manual

pump speed controller SEQU-ST

device version: v25, (shipped since 11/2023)
                                               version delivered with Wieland type connector

manufacturer:
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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

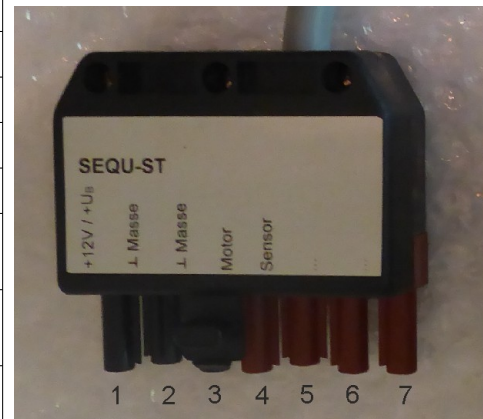The SEQU-ST informs the user with 2 LED lights about the actual status

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 Vcc	+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°C
	switch off for T > 95°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 poalrity

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
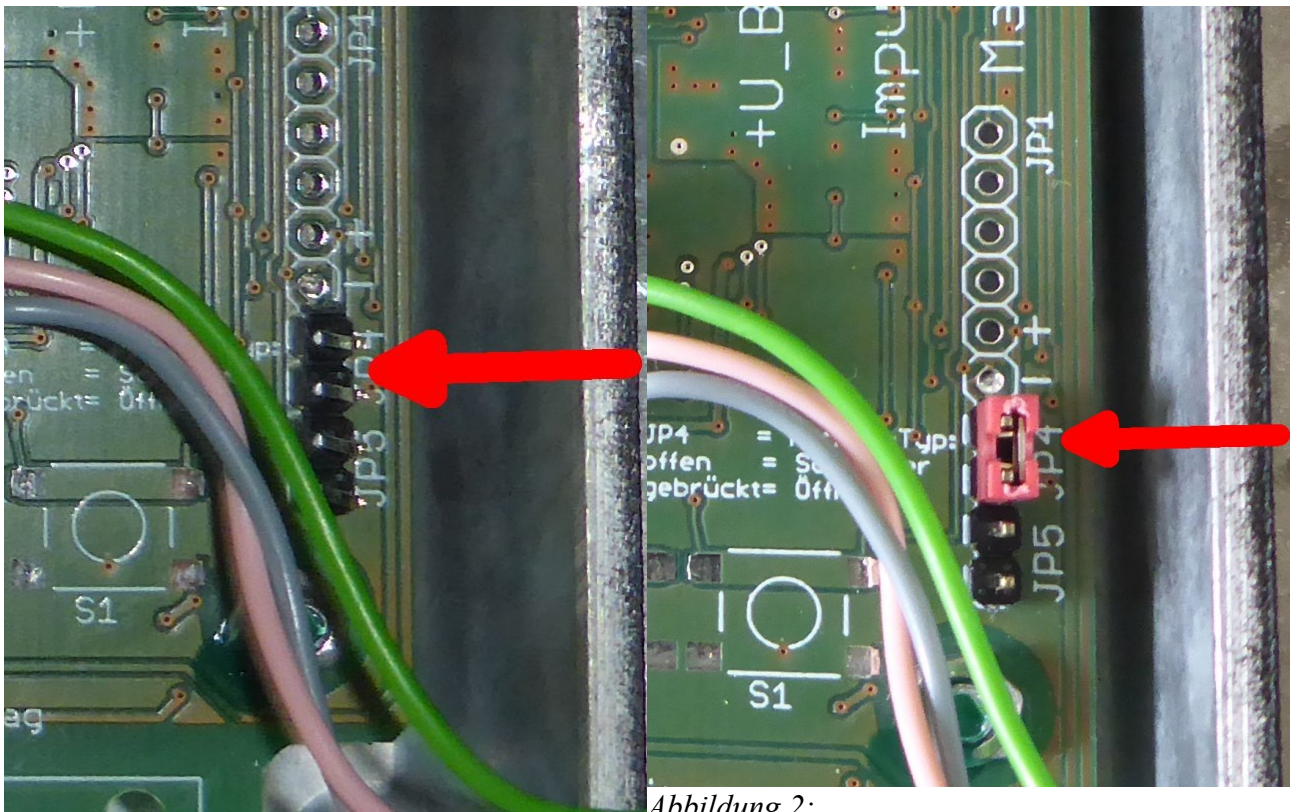   note: don't use M3-screws as replacement screws, it's an imperial thread!
  6.)

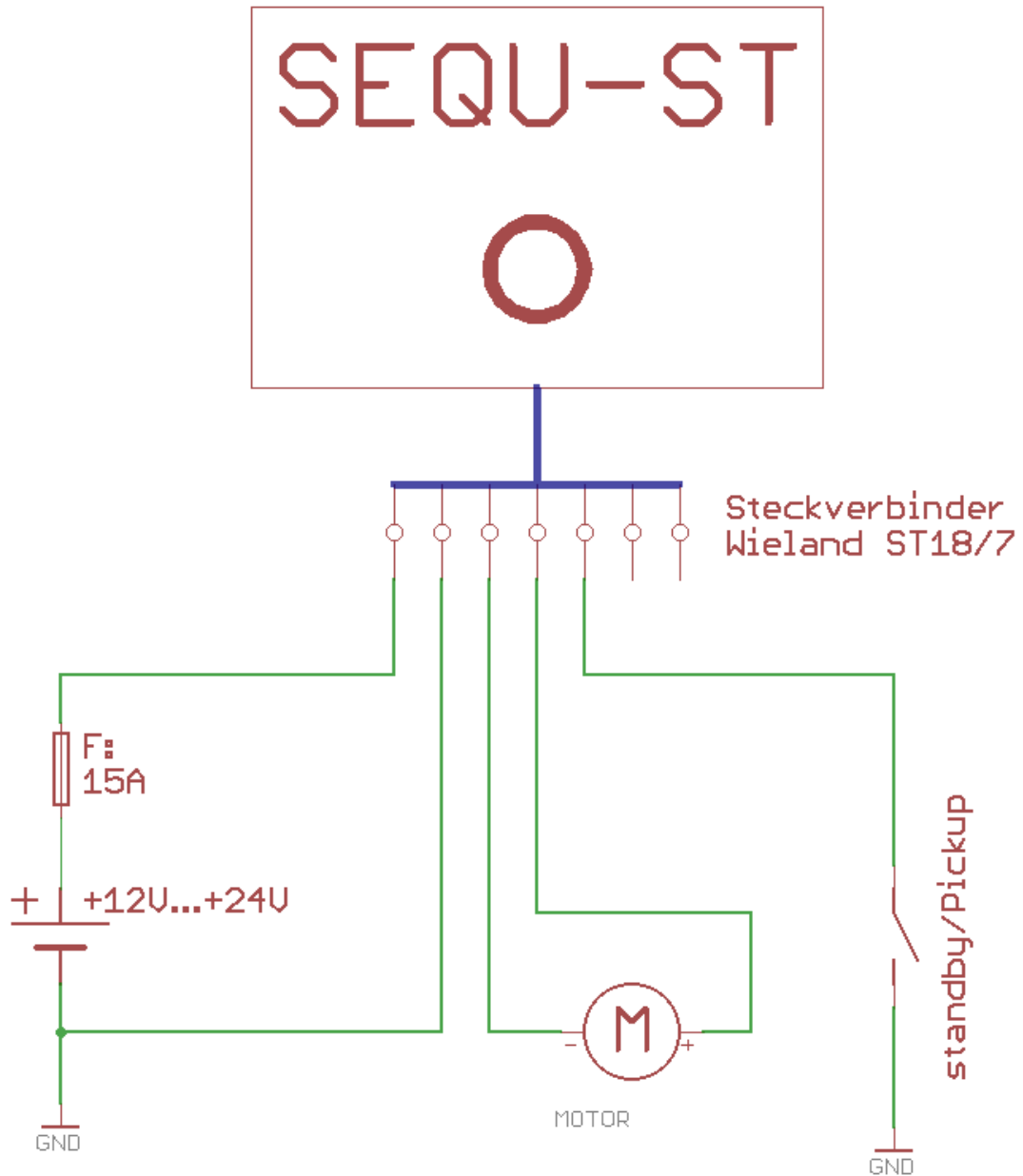*Abbildung 1:*
standard configuration: jumper not populated

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

SEQU-ST

Steckverbinder
Wieland ST18/7

F:
15A

+ +12V...+24V

GND

M
MOTOR

standby/Pickup

GND

TITLE: SEQU_ST_Anschlussplan

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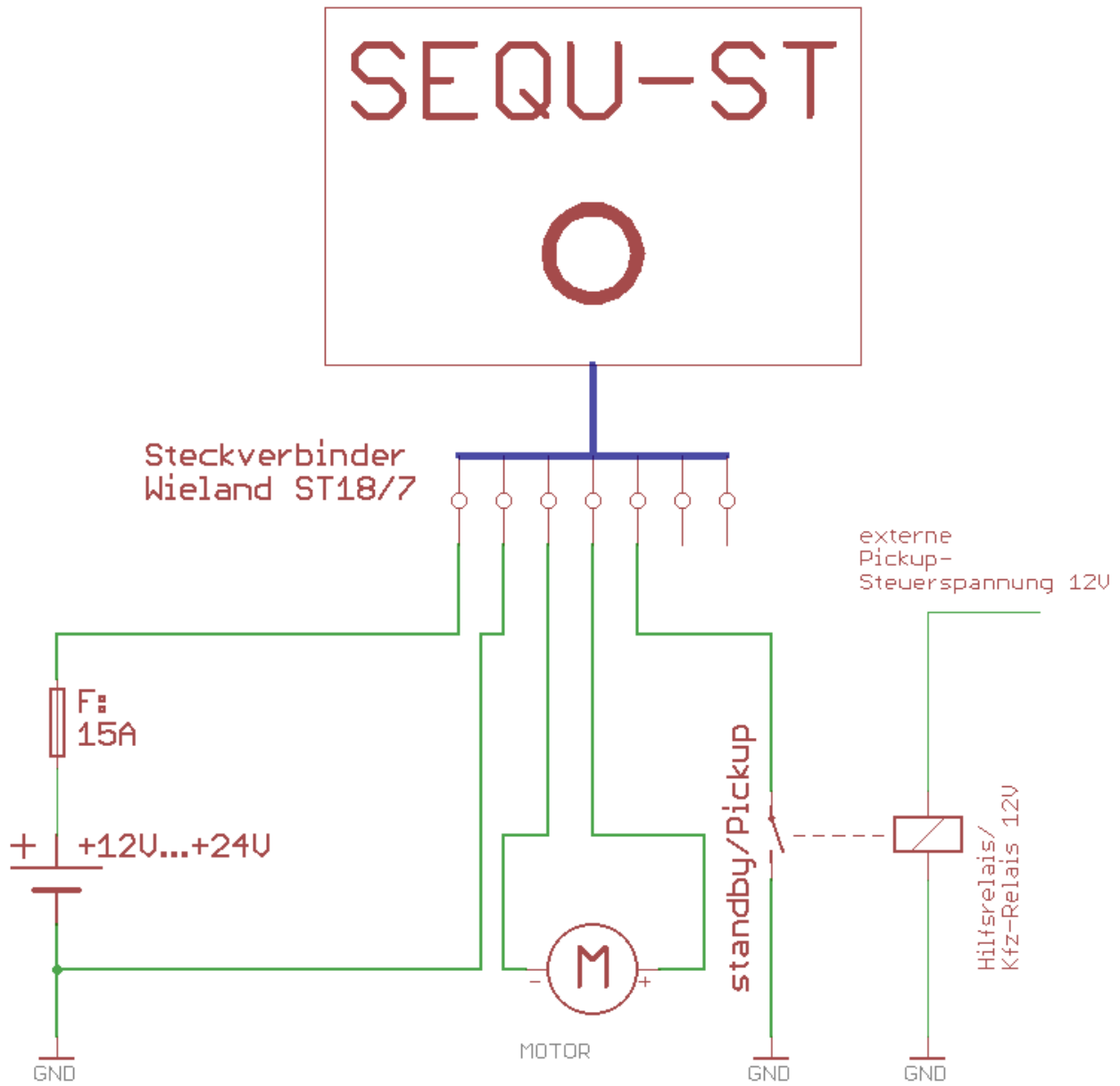für Elektronikentwicklung
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Sheet: 1/3

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

SEQU-ST

Steckverbinder
Wieland ST18/7

externe
Pickup-
Steuerspannung 12V

F:
15A

+ +12V...+24V

standby/Pickup

Hilfsrelais/
Kfz-Relais 12V

M

MOTOR

GND

GND

GND

TITLE: SEQU_ST_Anschlussplan

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