

# Datasheet TSense TS153-1

Version: 20210407

## Description

The TSense sensor type TS153-1 will be mounted contact free on a machine tool. It will detect the touch of the tool holder (metal) with the base plate.



Product family	<b>TSense</b>
Type	<b>TS153-1</b>
<b>Electrical data</b>	
Supply voltage range	10..30 Vdc
Supply voltage nominal Un	24Vdc
Power consumption (max)	5 W
Switching signal	Push pull, normally close, 100 mA
Test input	Connected to supply voltage, Current @Un = 9mA
Output voltage drop	<=1.2 Vdc
Current consumption, no load	≤ 55 mA @Un
Time delay before availability	<= 60 ms
Output response time (max)	0.1 ms
Output delay time (min)	10 ms
Indication	LED ok (green) / LED error (red) / LED out (yellow)
Reverse polarity protection	Yes
Over current protection out	Yes (≈160mA)
Leadfree	Yes
Adjustment	Potentiometer for switching adjustment
Connector	M12x1 4 pin, A-coded (Binder connector male 99 3431 202 04)

## Environment data

Temperature range	10..50°C
Humidity Range	20..90%
Protection degree	IP67
Dimensions sensor element	Diameter inner = 153.3mm (+0.7mm /-0.3mm) Diameter outer = 189mm (+-1mm)
Dimensions electronic enclosure	150 x 60 x 28mm (tangential to the sensor element)
Housing material	ABS (or PA12)

## Behavior out signal

The out signal is normally close. In normal operation mode, the signal is on (supply voltage – voltage drop).

If the sensor detects a touch, the out signal is 0.

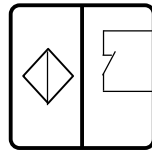
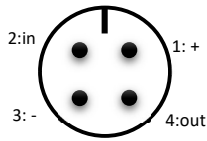
If an error occurs, the out signal is 0, even the sensor detects a touch.

Following behavior will occurs an error:

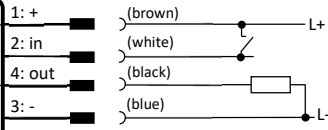
- 10Vdc > supply voltage > 31Vdc
- Internal supply not ok
- -30°C > Temperature electronic > 110°C
- Overcurrent out signal

### Connection diagram

M12x1 4pin A-coded



User side



### Dimensional drawing

