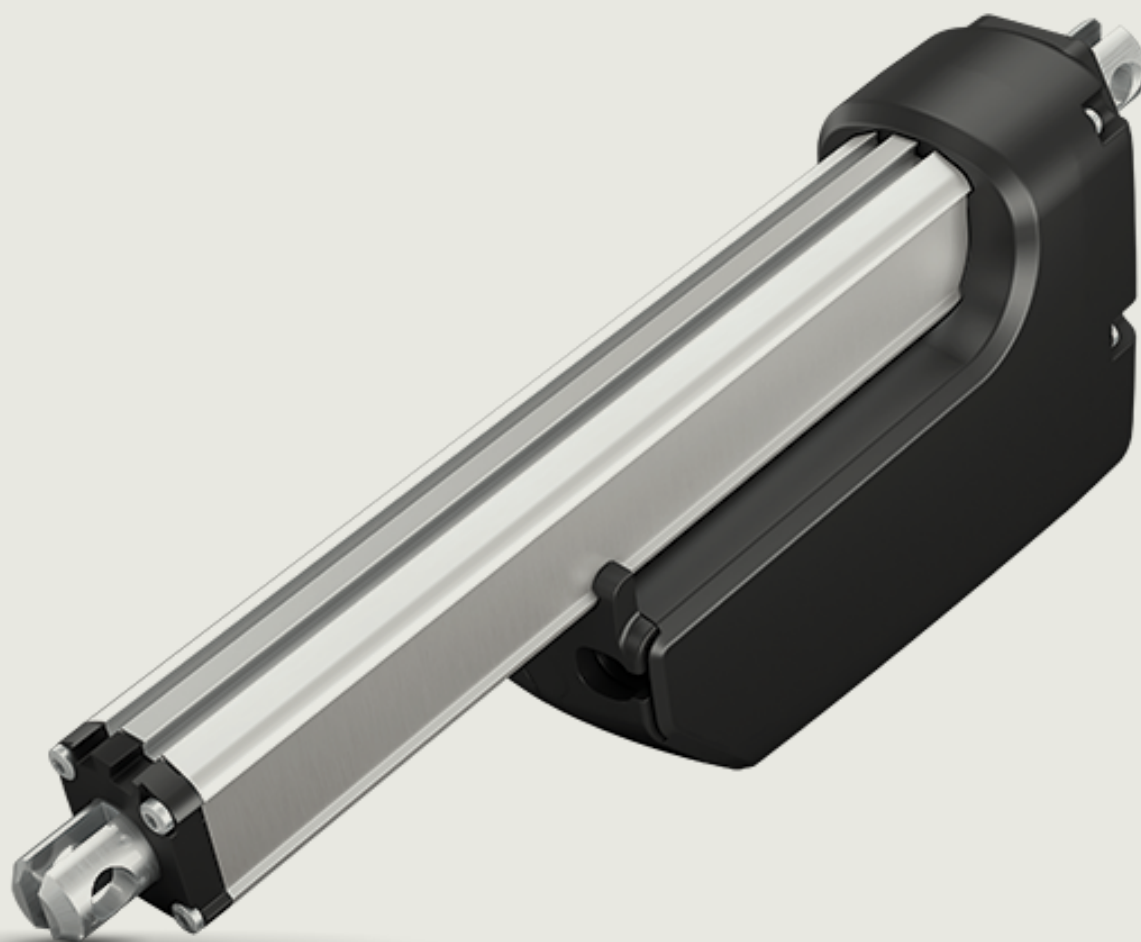
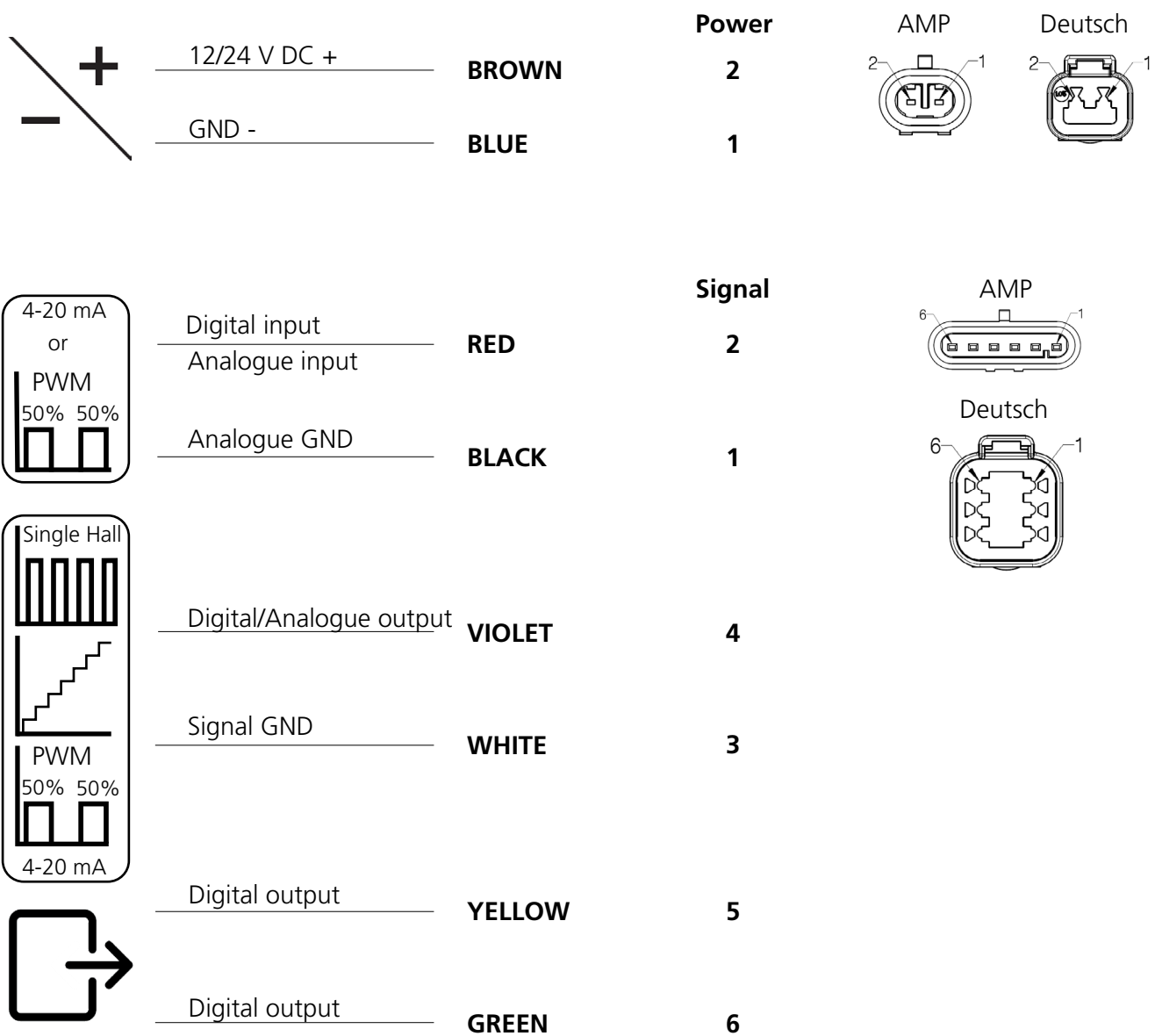


Actuator LA33 With proportional control **Connection diagram**



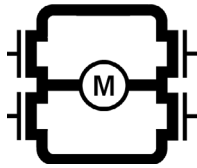
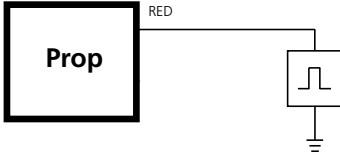
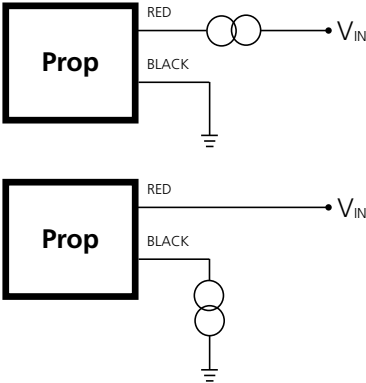
Connection diagram

33XXXXXXXXXX3XXX=XXXXXXXXX3(4/5)XXXX



Please be aware that if the power supply is not properly connected, you might damage the actuator!

I/O specifications

Input/Output	Specification	Comments
Description	<p>Easy-to-use interface with integrated power electronics (H-bridge).</p> <p>The actuator is speed controlled by means of a PWM or 4-20 mA signal.</p> <p>Proportional provides a wide range of possibilities for customisation.</p>	
Brown	<p>12 - 24 V DC + (VCC)</p> <p>12 V \pm 20 %</p> <p>24 V \pm 10 %</p> <p>12 V, max. 13 A</p> <p>- current cut off at 15 A</p> <p>24 V, max. 9 A</p> <p>- current cut off at 10 A</p>	<p>Note: Do not change the power supply polarity on the Brown and Blue wires!</p> <p>Power supply GND (-) is electrically connected to the housing</p> <p>If the temperature drops below 0 °C, all current limits will automatically increase to:</p> <p>20 A for 12 V</p> <p>15 A for 24 V</p>
Blue	<p>12-24 V DC - (GND)</p> <p>Connect Blue to negative</p>	
Red Black	<p>PWM:</p> 	<p>Signal levels:</p> <p>> 10 V = High</p> <p>< 2 V = Low</p> <p>with reference to power GND (Blue)</p> <p>Equivalent input resistance \approx 22k</p> <p>Frequency: Min. 100 Hz</p> <p>Max. 1000 Hz</p> <p>Overcurrent protected, reverse voltage protected</p>
	<p>4-20 mA:</p> 	<p>Sinking current with reference to power GND (Blue)</p> <p>Common mode voltage: GND to V supply</p> <p>Equivalent input resistance \approx 135 ohm</p> <p>Overcurrent protected, reverse voltage protected</p>
Green	Endstop reached out	<p>Output voltage min. $V_{IN} - 2$ V</p> <p>Source current max. 100 mA</p> <p>Endstop Signals are NOT potential free.</p> <p>Endstop Signals can be configured with BusLink software according to any position needed</p>
Yellow	Endstop reached in	<p>When configuring virtual endstop, it is not necessary to choose the position feedback</p> <p>Endstop reached and virtual endstop will work even when feedback is not chosen</p>

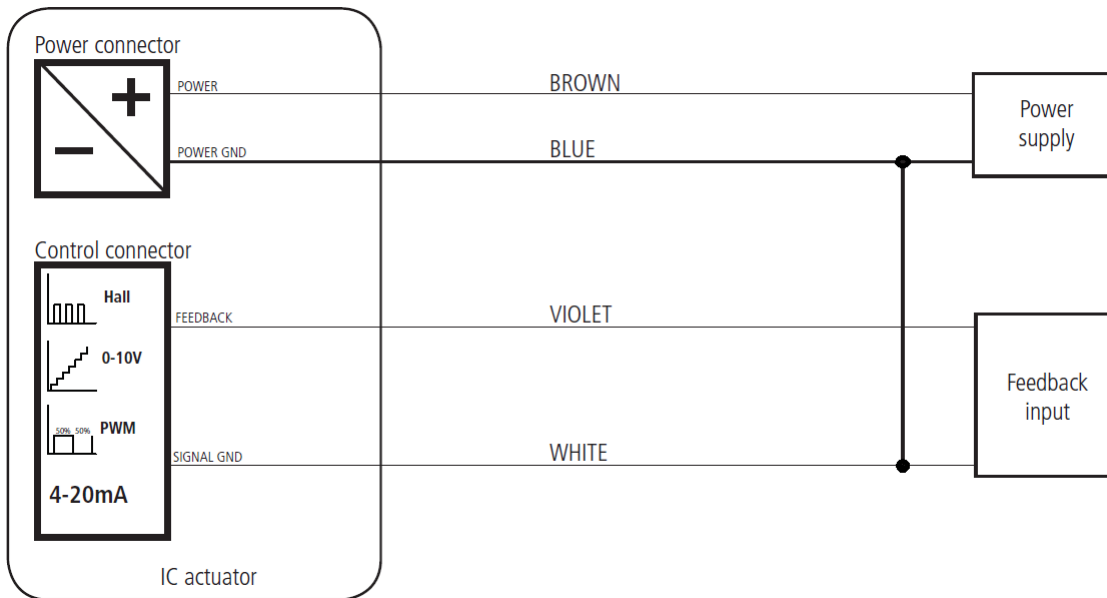
Input/Output	Specification	Comments
Green	Endstop reached out	Output voltage min $V_{in} - 2\text{ V}$ Source current max. 100 mA Endstop Signals are NOT potential free. Endstop reached can be configured with Buslink software according to any position needed
Yellow	Endstop reached in	When configuring virtual endstop, it is not necessary to choose the position feedback Endstop reached and virtual endstop will work even when feedback is not chosen
Violet	Analogue feedback (0-10 V): Configure any high/low combination between 0-10 V	Ripple max. 200 mV Transaction delay 20 ms Linear feedback 0.5% Max. current output. 1 mA
	Single Hall output (PNP): Movement per Single Hall count: 33090: Actuator = 0.3 mm per count 33150: Actuator = 0.5 mm per count 33200: Actuator = 1.1 mm per count Frequency: Frequency is up to 125 Hz on Single Hall output depending on load and spindle. Higher voltage on the motor can result in shorter pulses	Output voltage min. $V_{IN} - 2\text{ V}$ Max. current output: 12 mA Max. 680 nF
	Digital output feedback PWM: Configure any high/low combination between 0-100%	Output voltage min. $V_{IN} - 2\text{ V}$ Frequency: 75 Hz \pm 10 Hz as standard, but this can be customised. Duty cycle: Any low/high combination between 0 and 100 percent. Open collector source current max. 12 mA
	Analogue feedback (4-20 mA): Configure any high/low combination between 4-20 mA	Tolerances $\pm 0.2\text{ mA}$ Transaction delay 20 ms Linear feedback 0.5% Output: Source Serial resistance: 12 V max. 300 ohm 24 V max. 900 ohm
	All absolute value feedbacks (0-10 V, PWM and 4-20 mA)	Standby power consumption: 12 V, 85 mA 24 V, 50 mA It is recommendable to have the actuator activate its limit switches on a regular basis to ensure more precise positioning
White	Signal GND:	For correct wiring of power GND and Signal GND



- Current cut-offs should not be used as stop function! This might damage the actuator. Current cut-offs should only be used in emergencies!
- Current cut-off limits are not proportional with the load curves of the actuator. This means that the current cut-offs cannot be used as load indicator.
- There are tolerances on the spindle, nut, gear wheels etc. and these tolerances will have an influence on the current consumption for the specific actuator.



Correct wiring of Power GND and Signal GND for IC Advanced:



Please note: This section only applies for 0-10 V, Hall and PWM feedback options.

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