

Connection Diagram

-Electronic Motor--Wireless Motor--Mechanical Motor-





The electrical connection of the roller shutter and the control unit must only be completed by skilled electricians in compliance with the enclosed connecting diagram and the national and international legal regulations, e.g. DIN EN 60335-1 (VDE 0700-1), DIN EN 60335-2-97, DIN EN 60204-1 (VDE 0113-1) etc. Furthermore the regulations of the local electric utility, the Employer's Liability Insurance Association and the Accident Prevention Regulation have to be strictly followed

The roller shutter and the control unit can only be connected to an in-house network which is equipped with a ground fault circuit interrupter.



Particular attention must always be paid to which motor is being used!



Cable Sticker EL4 Tubular drive

Funk^{...}



Cable Sticker EL4F Tubular drive



Cable Sticker S-ABS-Tubular drive

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distribution box

L1 N PE

L1 N PE

Connection Diagram of Electronic Motors

Description of the drives

EL4-Roller shutter plug-in drives are drive systems with a built in asynchronous condenser motor, break, gear and electronic control for the stop position and monitoring the motor. The condenser is not a starting capacitor but an operating capacitor. Please take into account when designing your installation that during the starting torque the drive takes 2,5 times of the rated current, especially if you want to connect several drives on one electrical circuit.

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EL drives can be run parallel. Important: The switches must be locked! Mind the maximum connection

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values of the switches, relays and the

Connecting diagram of the individual control system

The connecting diagrams shown apply to an easy operation of the drives via switch or button without automatic function.

If using an automatic control unit please refer to the connecting data plan which is enclosed to the unit.

Important for the usage of control units!

When switching the rolling direction the motor has to be in a standstill position for at least 400 mS.

Colour scale for the connecting cables

,	1 blue	Neutral conductor N
2	2 black	Phase direction of rotation 1
3	3 brown	Phase direction of rotation 2
4	4 yellow-gree	en Equipment grounding conductor PE

EL-drive 1 Switch or button locked EL-drive 2 To further EL-drives

Improper types of connection!

Switches or connections, which allow a concurrent up and down command.

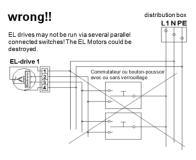
Wrong!!

Linps

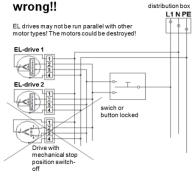
swich or button
without locked

EL-drive 1

Several switches or circuits that operate one or more EL motors directly.



Parallel connection of different types of drives.



Switches or buttons whose switching commands are not locked against each other can supply voltage to the motor in both running directions. Hereby the electronic can be damaged.

Also this connection would enable a simultaneous Up/Down command and could therefore damage the electronic

In case different engine types should be combined with each other they must be detached by the usage of appropriate relays or control units.

Connection Value Gear	Studio Star	Wiga Star
	EL4-Tubular drive 50/08, 12, 20, 30,	40 EL4-Tubular drive 60/55, 75
Turning moment	8, 12, 20, 30, 40 Nm	55, 75 Nm
Rotation speed	12 min ⁻¹	13, 10 min ⁻¹
Type of current	1 phase alternating current	1 phase alternating current
Voltage	220 V / 50 Hz	220 V / 50 Hz
Current consumption	0,8 A	1,1 A
Capacity	184 W	253 W
Duty rating	Ca. 5 min.	Ca. 5 min.
Accuracy of end position	Class 2; ± 5 %	Class 2; ± 5 %



Connection Diagram of wireless Electronic Motors

Description of the drives

EL4F-Roller shutter plug-in drives are drive systems with a built in asynchronous condenser motor, break, gear, and electronic control for the stop position and monitoring the motor as well as an electronic for the reception of radio-signals and their transformation.

The condenser is not a starting capacitor but an operating capacitor.

Please take into account when designing your installation that during the starting torque the drive takes 2,5 times of the rated current, especially if you want to connect several drives on one electrical circuit.

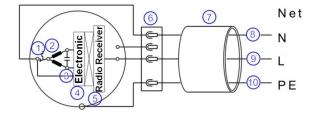
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Setup

- 1. Thermal overload circuit breaker
- 2. Motor winding
- 3. Operating capacitor
- 4. Electronic motor control
- 5. Radio Receiver Modul
- 6. Plug connection in motor head
- Power supply cord

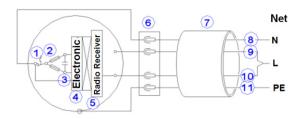
Colour scale for the connecting cables (three-core connection cable)

8	blue	Neutral conductor N	
9	brown	Phase	
10	yellow-green	Equipment grounding conductor PE	

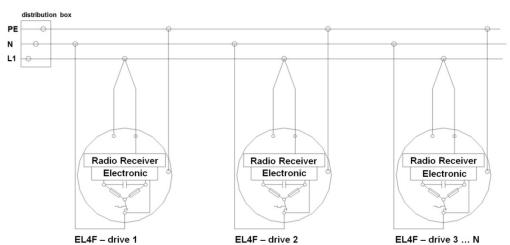


Colour scale for the connecting cables to 4. Quarter 2015 (four-core connection cable)

8	blue	Neutral conductor N	
9	brown	Free, will be bridged with phase	
10	black	Phase	
11	yellow-green	Equipment grounding conductor PE	



Connection of several EL4F Drives



Connection Value Gear	Studio Star	Wiga Star
	EL4F-Tubular drive 50/08, 12, 20, 30, 40	EL4F-Tubular drive 60/55, 75
Turning moment	8, 12, 20, 30, 40 Nm	55, 75 Nm
Rotation speed	12 min ⁻¹	13, 10 min ⁻¹
Type of current	1 phase alternating current	1 phase alternating current
Voltage	220 V / 50 Hz	220 V / 50 Hz
Current consumption	0,8 A	1,1 A
Capacity	184 W	253 W
Duty rating	Ca. 5 min.	Ca. 5 min.
Accuracy of end position	Class 2; ± 5 %	Class 2; ± 5 %



Connection Diagram of Mechanical Motors

Description of the drives

Roller shutter plug-in drives are drive systems with a built in asynchronous condenser motor, a final position switch, break and gear.

The condenser is not a starting capacitor but an operating capacitor. Please take into account when designing your installation that during the starting torque the drive takes 2,5 times of the rated current, especially if you want to connect several drives on one electrical circuit.



Connecting diagram of the individual control system

The connecting diagrams shown on the right apply to an easy operation of the drives via switch or button without automatic function.

If using an automatic control unit please refer to the connecting data plan which is enclosed to the unit.

Colour scale for the connecting cables

1	blue	Neutral conductor N
2	black	Phase direction of rotation 1
3	brown	Phase direction of rotation 2
4	yellow-green	Equipment grounding conductor PE

Improper types of connection!

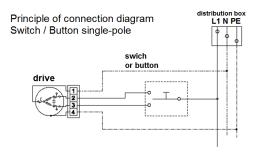
- Switches or connections, which allow a concurrent up and down command

A simultaneous given phase will lead to a short-circuit of the condenser and to a mutual induction in the windings.

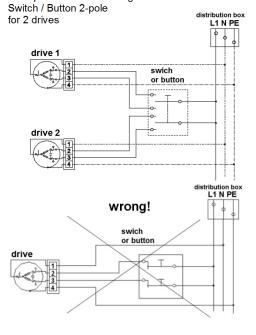
Therefore only electrical or mechanical locked switches (no light switches) and their corresponding control systems should be used.

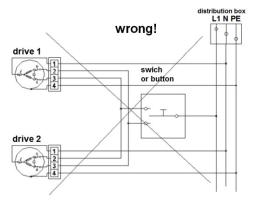
- Parallel connection for several drives.

Because the running times of the different drives are never the same the parallel connection leads to an inverse voltage via the same control wire (the system never switches off) and to a destruction of the end position switches. Therefore a separate contact has to be provided for each drive and each running direction, i.e. by a 2-pole button (for 2 drives), group control, cut-off relay or a central resp. peripheral control.



Principle of connection diagram





Connection Value Gear	Studio Star	Wiga Star
	S-ABS-Tubular drive 50/08, 12, 20, 30, 40	ABS-Tubular drive 60/55
Turning moment	08, 12, 20, 30, 40 Nm	55 Nm
Rotation speed	12 min ⁻¹	13 min ⁻¹
Type of current	1 phase alternating current	1 phase alternating current
Voltage	220 V / 50 Hz	220 V / 50 Hz
Current consumption	0,8 A	1,1 A
Capacity	184 W	253 W
Duty rating	Ca. 5 min.	Ca. 5 min.
Accuracy of end position	Class 2; ± 5 %	Class 2; ± 5 %