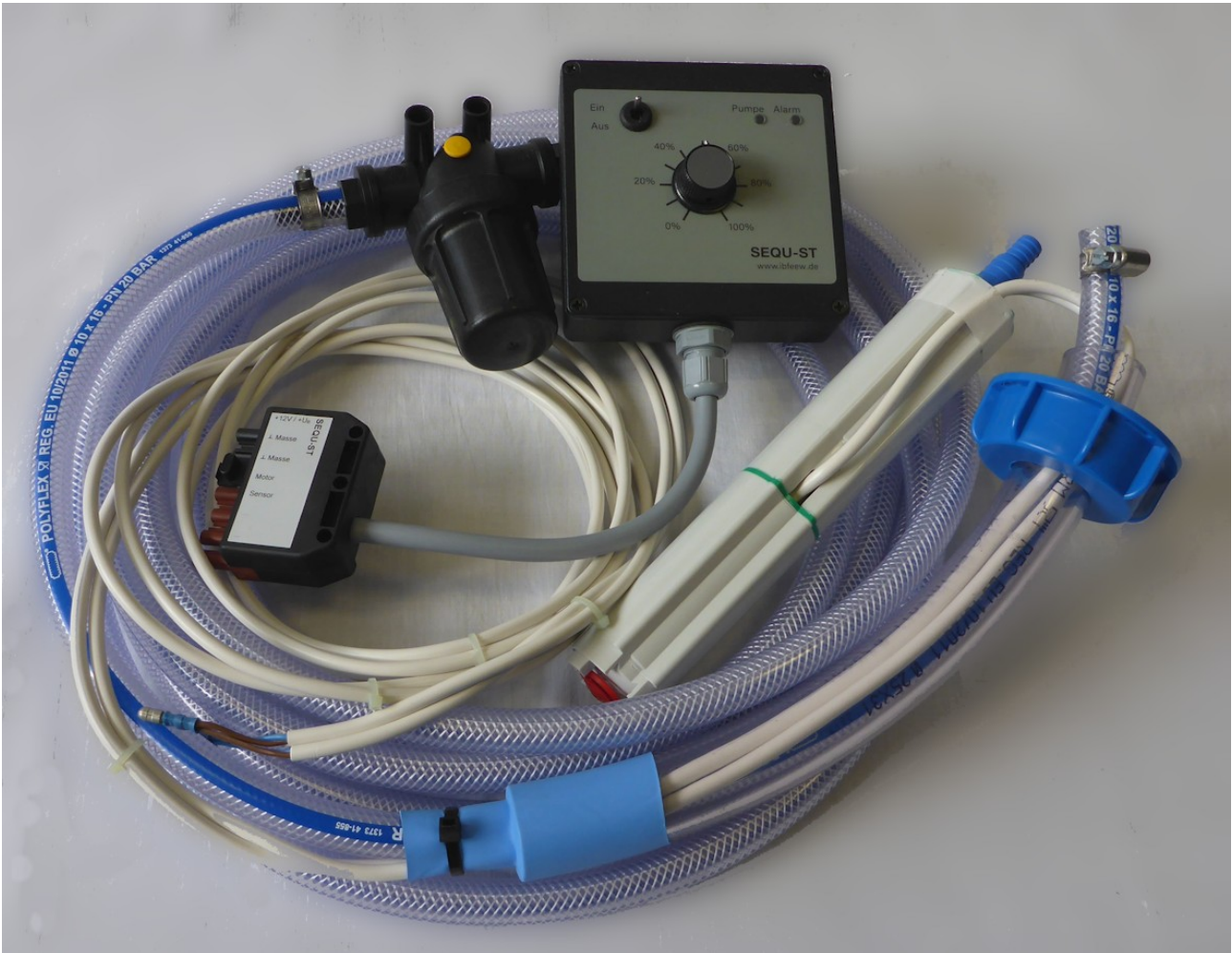


Dosing system SAB VE

designed use: apply ensilage liquids



installation

handling

maintenance

Dosing system nr.:

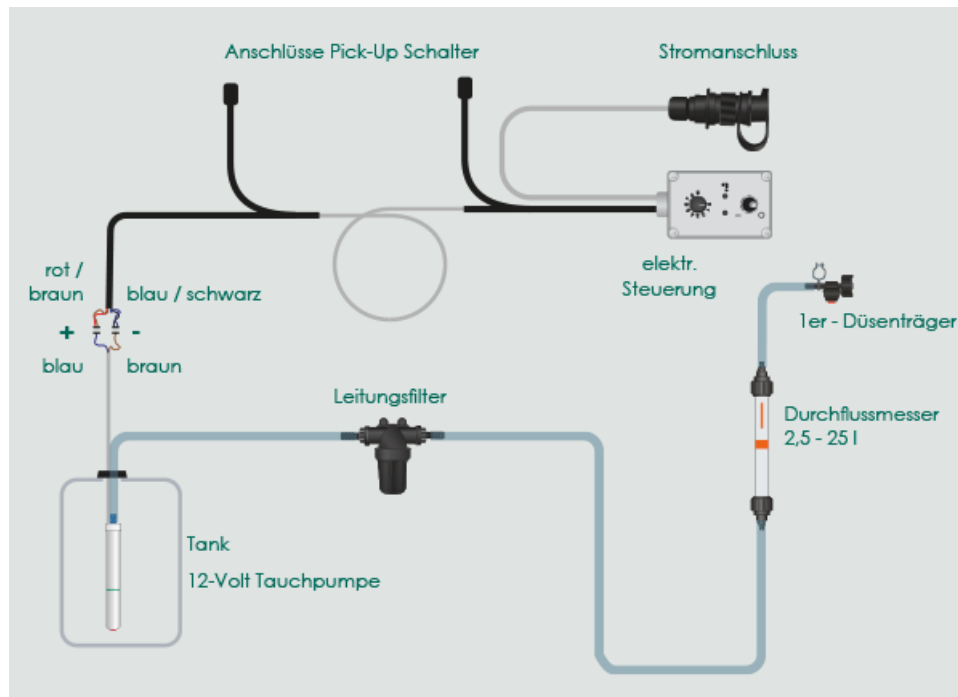
options:

distribution:

Intended purpose

For application of liquids, for instance lactobacilli. For ensiling grass or maize. Easy mounting on trailer or, press or crop chopper. Simple using, easy to understand. **Not usable for dosing acid liquids (chemical preserving agents). Ask for acid resistant dosing devices (built with stainless steel parts).**

system structure



The complete dosing system is built according to the above figure. The submerged pump (use with 12Vdc) is connected to the output of the electronic control unit. The pump is secured against dry running condition. The water jet on the topside of the pump is for forced venting of the pump. Be careful with handling of this short venting stub, it may break under heavy mechanical load.

If you use a big tank make sure to place the pump at the bottom of the tank, otherwise you can't completely drain the tank.

All electrical connection wires must be relieved from mechanical stress. Use cable zip ties (or similar items) to fixate all wires. Especially take care: **Don't pull at the pump/motor wires.** This may loosen the internal pump gasket, resulting in a leaky and later defective pump.

The electronic speed control unit should be mounted in the cabine of the harvester. The case is water protected, but not water proof. The device is capable of adjusting the pump voltage (and therefore the pump speed) between 10% and 100%. The device is connected to the 12V on board power supply system. For more detailed information regarding the speed control unit see the specialized manual for the "SEQU ST" control unit.

Between pump and flowmeter a in-line pipe filter is installed. It's necessary to regularly open and clean that filter.

The flowmeter itself is a manual type. It's available with a measure range of 3...24litre/hour (usually used for installation on grass choppers) or with 10...100litre/hour (often used trailers). It's recommended to install the flowmeter in the direct field vision of the operator. Note: the flowmeter must be mounted exactly vertically (straight upstanding).

Every clean container can be used as reservoir. For usage on grass choppers (low dosage volumes) we recommed smaller canisters (35litre). It's possible to order tanks together with the dosinig system (see available options)

The by default delivered assortment of nozzles depends on the ordered flow range.

SAB VE25	Metal (stainless steel)	4...9L/h
(3...25L/h)	orange	8...17L/h
	green	16...24L/h
SAB VE110	yellow	15...35L/h
(10...100L/h)	red	30...66L/h
	white	60...100L/h

According to requirements you could install 1 or 2 nozzle holders. Use the provided Y-splitter to branch the hose into two tube ends.

The final achieved flow depends on the installed nozzle, number of nozzles and the actual liquid pressure. See the delivered nozzle sheet for relation between pressure and flow for every nozzle type.

Check all hose connections for proper and tight installation before operating the pump. If necessary tighten again the hose clamps.

Additional pump informations

Important:

The blue hose connection gland at the top of the submerged pump is partly glued (at one side only).

This is done to achieve small flowvalues (starting by 2,5L/h) at high pump rotation speed.

The blue hose gland provides a bypass function, which can be seen as a liquid jet beneath the glued hose gland.

If this is not desired and the user want's higher flowrates: please remove the blue hose gland. Warm up the adhesive area (use a hot air gun), loosen the glue and remove the hose gland.

Afterwards reinstall the hose onto the remaining stub and correctly secure it with a hose clamp

As long as the manual variable area flowmeter shows a flow the system is delivering liquid through the nozzles.

scope of delivery

- Control unit for speed control (12V...24V)
- submerged pump 12Vdc, 90W
- inline pressure filter
- cable hose assembly (5,0m / 10mm inner diameter)
- manual variable area flowmeter
- assortment of hose clamps
- Y-splitter
- 2x individual nozzle holder
- mounting clips for nozzle holder (rectangular)
- assortment of flat jet nozzles
 - stainless steel with plastic caps
 - 3 types, each with 2 pieces
 - 2 gaskets
 - caps for nozzle holders



technical characteristics

Volatge Vcc

fuse:

flow rate of pump

pump pressure

cable hose assembly

electrical cable harness

main connector

+12V (for Vcc>14V: overload of pump may happen)

ATO 10A

max. 17L/h (free outlet without nozzles)

max. 1,5bar

length 5m, material PVC, Ø 10mm/16mm

all cables with 1,5mm² cross section

cable to battery: 2,5m

cable to pump: 5,0m

cable to conenct pickup switch: 0,5m

Wieland ST18/7

options

The customer On demand

On behalf of the customer it's possible to add and deliver:

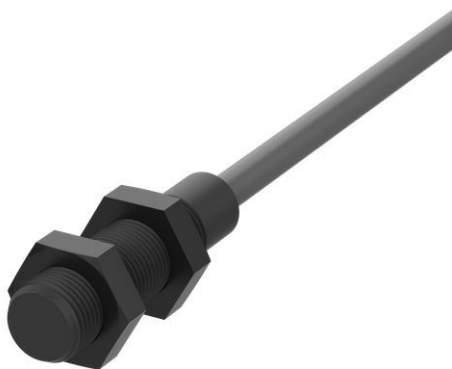
- dosing system as version VE25 or VE110 (different flowmeters and different nozzle assortment)
- delivery with pickup switch
 - magnetic reed switch as opener/closer.
2m cable length, switching distance ~8mm,
cylindrical case with M12x1mm thread
 - separat magnet (to activate the reed switch)
round, Ø 28,5mm, mounting with M4 bolt)
- delivery with feeder tank. Sizes 60liter/100L/200L available.
With integrated standpipe for the submerged pump.



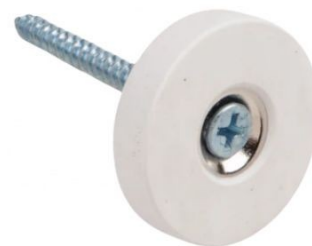
feeder tank (picture: 60L)



standpipe mounted in the cap



Magnetic reed switch as pickup switch.



Operating magnet

manual

pump speed controller SEQU-ST



device version:

v25, (shipped since 11/2023)

version delivered with Wieland type connector

manufacturer:

IBFEEW Ing.-Büro für Elektronikentwicklung

Maik Freitag

Schutower Str. 5

D-18069 Rostock

summary

The device "SEQU ST" is intended for power- and speed control of 12V/24V dc motors and pumps. With a rotary knob the output voltage and therefore the dosed flowrate is adjusted. A manual inspection of the flowrate is possible with a separate variable area flowmeter.

A pickup switch can be connected to the SEQU ST. This implements a standby function and allows to automatically break and restart the dosing flow according to the state of working parts (for instance mower up/down).

It's possible to use active or passive switches as pickup switch. The polarity of this switch can be internally changed in the SEQU ST (opening the device is necessary).

Standard configuration: device is working if the pickup switch is closed.

options

During ordering the following options are available:

- pickup polarity inverted
- additional output for a solenoid valve
This output switches always on if the pump is running. Purpose:
 - nonreturn security for clean separation between different media
 - preventing delay yield after switching off the pump
 - triggering a external big "pump is running" display
- additional output for a external alarm signal
This output switches if the SEQU ST is switched on, but the pump is not running. This signals the standby situation.
- Input for external digital flowmeter.
With such a external turbine flowmeter it's possible to create a simple dry run protection.
A flow regulation is not possible, for that task devices from the SEQU-BT/SEQU-LT series are necessary.

status display

The SEQU-ST informs the user with 2 LED lights about the actual status

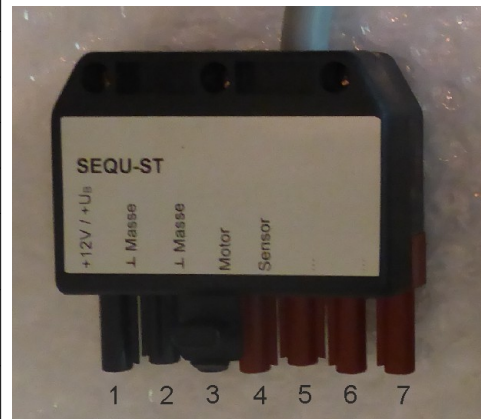
LED green	LED red		
off	off	- device off - maybe operating voltage too low (<9V)	
on	off	- pump is running	
off	on	- device standby (pickup-switch operated)	
Slowly flashing	on	- high temperature warning	
Fast flashing	on	- overcurrent limitation mode	

Technical characteristics

Voltage supply V_{cc}	+12V ... +24V
output current:	limited according to supply voltage: 11A at $V_{cc}=12V$ 9A at $V_{cc}=24V$
ambient operating temperature:	-25°C ... +40°C
protection measures:	reverse battery protection output short circuit overcurrent protection overtemperature: warning for $T > 85^{\circ}C$ switch off for $T > 95^{\circ}C$
dimensions:	120x120x40mm
mounting:	magnet on backside
water protection:	IP54 IP65 optional available (additional integrated gasket)
input:	pickup switch, connecting between signal and and gnd optional: turbine flowmeter
outputs:	voltage controlled output (connect to pump) optional: solenoid valve switch (optional, max. 1,5A) external alarm signal (optional, max. 1,5A)

connector:
7pol. Stecker Wieland ST18/7 (93.932.5053.0)

pin	description
1	battery: +12V / +24V
2	battery: ground (gnd)
3	pump: gnd
4	ump: plus
5	Input signal pickup switch connect/disconnect to gnd
6	optional: output for solenoid valve (transportation relay)
7	optional: output for alarm signal optional: input turbine flowmeter



Option to change the pickup-switch / standby polarity

The polarity of the pickup switch can be changed inside the device. A 2-pin can be populated/unpopulated according to the wanted polarity.

With this intervention the operator may choose between:

- device is working with closed pickup switch (standard configuration)
- device is working with opened pickup switch (modified configuration)

To change the polarity:

- 1.) remove device from voltage supply
- 2.) loosen 4 lid screws, remove lid.
Be careful with gasket (O-ring) on the On/Off switch!
- 3.) Locate jumper JP4 on the pcb (right side)
- 4.) populate/unpopulate the jumper JP4 according to the desired pickup switch polarity
- 5.) reassembly the SEQU ST:
move case lid carefully over On/Off switch (observe gasket)
bolt down lid onto base part with the 4x original screws
note: don't use M3-screws as replacement screws, it's an imperial thread!
- 6.)

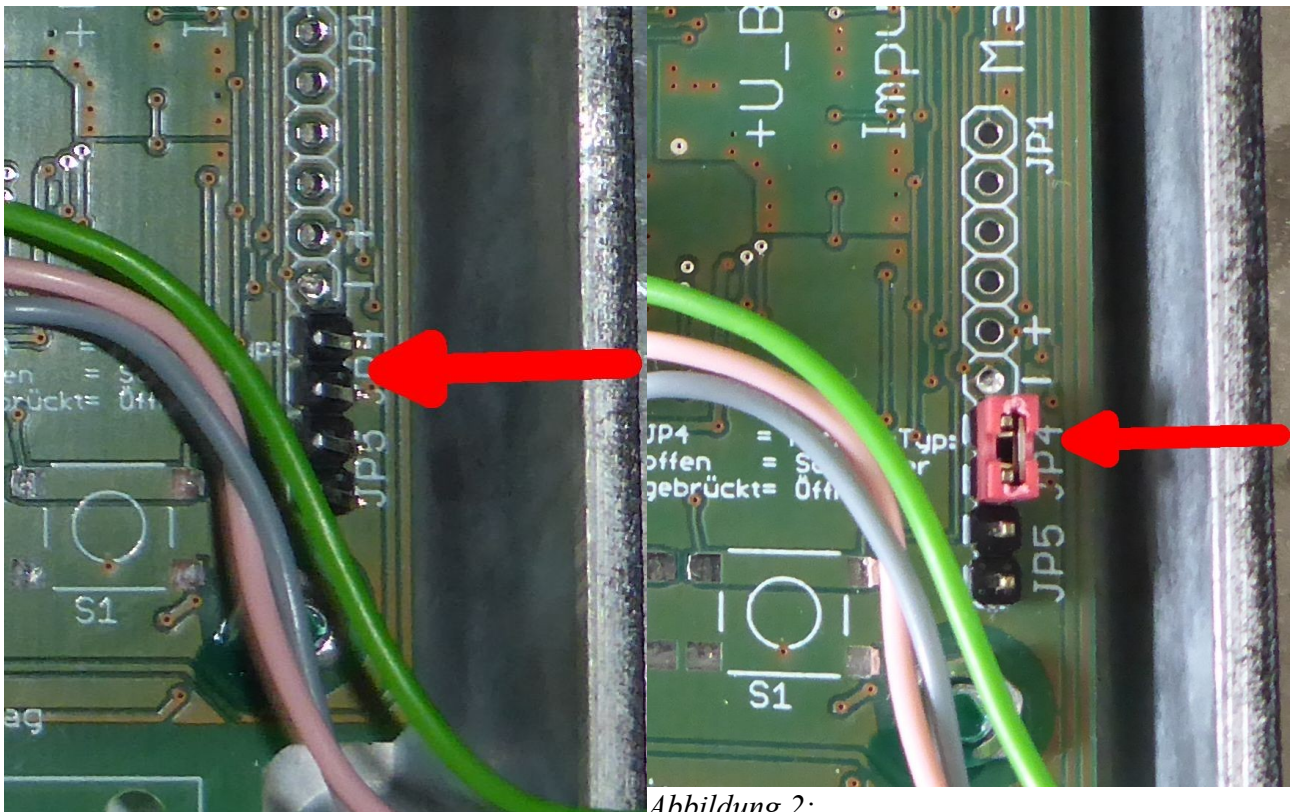


Abbildung 1:
standard configuration: jumper not populated

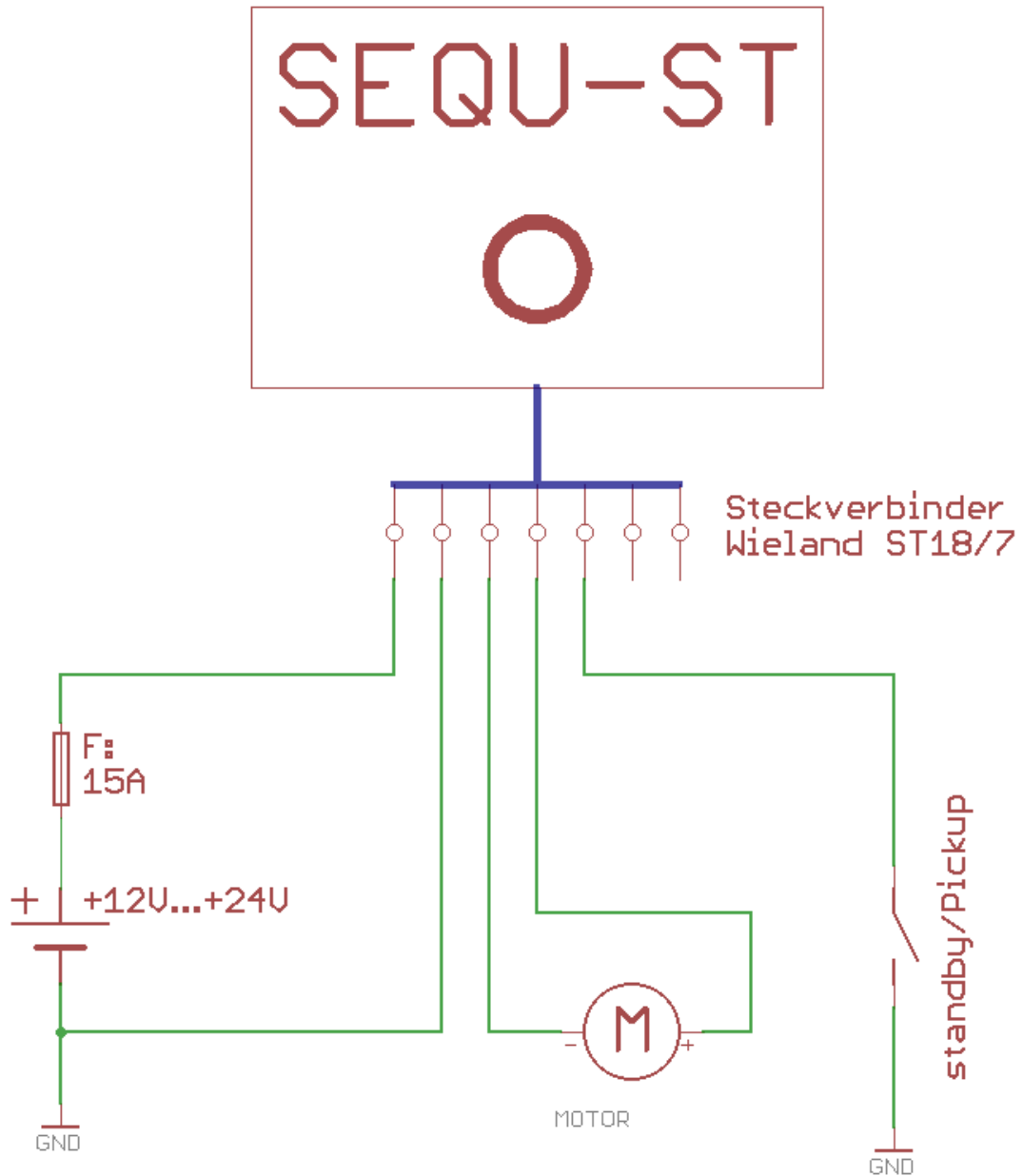
SEQU ST is working, if external pickup switch is closed

Abbildung 2:
modified configuration: jumper JP4 populated

SEQU ST is working, if external pickup switch is open

cabling

SEQU ST Standardausführung:
Steckverbinder Wieland ST18/7 an 30cm Kabelpeitsche



TITLE: SEQU_ST_Anschlussplan

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Ingenieurbüro
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www.ibfeew.de

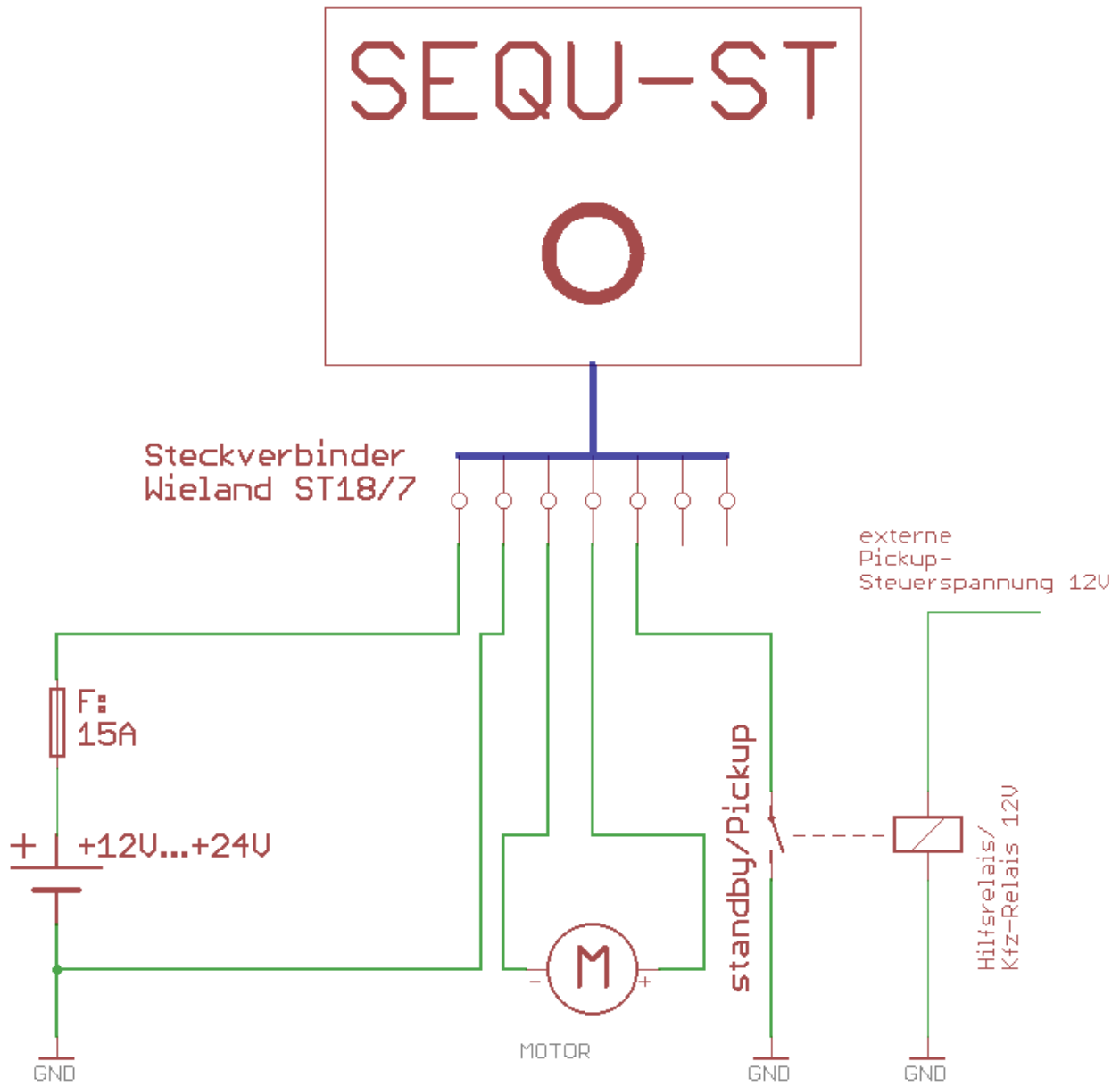


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SEQU ST Standardausführung:
 Steckverbinder Wieland ST18/7 an 30cm Kabelpeitsche
 Pickup geschaltet über externe 12V mit Hilfsrelais



TITLE: SEQU_ST_Anschlussplan

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