

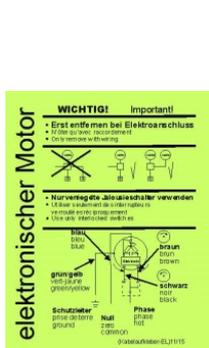
# Connection Diagram

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



	<p>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.</p> <p>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.</p>
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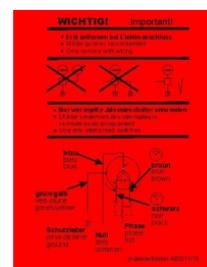
	<b>Particular attention must always be paid to which motor is being used!</b>
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**Cable Sticker  
EL4 Tubular drive**



**Cable Sticker  
EL4F Tubular drive**



**Cable Sticker  
S-ABS-Tubular drive**

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# 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.

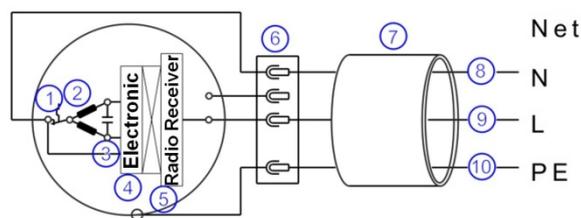


## Setup

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
7. Power supply cord

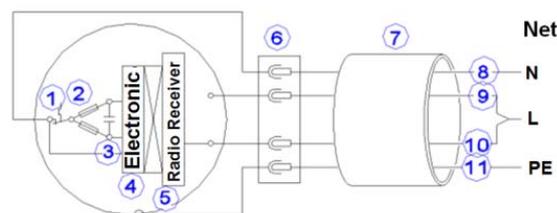
## Colour scale for the connecting cables (three-core connection cable)

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

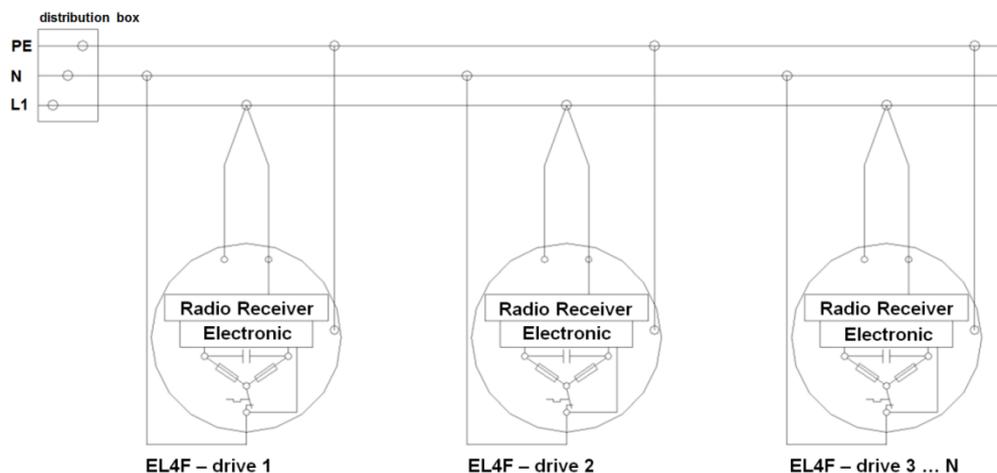


## Colour scale for the connecting cables to 4. Quarter 2015 (four-core connection cable)

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



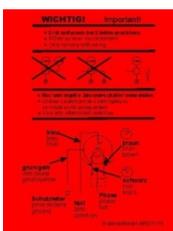
Connection Value Gear		
	EL4F-Tubular drive 50/08, 12, 20, 30, 40	EL4F-Tubular drive 60/55
Turning moment	8, 12, 20, 30, 40 Nm	55 Nm
Rotation speed	12 min <sup>-1</sup>	13 min <sup>-1</sup>
Type of current	1 phase alternating current	1 phase alternating current
Voltage	220 V / 50 Hz	220 V / 50 Hz
Current 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

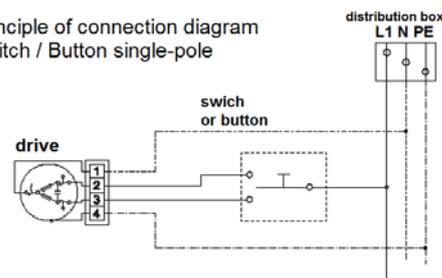
### Description of the drives

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

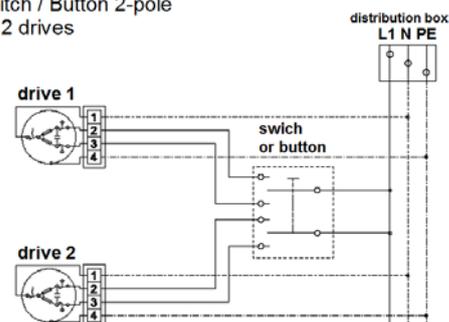
The condenser is not a starting capacitor but an operating capacitor. Please take into account when designing your installation that during the starting torque the drive takes 2,5 times of the rated current, especially if you want to connect several drives on one electrical circuit.



Principle of connection diagram  
Switch / Button single-pole



Principle of connection diagram  
Switch / Button 2-pole  
for 2 drives



### 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

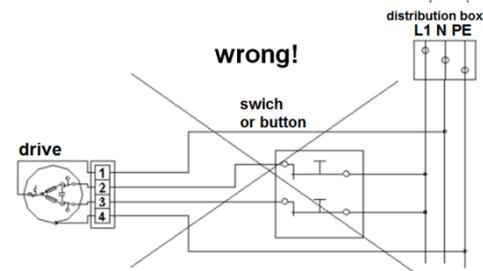
1	blue	Neutral conductor N
2	black	Phase direction of rotation 1
3	brown	Phase direction of rotation 2
4	yellow-green	Equipment grounding conductor PE

### Improper types of connection!

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

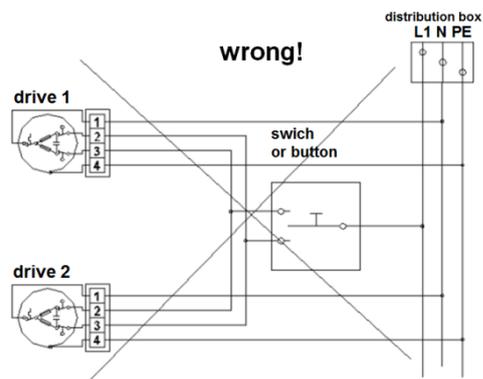
A simultaneous given phase will lead to a short-circuit of the condenser and to a mutual induction in the windings.

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.



Connection Value Gear		
	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 <sup>-1</sup>	13 min <sup>-1</sup>
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 %