

## Product Information

# Flow Meter DF9648



- Measuring range programmable  $\pm 99999$  Digit
- Measuring unit programmable
- 2 totalizers 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.

**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  $\leq 500 \Omega$ ; 0/2..10 V load  $>500 \Omega$ , isolated automatic output changing (burden dependent)  
**Accuracy** : 0.1 %; TK 0.01 %/K  
**Pulse output** : transistor  $\leq 5$  Hz, relays  $\leq 0.1$  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 mm<sup>2</sup> single wire, 1.5 mm<sup>2</sup> flexible wire, AWG14  
**Protection class** : front IP65, terminals IP20, acc. to BGV A3

## Technical data

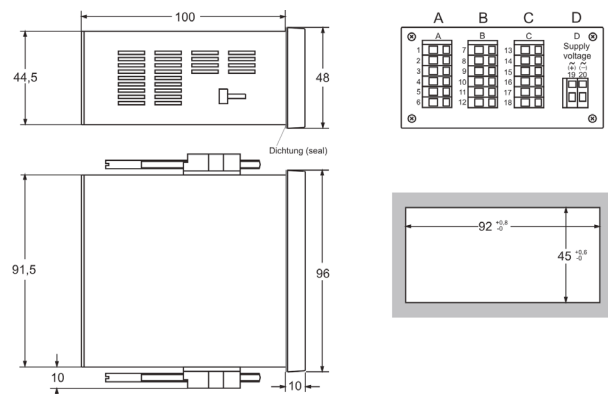
### Power supply

**Supply voltage** : 230 V AC  $\pm 10$  %; 115 V AC  $\pm 10$  %; 24 V AC  $\pm 10$  % or 24 V DC  $\pm 15$  %  
**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  $\pm 5.. \pm 2000$  mV, pull-down resistor 100 k $\Omega$   
**- NPN sensor** : low level < 0.9 V, high level > 2.1 V pull-up resistor 20 k $\Omega$   
**- PNP sensor** : low level < 0.9 V, high level > 2.1 V pull-down resistor 20 k $\Omega$   
**- Namur** : low level < 1.2 mA, high level > 2.1 mA, hysteresis approx. 0.5 mA pull-down resistor 1 k $\Omega$   
**- 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 k $\Omega$  pulse width min. 5 ms, reset at rising edge  
**Accuracy** :  $\leq 0.1$  %  $\pm 1$  Digit  
**Sensor supply** : 8 V DC stabilized (Namur), 24 V DC (coil, NPN, PNP, Push-Pull), Ri approx. 150  $\Omega$ , max. 50 mA (25 mA with 4 relay output)

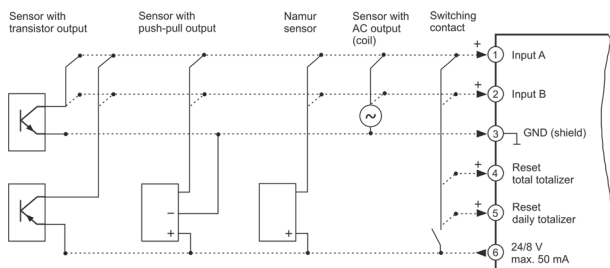
## Dimensions



## Product Information

## Displays

### 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 $\pm 10\%$ 50-60Hz |
| 1 | 115 V AC $\pm 10\%$ 50-60Hz |
| 4 | 24 V AC $\pm 10\%$ 50-60Hz  |
| 5 | 24 V DC $\pm 15\%$          |

#### 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