

## 2251 Panelmeter for two pulse sensors

- Input frequency 0.0001 Hz..5 kHz
- 6-digit display for frequency difference or ratio
- Sensors NPN, PNP, Namur, Closing contact or Pick-up
- Scaleable display
- Galvanically isolated output 0/4..20 mA, 0..10 V
- Serial output RS232 and RS485
- 2 alarm relays
- Pulse output for a cumulative counter
- Selectable digital filter for input pulse
- Sensor supply 24 VDC, max. 150 mA
- Power supply 85..240 VAC or 12..32 VDC/ 24 VAC



The panel meter 2251 is designed for two pulse sensors such as NPN-, PNP-, Namur -sensors, closing contact or pickup. The meter calculates the difference between the input frequencies, subtraction A-B, or alternatively, the meter divides the input frequencies, division A/B.

The input frequency range 0,0001Hz..5 kHz is exceptionally wide starting with very low frequencies. The display is scaleable on the whole frequency range, e.g. 0-1,23 Hz can correspond to the range 0-5000 on the display. Output is freely scaleable on the basis of the display, e.g. 4-20 mA. Two different measuring methods are applied: in low frequencies the time interval between two incoming pulses is measured and in higher frequencies the frequency. The display also provides a power supply of 24VDC, max. 150 mA for a sensor.

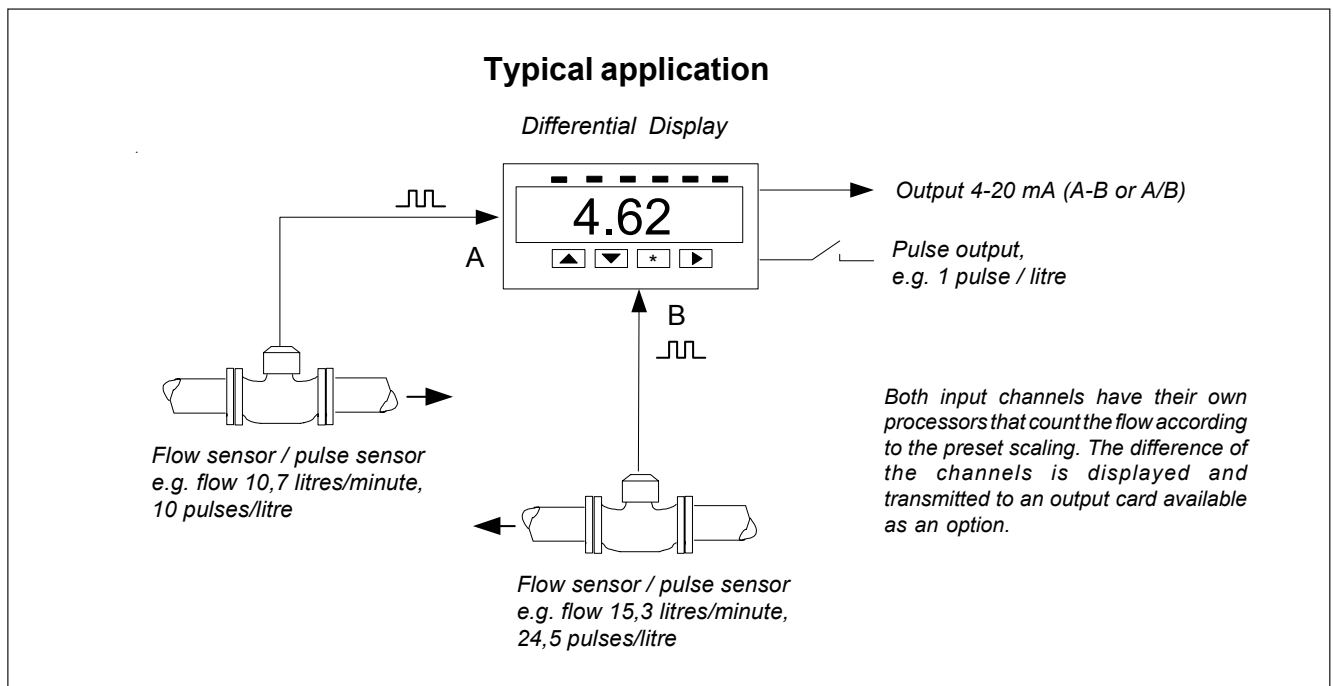
The panelmeter has one optional card slot and there are several options available: output 0/4-20 mA, 0-10V, alarms or

serial output RS-485/232. The optional cards can easily be added on afterwards as well.

The alarm relay card (or I/O -card) may also be used as an output for a pulse divider. The pulse divider transmits a pulse for instance to an external counter when the pulse rate set in the divider is reached (e.g. 1 pulse/ 1000 litres).

Separate passwords can be set for access to the the configuration menu and alarms. Brightness of the display is selectable. Front panel protection rating is IP65.

The panelmeter series 2000 is very flexible and easy to modify by changing input cards for different kinds of sensors, such as temperature sensors, pulse sensors, serial inputs etc. The modification does not require any calibration. The optional cards are the same for all the instruments in this product family. Each panelmeter type has its own datasheet.



# Technical specification:

**Input frequency range:** 0,0001..5 kHz  
**Display scaling:** on the whole display range freely selectable  
**Decimal point selection:** freely selectable  
**Updating time of display:** 1..2 incoming pulses  
**Sensors:** NPN, PNP, Namur, pick-up or closing contact  
 input pulse 0 = <1V, 1 = 5..32 V  
**Sensor supply:** 24 VDC ±5 %, max. 150 mA, isolated from power supply  
**Measuring method:** measuring the time interval between incoming pulses  
**Accuracy:** 0,01 % of span

**Output signal (optional):**  
 Output 0..20 mA, 4..20 mA, max. load 1000 ohm.,  
 Voltage output 0-10V (max. load 5 mA).  
 Galvanic isolation from input and power supply (test voltage 2500 V, 1min.). Scaling programmable.  
 DAC 12 bits, accuracy 0,05% of span.

**Serial output (optional):**  
 RS-232 or RS-485 only for reading measurement values.  
 Baud rate: 300...19200 baud.

**Alarms (optional):**  
 Two alarm levels freely adjustable via the front panel. Choice of direction for relay function.  
 Relay contacts max. 230 VAC, 2A (2000-REL2).

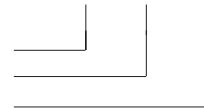
**Pulse output (optional):**  
 Divider range 1..64000  
 Output pulse width 1..100 ms  
 I/O card (>1 Hz) max. 60 V, 0,5 A

**General:**  
 Display 6 digits, bright red (or green) LED, digit height 14,5 mm, brightness selectable  
 Input filter digital, freely adjustable  
 Operating temperature -10..+60 °C  
 Case material plastic, colour black  
 Terminals removable, wire 2,5 mm<sup>2</sup>  
 Power supply 85..240 VAC or 12..32 VDC/24 VAC  
 Front panel protection IP65 with a rubber gasket  
 Weight 240 g

## How to order:

### 2251-REL2-24VDC

Type  
 Alarm card  
 Power supply  
 12..32 VDC/ 24VAC  
 or 85..240 VAC



### Optional cards (one option possible):

Output card 2000-OUT  
 Alarm card, 2 relays 2000-REL2  
 Serial output card 2000-RS  
 I/O-card 2000-I/O

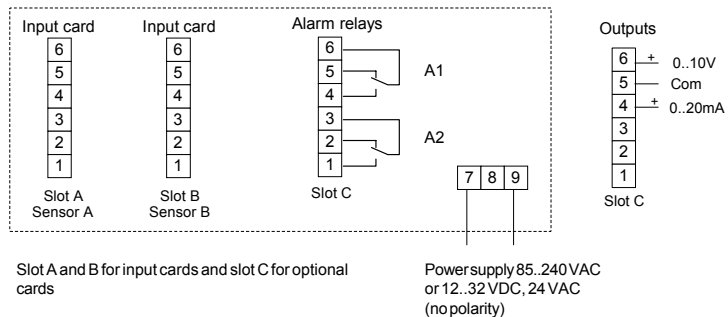
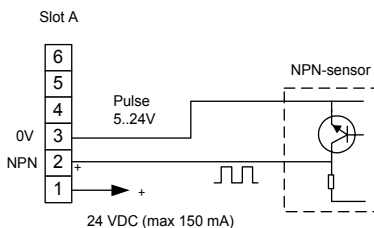
(When ordering a panelmeter, the "2000" of the cards is left out.)

The panelmeter is also available with a green LED display: please specify 2251GR in the order code.

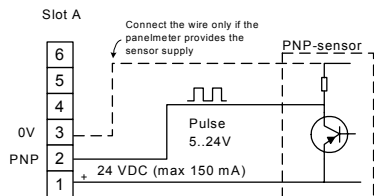
Separate field enclosures can be supplied for 1 to 3 panelmeters. The 2251 is also available in the field display series, model 2800-2251, which has its own datasheet.

## Connection and dimensions:

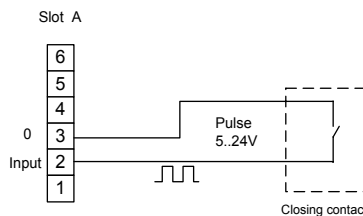
### NPN-input



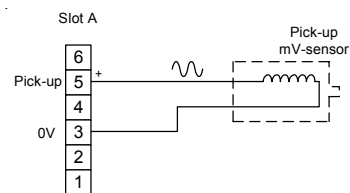
### PNP-input



### Closing contact



### Pick-up input



### Namur-input

