

Motor controller



Viksam 3.0

Table of Content

Table of Content.....	1
1 Data	2
2 Installation.....	3
3 Connections.....	5
3.1 Voltage supply	5
3.2 Motor and encoder connection	5
3.3 Interface and settings.....	6
3.4 Pinch/crushing protection.....	6
3.5 Relay contacts.....	7
3.6 Blocking	7
3.7 Door hanging	7
4 Commissioning	8
4.1 Learning trip	8
4.2 Manual mode	8
5 Troubleshooting	9
6 Spare parts.....	10
7 Maintenance.....	10
7.1 Lubrication of tension roller	10
7.2 Adjustment of belt.....	10

1 Data

Values

Supply voltage: 230 VAC

Internal voltage: 36/24 VDC (+/- 5 %)

Nominal current: 3A

Max internal current: 10A

Allowed temperature: 0 till +50 °C

Max voltage/current for relays: 230 VAC / 10A

Fuse

6,3A slow, 5x20mm

Inputs

Open Signal

Close signal

Connections

12 x screw terminals for motor/encoder/signals

Supply cable: IEC C14

Relay contacts

Obstruction

Closed door position

Open door position

Buttons

Normal operation/learning trip

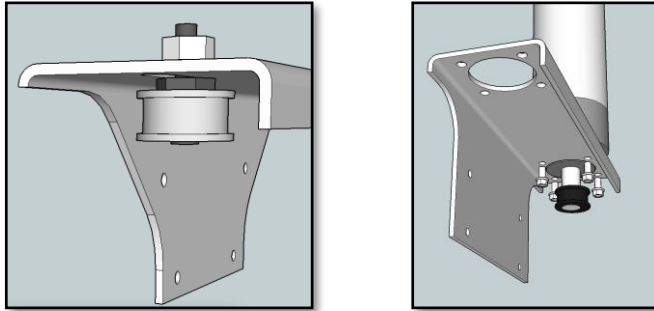
2-Threads [COM to open or close] / 1-Thread [COM to open/close]

Dimensions

410x160x70mm

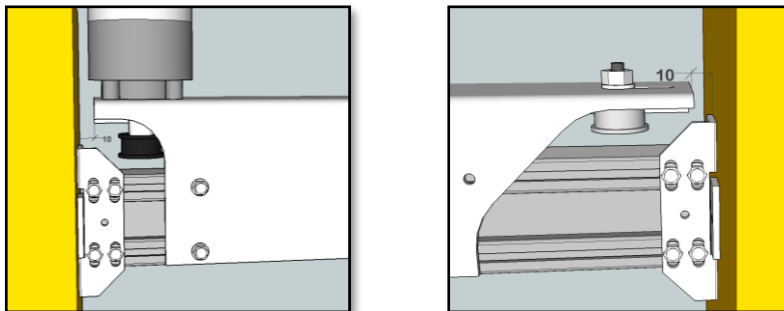
2 Installation

1. Mount the motor and idler pulley with corresponding brackets as close as possible to the pilaster. The motor should be placed on the hinge side.



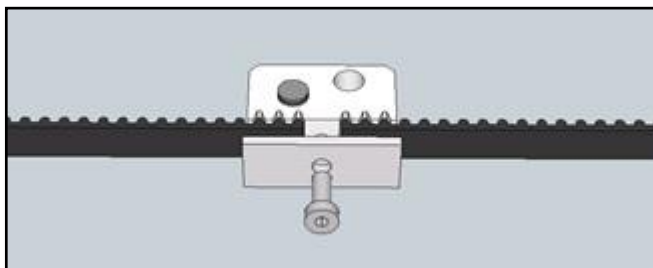
The picture shows left opening door installation

2. Mount the brackets at the backside of the hanger rail. Each angle needs 4x square nuts and 4x hexagonal screws. Adjust the angles to approx. 10mm from each pilaster. Mount the idler pulley furthest into the track of the bracket to be able to tension it outwards when the belt has been attached.



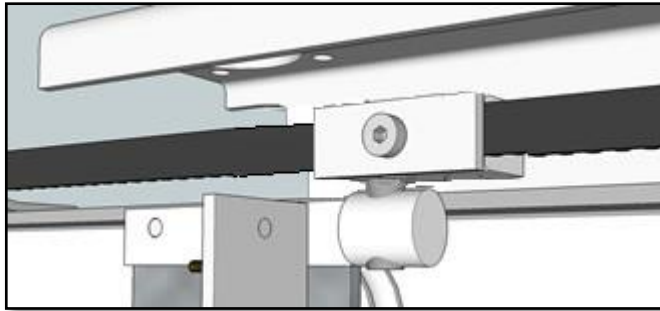
Angles mounted on the rail with distance to each pilaster

3. Mount the belt around the idler pulley and gearwheel from the motor. Connect the belt ends with the belt coupling. Cut the length of the belt if necessary.



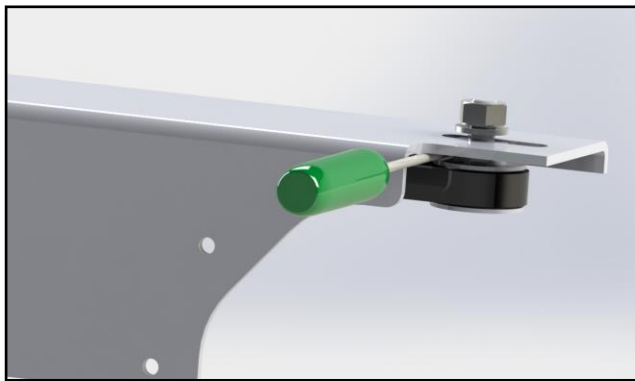
Belt with belt coupling

4. Attach the belt coupling with the belt slider on the double plate.



Belt coupling when assembled

5. Adjust the tension of the belt by pushing the angles or idler pulley further against the edge of the pilaster. One way to tension it is by using a chisel with a 3mm thick blade and bending the tool carefully against the angle and against the idler pulley, so that the idler pulley is pressed against the frame. See the figure below. This requires that the angle is correctly mounted on the rail and that the idler pulley has some space left in the track.



Belt tension adjustment with hand tools.

6. Mount the mechanical stop in the groove at the motor angle. As belt coupler takes towards the mechanical stop, the folding door has a clear limit in the open position. Adjusted accordingly based on needs, but we recommend approx. 10mm before it stops when you open the door manually.



7. Attach the control to the basket/car roof using the appropriate screw in the 6mm wide slotted holes for vertical or horizontal mounting.

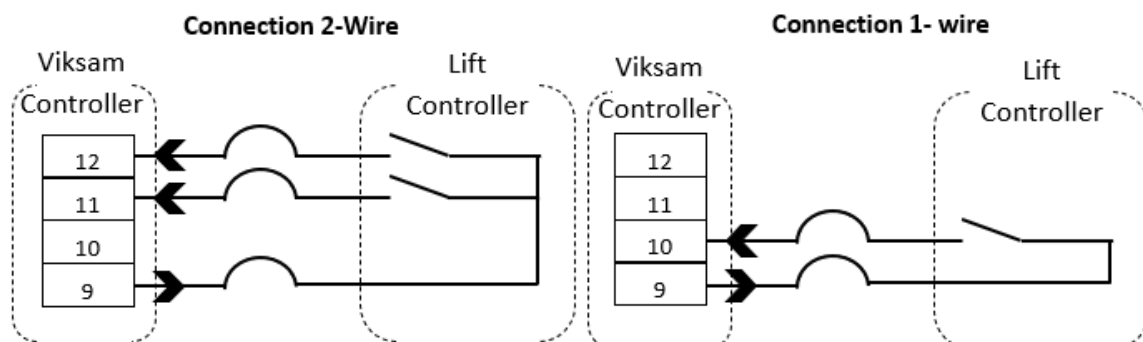
3.3 Interface and settings

The connection of open and close signals takes place through two different options: 1-wire or 2-wire. 2-wire is recommended when these signals are available in the control system. The desired option is set on the push button, see below.



Control of the door is done via the digital inputs on the screw terminal inputs "9–12". If the door control is connected with a separate opening and closing signal, i.e. 2-wire communication, the pushbutton on the left of the image above must be set to "2-wire". The door will then open when closed between "9" and "11" and close when closed between "9" and "12". If there is no signal or if both signals are active, the door will stay in its current position.

If the door control is connected to a common opening and closing signal, 1-wire communication, the push button must be set to "1-wire" as above. The door will then close in the event of a short circuit between "9" and "10" and open when the connection is broken.



The folding door closes when "12" is activated and opens when "11" is activated.

The folding door closes when "10" is activated and opens when it is deactivated

3.4 Pinch/crushing protection

Pinch protection in both opening and closing cycles and managed internally. In case of blocking, the door will reverse and then make another opening attempt where the door slows down to the position where the door was previously blocked. After a complete open/close cycle, the door returns to normal operation again.

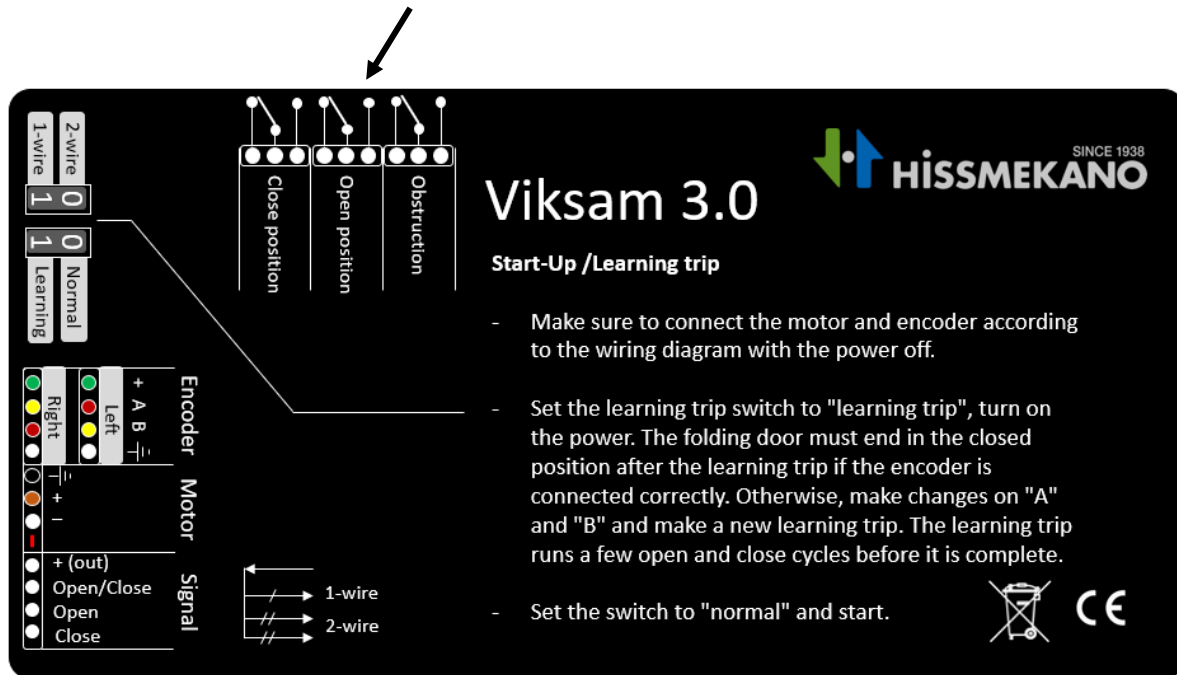
3.5 Relay contacts

If you need to use the relay contacts, you need to remove the cover on the control and connect the relays according to the picture below. **NOTE: We only use relays 1-3.**

K1- Closed position: This contact switches/triggers when the door is fully closed.

K2- Open position: This contact switches/triggers when the door is fully open.

K3 - Obstruction: This contact switches/triggers when the torque limit is reached in the close/open.



3.6 Blocking

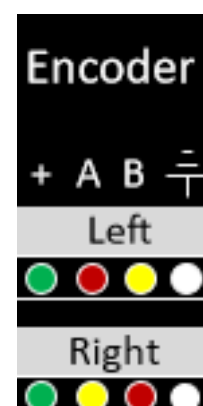
When the door is blocked, the door must reverse.

In case of blocking in the opening/closing phase, the door will always reverse, but the signal can be taken from the relay contacts on the inside of the control. After 3 attempts, the control will wait for a new signal.

3.7 Door hanging

For the opening and closing signals to steer the door in the right direction, the encoder cables must be correctly connected, see below. If it is connected correctly, the door will stop in the closed position after the learning trip. If the engine is on the right side seen from a floor plan, it is a right-hanging door.

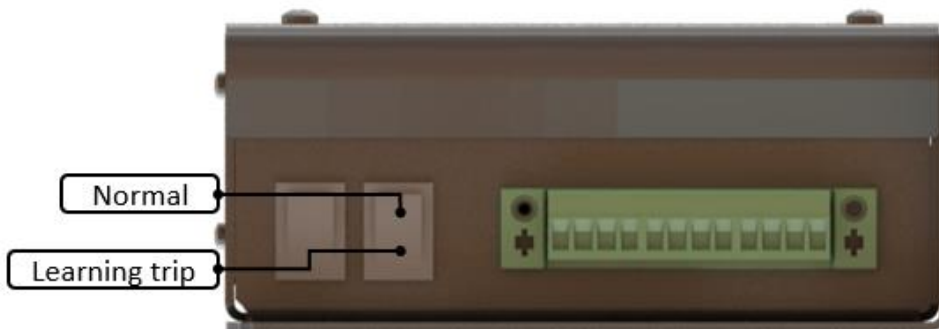
NOTE. When changing direction, it is important to switch off the power and start up the steering learning journey mode. Otherwise, there is a risk that the door runs at full speed toward the limit positions when it thinks that the position is outside the doorway.



4 Commissioning

4.1 Learning trip

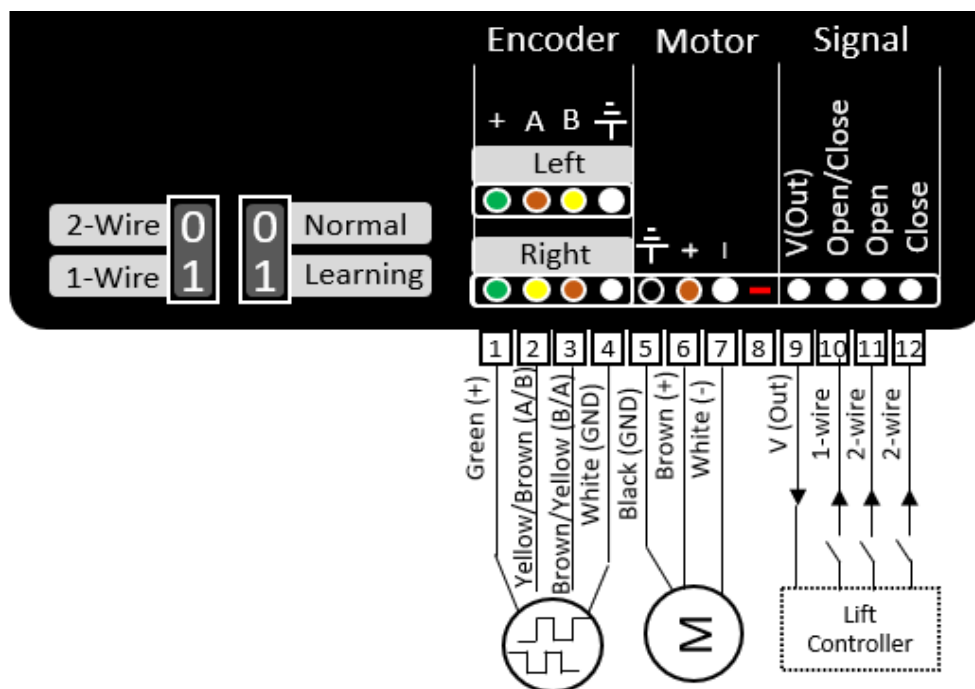
For the door control to know the door's opening width, a learning trip is required. Set the power switch to "Normal" and turn on the power. Then press the button as below to "learning trip". The door will now at low speed open fully and then close and after a few cycles it will stay in the closed position. NOTE. If it stays in the open position, the encoder may be incorrectly connected, see section 3.2. When the learning journey is finished, the push button must be set to the "normal" position and then the door can be put into operation.



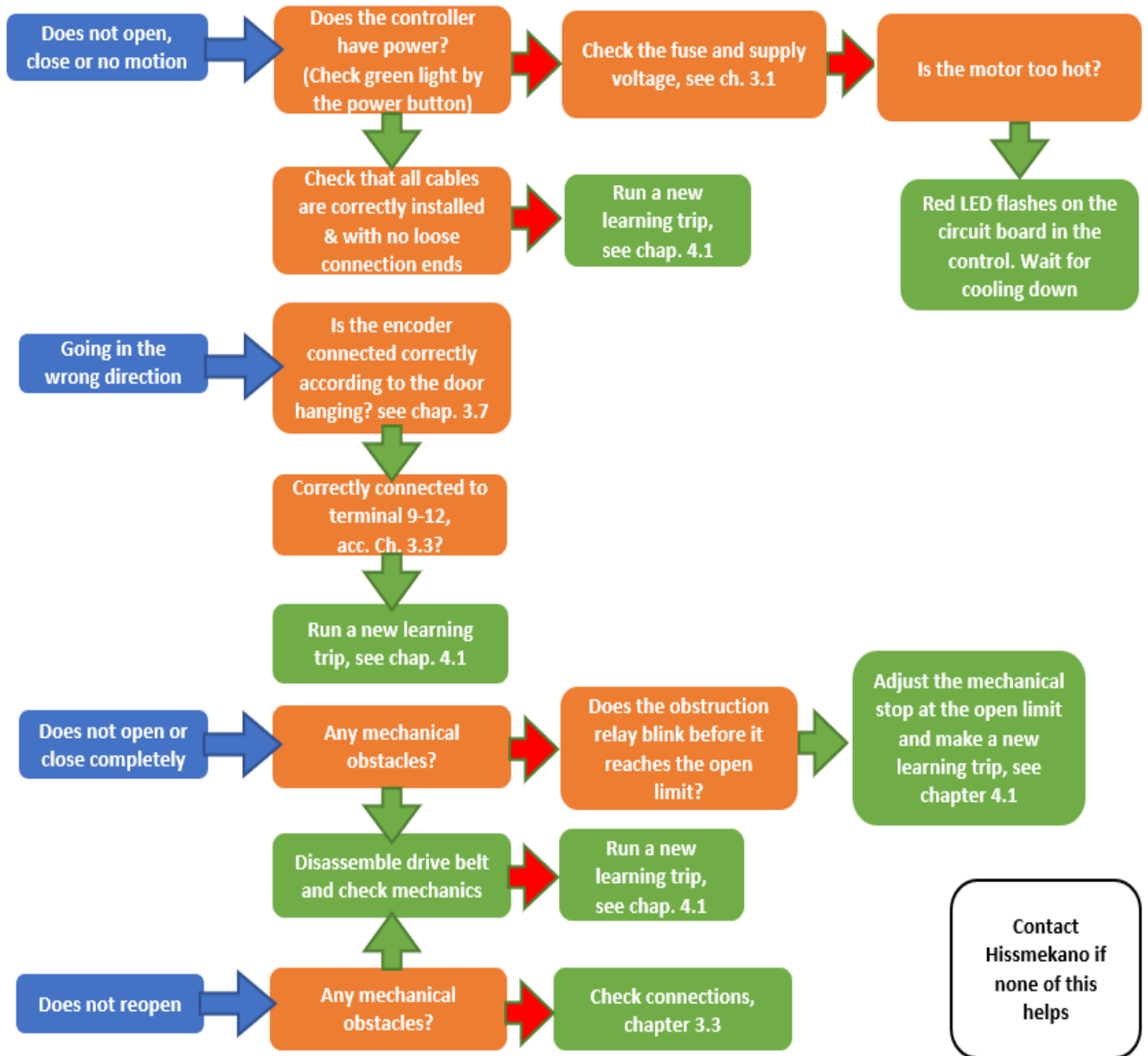
4.2 Manual mode

It is not a manual mode, but if you want to see if the door opens and closes as it should, you can set the push buttons to the "2-wire" and "Normal" positions and jumper between screw terminals "9" and "11" (open) / " 12" (close).

NOTE. Be sure to disconnect the cables that go to the elevator control before the jumper.



5 Troubleshooting



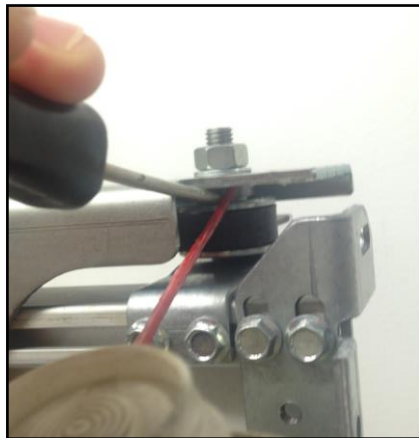
6 Spare parts

Door controller	3710333
Drive belt (per meter)	3700007
Tension roller incl. shoulder	3700006
Fuse	7070239
Motor	3710331
Motor/tension roller angle	3710298
Power supply unit	3710332

7 Maintenance

7.1 Lubrication of tension roller

Push the roller down so that a small gap appears and spray some spray grease into the gap that appears. Recommended to be performed at the time of service.



7.2 Adjustment of belt

If adjustment of the belt is required, see the instructions in chapter 3.5.