

STOP ROLLER ZM5450

ø 50 mm, cylindrical, IP54, for 0 to 40 °C



24V

48V

20W

35W

50W

AI

BI

Application area

Predominantly on inclined conveyor lines, it is important that drives, such as the RollerDrive EC5000, hold conveying goods in position while conveying rests. If the system voltage fails, the drives are no longer able to do so. The Stop Roller can be used to avoid conveying goods from moving downwards. It holds conveying goods that stopped in position and stops conveying goods that are still moving as soon as the 24-V or 48-V system voltage fails. Using PolyVee belts, the Stop Roller can be connected with conveyor rollers and RollerDrive. A conveying zone designed in such a way offers optimal protection against unwanted movements of conveying goods on declined roller lines.

Compact design

The permanent magnet brake integrated in the tube allows a very compact design of the conveyor system.

No power loss of the drive

Some brakes are installed together with drives. These combo products, which are generally designed as magnetic brake, are actively kept open at given system voltage. This leads to additional waste heat which significantly reduces the performance of the drive. Stop Roller is a roller without drive.

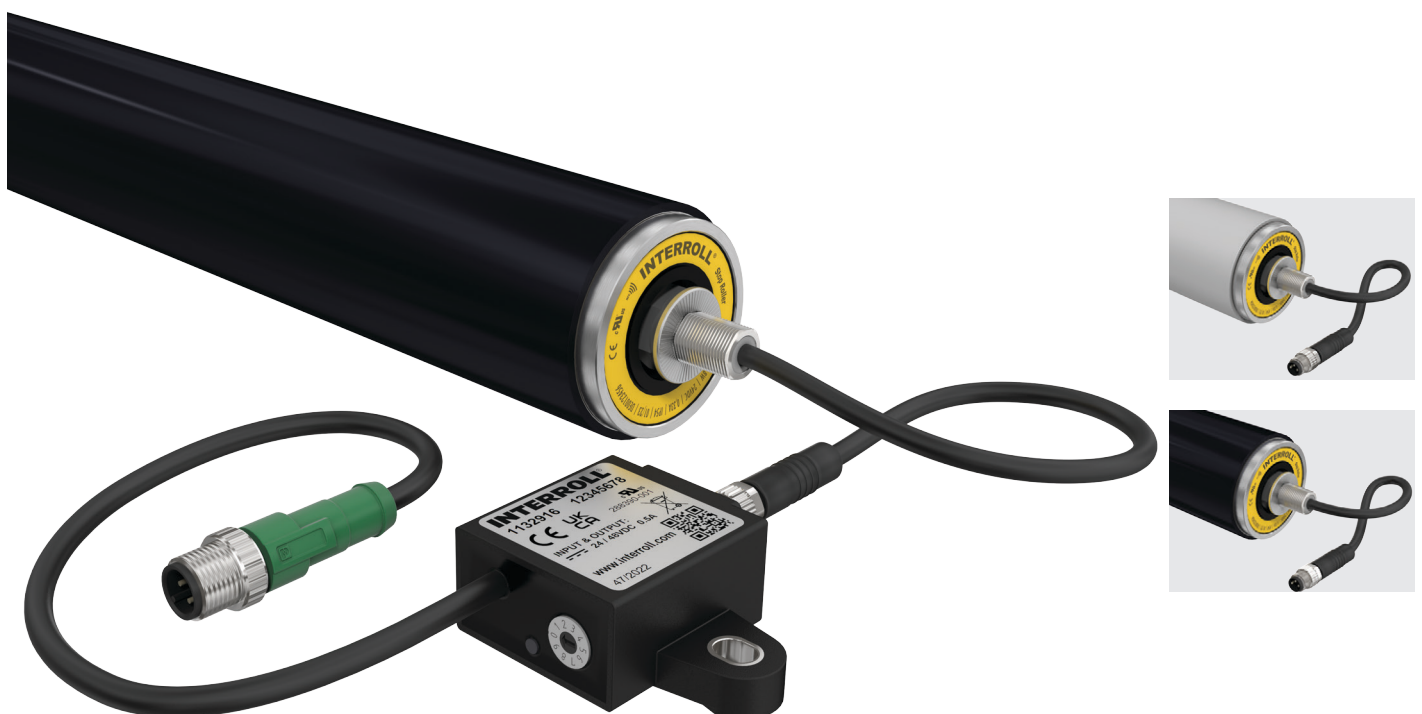
Ideal integration of drives with different initialization time

If the system voltage is switched on, drives such as the RollerDrive EC5000 can hold conveying goods in position on inclined conveyor lines after an initialization time. Various delay times can be set with the adapter of the Stop Roller. This enables the Stop Roller to adjust to different initialization times of drives. It is therefore avoided that the Stop Roller no longer brakes and the drive does not brake yet and the conveying goods move downwards unintentionally.

Assembly-friendly

From the outside, the Stop Roller is very similar to a RollerDrive and the mounting is identical. On the cable side, the hexagon shaft is fastened either with a knurled nut or with interlock (see page 97). Two options are available on the opposite side. A hexagon spring shaft or a female thread fastening socket with an M8 screw.

The Stop Roller is connected to the adapter with an M8 connector and the adapter is connected to the voltage supply of the system with an M12 connector.



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Technical data

Stop Roller

System voltage	24 V	48 V
Zero motion hold	2.5 Nm	
Length of connecting cable	500 mm	
Plug connector design	M8, screw-type design, 3-pin	
Min. reference length	200 mm	
Max. reference length	1500 mm	
Ambient temperature in operation	0 to 40 °C	
Max. load capacity	350 N	
Fastening shaft on the cable side	Stainless steel, 11 mm HEX, thread M12 x 1	
Anti-static version	Yes (< 10 ⁶ Ω)	
Tube wall thickness	ø 50 mm: 1.5 mm ø 51 mm: 2 mm	
Tube material	Zinc-plated steel, stainless steel	
Tube sleeving	PVC sleeve 2 mm PU sleeve 2 mm Lagging 2 mm (stainless steel tube material only)	

Dynamic stops

If the system voltage fails while a conveying good is in motion, a drive located in the system will not be able to stop it. A Stop Roller integrated in the system will reduce the speed of the conveying good and then hold the conveying good in position. This is referred to as a dynamic stop process. Every dynamic stop results in minor wear of the brake discs that are being used in the Stop Roller. It is primarily dependent on speed and weight of the conveying good and slope of the conveyor line. In systems with high speed (approx. 2 m/s) or heavy weight (approx. 50 kg) or high incline/decline angle (approx. 15°), the Stop Roller can perform roughly several hundred dynamic stops. In applications with low speed (approx. 0.4 m/s), light weight (approx. 10 kg) and/or low incline/decline angle (approx. 8°), several thousand dynamic stops can be expected.

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Adapter

The Stop Roller is always supplied with adapter. The adapter serves to eliminate voltage peaks when switching off the Stop Roller. Delay times are set using a rotary coding switch. For this purpose, the time between switching in the system voltage and switching off the stop function of the Stop Roller is delayed. This allows for a well-balanced operation of the Stop Roller and drives with different initialization times.

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System voltage, not stopped	22 – 51.5 VDC
System voltage, stopped	0 – 19 VDC
Rated current incl. 24 V Stop Roller	0.3 A
Rated current incl. 48 V Stop Roller	0.2 A
Length of connecting cable	2000 mm
Plug connector design	M12, screw connection, 4-pin
Protection rate	IP54
Ambient temperature in operation	0 to 40 °C

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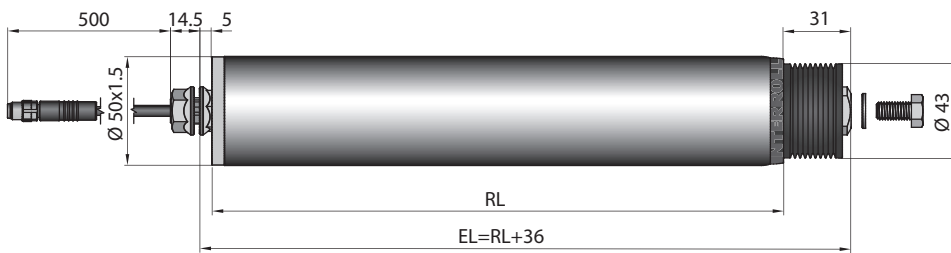
Dimensions

A sufficient axial play is already taken into account, so that the actual clear width between side profiles is required.

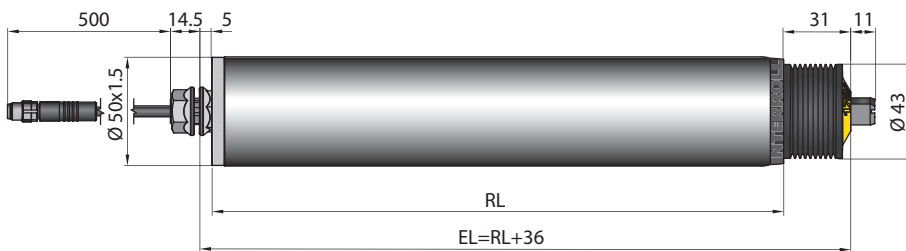
A hexagon hole measuring at least 11.2 mm is recommended for fastening on the cable side. If the Stop Roller is inserted obliquely, the fastening hole must be designed larger accordingly. The fastening hole of the Stop Roller on the opposite side depends on its version. When fastening using the hexagon spring shaft, a hexagon hole measuring at least 11.2 mm should also be planned. In case of a screw fastening, a drilled hole with a diameter of 8.5 mm should be planned. Ordering dimensions for tube sleeves starting at page 99

- RL = Reference length/ordering length
- EL = Installation length, clear width between side profiles

Stop Roller with M8 female thread



Stop Roller with hexagon spring shaft



Adapter

