



SERIES 2064 – TURBIDITY SENSOR



ADVANTAGE

Vibration resistant construction

Simplified security concepts

Variable signal output

High signal accuracy

PRODUCT FEATURES

- Optical turbidity measurement through transmitted measurement
- Streamlined design
- Color independent measurement
- Additional temperature measurement

EXAMPLES OF APPLICATION

- Washing machines
- Dishwasher
- Coffee machines
- Cleaning equipment
- Laboratory devices
- Industrial applications

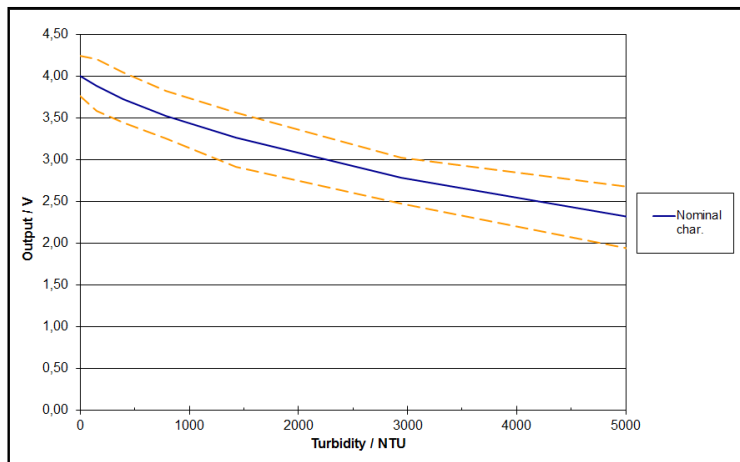
Measuring range	Analog with 0 ... 5,000 NTU
Housing material	PP (stabilized against suds)
Ambient temperature	+5 °C ... 85 °C
Terminal type	Rast 2.5/1-4de, 4-pole
Supply voltage	+5 ... 24 V
Max. permissible forward current	Up to 70 mA at 20°C and up to 15 mA at 85 °C
Wavelength at peak emission	860 nm
Flame retardancy	UL HB (optionally V-0 version)
RoHS / REACH	In accordance with the guidelines
Used NTC	Murata NCP18WM474 max measurement current 40µA
For usage with galvanically isolated supply voltage Corresponds with actual RoHS / REACH requirements	



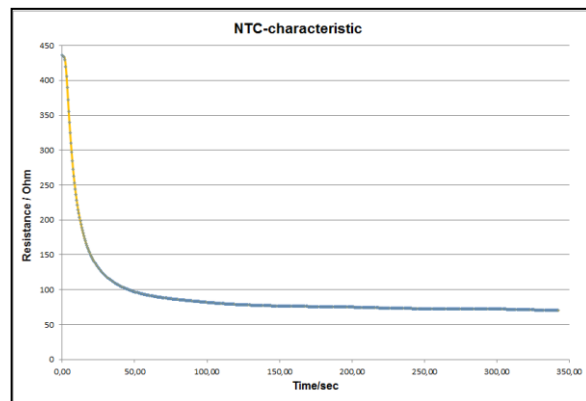
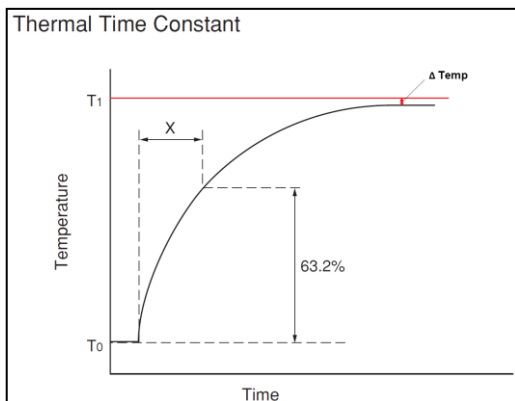
CHARACTERISTIC CURVES

TURBIDITY MEASUREMENT		
MEDIUM	TURBIDITY	OUTPUT VOLTAGE U_A/V
Osmosis water	1 NTU $\pm 2\%$	4,0 V $\pm 6\%$
Osmosis water with coffee creamers*	150 NTU $\pm 4\%$	3,93 V $\pm 8\%$
Osmosis water with coffee creamers*	400 NTU $\pm 4\%$	3,77 V $\pm 8\%$
Osmosis water with coffee creamers*	800 NTU $\pm 4\%$	3,57 V $\pm 8\%$
Osmosis water with coffee creamers*	1500 NTU $\pm 6\%$	3,27 V $\pm 10\%$
Osmosis water with coffee creamers*	3000 NTU $\pm 6\%$	2,78 V $\pm 10\%$
Osmosis water with coffee creamers*	5000 NTU $\pm 12\%$	2,33 V $\pm 16\%$

*Kaufland k-classic



TEMPERATURE MEASUREMENT	
PARAMETER	VALUE
Resistance at 25 °C	470 kOhm
Resistance at 63.2% jump to 72 °C	209,62 kOhm
response time	<15 s
Max. measuring current	40 μA



Transient behavior (Δ Temp) depends on surrounding application



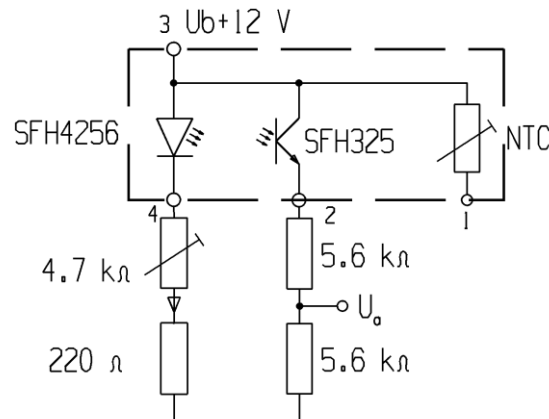
MARQUARDT



The output curve depends on the used supply voltage and the electric circuit inside the customer application and thus it can be individual adjusted.

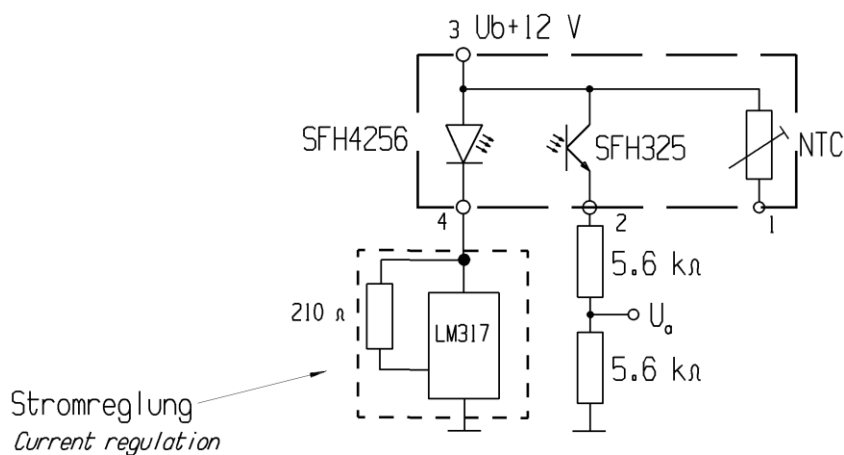
Application circuit for shown turbidity characteristic:

Anwender Stromkreis
Application circuit



For a direct validation of the sensor we suggest the following measuring circuit:

Prinzip Messschaltung
Measuring circuit principal

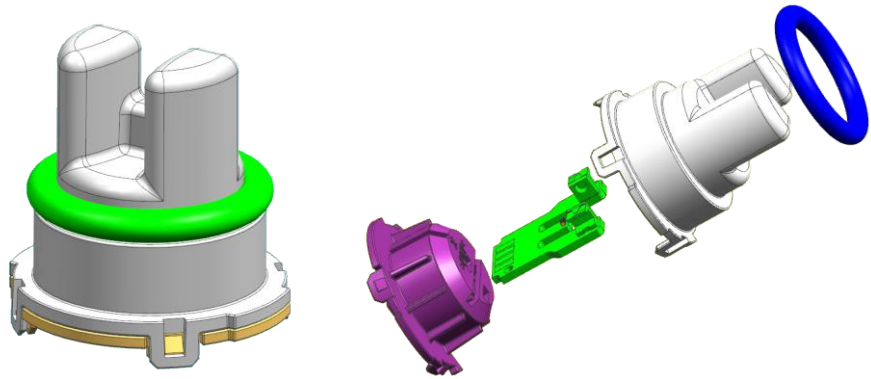


MARQUARDT



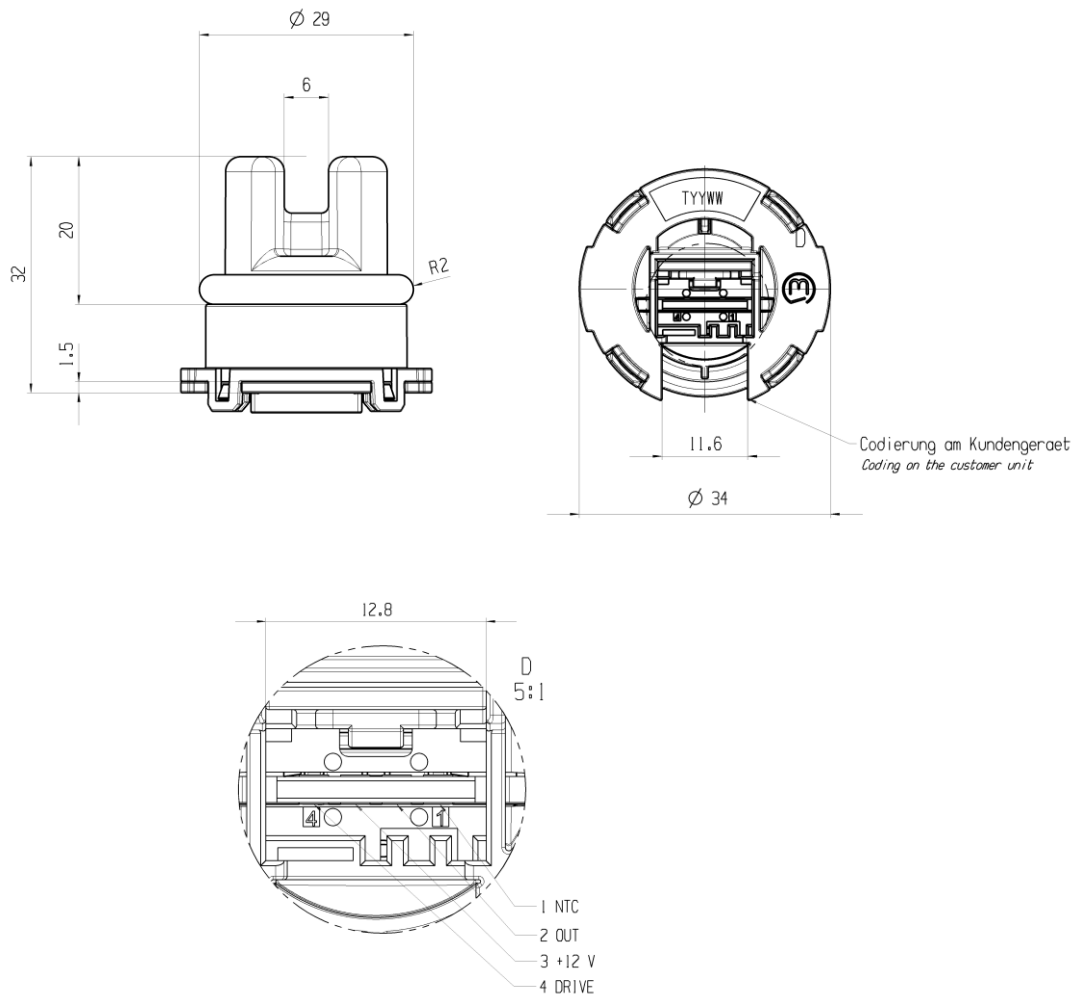
SERIES 2064 – TURBIDITY SENSOR

PRODUCT IMAGES



DRAWINGS

(Dimensions in mm)



MARQUARDT

Marquardt Mechatronik GmbH • Schloss-Straße 16 • 78604 Riethim-Weilheim • Germany
Phone +49 (0) 74 24 / 99-0 • Telefax +49 (0) 74 24 / 99-23 99 • marquardt@marquardt.de • www.marquardt.com