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Product Information **Displays**

Flow Meter DF9648

- **Measuring range programmable ±99999 Digit**
- **Measuring unit programmable**
- **2 totalizators programmable**
- **Pulse output for external evaluation**
- **Max. 4 alarm outputs, relay or electronic**
- **Isolated analog output 0/4..20 mA, 0/2..10 V**

Characteristics

The Flow-Meter DF9648 is used in food technology, chemical and pharmaceutical industry and water technology.
In connection with any type of pulse flow sensor the current flow rate and total flow can be measured, displayed and converted to an analog output signal. The dosage of quantity may be realized by using the alarm outputs. The optional pulse output allows an external summation of the flow quantity.

Technical data

Power supply

Supply voltage	: 230 V AC ±10 %; 115 V AC ±10 %; 24 V AC ±10 % or 24 V DC ±15 %
Power consump.	: max. 3.5 VA, with analog output 5 VA
Operating temp.	: -10..+55 °C
CE-conformity	: EN 61326:2013; EN 60664-1:2007

Measuring input

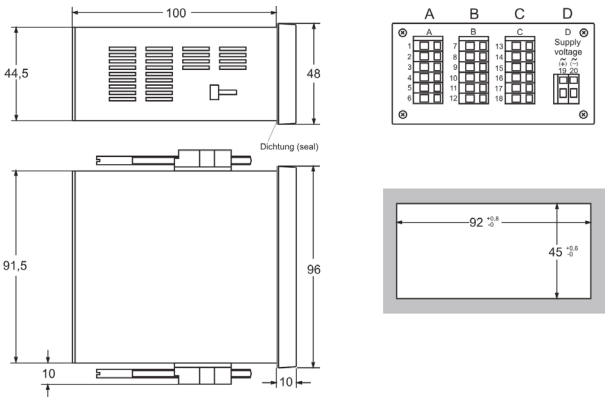
Type	: sensor with ac-output (coil), Namur-sensor or Hall-sensor (rectangular-signal) programmable alternative external pulses 0/5..24 VDC
- Coil	: switching threshold programmable ±5..±2000 mV, pull-down resistor 100 kΩ
- NPN sensor	: low level < 0.9 V, high level > 2.1 V pull-up resistor 20 kΩ
- PNP sensor	: low level < 0.9 V, high level > 2.1 V pull-down resistor 20 kΩ
- Namur	: low level< 1.2 mA, high level > 2.1 mA, hysteresis approx. 0.5 mA pull-down resistor 1 kΩ
- Relay	: pulse width min. 5 ms
Frequency	: input A or B 0.1 Hz..15 kHz (contact max. 30 Hz) input A and B together 0.1 Hz..8 kHz (contact max. 30 Hz)
Reset-input	: low level< 0.9 V, high level > 2.1 V, pull-down resistor 20 kΩ pulse width min. 5 ms, reset at rising edge
Accuracy	: ≤ 0.1 % ±1 Digit
Sensor supply	: 8 V DC stabilized (Namur), 24 V DC (coil, NPN, PNP, Push-Pull), Ri approx. 150 Ω, max. 50 mA (25 mA with 4 relay output)

Display	: LED red, 14.2 mm
Parameter	: LED 2-digit red, 7 mm (parameter - and output indicator)
Display range	: flow -99999..99999 Digit, totalizer -99999..0..999999 Digit, with leading zero suppression, max. 3 decimals, daily totalizer not voltage safe, total totalizer voltage safe

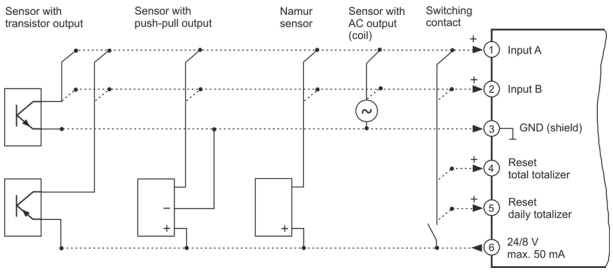
Output

Relay	: SPDT <250 V AC<250 VA<2 A, <300 V DC<50 W<2 A
Transistor	: max. 35 V AC/DC / 100 mA, with short circuit protection
Analog	: 0/4..20 mA burden ≤500 Ω; 0/2..10 V load >500 Ω, isolated automatic output changing (burden dependent)
Accuracy	: 0.1 %; TK 0.01 %/K
Pulse output	: transistor ≤ 5 Hz, relays ≤ 0.1 Hz (max. 500,000 switching cycles) pulse width 100 ms
Case	: panel case DIN96x48 mm, material PA6-GF; UL94V-0
Dimensions	: front 96x48 mm, mounting depth 100 mm,
Weight	: max. 390 g
Connection	: clamp terminals, 2 mm² single wire, 1.5 mm² flexible wire, AWG14
Protection class	: front IP65, terminals IP20, acc. to BGV A3

Dimensions



Connection diagram



Ordering code

DF9648 - 1. [ ] - 2. [ ] - 3. [ ] - 4. [ ] - 5. [ ] - 6. [ ] - 7. [ ]

1.	**Terminal strip A**	
	1	Input for sensors with AC-signals (coil), pulse signal (Namur, NPN, PNP, Push-Pull) or switching contact
	2	as 1, but additional input for addition/subtraction
2.	**Terminal strip B**	
	00	not installed
	2R	2 relay outputs
	2T	2 electronic outputs (alarm/pulse output)*
3.	**Terminal strip C**	
	00	not installed
	2R	2 relay outputs
	2T	2 electronic outputs
	AO	analog output
4.	**Terminal strip D supply voltage**	
	0	230 V AC ±10 % 50-60Hz
	1	115 V AC ±10 % 50-60Hz
	4	24 V AC ±10 % 50-60Hz
	5	24 V DC ±15 %
5.	**Options**	
	00	without option
	11	*pulse output (only at terminal strip B)
6.	**Unit**	appears in the unit field
7.	**Additional text** above the display (3x90 mm HxW)	

* Strip B: output A1 = alarm, A2 = pulse output

Connection diagram for terminal strips B-D