



ZONECONTROL

The accumulation conveyor logic for RollerDrive EC310

Product Description

- Properties** The ZoneControl is the single zone control for the RollerDrive EC310. The ZoneControl can be used to create stand-alone, zero pressure accumulation conveyors which require no higher-order control. Additional functions and communication to upstream and downstream conveyors can be provided via digital inputs and outputs (I/O's). No DriveControls are needed to set up a conveyor as the ZoneControls include their functions.
- Design information** The I/O's and voltage supply is provided by a simple switching wire.
Communications cable: Conventional Cat-5 cable (IT ethernet cable).
- Configuration** The configuration of the ZoneControl can simply be handled by DIP switches. Two versions of conveyor logic are available: individual or block pull-off.
- Functions**
 - Logic for zero pressure accumulation conveying (incl. initialisation)
 - Communication with upstream and downstream zones via peer-to-peer connection
 - Speed adjustment
 - DIP switch (per accumulation zone)
 - External analogue signal (for the entire conveyor system)
 - Adjustment of the RollerDrive's direction of rotation
 - DIP switch
 - External digital signal
 - LED status indicator
 - Zone sensor connection
 - Start sensor connection
 - NPN or PNP switching logic
 - Switching a second RollerDrive, status reading, starting and stopping of individual zones via I/O's
 - Empty running, error signalling of all connected zones via I/O's
 - All signals relate to mass of voltage supply

Technical Data

Electrical data	
Rated voltage	24 V DC
Temporarily permissible voltage range	18 to 26 V DC
Permissible voltage undulation	3 %, recommended: < 1 %
Rated current	2.0 A
Max. start-up current	5.0 A
Fuse	present, non-replaceable
Protection rate	IP20
Ambient conditions	
Ambient temperature in operation	0 to +40 °C
Ambient temperature during transport and storage	-20 to +75 °C
Max. temperature change	1 % in 3 h; 2 cycles in compliance with IEC 60068-2-14
Max. air humidity	90 %, non-condensing
Cable cross-sections	
Power Supply	Fine-wired, 1.5 mm ² (AWG 16)
Inputs / Outputs (I/O)	Fine-wired, 0.08 to 0.5 mm ² (AWG 28 to 20)

The effective current in the application depends on the conveyor weight, conveyor speed and number of cycles.

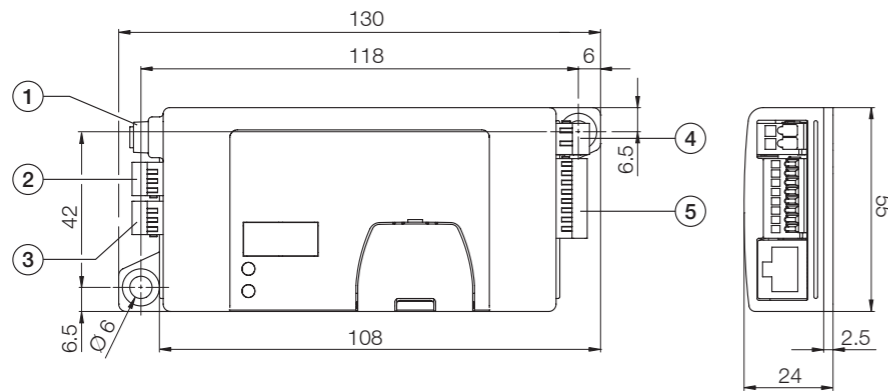
Reference number: 89RC



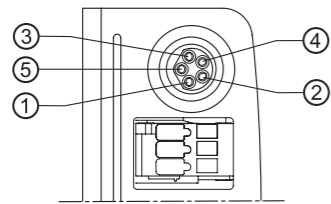
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Dimensions and Connections

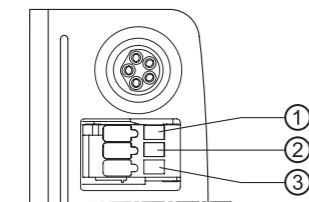


Pos. 1 RollerDrive Connection



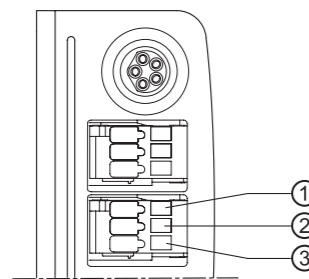
- | | |
|---|-----------------------|
| 1 | +24 V DC |
| 2 | Direction of rotation |
| 3 | Earth |
| 4 | Fault input |
| 5 | Analogue speed output |

Pos. 2 Start sensor



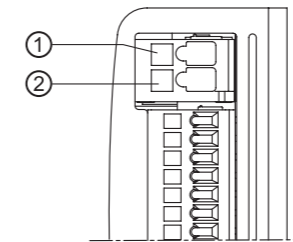
- | | |
|---|---------------------|
| 1 | +24 V DC |
| 2 | Sensor signal input |
| 3 | Earth |

Pos. 3 Zone sensor



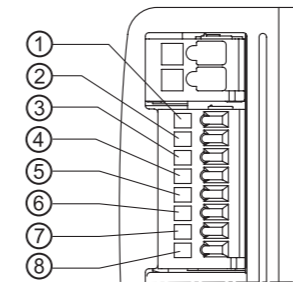
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|---|---------------------|
| 1 | +24 V DC |
| 2 | Sensor signal input |
| 3 | Earth |

Pos. 4 Power



- | | |
|---|----------|
| 1 | Earth |
| 2 | +24 V DC |

Pos. 5 Inputs/Outputs



- | | |
|---|------------------------------------------|
| 1 | Start signal for 2nd RollerDrive in zone |
| 2 | Free travel signal |
| 3 | Speed (central) |
| 4 | Direction of rotation (central) |
| 5 | Fault output |
| 6 | Zone status |
| 7 | Zone start |
| 8 | Zone stop |

Construction

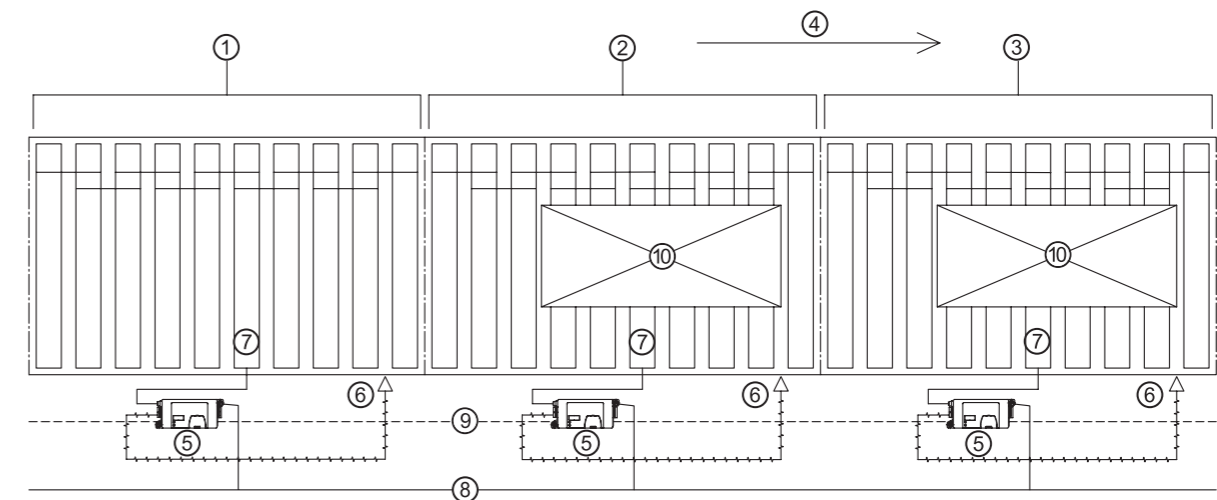


Fig.: Wiring diagram for ZoneControl for 3 conveyor zones

- | | | | |
|---|--------------------|----|-------------------------|
| 1 | Zone 1 | 6 | Zone sensor |
| 2 | Zone 2 | 7 | RollerDrive |
| 3 | Zone 3 | 8 | +24 V DC voltage supply |
| 4 | Conveyor direction | 9 | Peer-to-peer connection |
| 5 | ZoneControl | 10 | Material to be conveyed |