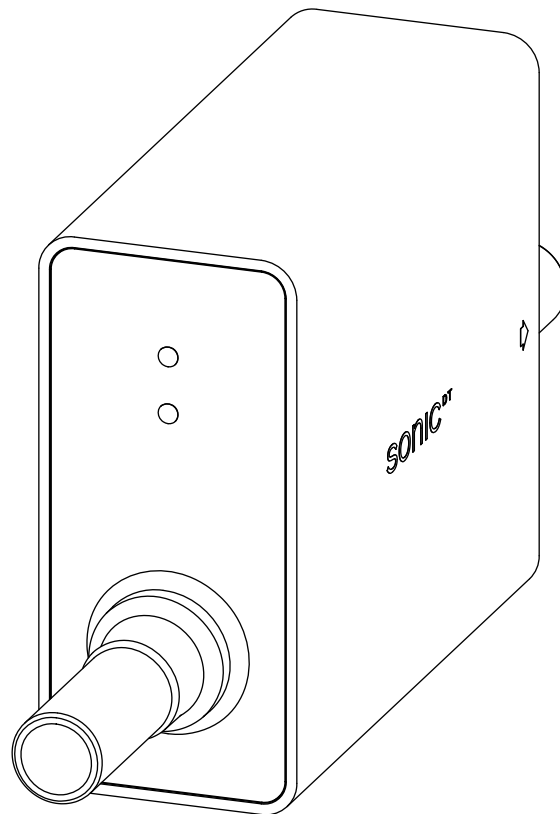


DATA SHEET



DIGimesa[®]
SWITZERLAND

sonic^{DT2020}
Part number: 990-1002/01

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Version 03 SONIC DT2020 #990-1002/01 GB Seite 1-4

General Description

The sonic^{DT2020} flow sensor features a huge dynamic range as well as excellent accuracy for the measurement of water-based liquids. Beer but also soft drinks or other liquids can easily be measured by this innovative Ultrasonic Time of Flight technology sensor. The almost straight tube is suitable for mechanical cleaning with sponge balls without restrictions in the flow

path. It offers easy integration in the liquid flowline thanks to the Ø1/2" (Ø12.70 mm) John Guest® Super Speedfit compatible tube ends. The pulse output signal (open collector) can be used in combination with a totalizer display to control single lines. The sonic^{DT2020} also features an empty detection in the way of an open collector alarm given wenn no liquid is present in the measurement tube.

Special features: John Guest® Super Speedfit Ø1/2" (12.70mm) can be directly connected. Empty line detection with alarm output.

Suitable for mechanical cleaning with sponge balls.



Materials:

Wetted parts: Grivity HT1V-5 FWA (tube)
 Weight: ~ 400 gram (depending on cable length)
 Housing: PP with FKM seal protection class of IPx5
 Screw nut: M3 x 6mm deep (aluminium)

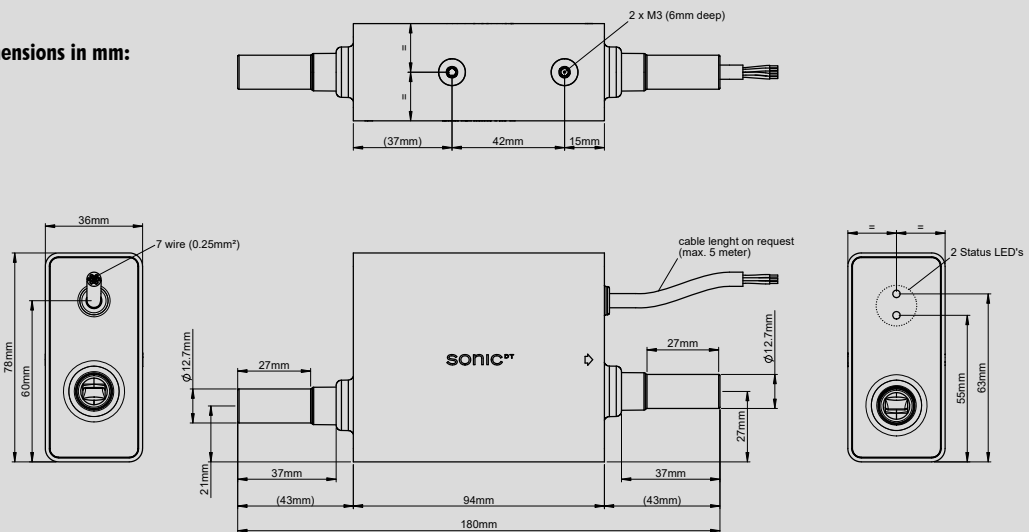
Technical data:

Measuring fluid: water based liquids
 Calibration fluid: water 25°C
 Linear range: 0.1 - 12.0 l/min (zero flow cutoff at 100 ml/min)
 Response time: ~50ms
 Measuring accuracy: ± 50ml/min or ±2.0% of reading
 Fluid measurement temperature: +0°C to +30°C (32°F to 86°F)
 Pressure range: 10 bar at 20°C (145 psi /68°F)
 Mounting position: freely selectable
 Nozzle size: Ø 9.80mm

Electrical connection ratings:

Power supply: +12VDC to +24 VDC
 Consumption: max. 100mA (@12VDC supply)
 Pulse output: Open collector NPN, 1000 pulses per litre (max. 30VDC, 30mA)
 Alarm output: No fluid alarm, open collector NPN (max. 30VDC, 30mA)
 Status LED: Green = normal operation
 Red = sensor disfunction
 Orange = warning (no fluid, bubbles, particles, etc.)
 Connections: Cable 7 x 0.25mm² wire AWG 24 (open wire) cable length on request, max. 5.0 meter (standard 1.5 meter)

Dimensions in mm:



CABLE PINOUT

Cable color	Description
white	GND
brown	+12VDC to +24VDC
green	Pulse output
yellow	No fluid alarm output
blue	GND
pink	No Connection (service port only)
grey	No Connection (service port only)

RESISTANCE

Special regulations which must be complied with by the flow sensor manufacturer apply to each country, e.g. CE, NSF, FDA and SK. The various media flowing through the flow sensor differ from application to application. You are advised to enquire with the medium manufacturer as to whether the entire installation and the flow sensor are resistant to the medium itself (see Material)!

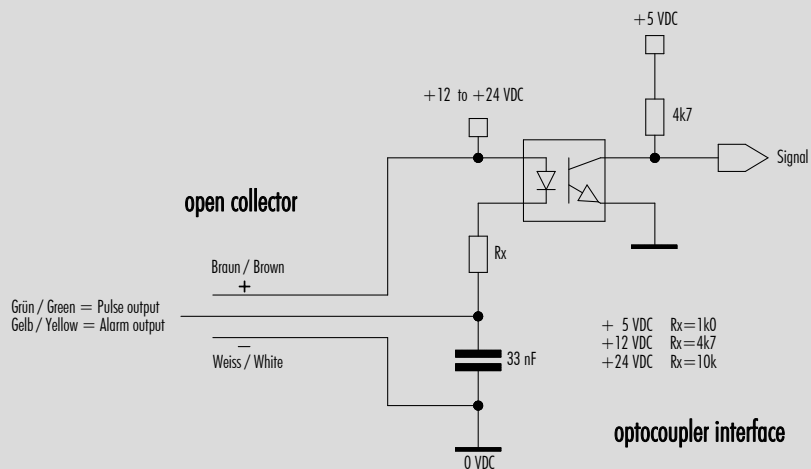
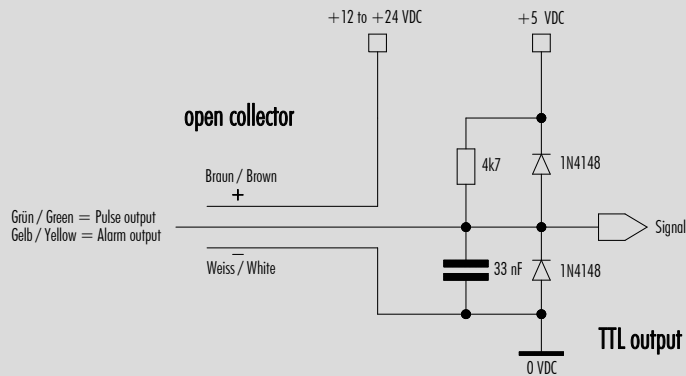
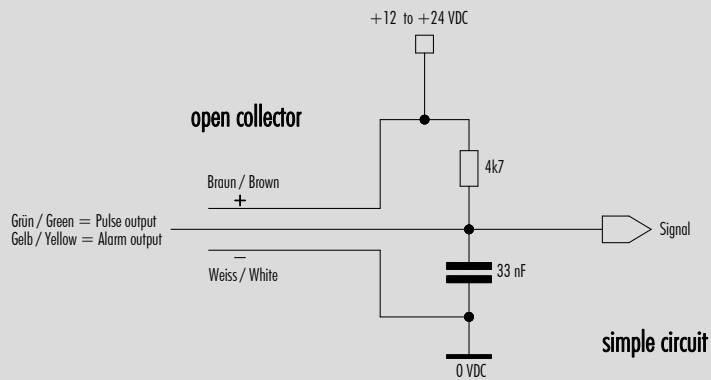
ELECTRONIC

DIGMESA electronic circuitry is always designed for operation with DIGMESA flow sensors. Please note the following if connecting to other electronic circuitry:

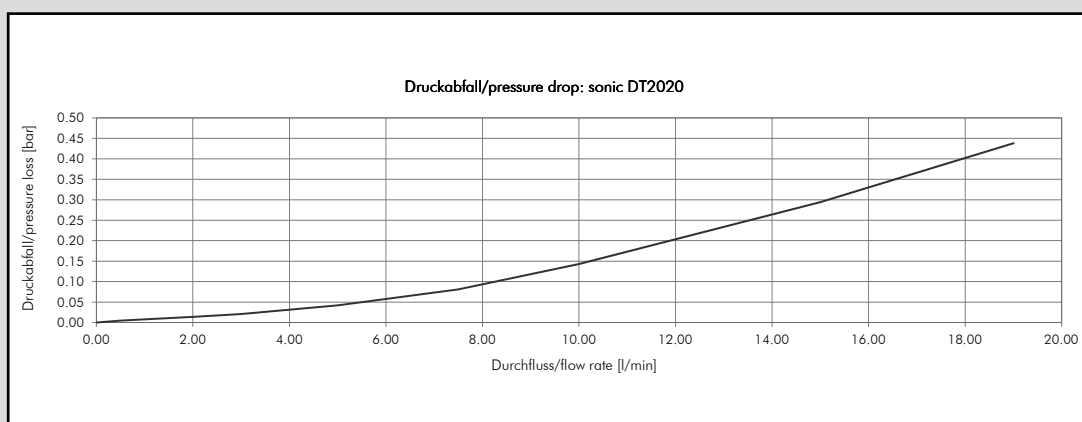
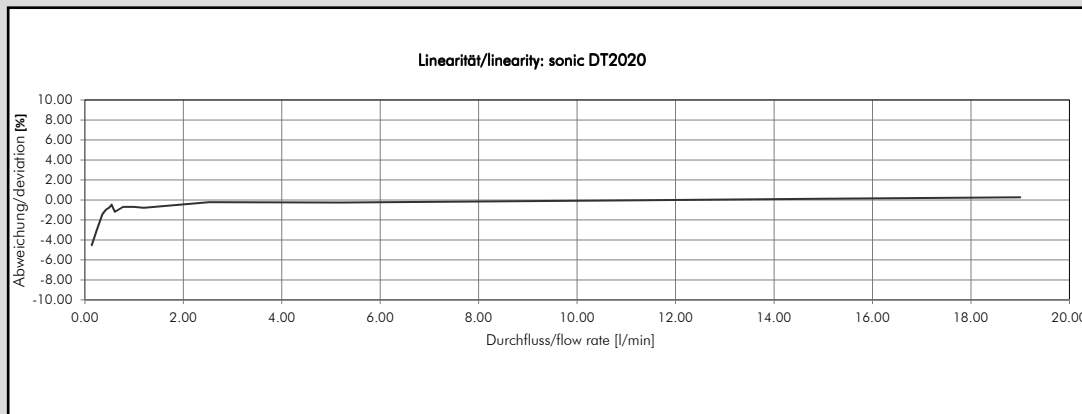
- The flow sensor does not supply an output voltage but switches the signal terminal to 0 V ground (actuated) or leaves it open (non-actuated)
- There must be a pull-up resistor between power supply + and signal depending on electronic circuitry!



Interface Connection: Examples Open collector



Measurement sonic^{DT2020}



Fluid: Water / 25°C

Nozzle size	Pulses/ Litre	ml/pulse	min. flow rate [l/min]	max. flow rate [l/min]
Ø 9.80 mm	1'000	1.00	0.10	12.00

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the fluid
- Ensure that there are no reverse pressure surges
- Ensure that there is no air in the system
- Keep the pressure loss as small as possible
- Pay attention to the mounting position of the flow sensor
- Min/max flow should be in the linear range of the selected flow sensor
- Clean the system at appropriate intervals
- Avoid electrical voltage spikes
- Incorrect wiring of power supply +, signal and ground will destroy the flow sensor
- Do not load electrical contacts mechanically
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)

The values specified must be considered as approximate values.

The number of pulses per litre may differ depending on medium and installation.

We recommend to calibrate the number of pulses per litre in line with the complete installation.