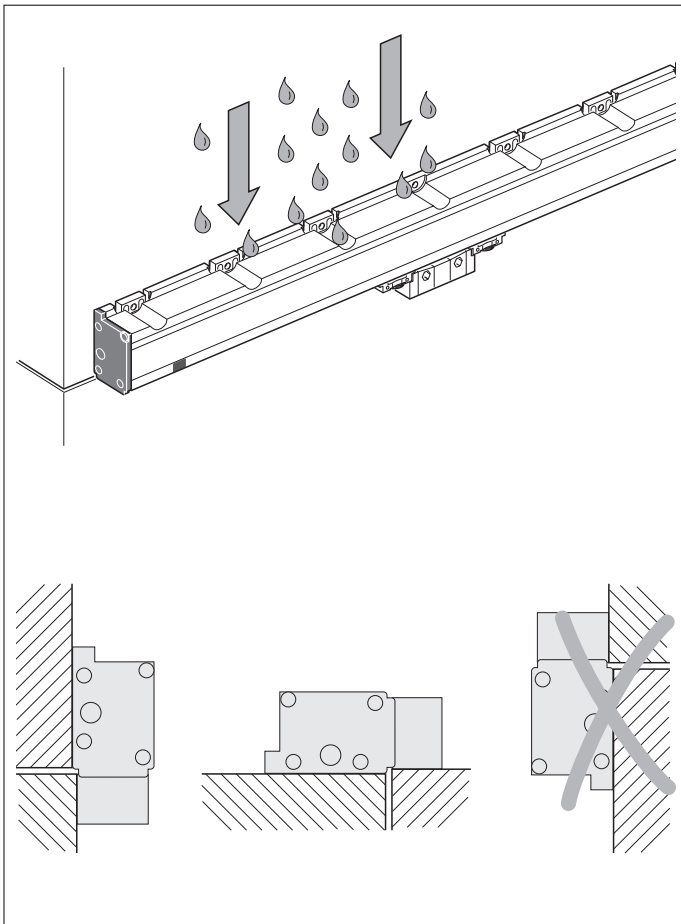


Ⓢ= Der Absolutwert beim Beginn der Messlängen beträgt 20 mm. Je nach Auflösung errechnet sich der Positionswert.
 At the beginning of the measuring lengths, the absolute value is 20 mm. The calculated position value depends on the resolution.
 La valeur absolue au début des longueurs de mesure est de 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.

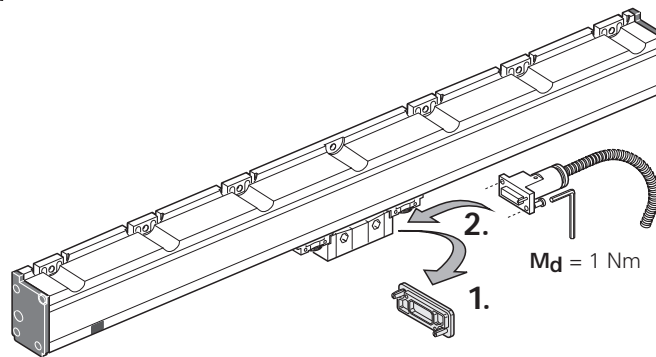
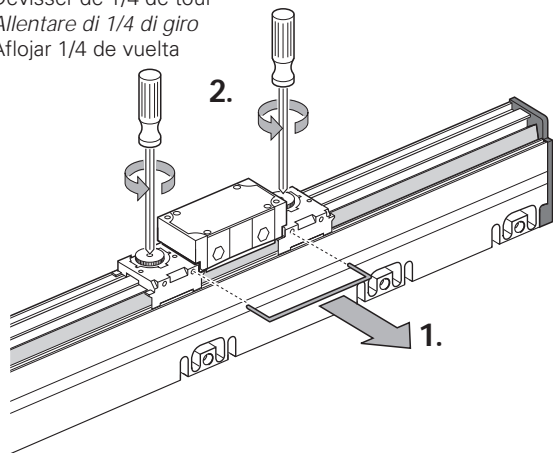


Messschritt z.B. 50 nm oder 0 = programmierbar für Service
 Measuring step e.g. 50 nm or 0 = programmable for Service
 Pas de mesure ex. 50 nm ou 0 = programmable pour SAV
 Passo di misura ad. es. 50 nm oppure 0 = programmabile per assistenza tecnica
 Paso de medición p.ej. 50 nm ó 0 = programable para servicio

Avvertenze per il montaggio · Indicaciones para el montaje



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



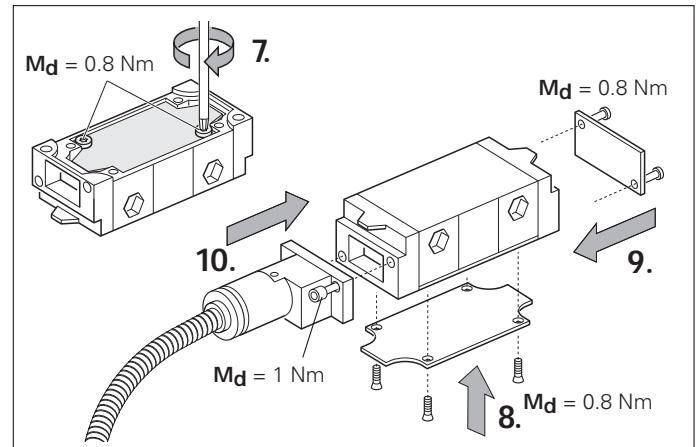
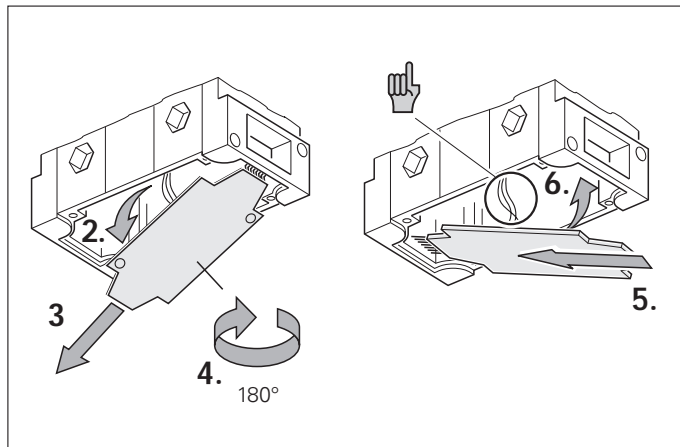
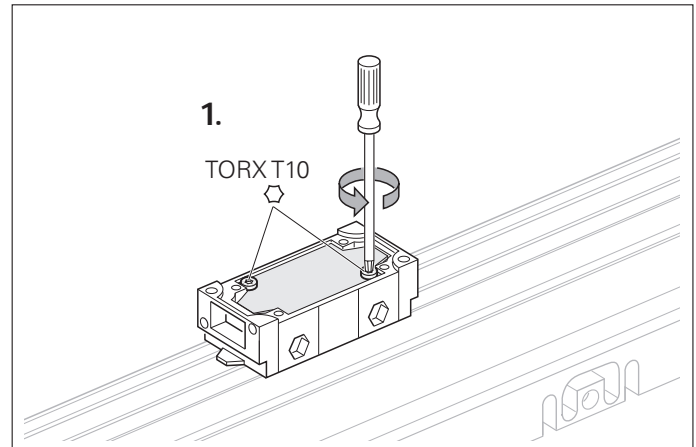
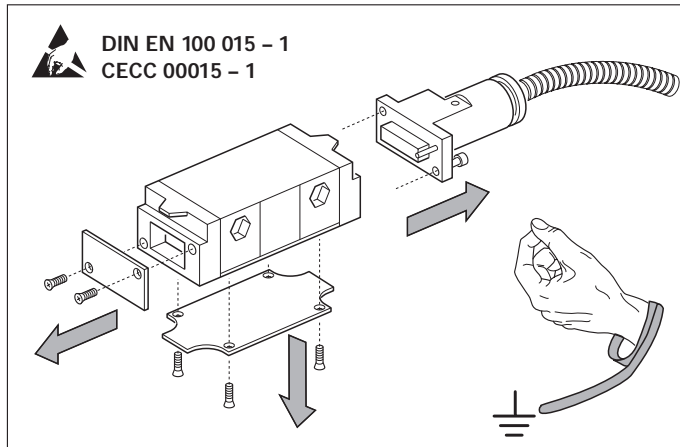
Kabelausgang
verlegen

· Changing the
Cable Outlet

· Poser
la sortie du câble

· Configurazione
dell'uscita del cavo

· Colocar
cable de salida



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

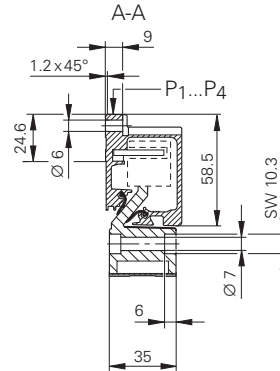
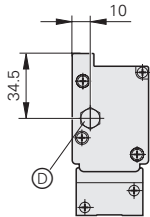
Ⓢ = Druckluftanschluss
Compressed air inlet
 raccordement d'air comprimé
 ingresso per pressurizzazione
 conexión de aire comprimido

Ⓩ = erfüllt wenn $(ML/2 + 30)/100 =$ ganzzahlig
not applicable, if $(ML/2 + 30)/100$ is an integer
 inutile si $(ML/2 + 30)/100$ est un nombre entier
 non vale se $(ML/2+30)/100$ è un numero intero
 no es aplicable cuando $(ML/2 + 30)/100 =$ número entero

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

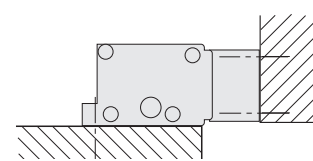
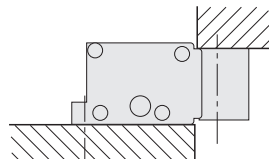
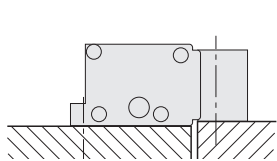
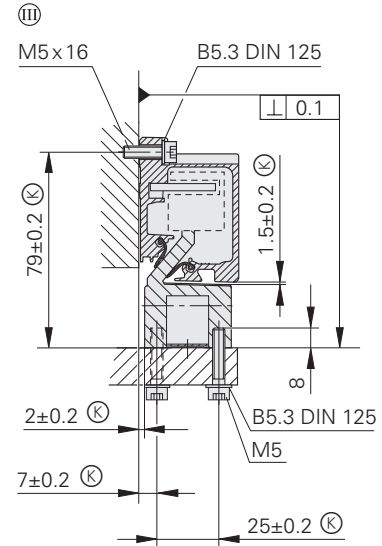
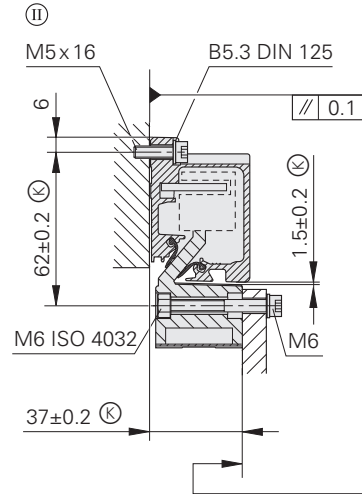
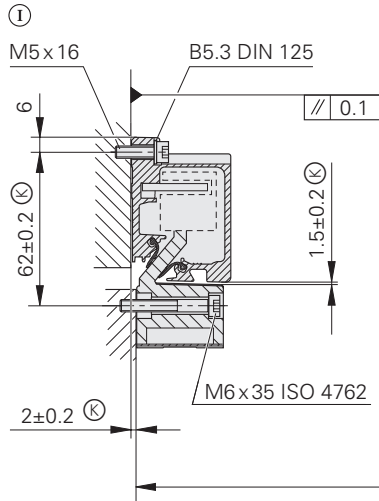
Ⓢ = Beginn der Messlänge ML
Begin. of meas. length ML
 début longueur utile ML
 inizio lunghezza di misura ML
 comienzo longitud útil ML

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

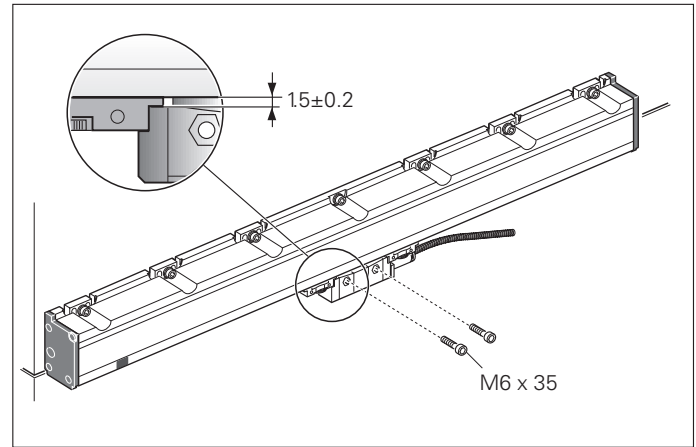
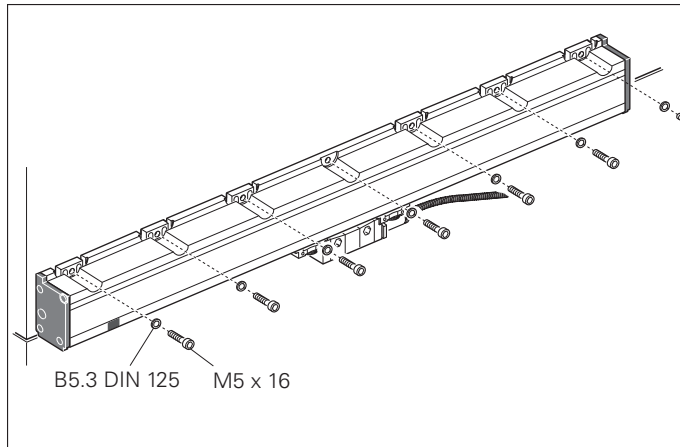


①②③ = Montage-Möglichkeiten
Mounting possibilities
 options de montage
 possibilità di montaggio
 posibilidades de montaje

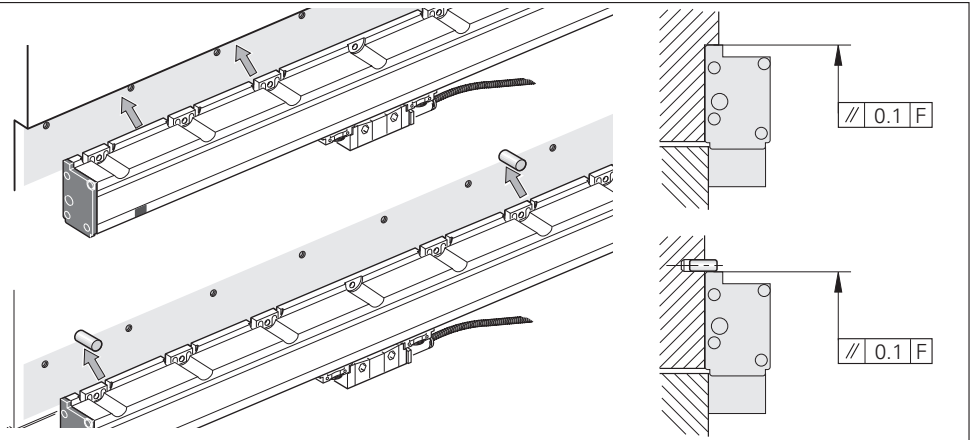
Ⓚ = Kundenseitige Anschlussmaße
Required mating dimensions
 conditions requises pour le montage
 dimensioni di collegamento lato cliente
 cotas de montaje requeridas



Anbau des Maßstabs · *Mounting the scale* · Montage de la règle de mesure · *Montaggio della riga* · Montaje de la regla

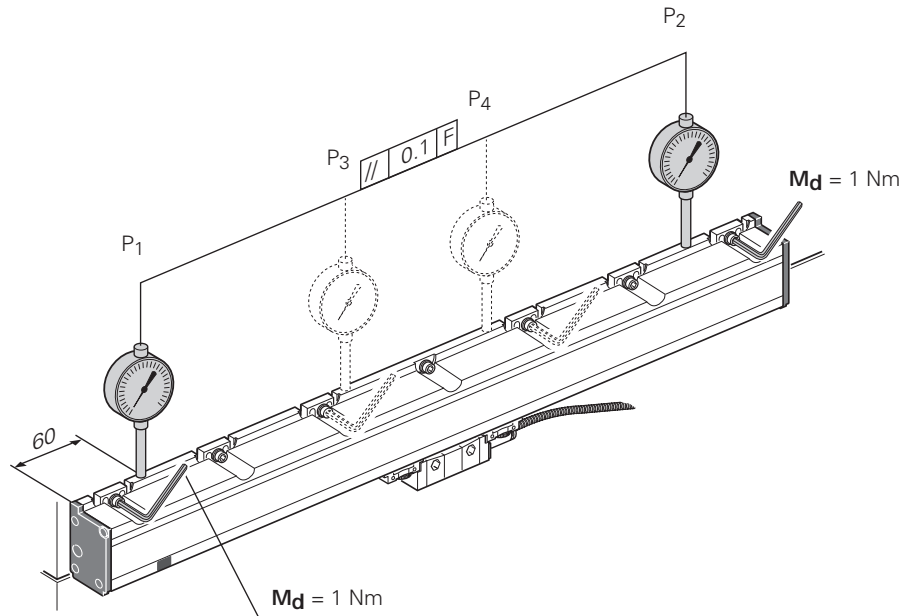



zusätzliche Anbaumöglichkeiten
Additional mounting options
 Possibilités de montage supplémentaires
Altre possibilità di montaggio
 Posibilidades de montaje adicionales



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	
≤ 840mm	2x
≤ 1740mm	3x
≤ 3040mm	4x

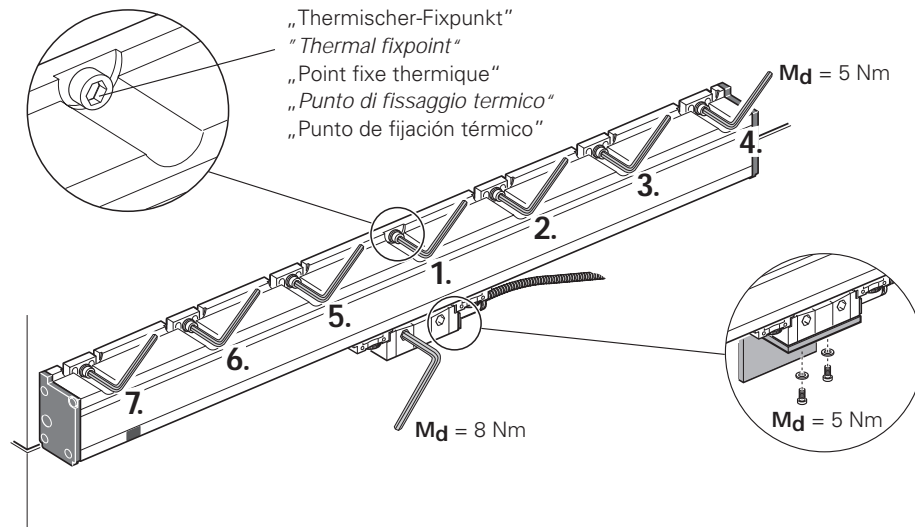
Befestigungsreihenfolge beachten
Mittlere Befestigung zwingend notwendig („Thermischer Fixpunkt“)

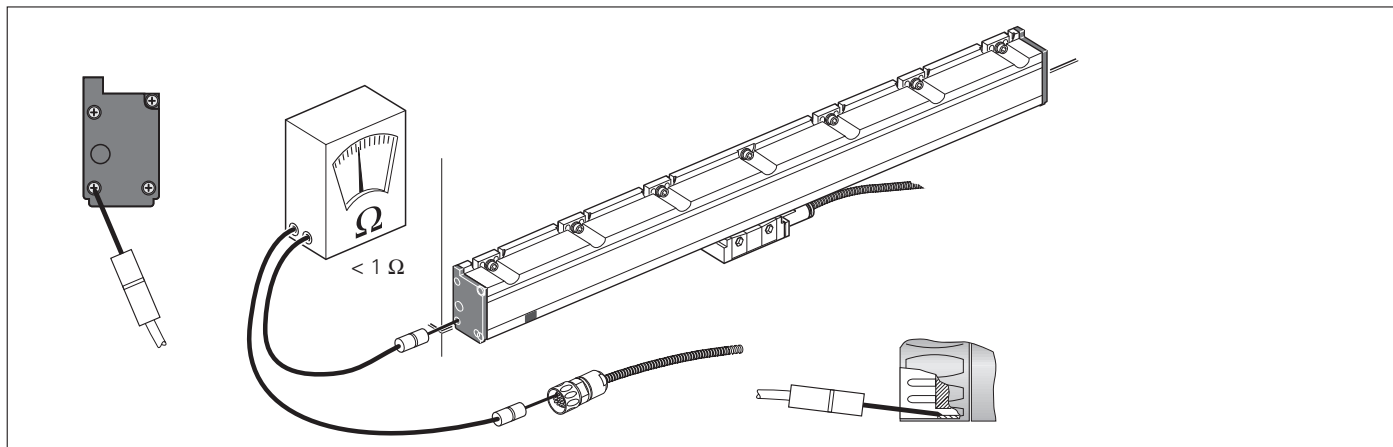
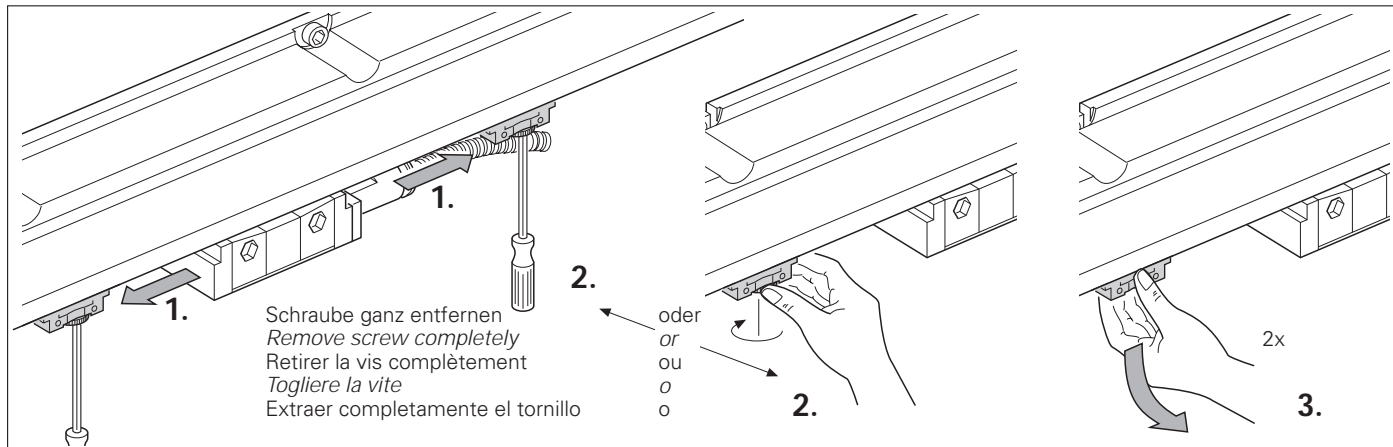
*Use the correct sequence when fastening
Mid-point must be fastened (“thermal fixpoint”)*

Respecter l'ordre chronologique de la fixation
Fixation centrale impérative („point fixe thermique“)

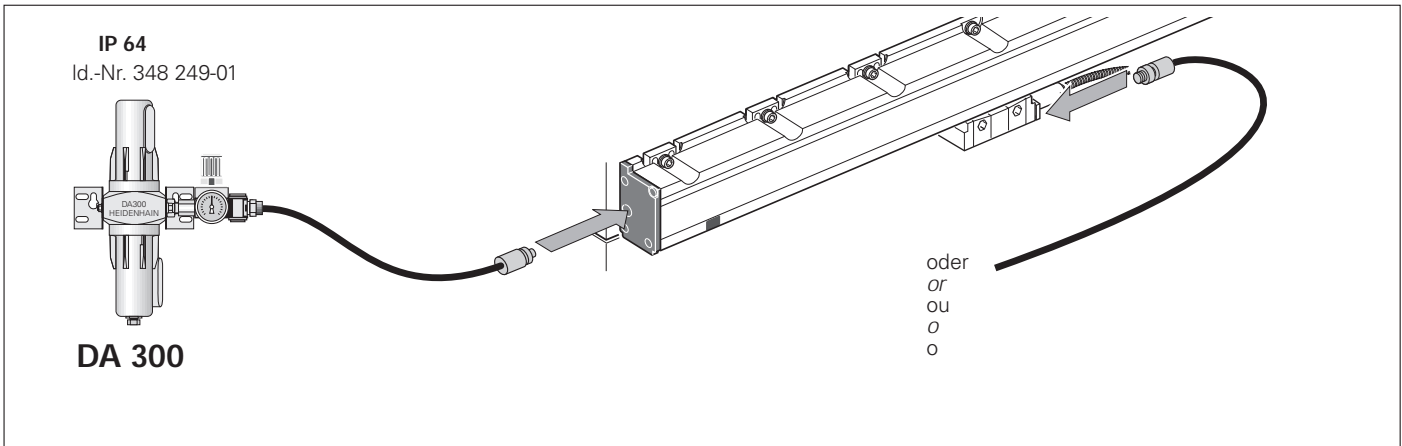
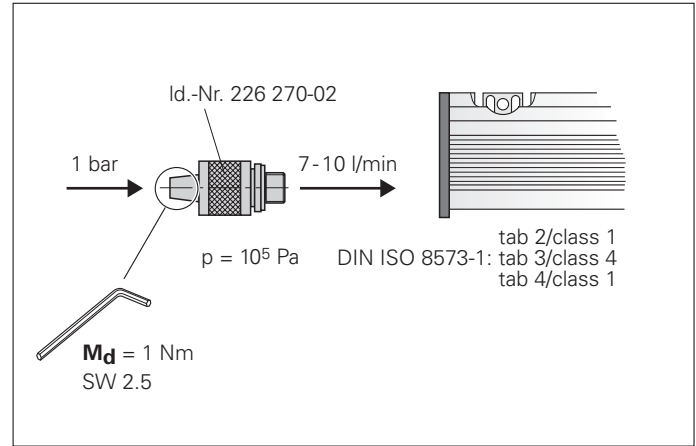
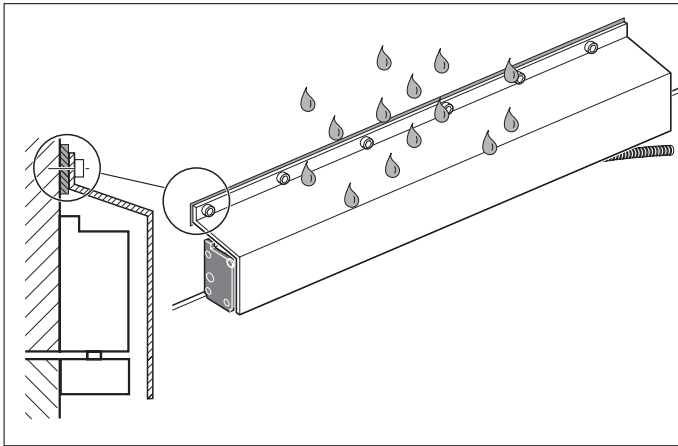
*Attenzione alla sequenza per il fissaggio
Il punto di fissaggio centrale è obbligatorio („punto di fissaggio termico“)*

Tener en cuenta la secuencia de sujeción
Sujeción central necesariamente obligatoria („Punto de fijación térmico“)

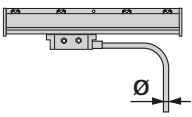
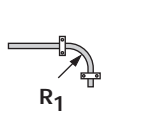
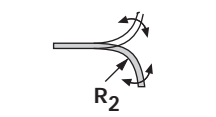



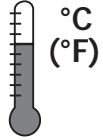
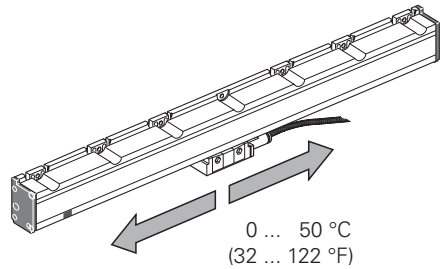



Schutzmaßnahmen · Protective Measures · Mesures préventives · Precauzioni · Medidas de protección

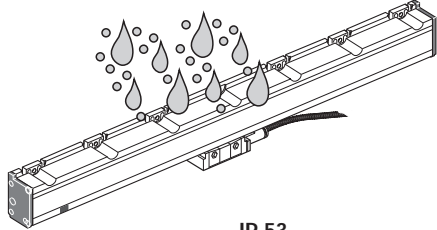


Technische Kennwerte · Specifications · Caractéristiques techniques · Dati tecnici · Datos técnicos

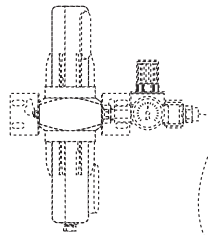
		
Ø 6 mm	$R_1 \geq 20 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
Ø 10 mm	$R_1 \geq 35 \text{ mm}$	$R_2 \geq 75 \text{ mm}$
 Ø 8 mm	$R_1 \geq 40 \text{ mm}$	$R_2 \geq 100 \text{ mm}$

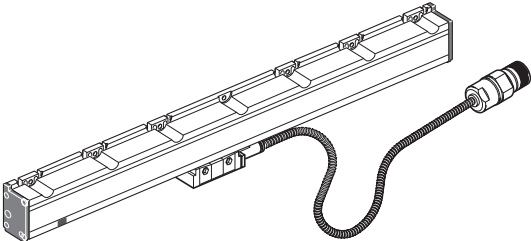
IP 64
EN 60 529







IP 53
EN 60 529




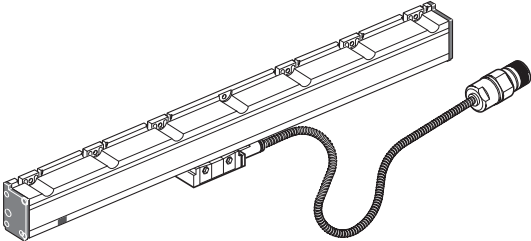
DA 300






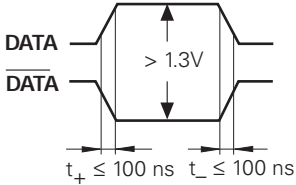
 RS-485
 Request
 Request


$U_P = 5\text{ V} \pm 5\%$ (Remote Sensing)
 (max. 300 mA)

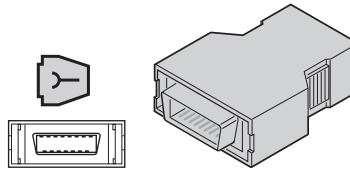
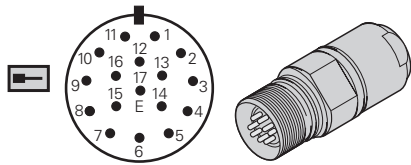
 EN 50 178/4.98; 5.2.9.5
 IEC 364-4-41: 1992; 411(PELV/SELV)
 (siehe, see, voir, vedi, véase
 HEIDENHAIN D 231 929)



 RS-485
 DATA
 DATA

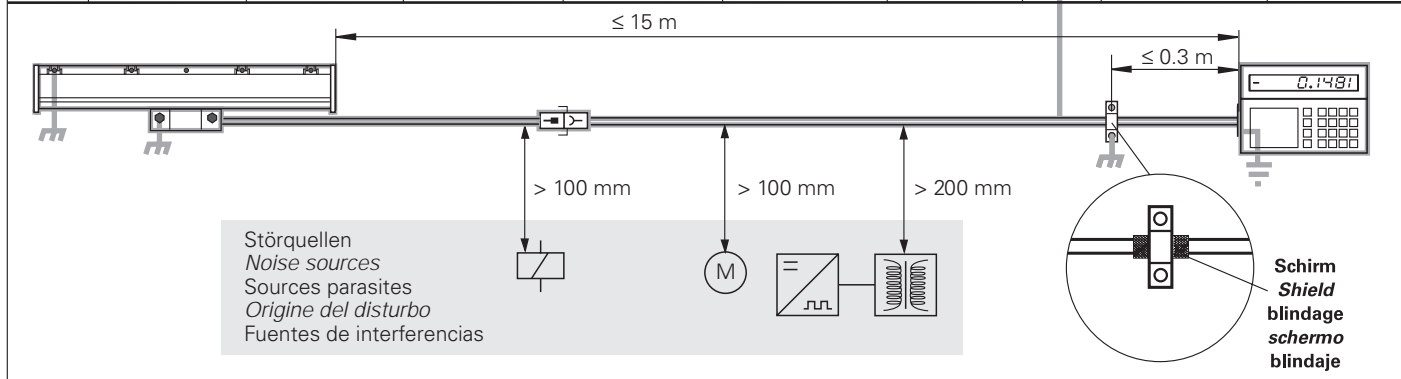
RS-485


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



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

	14	17	8	9	7	1	1)	10	4
	1	2	5	6	9	18/20		12	14/16
	DATA	DATA	Request	Request	5 V U _p	5 V sensor		0 V U _N	0 V 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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NC programming ☎ +49 (8669) 31-3103

e-mail: service.nc-pgm@heidenhain.de

PLC programming ☎ +49 (8669) 31-3102

e-mail: service.plc@heidenhain.de

Lathe controls ☎ +49 (7 11) 952803-0

e-mail: service.hsf@heidenhain.de

www.heidenhain.de

