

Variant	<input type="checkbox"/> standard (200), <input type="checkbox"/> chemically resistant (201)
Case (flow direction)	<input type="checkbox"/> left-to-right, <input type="checkbox"/> up-to-down, <input type="checkbox"/> down-to-up
Fluid Type	clear or translucent liquid
Flow Range	<input type="checkbox"/> 0.5...20 l/min, <input type="checkbox"/> l/min
Transmitter Output	3-wire 0(4)...20 mA or 0...10 V
Serial Interface	<input type="checkbox"/> RS232
Display Refresh	1 s
Power Supply	15...32 VDC, max. 4 Vp-p at 50 Hz
Consumption	under 55 mA
Measurement Error	$\leq \pm 1\% \pm 0.01\%$ from span for 1 °C
Reproducibility	$\leq \pm 0.3\%$
Medium Viscosity	1...1000 CST
Medium Temperature / Pressure	max. 90 °C / max. 12 bar
Ambient Temperature / Humidity	-10...65 °C / 0...85% RH
Process Connection	<input type="checkbox"/> G½"M, <input type="checkbox"/> G¾"M, <input type="checkbox"/>
Housing Protection Class	IP65
Wetted parts	<input type="checkbox"/> PVDF, Viton®, Vectra®, SS316, POM; <input type="checkbox"/> PVDF, Viton®, Vectra®, SS316
Seals	<input type="checkbox"/> EPDM, epoxy; <input type="checkbox"/> PTFE

Warranty and Support

.....
serial number

.....
manufacturing date

QC check mark(passed)
(stamp)

88 Slavyanska Str.
P.O.Box 378
Plovdiv 4000, BULGARIA
tel: +359 32 646523, 646524
fax: +359 32 634089, 646517
e-mail: support@comeco.org

QD-8.2.4-WC

Warranty

COMECO warrants this product to be free from defects in materials and workmanship for 1 year. If your unit is found to be defective within that time, we will promptly repair or replace it. This warranty does not cover accidental damage, wear or tear, or consequential or incidental loss. This warranty does not cover any defects caused by wrong transportation, storage, installation, or operating (see 'Specifications').

Technical support

In the unlikely event that you encounter a problem with your COMECO device, please call your local dealer or contact directly our support team.

FLOW TRANSMITTER/MONITOR

PSF200

OPERATION MANUAL




Please read this Operation Manual before mounting and operating!
Save the Manual for future references!

Operating










Parameter	Symbol	Value	Description
Keyboard Lock	L o c	4 E 5 or n o	4 E 5: configuration disabled; n o: configuration enabled
Input Low	i . l . o	0.5 ... 20.0	Input value giving low output range limit
Input High	i . h . i	0.5 ... 20.0	Input value giving high output range limit
Display Low	d l . o	0 ... 999	Display value at low input range limit
Display High	d h . i	0 ... 999	Display value at high input range limit
Display Point	d . p . t	Display decimal point position - 0 or 0.0
Output Signal	o u t	0.20, 4.20, u . i o	Output signal type - 0...20 mA, 4...20 mA, or 0...10 V
Direction	d i r	d i r or r e v	Input/Output Conversion - d i r: direct; r e v: reverse
Output on Error	a E r	n o . , L o . , H i . , 5 R E	n o: no output reaction; L o: 0 mA (0...20 mA), 0 V (0...10 V), 3.5 mA (4...20 mA); H i: 20.5 mA, 10.25 V; 5 R E: saturated in low or high output

! If Output on Error is set to L o or H i , the error reaction runs when the input is outside its specified range with (Input High - Input Low)*2%.




Parameter access

- Press and hold , while turning on power supply and release when L o c appears on display.
- Enable or disable configuration as described in the left table.

Configuration

- Press and hold  until, L o appears on display.
- Use  to choose a parameter (see the table on the left) and press  to enter value adjustment mode.
- Increase or decrease the value with  or  and confirm by pressing  + .
- To store all changes and exit configuration, press  + .

Display Messages

-  (over range) - display value over 999.
-  (under range) - display value below -99.
-  (over load) - flow rate over specified range (see 'Specifications').
- (initial check) - device initialization.
- L o c (locked) - parameter configuration disabled.
- F R L (fail) - memory error; if this error still exists after restart, the unit must be repaired.
- S t o (store) - configuration settings stored in memory.

Overview

PSF200 is a programmable flow transmitter/monitor designed for use with low-viscose clear or translucent liquids, transmitting IR light. The operating principle is based on the liquid volume measurement through light-weight rotor, IR sensor, and sophisticated electronics. The material types used ensure a good thermal resistance up to 90 °C and a chemical resistant variant (PVDF, Vectra®, Viton®, EPDM, PTFE, SS316) is also available for material-compatible fluids. Other ranges except the standard 0.5...20 l/min flow range are available on request.

PSF200 is equipped with a keyboard and a local 3-digit LED display for easy programming and flow monitoring. The transmitter generates a standard analog output signal as well as an optional RS232 interface. This model allows flow rate indication in different engineering units as well as direct or reverse flow-to-output conversion.

PSF200 can be used both as a flow meter and transmitter suitable for water treatment and other applications.



Safety note:

The appropriate national safety regulations must be observed when installing, putting into operation, and running this instrument.

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The undersigned hereby declares, on behalf of COMECO Inc., that this device has been manufactured in compliance with standards EN 61000, EN 61010 and EN 61326, and meets the requirements of Directives 2004/108/EC, 2006/95/EC and 2011/65/EC.

Vladimir Sakaliyski
CEO

COMECO Inc.

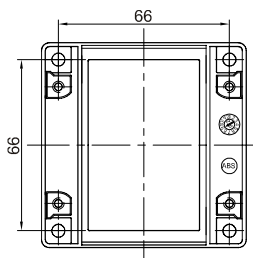
Waste Disposal



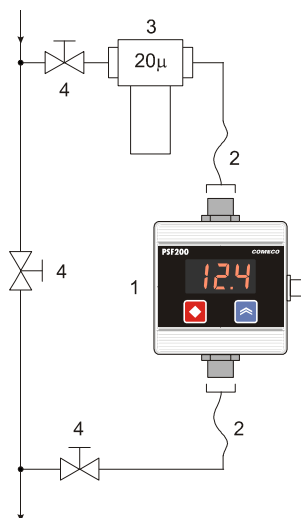
Do not dispose of electronic devices together with household waste material!

If disposed of within European Union, this product should be treated and recycled in accordance with the laws of your jurisdiction implementing the WEEE Directive 2002/96 on the Waste Electrical and Electronic Equipment.

Mounting



- ◆ Install PSF20x to the wall or mounting plate fixing it with 4 screws M4 with proper length through the unit back holes as shown on the left drawing.
- ◆ COMECO set for axial mounting may also be used as well as a set of DIN rail mounting brackets.



- ◆ Install PSF20x in the pipe system using flexible hoses with union nuts according to the drawing on the left. Do not over-tighten!



*Clean the medium-supply lines thoroughly before use!
Use of 20 µm pre-filter is advisable because solid particles or medium contamination may damage the flow sensor and/or influence the measurement results!*

- ◆ Make sure the arrow marking matches the flow direction!
- ◆ Slowly fill the system to avoid air damaging the PSF20x rotor!
- ◆ Avoid uncontrolled air pressure through the unit. This may destroy the rotor!

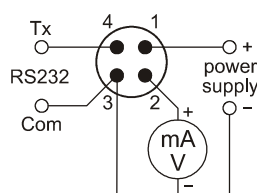


Important notes:

- ◆ The fluid to be measured must be compatible with the wetted parts, ports and seals!
- ◆ Mind that the operating principle of PSF20x is based on volume measurement, i.e. air in water is considered medium!

1 - PSF20x
2 - flexible hoses
3 - filter
4 - bypass valves

Wiring

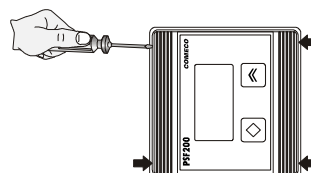


- ◆ Connect PSF20x to your system via 4-pin M12 connector observing pin description shown on the left figure.

Color	Signal
white	output (+)
black	RS232 (Tx)
red	power supply (+V)
blue	common (0 V)

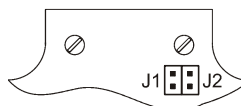
- ◆ If your connector socket is supplied with cable, observe wire colors and signal description given in the left table.

Operating



Output signal selection

- ◆ Using a suitable screwdriver remove two small plastic caps as shown on the left figure.
- ◆ Unscrew the four screws under the caps and remove the upper part of the box containing device electronics.



- ◆ Find the configuration jumpers J1 and J2 on the circuit board.
- ◆ Connect J1 for 0...10 V output.
- ◆ Disconnect J1 for mA output.

Programming order

- ◆ Enable the access to configuration parameters;
- ◆ Set the parameters;
- ◆ Disable configuration access (if needed).