

## UNIVERSAL PRO TRACTION SWITCH

The UNIVERSAL PRO traction switch is a setpoint device for electrically powered vehicles and is predestined for use in harsh environmental conditions due to its completely protected electronics and the use of non-contacting Hall-effect technology.

Besides the analogue signal for the travel speed setpoint, the traction switch also provides two digital direction signals. Using an integrated microswitch, a body protection switch function can be implemented in the tiller head.

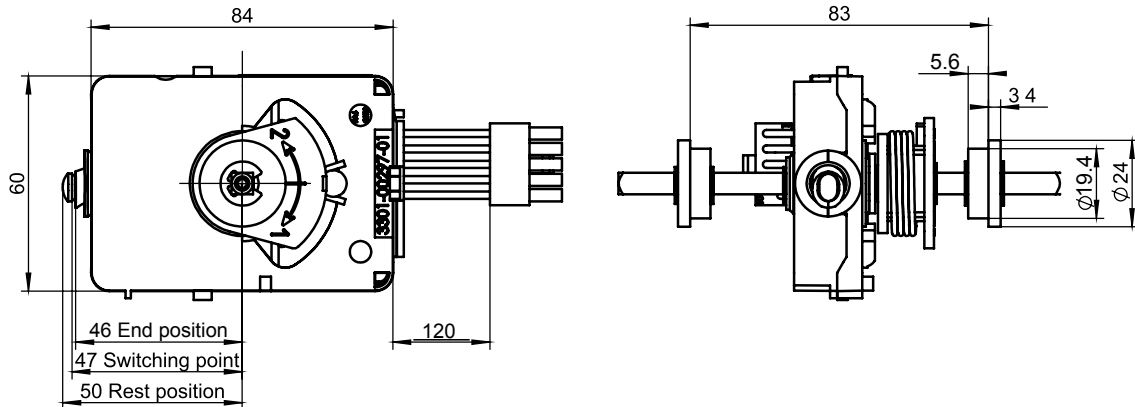
- Angle of rotation:  $\pm 45^\circ$
- Non-contacting Hall-effect technology
- Integrated microswitch for the body protection switchfunction
- Ideal for use in TEMO 600 and TEMO 200
- Two digital direction signals
- One analogue signal for travel speed
- Output characteristics: single ended
- Nominal supply voltage: 12/24/36/48 VDC
- Greater protection against environmental influences
- Protection class: IP 57
- Sealed connector available

# Traction switch



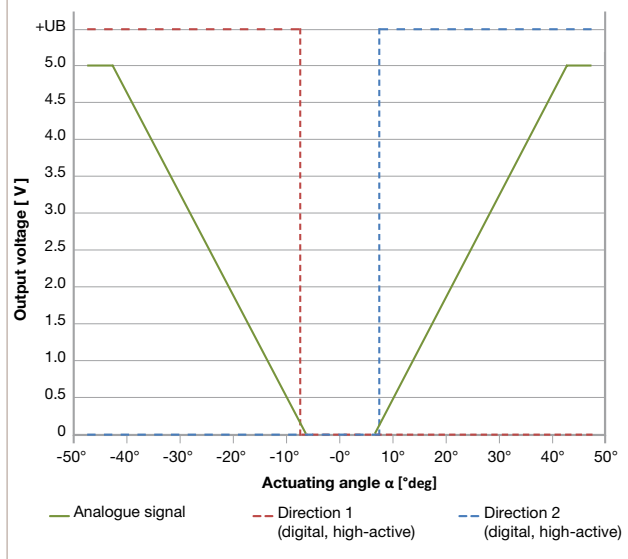
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## Dimensions [mm]



<b>Technical data</b>	
Technology	Contactless via Hall sensors
<b>Mechanical data</b>	
Dimensions	See drawing
Mechanical angle of rotation	$\pm 45^\circ$
Actuation	Square axle of size 6 x 6 mm
Cable and plug-in connector	10-pin. FLRY 0.5 mm <sup>2</sup> with Molex Mini-Fit Jr. (standard), or Tyco Mini-Universal Mate-n-Lok, sealed (see versions below)
<b>Electrical data</b>	
Operating voltage range	12 – 60 V (-30% / +20%)
Power current	20 mA
Analogue output	Characteristic curve (single ended signal): 0 – 5 V
Max. current	1 mA
Digital outputs for direction 1/2	Active-high version: PNP transistor with pull-down. Active-low version: NPN transistor with pull-up
Max. current	100 mA
Body protection switch	Microswitch, NO and NC
Max. current	70 mA
<b>Operating conditions</b>	
Operating temperature range	-30°C to +60°C
Max. actuation force	12 Nm
Service life	
Emergency reverse button	1 million operations
Throttle axis	3 million cycles
Vibration test/shock	DIN EN 60068-2-6/27/29
EMC	DIN EN 12895
Protection class (IP)	IP 57 (except for the Molex plug-in connector)

## Characteristic curve (single ended signal)



<b>Versions</b>			
Type	Active-high Switches +UB	Active-high Switches +UB	Active-low R* Switches GND
Item number	3203-30630-A0	3203-30630-B0	3203-30630-B2
Plug-in connector	Molex Mini-Fit Jr., type 5557, 10-pin	Tyco Mini-Universal Mate-n-Lok, sealed	Tyco Mini-Universal Mate-n-Lok, sealed
Manufacturer no.	39-01-2100	794781-1	794781-1
PIN assignment:			
1	NC body protection switch	GND	GND
2	-	+UB (12 – 60V)	+UB (12 – 60V)
3	Direction 1	NO body protection switch	NO body protection switch
4	-	Direction 2	Direction 2
5	Analogue output, 0–5V	-	-
6	GND	NC body protection switch	NC body protection switch
7	+UB (12–60V)	-	-
8	NO body protection switch	Direction 1	Direction 1
9	Direction 2	-	-
10	-	Analogue output, 0–5V	Analogue output, 0–5V

\* Active-low R: Version with series resistance R = 10 kΩ on analogue output