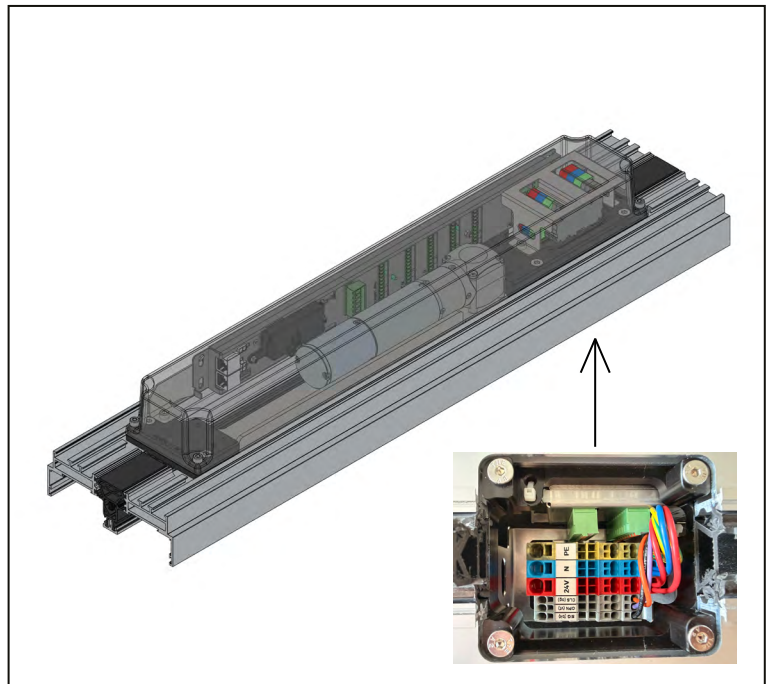


Sky-Frame

Installation instructions Systems with electric drive PD-200 Information for Electricians

Information for Electricians

Connection of systems with electric drive
"Power-Drive 200".

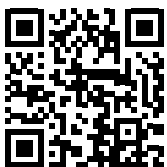


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Languages: German, English

Contact times: Monday - Friday
8:00 a.m. - 12:00 p.m., 1:00 p.m. - 4:00 p.m. (CET)

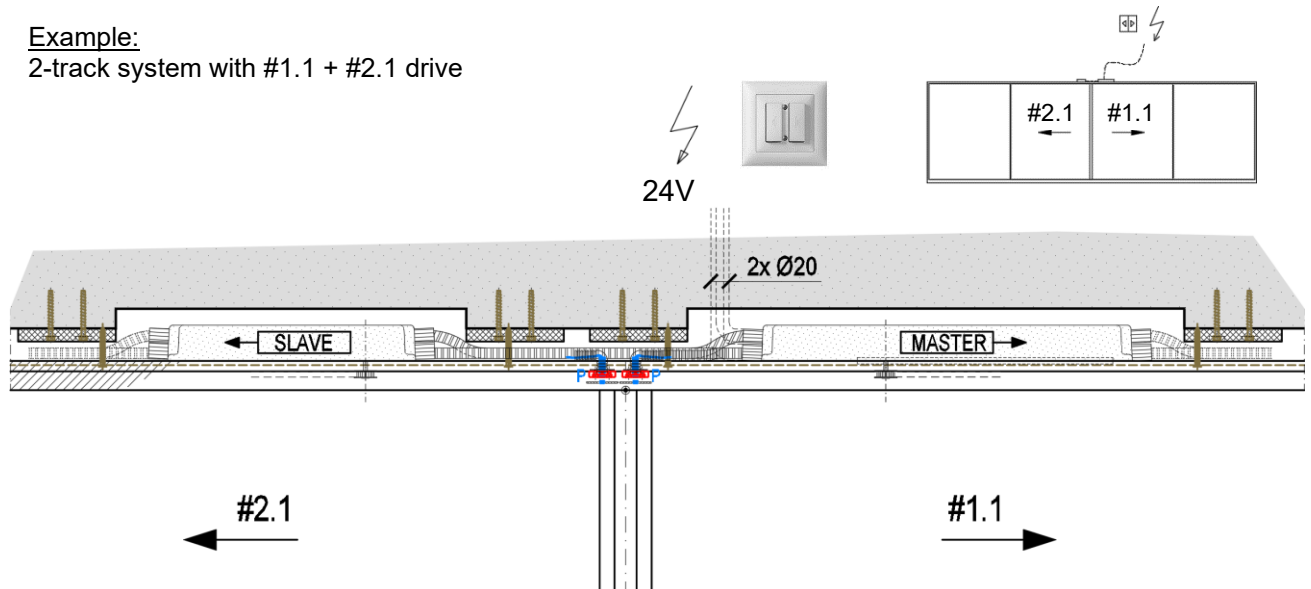
9. Electrical connection

9.1 Connecting facility at drive hood

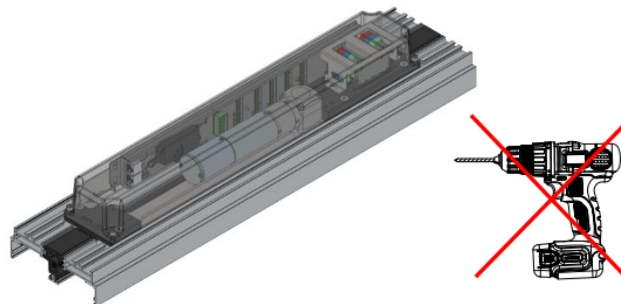
The customer provided power supply and button connection only takes place on the “**MASTER**” drive.

Example:

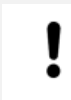
2-track system with #1.1 + #2.1 drive



The customer-provided empty tubes with an outer diameter of $d = 20\text{mm}$ (M20) are plugged directly into the prepared connection sockets on the drive hood and secured.



CAUTION! (Risk of fault)



No other holes must be drilled into the drive housing!

This is particularly important during subsequent installation of shading / shutters / blinds!

NOTE!



All other drives are already correctly addressed and interconnected.

Cable connections / openings that are not needed must be tightly sealed against moisture and dirt.

9.2 Control button

The following type of control button (without a self-retaining function) must be organised on site:

2x normally open (NO), locked

The control voltage (24 V DC) for the button is provided by the drive.
The connection must be made without potential in any case.

Example:



CAUTION! (Risk of fault)

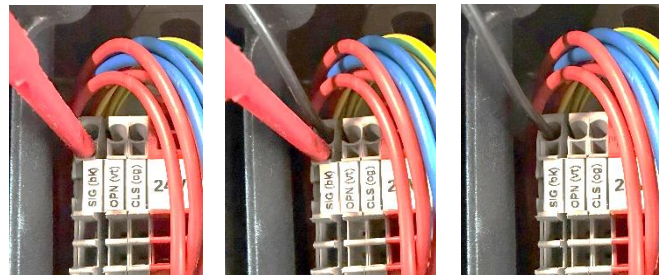


Never lead external voltage to the drive via the button. This would destroy the drive assembly!

9.3 Cable types

The connecting terminals in the service opening are in the form of spring-action connecting terminals.

1. Push in the spring-action connecting terminals with a slotted screwdriver
2. Lead cable into terminal
3. Release the spring-action connecting terminals again



Since the drives are already wired to each other in the factory, only the following cables are required for making the on-site connection:

- **Power supply cable** (for connecting the drives, 24 V DC)
- **Signal cable** (for connecting the control button or the building automation)

Only the following cable types and cross-sections may be used.

Cable types: (customer-provided)

- **Power supply cable:**
3 x 1.5 ... 6 mm² unshielded (2x power supply + PE)
max. length depending on number of drives (24 V DC / 3 A DC / 72 W per drive)
- **Signal cable:**
3 x 1.5 mm² unshielded (OPN/CLS/SIG)



Note: For flexibility reasons, **cables with wires** must be used.

9.4 Connecting the electric drive

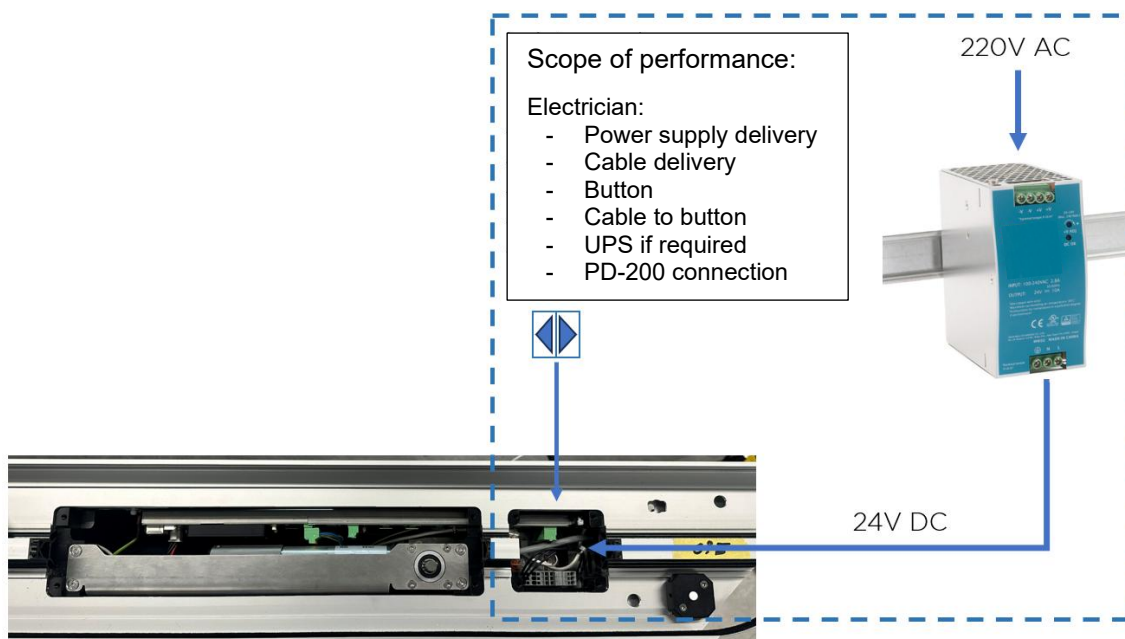
The drives are supplied with **24 V DC**. The power is supplied via 1 cable directly to the “MASTER” drive, which forwards the power supply to the other “SLAVE” drives.

Each drive unit requires **3 A DC** (output of 72 W) → for example: 5 drives = $5 * 3 \text{ A DC} = 15 \text{ A DC}$

Power failure: For safety's sake, we recommend connecting the drives via a UPS (uninterruptible power supply, supplies electrical devices with energy in the event of a power failure).

→ This must all be correctly designed within the building's electrical system and made available on site.

The **mains voltage** (power supply) and the **control button** are connected to the connecting terminals behind the service opening at the “MASTER” drive (#1.1).



Power supply:

Power supply requirements:

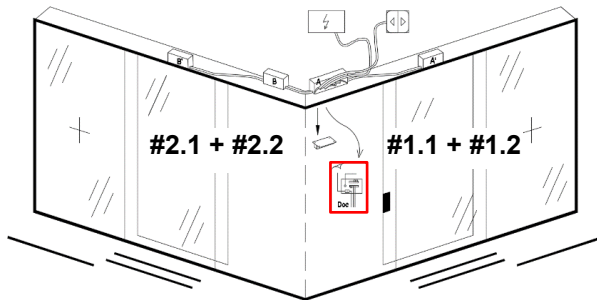
- 24 V DC / 3 A per drive
- Must comply with EN 60335 or EN 60601
- Overvoltage protection of at least 27 V

Installation procedure:

The work steps are explained on the example of the illustrated telescopic corner system shown in the following.

9.4.1 Opening the service cover

Undo the four screws of the service cover (small cover without pinions at "MASTER" drive) and remove the service cover.



CAUTION! (Risk of fault)



Do not open the drive cover!

Do not loosen the drive belt!

9.4.2 Mains voltage cable and signal cable connection

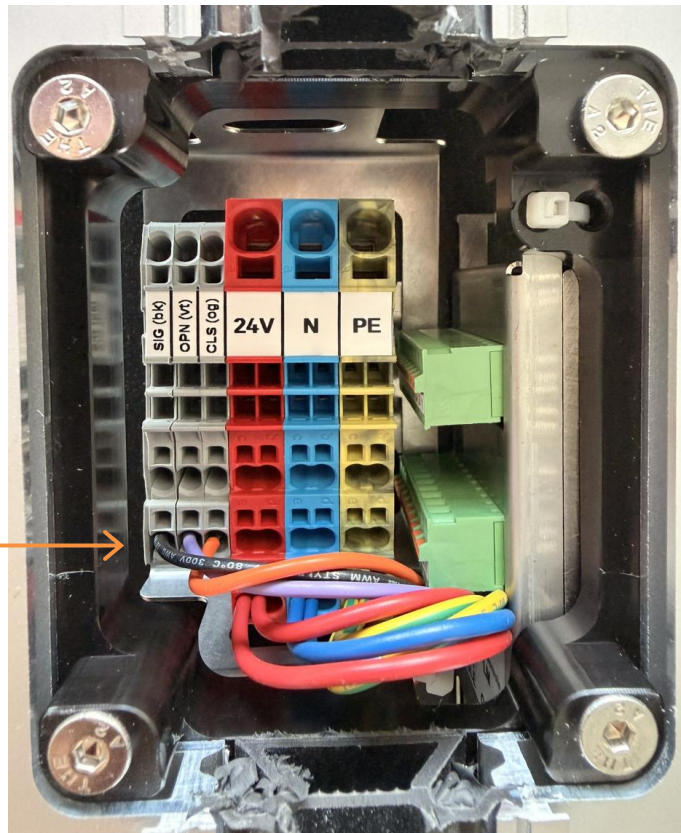
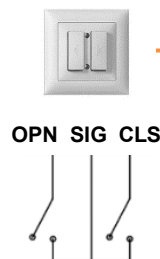
The junction box can be found in the service opening at the "MASTER" drive.
The power supply cables must be connected as follows:

- 1.) The **mains voltage** (24 V DC) is attached to the following terminals:

- ➔ **24V** (red)
- ➔ **N** (blue)
- ➔ **PE** (yellow)

- 2.) The **button cable / signal cable** is attached to the following terminals:

- ➔ **SIG** (bk = black)
- ➔ **OPN** (vt = violet)
- ➔ **CLS** (og = orange)



10. Commissioning

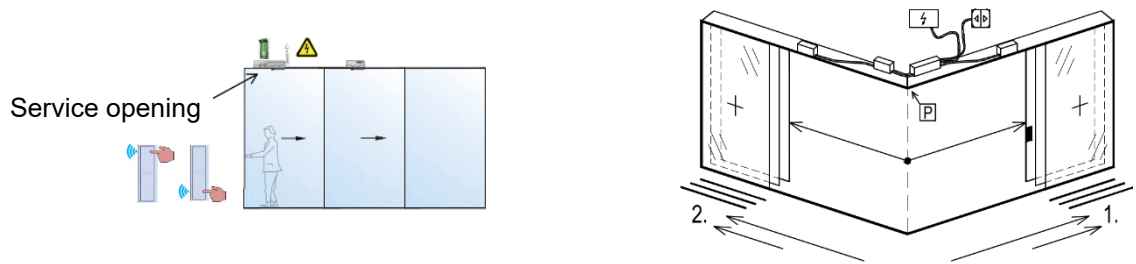
The initial commissioning must be carried out by a trained Sky-Frame technician.

10.5.7 Connection to building automation

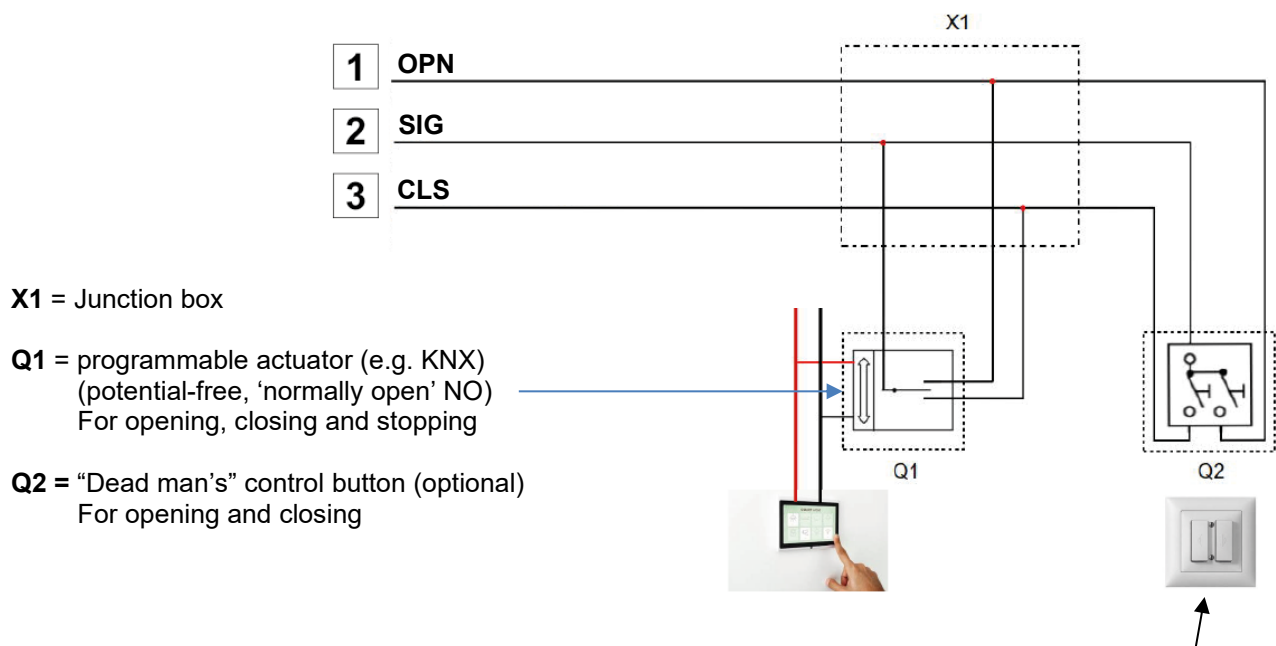
A prerequisite for connection to a building automation system is the signed document “**Pulse operation, risk assessment**” ([Chap. 11.3.4.1-9](#)).

The building automation connecting facility of the “**MASTER**” drive (#1.1) is in the service opening at the junction box.

When doing so, the building automation system is connected to the **OPEN / CLOSE / SIGNAL** terminals via a programmable actuator at the junction box (like a normal wall switch). The actuator transmits a short pulse to the drive control unit, which allows the system to be opened or closed (see “Opening time table” on next page).



TIP: We recommend the use of position monitoring (P) in the closed position of the system, since this is the only way to obtain the information about whether the system is closed for the building automation system.



In addition to operation via the **building automation system**, the system can be operated using a “**dead man’s**” control button and **simultaneously** using a “**Touch**” control button.

Starting the teach-in procedure:

The system is usually first taught in using the separate control element. The teach-in sequences take place in the same way depending on the opening combination in accordance with the previous chapters ([10.5.1-6](#))

Then the pulses can be triggered via the actuators of the building control system in order to open the system, close it or move it to a ventilation or passage position.

Opening time table:	Terminal 1	Terminal 2	Terminal 3	Building automation: automatic movement in self-hold mode*	Dead man's control button** parallel to the building automation system (see diagram)
OPEN	OPN	SIG		Close contact Q1 <u>less (shorter)</u> than 1500 ms.	Close contact Q2 for more (longer) than 2000 ms and for as long you want the drive to run.
CLOSE		SIG	CLS		
STOP movement	OPN	SIG			Open contact again.
		SIG	CLS		

*** IMPORTANT:**

This function requires activation of pulse mode on the Sky-Frame drive.

This function can be switched on using the Sky-Frame Drive-Manager software of the PD-200 drive by a specialist authorised by Sky-Frame.

**** ATTENTION:**

Controlling "dead man's" switch operation directly via a building automation system is not permitted.

This operating mode is exclusively intended for operation via a wall switch which is installed within view of the Sky-Frame system.

Note:



When programming building automation, the **automatic querying** of the connected components should be **deactivated** to prevent a pulse from being sent to the components after a voltage drop (power outage) and the return of voltage, which could trigger an unintentional opening. Instead, the last condition of the components before the restart should be retained without this pulse being forwarded.

→ At the building automation: **"Remanence Input" = activate**

Disclaimer

All specifications are non-binding and must not be regarded as a guarantee.

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