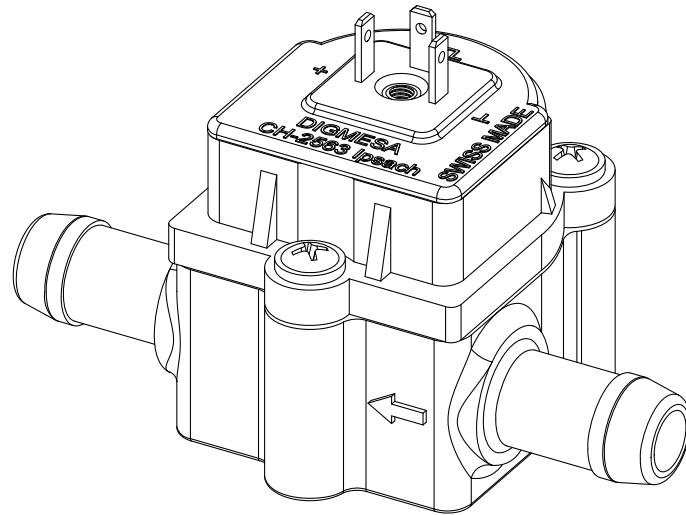# DATA SHEET

DiGMESA

CHOOSE THE ORIGINAL

FHKU hose nipple
Part number: 938-3270/01

General Description

The FHKU Flowmeter is a general-purpose device; its working range can be individually defined according to its nozzle size. It is employed for measuring, regulating or metering and guarantees most precise measurement of fluid quantities. In addition, a pulse generator integrated into the flowmeter guarantees a practically unlimited useful life.

Specific applications: Linear inlet and outlet, compact design.

Approvals / Standards

EN55014-1:00+A1:01+A2:02, EN61000-6-3:01+A11:04 , IEC61000-6-3:06(ed.2.0), EN61000-3-2:06, IEC61000-3-2:05(ed.3.0), EN61000-3-3:95+A1:01+A2:05, IEC61000-3-3:94+A1:01+A2:05(Cons.ed 1.2), EN55014-2:97+A1:01, EN61000-6-1:01, IEC61000-6-1:05(ed.2)

(NSF) COMPONENT CE

Material:

|	
Housing:	PPS 40%GF
Bearing pin:	Inox 1.4305
Nozzle:	Ø 7.0mm like housing
O-ring:	MVQ (Silikon) FPM (Viton) / EPDM on request
Turbine:	PVDF 2 Magnets
Magnete:	Ceramic Sr Fe O (in contact with the medium)
Screws:	Inox A2 PT-screws (Phillips cross recessed)

Technical data:

|	
Flow rate:	1.4 - 25 l/min
Continuous operation:	turbine $<$ 500 rpm
Measuring accuracy:	+/- 2.0%
Repetition:	$<$ +/- 0.25%
Temperature range:	-10°C to +100°C 14°F to 212°F
Pressure range:	20 bar at 20°C 290 psi /68°F
Mounting position:	Horizontal *
Nozzle size:	Ø 7.0mm

Electrical connection ratings:

Power supply:	+3.8 to +24 VDC
Consumption:	$<$ 8 mA
Signal connection:	Open collector NPN
Signal voltage:	0 VDC GND (saturation $<$ 0.7 V)
Signal load:	max. 20 mA
Leakage current:	max. 10 μA
Connections:	3-pin AMP 2.8 x 0.8 mm
Signal:	Square-wave output
Duty Cycle:	∼ 50%

Dimensions in mm:

*Horizontal position is, when this side is facing up.
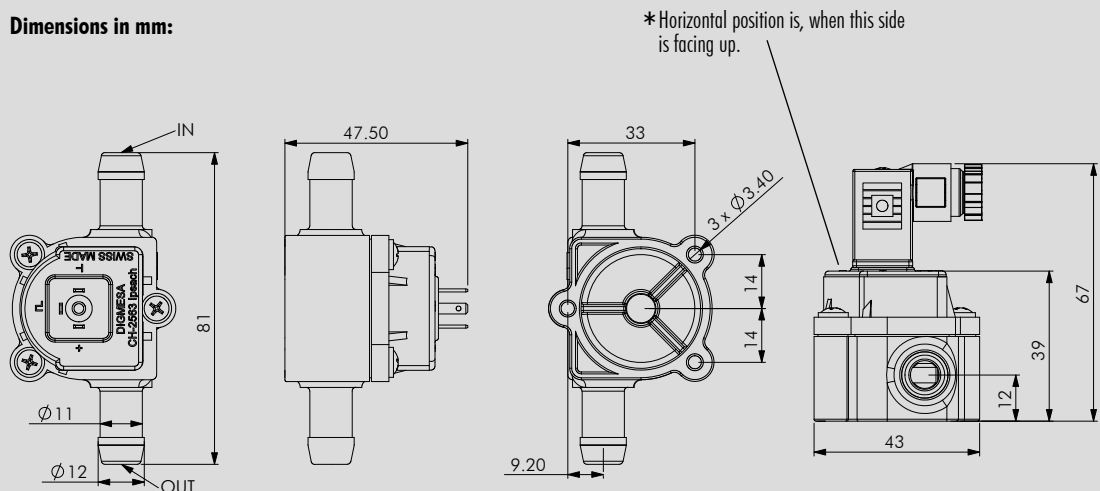
Options:
3-pin valve connector
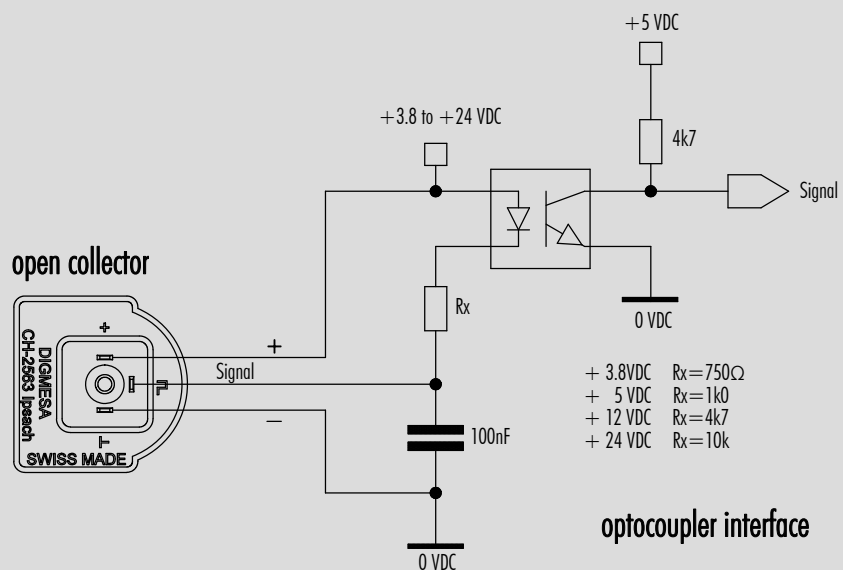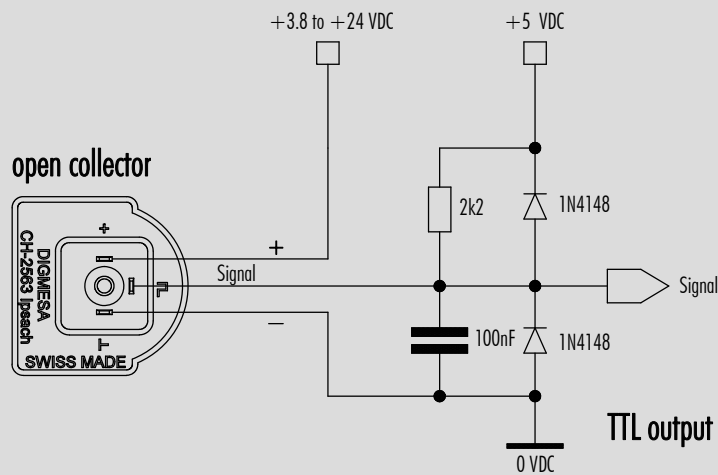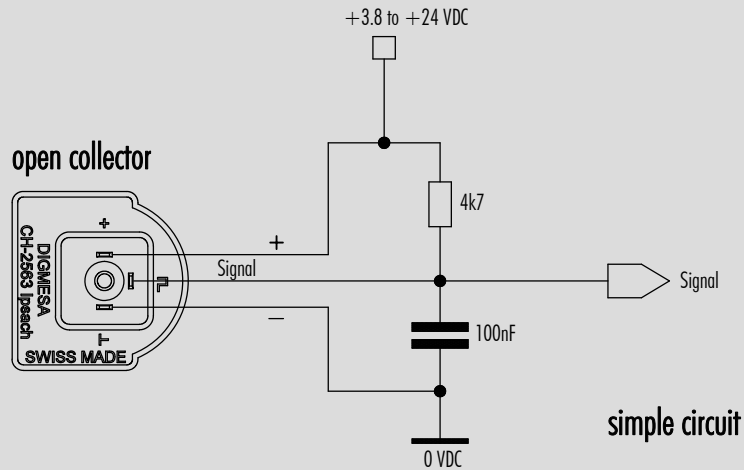Item number: 941-0010/3
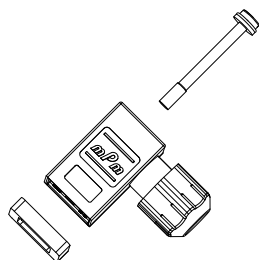
RESISTANCE

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

ELECTRONIC

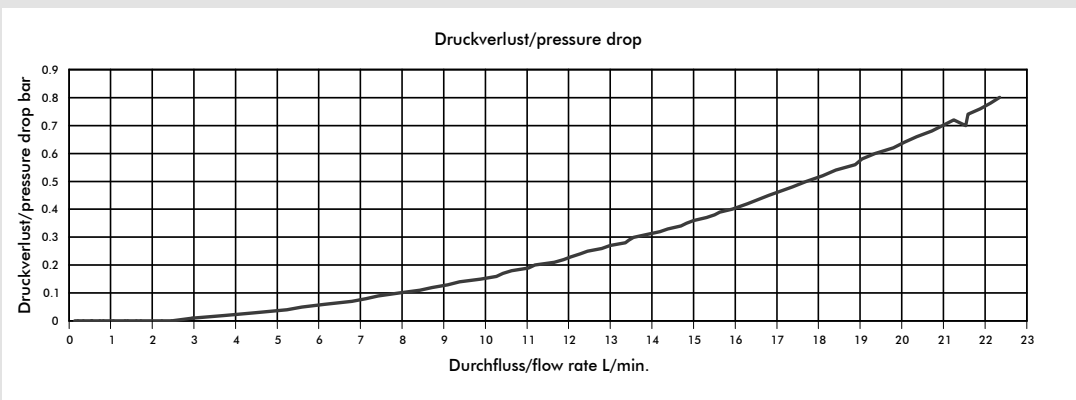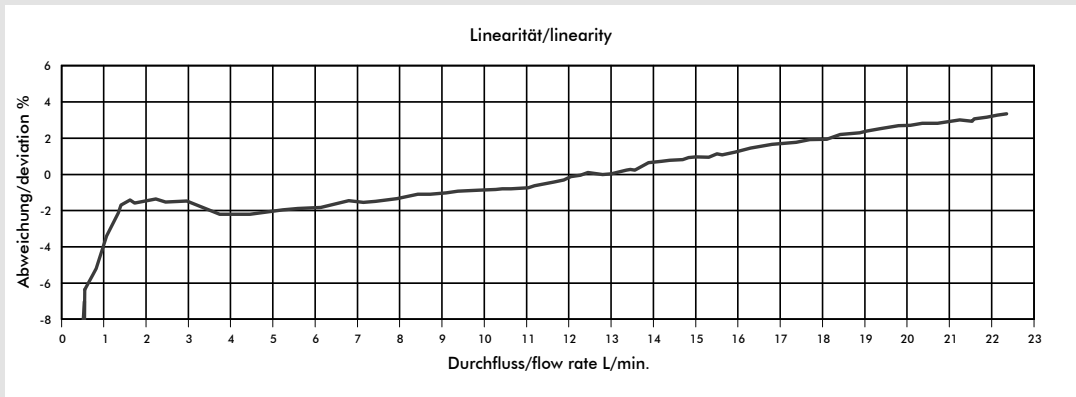DIGMESA electronic circuitry is always designed for operation with DIGMESA flowmeters. Please note the following if connecting to other electronic circuitry:

• The flowmeter 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

open collector

DIGMESA
CH-2563 Ipseach
SWISS MADE

+3.8 to +24 VDC

4k7

Signal

+

Signal

100nF

−

0 VDC

simple circuit

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open collector

DIGMESA
CH-2563 Ipseach
SWISS MADE

+3.8 to +24 VDC

+5 VDC

2k2

1N4148

+

Signal

Signal

100nF

1N4148

−

0 VDC

TTL output

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open collector

DIGMESA
CH-2563 Ipseach
SWISS MADE

+5 VDC

4k7

+3.8 to +24 VDC

Signal

Rx

0 VDC

+

Signal

100nF

−

0 VDC

+ 3.8VDC   Rx=750Ω
+ 5 VDC   Rx=1k0
+ 12 VDC   Rx=4k7
+ 24 VDC   Rx=10k

optocoupler interface

Measurement Curve FHKU with nozzle Ø 7.00 mm

Linearität/linearity

Abweichung/deviation %

Durchfluss/flow rate L/min.

Druckverlust/pressure drop

Druckverlust/pressure drop bar

Durchfluss/flow rate L/min.

Medium: Water / max. Pressure: 3.3 bar

Nozzle size	Pulses/litre	g/pulse	min. flow rate in [litres/min] at linear start	max. flow rate in [litres/min]	Pressure loss in [bar]
Ø 7.0 mm	165	6.0	1.4	22	0.8

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.

MEASUREMENT TIPS

- Ensure that there is no fast-pulsatory movement of the media
- 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
- Note the mounting position of the flowmeter
- Min/max flow should be in the linear range of the selected flowmeter
- Clean the system at appropriate intervals
- Avoid electrical current peaks
- Incorrect cabling of power supply +, signal and ground will destroy the flowmeter
- Do not mechanically load electrical contacts
- Avoid moisture on the electrical contacts
- Avoid stray pick-up via the cable (Do not lay cables in parallel with high current loads)