

User manual
Interroll RollerDrive
BT100

Manufacturer's address
Interroll Engineering GmbH
Hoeferhof 16
D-42929 Wermelskirchen
Tel. +49 2193 23 0
Fax. +49 2190 2022
www.interroll.com

Copyright

The copyright of this manual remains with Interroll Engineering GmbH. The operating instructions contain technical regulations and drawings which may not be reproduced partially or in full, transmitted by any means, utilized without permission for competitive purposes or disclosed to third parties.



Table of contents

Introduction	
Information about the operating instructions	2
Warnings in this manual	2
Further symbols	3
Safety	
General safety instructions	4
Intended use	4
Unintended use	4
Qualified persons	5
Dangers	5
Interfaces	6
Operating modes	6
Product information	
Components	7
Product description	7
RollerDrive label	8
Product identification	8
Technical specifications	9
Performance data	10
Motor cable and plug	10
DriveControl for the RollerDrive BT100	10
Dimensions of the motor shaft	11
Dimensions of bearing seats on the non-driven side	12
Round belt groove locations	13
Conical RollerDrives	13
Transport and storage	
Transport	14
Storage	14
Assembly	
Warning information for assembly	15
Warning notices for the electrical installation	16
RollerDrive Installation	17
Mounting tool	19
Electrical installation	20
Initial startup and operation	
Initial startup	21
Operation	21
Procedure in case of accident or malfunction	21
Maintenance and cleaning	
Warnings concerning maintenance and cleaning	22
Maintenance	22
Cleaning	22
Troubleshooting	
Troubleshooting	23
Abandonment and disposal	
Abandonment	24
Disposal	24
Appendix	
Accessories	25
Installation Declaration	26

Introduction

Information about the operating instructions

Contents

This manual contains important advice, notes and information about the RollerDrive BT100 in all phases of its lifecycle:

- Transport, assembly and start-up
- Safe operation, maintenance and troubleshooting, disposal
- Accessories

Validity of the manual

The manual describes the RollerDrive BT100 as it is delivered by Interroll.

In addition to this manual, special contractual agreements and technical documents apply to special versions.

The manual is part of the product

- For trouble-free, safe operation and warranty claims, read the manual and follow the instructions before handling the RollerDrive BT100.
- Keep the manual near to the RollerDrive BT100.
- Pass the manual on to any subsequent operator or occupant of the RollerDrive BT100.
- Interroll does not accept any liability for malfunctions or defects due to non-observance of this manual.
- If you have any questions after reading the operation manual, feel free to contact our customer service. See the last page for your local contact.

Warnings in this manual

The warnings in this document refer to risks which may arise while using the RollerDrive BT100. For relevant warnings, see "*Safety*", page 4 and the warnings at the beginning of each chapter.

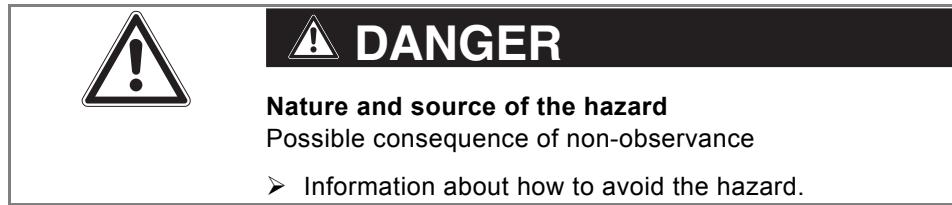
There are three categories of danger. The following signal words are used in the document as required:

- Danger
- Warning
- Caution

Signal word	Meaning
Danger	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
Warning	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
Caution	Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

Introduction

Structure of warnings



Further symbols



This symbol displays safety instructions.



This symbol marks useful and important information.

- This symbol marks the steps that have to be carried out.

Safety

General safety instructions

The RollerDrive BT100 is designed according to the technical state of the art and is reliable in operation, once distributed. However, risks may still arise.

- Risks of physical injury to the user or bystanders.
- Adverse effects of the RollerDrive and other material.



Disregarding the warnings in this manual may lead to serious injury.

- Always read the entire operating and safety instructions before starting to work with the RollerDrive and follow the information contained herein in full.
- Only instructed and qualified persons may work with the RollerDrive.
- Always keep this user manual at hand when working on the RollerDrive so that you can consult it quickly if required.
- Always comply with relevant national safety regulations.
- If you have any questions after reading this user manual, feel free to contact our customer service. See the last page for contact information.

Intended use

The RollerDrive BT100 may only be used for industrial applications and in an industrial environment to convey goods such as parts, cartons, totes or boxes. It must be integrated in a conveyor module or a conveying system. Any other use is not permitted.

Any changes that affect the safety of the product are not allowed.

The RollerDrive BT100 may only be used within the given operation limits.

Unintended use

The RollerDrive BT100 may not be used to transport persons, bulk cargo or small parts.

The RollerDrive is not intended for use under impact or shock loads.

Applications not according to the intended use of the RollerDrive BT100 require approval from Interroll.

Safety

Qualified persons

Qualified persons are persons who read and understand the manual and, taking national regulations into account, can competently execute incidental work.

Only instructed and qualified persons may work with the RollerDrive, taking the following into account:

- the relevant manuals and diagrams,
- the warning and safety instructions in this manual,
- the system specific regulations and requirements,
- national or local regulations and requirements for safety and accident prevention.

Dangers



The following list informs you about the various types of danger or damage that may occur while working with the RollerDrive BT100.

Persons	<ul style="list-style-type: none">➢ Maintenance or repair work must only be executed by authorized and qualified persons in accordance with the applicable regulations.➢ Before turning on the RollerDrive, ensure that no unauthorized persons are near the conveyor.
Electricity	<ul style="list-style-type: none">➢ Only perform installation and maintenance work after you have switched off the power. Ensure that the RollerDrive cannot be turned on accidentally.
Rotating parts	<ul style="list-style-type: none">➢ Keep your fingers and hair away from moving parts.➢ If you have long hair, always wear a hair net.➢ Never wear loose clothing.➢ Never wear jewellery, such as necklaces or bracelets.➢ Wear safety shoes.
Working environment	<ul style="list-style-type: none">➢ Do not use the RollerDrive in explosive atmospheres.➢ Always remove materials and objects which are not required from the work area.➢ Wear safety shoes.➢ Regulate and monitor careful placement of the goods on the conveyor.
Malfunctioning during operation	<ul style="list-style-type: none">➢ Regularly check the RollerDrive for visible damage.➢ In case of fumes, unusual noise or blocked or damaged goods, stop the RollerDrive at once and ensure that the RollerDrive cannot be started accidentally.➢ Contact qualified personnel immediately to find the source the malfunction.➢ Do not step on the RollerDrive during operation.
Maintenance	<ul style="list-style-type: none">➢ As the product is maintenance free, you only need to check regularly for visible damages, unusual noise and that the screws and nuts are still tightened.➢ Do not open the RollerDrive.
Accidental start-up	<ul style="list-style-type: none">➢ Make sure that the RollerDrive cannot start up accidentally, particularly during assembly, maintenance work and in the event of a fault.

Safety

Interfaces

By assembling the RollerDrive in a conveyor module, potential hazards may occur. These are not described in this manual and have to be analyzed during the design, installation, and startup of the conveyor module.

- After assembling the RollerDrive in a conveyor module, check the whole system for any new potential dangerous condition prior to turning on the conveyor.

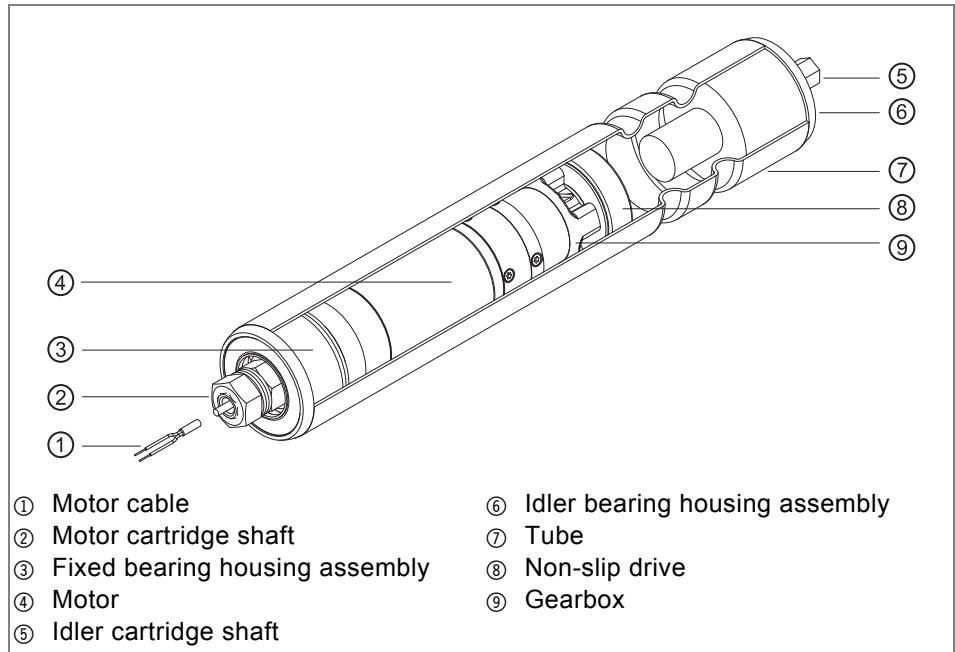
Operating modes

Normal mode	Operation of the installed device at the end customer's as a component in a conveyor in a complete system.
Special mode	All operating modes which are required to guarantee and maintain safe and normal operation.

Special operating mode	Explanation	Comment
Transport/Storage	Loading and unloading, transport and storage	-
Assembly/Initial start-up	Installation at the end customer's and performing the test run	When de-energized
Cleaning	External cleaning	When de-energized
Maintenance/Repairs	Maintenance and inspection tasks	When de-energized
Troubleshooting	Troubleshooting in the event of a fault	When de-energized
Fault elimination	Eliminating the fault	When de-energized
Shut-down	Dismantling from the conveyor	When de-energized
Disposal	Disposal of RollerDrive and packaging	-

Product information

Components



Product description

The RollerDrive BT100 is an electrically driven roller. It replaces external components such as motors and gears, which require frequent maintenance.

The RollerDrive BT100 can be used in dusty and/or moist environments due to its protection class IP54.

The RollerDrive BT100 is powered by a brushed, mechanically commutated 24 VDC motor.

Overload protection device

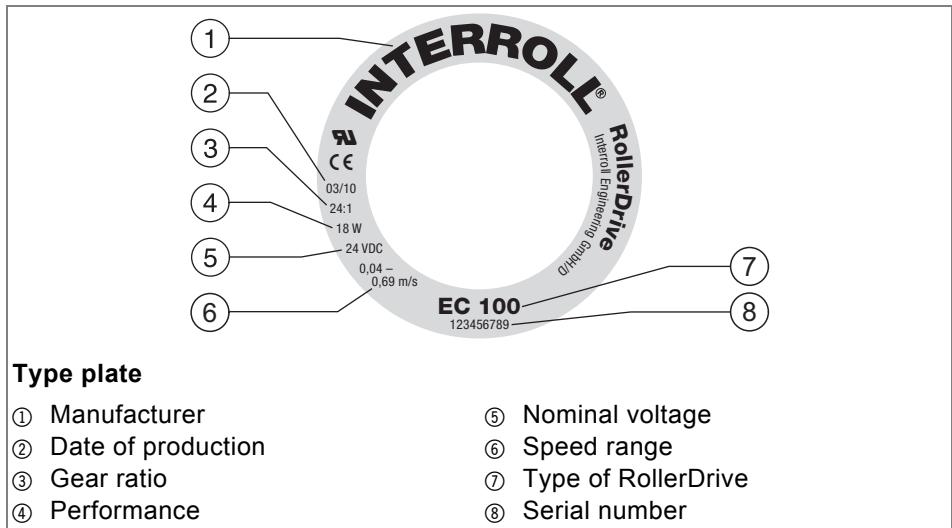
Thermal protection against permanent overload with temperature switch: A temperature switch (bimetal switch) is installed on the brush bridge. This switches off the RollerDrive when the temperature of the motor winding exceeds 110 °C (230 °F). When the motor winding has cooled down again to approx. 90 °C (194 °F), the RollerDrive is switched back on again. Since the switch is not located directly in the winding, it takes a certain time until a temperature increase reaches the switch. If the roller is blocked immediately after the first switching on [at a temperature of 20 °C (68 °F)], there is a risk of the motor winding being burned through. A slow-blow 2A fuse can therefore also be used as an additional, faster fuse safeguard.

If the RollerDrive is over-stressed by increased friction, excessive load, too many cycles etc., it is automatically switched off by the overload protection. After cooling down, the RollerDrive starts up again automatically without a reset. If the overload persists, the motor switches itself off again. If there is no overload, it continues to run normally.

Product information

RollerDrive label

The specifications on the RollerDrive label are used to identify the RollerDrive. This is required to use the RollerDrive as intended.



Type plate

- | | |
|----------------------|-----------------------|
| ① Manufacturer | ⑤ Nominal voltage |
| ② Date of production | ⑥ Speed range |
| ③ Gear ratio | ⑦ Type of RollerDrive |
| ④ Performance | ⑧ Serial number |

Product identification

To identify a RollerDrive, the following information is required. You may enter the values of your RollerDrive in the last column.

Information	Possible value	Own value
RollerDrive label	Motor type Gear ratio Serial number	
Tube diameter	50 mm or 1.9 in	
Tube material	Zinc-plated, galvanized, aluminum or stainless steel (with or without sleeves)	
Roller length	EL/BF	
Roller transmission	Torque transmission	
Idler cartridge shaft	Spring loaded or floating (see "Dimensions of bearing seats on the non-driven side", page 12)	

Product information

Technical specifications

RollerDrive	BT100
Rated voltage	24 VDC
Voltage range	16 to 28 VDC
Idle current	0.6 A
Maximum continuous current	1.3 A
Maximum peak current	4.5 A
Mechanical power	11 W
System efficiency (drive)	36%
Maximum ripple from power supply	5%
Noise emission (mounted)	47 dB(A)
Protection classification	IP54
Ambient temperature in operation	0 °C to 40 °C (32 °F to 104 °F)
Ambient temperature during transport and storage	-20 °C to 75 °C (-4 °F to 167 °F)
Temperature changes	max. 1 °K/min; 3 h; two cycles in acc. with IEC 68-2-14
Air humidity	max. 90% not condensing
Installation height above sea level	max. 1000 m (max. 3300 ft)



Mechanical performance, performance data and performance charts are on basis of 20 °C (68 °F).

Product information

Performance data

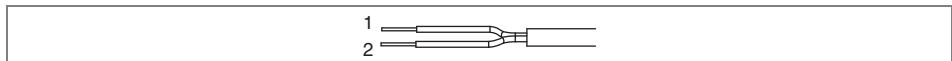
Gear ratio	9:1	9:1 reduced	21:1	30:1	37:1	37:1 reduced
Rated torque	0.45 Nm (4.0 in-lbf)	0.7 Nm (6.2 in-lbf)	0.84 Nm (7.4 in-lbf)	1.28 Nm (11.3 in-lbf)	1.64 Nm (14.5 in-lbf)	2.5 Nm (22.1 in-lbf)
Start-up torque	1.9 Nm (17.2 in-lbf)	2.6 Nm (23.0 in-lbf)	3.0 Nm (26.6 in-lbf)	4.4 Nm (38.4 in-lbf)	6.6 Nm (58.4 in-lbf)	6.4 Nm (56.6 in-lbf)
Rated speed	0.90 m/s (177 fpm)	0.70 m/s (138 fpm)	0.40 m/s (79 fpm)	0.30 m/s (59 fpm)	0.20 m/s (39 fpm)	0.10 m/s (20 fpm)

Motor cable and plug

The RollerDrive BT100 is available in two versions:

- Motor cable
- Motor plug with grommet

Motor cable

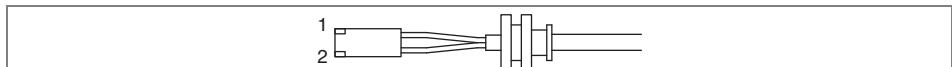


Pin	Color	Lead
1	White	24 VDC
2	Brown	Ground

Motor plug with grommet

The motor plug for the RollerDrive BT100 is "CST-100-2 + Contact", manufactured by AMP.

This version is dedicated to easy Z-Card connection.



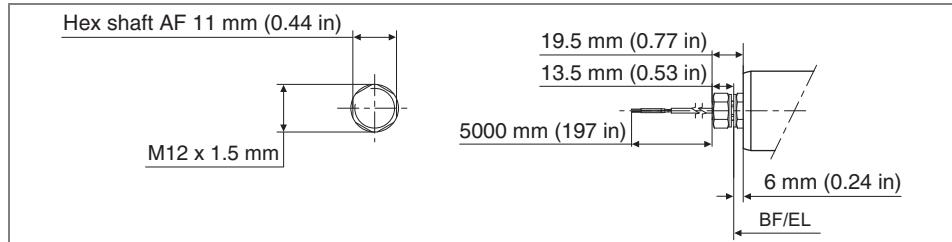
Pin	Color	Lead
1	Red	24 VDC
2	Black	Ground

DriveControl for the RollerDrive BT100

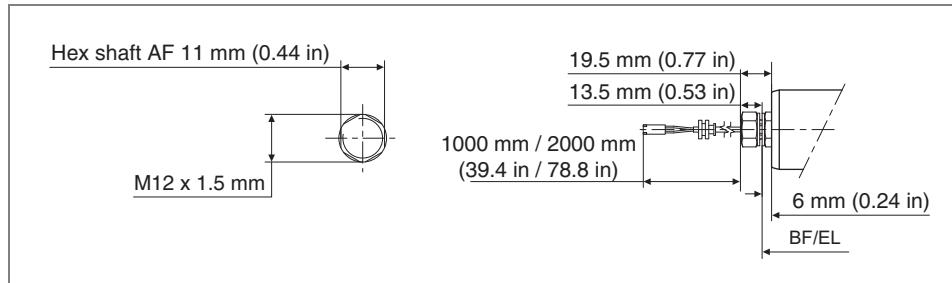
Interroll recommends using the RollerDrive BT100 in conjunction with the Interroll Z-Card BT Easy.

Dimensions of the motor shaft

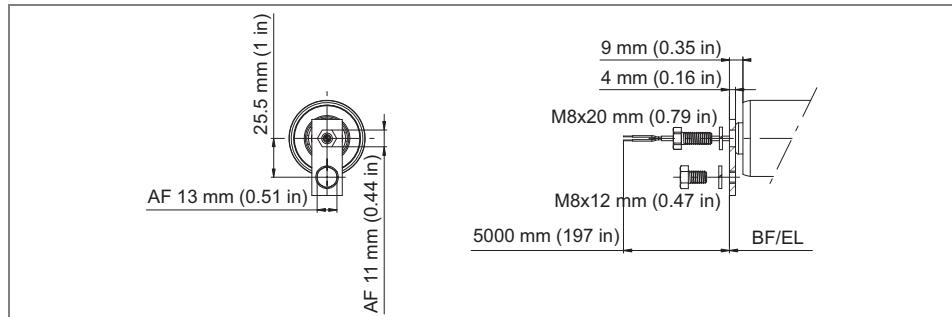
Standard configuration



Standard configuration for Z-Card connection



FTM8 configuration

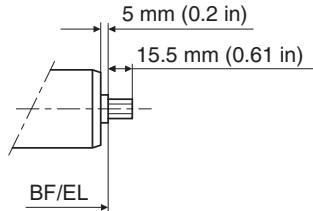


An anti-spin bracket has to be ordered separately.

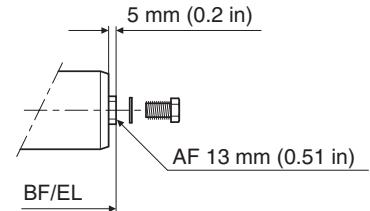
Dimensions of bearing seats on the non-driven side

**11 mm (0.44 in) hex,
Spring-loaded shaft**

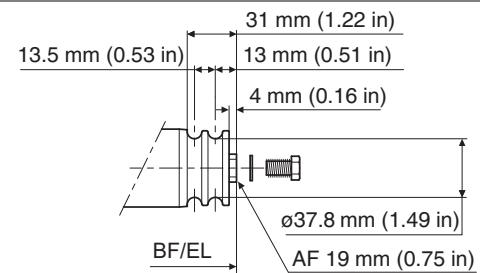
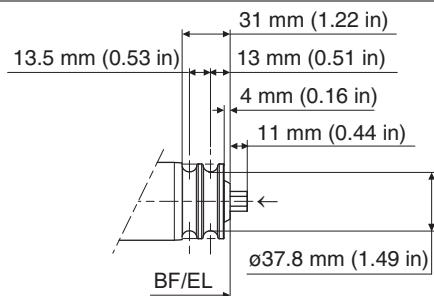
Straight



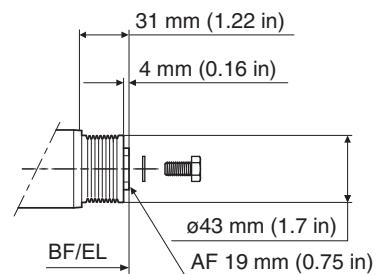
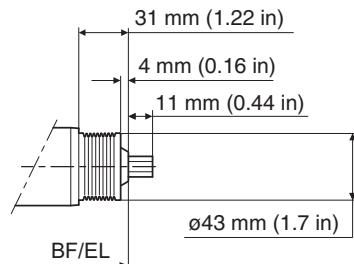
Female threaded M8 (FTM8),



Round belt head

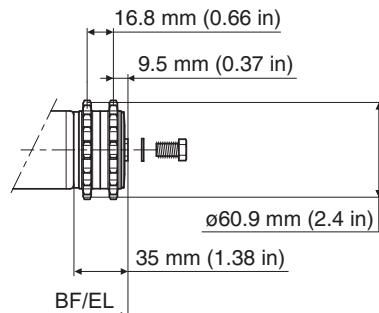


PolyVee head



Sprocket head

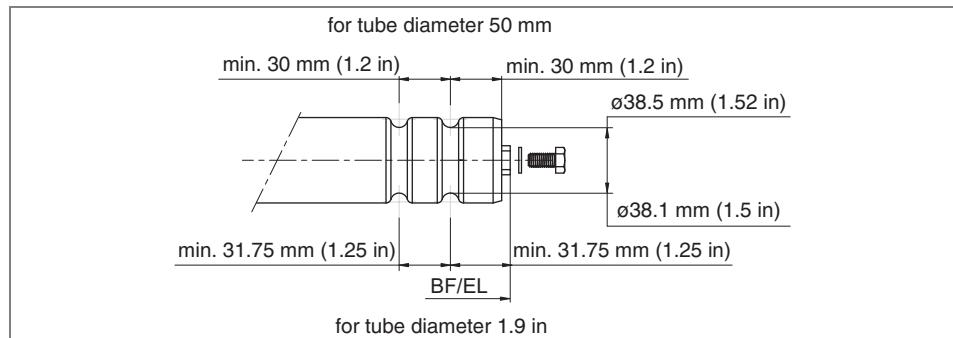
**11 mm (0.44 in) hex shaft; 3/8 in pitch;
20 teeth**



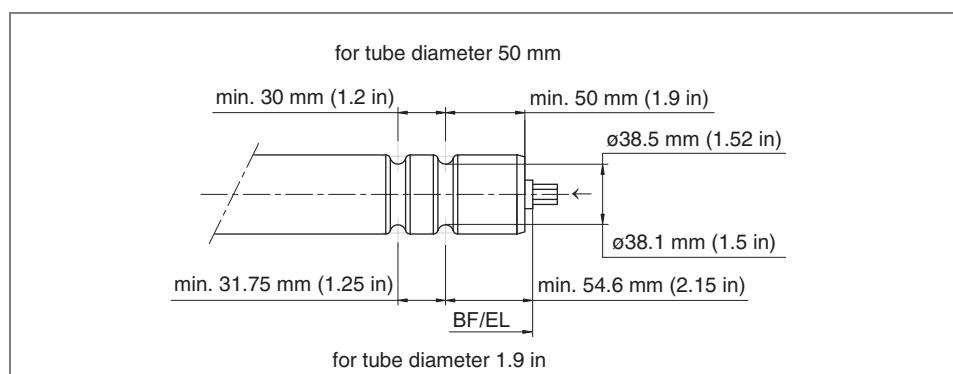
BF/EL = Between Frames / Installation Length

Female thread IGM8, single bearing

Round belt groove locations



Spring-loaded hex, double bearing



Other tube groove locations are possible.

Conical RollerDrives

For conical RollerDrives there must be an 1.8° angle compensation on the motor end to avoid bending forces on the RollerDrive.

Transport and storage

Transport

- Each RollerDrive is covered at its ends with end-protectors.



- Do not stack pallets.
- Check the fixation of the RollerDrives before transport.
- Avoid hard shocks during transport.
- Check each RollerDrive visually for damage after transport.
- In case of damage, take photos of the damaged parts.
- To maintain the warranty, instantly report any damage caused during transport to the transport company and to Interroll.
- Do not transfer the RollerDrives between warm and cold environments as this may cause condensing water.

Storage



- Check each RollerDrive for damage after storage.

Assembly

Warning information for assembly



CAUTION

Rotating parts

Risk of pinched fingers

- Do not insert fingers between the RollerDrive and the round belt, PolyVee belt or roller chain.
- Install a protection device (such as a guard plate) to prevent fingers from getting trapped in the round belt, PolyVee belt or roller chain.
- Install an appropriate warning on the conveyor.

NOTICE

Risk of damage leading to failure or shortened life expectancy of the RollerDrive

- Follow the instructions below.

- Do not drop or mishandle the RollerDrive to avoid internal damage.
- Check each RollerDrive visually for damage before assembly.
- In order to prevent damage to the internal connections, do not hold, carry or secure the RollerDrive by the motor cable.
- Do not force the RollerDrive when inserting it into the conveyor frame. It should fit easily into the holes in the frame.
- Ensure that the proper tightening torque is applied to the RollerDrive hex nut to prevent the shaft spinning in the frame and the wires twisting (see "Securing the RollerDrive in the conveyor frame", page 19).
- Do not twist the motor cable.

Warning notices for the electrical installation

NOTICE

Risk of damage to the motor and/or the wires of the RollerDrive

- Observe the following notices.

- The electrical installation may only be executed by qualified and authorized persons.
- Disconnect the power before installing, removing or rewiring the RollerDrive.
- Do not apply AC current to the RollerDrive or DriveControl device at any time, as this will cause irreparable damage.
- Do not apply too much tension and pressure stress to the motor connector. Bending the cable and forcing the star washer over the cable can cause damage to the insulation of the cable, which could result in failure of the RollerDrive.
- Ensure that the RollerDrive, the DriveControl and the 24 VDC power source are properly earthed through the frame or supporting structure in which the RollerDrive and the DriveControl are installed. Incorrect earthing can result in the buildup of static charge, which can cause the motor or DriveControl to malfunction or fail prematurely.
- Do not bend the motor cable at the motor shaft. Leave a minimum of 12 mm (0.5 in) of excess cable for stress relief. (Maintain a bending radius of at least five times the cable diameter.)
- Do not rotate the RollerDrive manually, as this generates a voltage which could damage the DriveControl.

Assembly

RollerDrive Installation

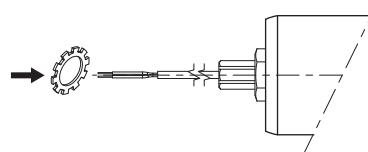
Inserting the motor shaft



- Remove the shipping tube from the RollerDrive.

Use caution when cutting the tie-wrap from the harness. Do not cut the sleeves or cables on the unit.

- Place the first star washer on the motor shaft.

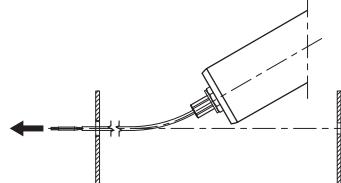


- Pass the motor cable through the 11 mm (0.44 in) hex hole in the conveyor frame and insert the motor shaft into the hex hole.

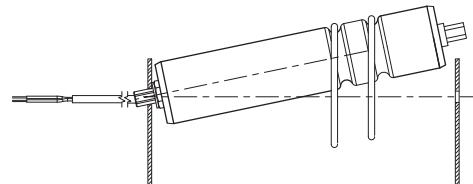
NOTICE

Internal damage to the RollerDrive due to improper handling

- Do not yet fit the retaining nut.
- Do not bend the motor cable at the motor shaft. Leave a minimum of 12 mm (0.5 in) of excess cable for stress relief.



- Fit one or two round belts, size 4 mm, max. 5 mm (3/16 in) or RollerDrive belts (if used) on the non-driven end of the RollerDrive.



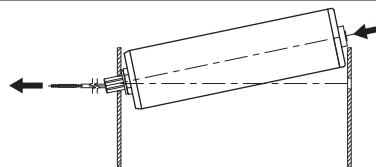
Assembly

Inserting the idler shaft

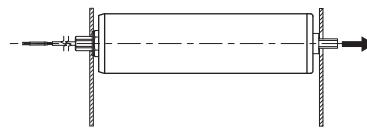
The type of axis dictates how the idler shaft is inserted in the conveyor frame. The spring-loaded shaft is simplest to install.

Inserting the spring-loaded hexagonal shaft

- Push the spring-loaded shaft inwards and align the shaft with the hole in the conveyor frame.

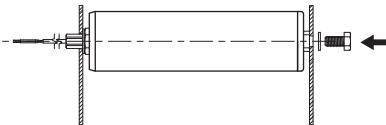


- Release the spring-loaded hexagonal shaft and allow it to pop into the hole in the frame.



Inserting the FTM8 female thread shaft pin

- Place a split washer onto a M8 x 20 bolt.
- Align the RollerDrive with the hole in the conveyor frame and insert the M8 bolt and split washer into the shaft. Use a wrench to prevent the shaft pin from turning (width across flats AF 13 mm or AF 19 mm, depending on the shaft pin type, see "Round belt groove locations", page 13).



- Use a torque wrench to tighten the bolt with 20 Nm (177 in/lbf) until the split washer is completely compressed.

Assembly

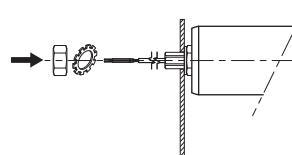
Securing the RollerDrive in the conveyor frame



There is a nut and a retaining washer on the shaft next to the tube. This inner nut has been preassembled and secured in the correct position.

Do not adjust the inner nut and retaining washer.

- Use a flat wrench AF 19 mm to prevent the inner nut from turning.
- Slip a second washer and a hex nut over the motor cable and screw it onto the threaded motor shaft. Ensure that washers are fitted on both sides of the profile.



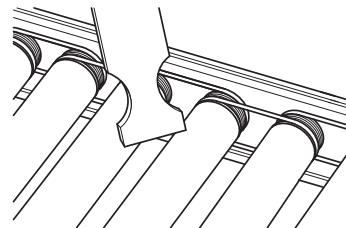
- Use a torque wrench to tighten this outer nut with 35 Nm (308 in/lbf) while ensuring that the inner nut is not rotating.
- In the version with female thread and hollow screw, the tightening torque is reduced to 15Nm (132 in/lbf).



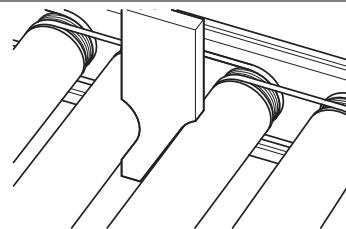
An angular compensation on the motor end is needed to prevent bending forces on conical RollerDrives.

Mounting tool

For mounting the PolyVee belt, you may want to build a mounting tool as shown in the figure below.



- Place the mounting tool between two rollers to reduce the gap between the adjacent rollers.



Dimensions of the mounting tool depend on the roller pitch and the roller tube diameter.

Assembly

Electrical installation

The electrical installation depends on the version of the RollerDrive BT100:

- With plug
- With cable

Connecting with plug



- Connect the motor plug to the DriveControl.

For the recommended DriveControls, see "*DriveControl for the RollerDrive BT100*", page 10.

Connecting with cable

- Connect the pins of the motor cable to your control (for the pin definition, see "*Motor cable and plug*", page 10).

Initial startup and operation

Initial startup

Inspections before initial startup

- Ensure that no objects are in contact with rotating or moving parts.
- Ensure that all bolts are tightened according to the specifications.
- Ensure that no additional dangerous areas arise due to interfaces with other components.
- Ensure that the wiring is in accordance with specifications and legal guidelines.
- Check all protection devices.
- Ensure that no bystanders are in dangerous areas around the conveyor.



For information about startup, see the manual for the DriveControl or your control.

Operation



CAUTION

Rotating parts and accidental start-up Risk of pinched fingers

- Do not insert fingers between the RollerDrive and the round belt, PolyVee belt or roller chain.
- Do not remove the protection device.
- Keep fingers, hair and loose clothing away from the RollerDrive.

NOTICE

Damage to the motor or the control due to induction

- Do not push items along the roller conveyor by hand.
- Do not spin the RollerDrive manually.

Inspections before every startup



- Check the RollerDrive for visible damage.
- Check all protection devices.
- Ensure that no bystanders are in dangerous areas around the conveyor.
- Clearly specify and monitor the way goods are placed on the conveyor.
- Make sure that the RollerDrive is not blocked.

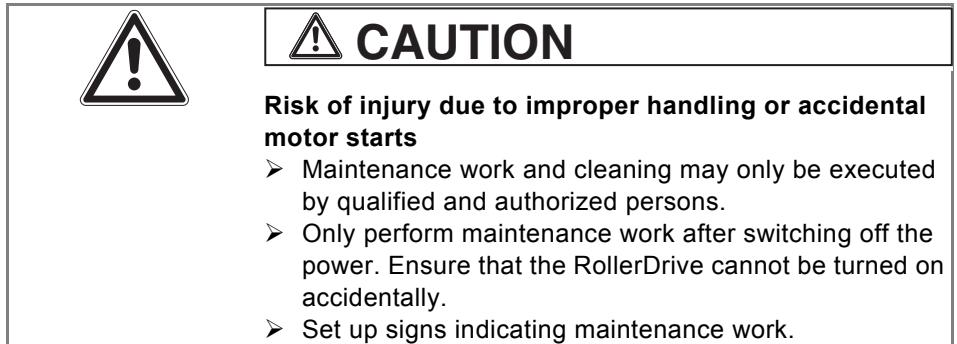
Ambient conditions during operation see "Technical specifications", page 9

Procedure in case of accident or malfunction

- Stop the conveyor at once and ensure that it cannot be started accidentally.
- In case of an accident: Provide first aid and call for emergency assistance.
- Inform responsible persons.
- Have the malfunction repaired by qualified persons.
- Start the conveyor only after this has been approved by qualified persons.

Maintenance and cleaning

Warnings concerning maintenance and cleaning



Maintenance

Checking the RollerDrive

If the RollerDrive is not secured as specified in the installation instructions (see "Assembly", page 15), it may rotate in the hole in the conveyor frame. This causes the RollerDrive to also rotate, and it can be damaged.

- Monthly check the RollerDrive for visible damage.
- Annually ensure that the roller shaft is secured properly in the conveyor frame.

Replacing a RollerDrive

If a RollerDrive is damaged or broken down, must be replaced.

- Install a new RollerDrive (see "Abandonment", page 24 and see "RollerDrive Installation", page 17).

Cleaning

Increased surface friction reduces the roller speed since more power is used to overcome the resistance. Therefore, in a dirty environment, periodic cleaning will ensure good contact with the goods and reduce friction.

- Remove foreign materials and dirt with a simple cleaning brush (not a wire brush) by brushing gently.
- Remove smaller amounts of dirt with a damp cloth. When doing this, make sure that wetting of the RollerDrive is no more than slightly damp.
- Do not use sharp-edged tools to clean the roller.

Troubleshooting

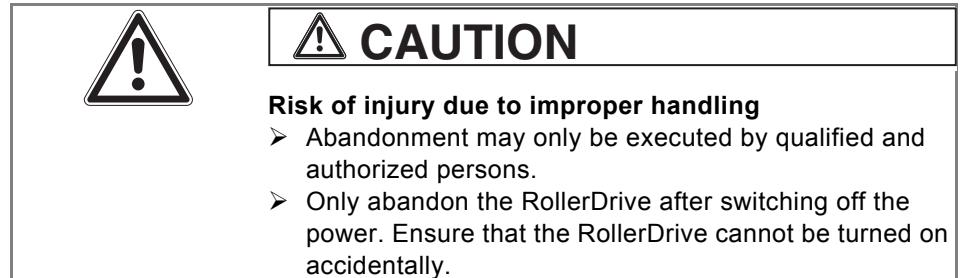
Troubleshooting

	 CAUTION
Risk of injuries due to incorrect handling	
<ul style="list-style-type: none">➤ Troubleshooting may only be done by qualified and authorized persons.➤ Only perform troubleshooting after switching off the power.➤ Ensure that the RollerDrive cannot be turned on accidentally.	

Symptom	Possible cause	Help
RollerDrive is not operating	No power supply	Check 24 VDC power supply.
	Plugs not connected properly	Check cable connection.
RollerDrive is rotating in the wrong direction.	Incorrect polarity	Swap over the polarity of the connection.
Abnormal noise coming out of the RollerDrive	Motor or gearbox is damaged	Replace the RollerDrive.
Interrupted RollerDrive operation	Damaged motor cable	Check motor cable for damage. If the motor cable is damaged, replace the RollerDrive.

Abandonment and disposal

Abandonment



- Disconnect the motor cable from the control.
- Unscrew the outer nut at the threaded motor shaft.
- If the RollerDrive has a spring-loaded idler shaft, push the idler shaft inwards.
- If the RollerDrive has a FTM8 idler shaft, unscrew the bolt at the idler shaft.
- Extract the RollerDrive from the conveyor frame.

Disposal

The operator is responsible for the proper disposal of the RollerDrive. In doing so, industry-specific and local provisions must be observed for the disposal of the RollerDrive and its packaging.

Appendix

Accessories

Belt

Part	Properties
Round belt	<ul style="list-style-type: none">Belts of 4 mm (0.16 in) and max. 5 mm (0.20 in) diameter
PolyVee belt	<ul style="list-style-type: none">Drive head with 9 grooves for flexible V-ribbed beltsPJ form, ISO 9981, DIN 7867pitch 2.34 mm (2.29 mm)Belts with a max. of 4 ribs

DriveControl

Part	Part #
Z-Card BT Easy	89Z1

Torque arm

Part	Part #
Torque arm	8862

Appendix

Installation Declaration

in accordance with the EC Machinery Directive 2006/42/EC, Appendix II B

The manufacturer:

Interroll Engineering GmbH
Hoeferhof 16
D - 42929 Wermelskirchen
Germany

hereby declares with sole responsibility that the product range

- RollerDrive BT100

is not a ready-to-use machine as defined by the EC Machinery Directive and, therefore, does not fully comply with the requirements of this directive. Initial start-up of these conveyor modules is not permitted until conformity of the entire machine/system in which they are installed has been declared via the EC Machinery Directive.

The health and safety requirements as stated in Appendix I have been applied. The special technical documents as stated in Appendix VII B have been compiled and will be sent to the responsible authority if necessary.

Person authorized to compile the technical documents: Georg Malina,
Interroll Engineering GmbH, Hoeferhof 16, D - 42929 Wermelskirchen

Applied EC directives:

- Machinery Directive 98/37/EC with the amendment 98/79/EC
- EMC Directive 2004/108/EC
- RoHS Directive 2002/95/EC

Applied harmonized standards:

- EN ISO 12100 Parts 1 and 2 "Safety of machinery - Basic concepts, general principles for design" - Part 1: "Basic terminology, methodology" - Part 2: "Technical principles"

Wermelskirchen, 31st March 2010

Armin Lindholm

(Managing Director)

(This declaration can be obtained at www.interroll.com, if needed.)





Europe

Austria
Tel +49 2193 23 187
at.sales@interroll.com

Belgium
Tel. +49 2193 23 259
be.sales@interroll.com

Czech Republic
Interroll CZ, s.r.o.
Na Řádku 7/312
69002 Bréclav
Czech Republic
Tel +420 519 330 210
cz.sales@interroll.com

Denmark
Interroll Nordic A/S
Hammerholmen 2-6
2650 Hvidovre
Denmark
Tel +45 36 88 33 33
dk.sales@interroll.com

Finland
Interroll Nordic A/S
Martinkyläntie 53
01720 Vantaa
Finland
Tel +358 9 54 94 94 00
fi.sales@interroll.com

France
Interroll SAS
Z.I. De Kerannou-BP34
29250 Saint-Pol-de-Leon
France
Tel +33 2 98 24 4100
fr.sales@interroll.com

Germany
Interroll Fördertechnik GmbH
Höferhof 16
42929 Wermelskirchen
Germany
Tel +49 2193 23 00
de.sales@interroll.com

Hungary
Lörincz Kft.
Kastély U.27
Pf. 57
2045 Törökba línt
Hungary
Tel +36 23 337 891
hu.sales@interroll.com

Iceland
IBH ehf
Duguguvogur 10
104 Reykjavík
Iceland
Tel +354 562 6858
ingi@ibh.ehf.is

Italy
Rulli Rulmeca S.P.A.
Via Arturo Toscanini 1
24011 Almé (Bg)
Italy
Tel +39 035 43 00 111
vendite@rulmeca.it

Luxembourg
Tel +49 2193 23 259
be.sales@interroll.com

Netherlands
Tel +49 2193 23 151
nl.sales@interroll.com

Norway
Interroll A/S
Kobbervikdalen 65
3036 Drammen
Norway
Tel +47 32 88 26 00
no.sales@interroll.com

Poland
Interroll Polska Sp. z o.o.
ul. Plochocińska 85
03-044 Warszawa
Poland
Tel +48 22 741 741 0
pl.sales@interroll.com

Portugal
Rulmeca de Portugal, LDA
Parque Industrial do Tortosendo
Edifício Parkurbis, Loja 7
Apartado 113
6200-865 Tortosendo
Portugal
Tel +351 275 33 07 80
rulmeca@rulmeca-interroll.pt

Romania
Krako International SRL
Str. Sfanta Maria 1-5
Bl. 10A4
Sc 1 Apt 4 Sector 1
001494 Bucuresti
Romania
Tel +40 21 260 2050
ro.sales@interroll.com

Slovenia
3-TEC, prehrambena-tehnologija-hlajenje
Dravska ulica 7
1000 Ljubljana
Slovenija
Tel +386 1 56 56 370
si.sales@interroll.com

Spain
Interroll España S.A.
Parc Tecnològic del Vallès
C/Dels Argenters, 5 Edificio 1
Bp y Cp
08290 Cerdanyola del Vallès
Barcelona
Spain
Tel +34 90 211 0860
es.sales@interroll.com

Sweden
Interroll Nordic A/S
Karlsrovägen 64
302 41 Halmstad
Sweden
Tel +46 35 227 077
se.sales@interroll.com

Switzerland
Tel. +49 2193 23 190
ch.sales@interroll.com

United Kingdom
Interroll Ltd.
Brunel Road
Corby, Northants NN17 4UX
United Kingdom
Tel +44 1536 200 322
gb.sales@interroll.com

Africa

South Africa
Interroll South Africa (Pty) Ltd
Box 327
Isando 1600
Gauteng
South Africa
Tel +27 11 281 99 00
za.sales@interroll.com

North and South America

Canada
Interroll Checkstand
8900 Keele Street
Unit 2 & 3
Concord, Ontario L4K 2N2
Canada
Tel +1 905 660 4426
ca.sales@interroll.com

Interroll Canada Ltd.
1201 Gorham Street
Newmarket Ontario L3Y 8Y2
Canada
Tel +1 905 727 33 99
ca.sales@interroll.com

USA
Interroll Corporation
3000 Corporate Drive
Wilmington, N.C. 28405
USA
Tel +1 910 799 1100
us.sales@interroll.com

Interroll Automation LLC
5035 Keystone Boulevard
Jeffersonville, IN 47130
USA
Tel +1 812 284 1000
us.sales@interroll.com

Interroll Dynamic Storage, Inc.
232 Duncan Circle
Hiram, GA 30141
USA
Tel +1 770 943 15 41
ca.sales@interroll.com

Brazil
Interroll Logística
Elementos para Sistemas
Transportadores Ltda
Rua Dom João VI
555 - Parque Industrial SA
Pindamonhangaba-SP
CEP 12412-805
Brazil
Tel +55 (0)12 3648 8021
br.sales@interroll.com

Asia

China
Interroll (Suzhou) Co. Ltd.
Block B & C
Ecological Science Hub
No. 1 Ke Zhi Road
Suzhou Industrial Park
Jiangsu Province
China
Postal Code: 215021
Tel +86 512 62560383
cn.sales@interroll.com

India
Interroll Drives and Rollers
India Pvt. Ltd.
No. 276, 4th main, 4th phase
Peenya Industrial Area
Bangalore-560058
India
Tel +91 080 41272666
in.sales@interroll.com

Israel
Comtrans-Tech Ltd.
P.O.B. 17433
Tel-Aviv 61174
Israel
Tel +972 54 4272747
il.sales@interroll.com

Japan

Interroll Japan Co. Ltd.
302-1 Shimokuzawa
Midori-ku
Sagamihara-shi
Kanagawa 252-0134
Japan
Tel +81 42 764 2677
jp.sales@interroll.com

Korea
Interroll (Korea) Co. Ltd.
Rm 301
Dongsan Bldg. 333-60
Shindang-Dong
100-826 Choong Ku, Seoul
Tel +82 2 2231 19 00
kr.sales@interroll.com

Singapore
Interroll (Asia) Pte. Ltd.
386 Jalan Ahmad Ibrahim Jurong
629156 Singapore
Republic of Singapore
Tel +65 6266 6322
sg.sales@interroll.com

Sri Lanka
Colombo Machinery & Equipment Ltd.
No: 102, Fife Road
Colombo 05
Sri Lanka
Tel +94 11 250 0078 / 79
lk.sales@interroll.com

Taiwan
First Auto-Transfer Equipment Co. Ltd.
8F-3, No: 65, Song De Road
Hsin Yi District
Taipei 11076
Taiwan
Tel +886 2 27 59 88 69
tw.sales@interroll.com

Thailand
Interroll (Thailand) Co. Ltd.
700/685, Moo 1
Amata Nakorn
Panthong, Chonburi
20160
Thailand
Tel +66 3 844 7448
th.sales@interroll.com

Australia and New Zealand

Australia
Interroll Australia Pty. Ltd.
70 Keon Parade
Thomastown
Victoria 3074
Australia
Tel +61 3 94 60 21 55
au.sales@interroll.com

New Zealand
Automation Equipment (NZ) Ltd.
26 Tawn Place,
Pukete, Hamilton
New Zealand
Tel +64 (7) 849 0281
nz.sales@interroll.com

Headquarter
Interroll (Schweiz AG)
+ 41 91 850 25 25
info@interroll.com

www.interroll.com