

UNIVERSAL TRACTION SWITCH

The UNIVERSAL traction switch serves as a setpoint device for electrically powered vehicles. Besides the analogue signal for the travel speed setpoint, the traction switch also provides two digital direction signals. Using the integrated microswitch, a body protection switch function can be implemented in the tiller head.

The UNIVERSAL traction switch is available with various analogue characteristic curves as well as active-low and active-high digital outputs. This ensures compatibility with motor controllers from well-known controller manufacturers.

- Angle of rotation: ±45°
- Membrane-sensor technology for potentiometers and direction switches
- Integrated microswitch for the body protection switch function
- Ideal for use in TEMO 600 and TEMO 200
- Two digital direction signals
- One analogue signal for travel speed
- Optional separate power supply for potentiometers

Traction switches

Dimensions [mm]



Example of a characteristic curve



Wig-wag signal (without tolerance indication)

Example of a characteristic curve



Single-ended signal (without tolerance indication)

Membrane-sensor technology						
for potentiometers						
See drawing						
2 x 43°± 2°						
Square axle of size 6 x 6 mm						
10-pin Molex Mini-Fit, Jr.™						
10 x FLRY 0.5 mm ²						
Electrical data						
24 VDC (12 to 60 VDC)						
< 40 mA						
12 V max.						
$R_{total} 5.875 \text{ k}\Omega \pm 30\%$						
for single-ended signal						
0.5 mA						

Technical data							
Electrical data							
Digital signal							
Output	Transistor with open collector						
Max. voltage	= +UB						
Max. current	100 mA						
Body protection switch for external supply							
Max. voltage	48 VDC						
Max. current (resistive load)	70 mA						
Operating conditions							
Operating temperature range	-30°C to +50°C						
Max. actuation force	12 Nm						
Service life							
Emergency reverse button	1 million operations						
Throttle axis	2 million cycles						
Vibration test/shock	DIN EN 60068-2-6/27/29						
EMC	DIN EN 12895						
Protection class	IP 54 (except for the connector)						

Various traction switch types										
Accelerator switch	3105-00136-01	3105-00136-03	3105-00136-04	3105-00136-05	3105-00136-06	3105-00136-07	3105-00136-08			
Characteristic curve	Single-ended	Single-ended	Single-ended	Wig-wag	Wig-wag	Single-ended	Wig-wag			
Rated operat- ing voltage	24/36/48 V	24/36/48 V	24/36/48 V	24/36/48 V	24/36/48 V	24/36/48 V	24/36/48 V			
PIN 1	Emergency reverse button NC active-high	Emergency reverse button NC active-low	Emergency reverse button NC active-low	Emergency reverse button NC active-high	Emergency reverse button NC active-low	Emergency reverse button NC active-low	Emergency reverse button NC			
PIN 2	-	-	-	-	-	-	Potentiometer			
PIN 3	Digital signal 1 active-high	Digital signal 2 active-low	Digital signal 2 active-low	Digital signal 2 active-high	Digital signal 2 active-low	Digital signal 2 active-low	Digital signal 2			
PIN 4	Potimeter + (max. 12 V)	-	-	Potimeter + (max. 12 V)	Potimeter + (max. 12 V)	Potimeter + (max. 12 V)	Potimeter + (max. 12 V)			
PIN 5	Potentiometer out	Analogue output 0 – 5 V	Potentiometer out	Potentiometer out	Potentiometer out	Potentiometer out	Potentiometer out			
PIN 6	GND	GND	GND	GND	GND	GND	GND			
PIN 7	+UB (12 – 60 V)	+UB (12 – 60 V)	+UB (12 – 60 V)	+UB (12 – 60 V)	+UB (12 – 60 V)	+UB (12 – 60 V)	Digital IN (signal 1 + 2)			
PIN 8	Emergency reverse button NO active-high	Emergency reverse button NO active-low	Emergency reverse button NO active-low	Emergency reverse button NO active-high	Emergency reverse button NO active-low	Emergency reverse button NO active-low	Emergency reverse button NO			
PIN 9	Digital signal 2 active-high	Digital signal 1 active-low	Digital signal 1 active-low	Digital signal 1 active-high	Digital signal 1 active-low	Digital signal 1 active-low	Digital signal 1			
PIN 10	Potentiometer-	-	GND connected with PIN 6	Potentiometer -	Potentiometer -	Potentiometer -	Emergency reverse button IN			