



Datasheet

4 ch Preamplifier

MFPA-4

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MFPA-4

Improved Electronics for Microflow™ Probes

Particle velocity sensor signal conditioning

The MFPA-4 enables the direct connection of USP regular and USP mini probes to any front-end with BNC inputs.

The amplifier provides power to the sensor, and at the same time amplifies the signal prior to the Analog to Digital conversion at the front-end side.

The calibration is independent from the device so probes are interchangeable between MFPA's for more flexible equipment handling.

MFP-4 is fully compatible with Microflow™ frontends and VELO software platform applications, being able to measure and analyze particle velocity, pressure and 3D intensity results at once.

I. MFPA-4

COMPATIBLE SENSORS

The MFPA-4 is specially designed to be used in any measurement environment with 4 channel sensors. The following Microflow™ probes are compatible with the MFPA-4:



USP regular



USP mini

II. CHARACTERISTICS

Parameter	Value	Unit/ note
Physical		
Dimensions (W x D x H)	126 x 49 x 180	mm
Weight	900	g
Environmental parameters		
Relative humidity range	10 – 90%	-
Temperature range	-20 to +60	°C
Power input		
Power supply voltage range	10-30	Vdc
Power output		
Absolute maximum input voltage (all channels)	±12	V
Output voltage	9.5	Vdc
Signal input (LEMO)		
Input impedance AC	22	kΩ
High pass cut-off frequency (all channels)	0.33	Hz
Signal output		
Short circuit current	±65	mA
Signal gain		
Gain velocity channels	(11 x) 20.83	dB
Gain pressure channel	(4x) 12.04	dB

III. INSTALLING MFPA-4

CONNECTING THE PROBE TO MFPA-4

1. Use the 7p-7p Lemo cable to connect the probe to the MFPA.
2. Both ends of the cable are identical so it does not matter which end is connected where.



Figure 1. Connect probe to MFPA

CONNECTING MFPA TO FRONTEND

The standard front-end is called Scout422 and the standard software platform is called VELO. All connections and instructions provided are assumed to be for these items. For other equipment combination, the appearance or access to settings might be similar to the process explained:

1. Use the BNCs output to connect to ch-0, ch-1, ch-2 and ch-3 of the Scout

NOTE: Make sure that the IEPE powering is disabled before starting the measurement.



Figure 2. Connect MFPA to Frontend with as many BNC cables as MFPA outputs

POWERING MFPA

1. Connect the power supply supplied with the kit to the input labeled as “Power”.



Figure 3. Connect power cable; Click power ON.

If the power connection is properly done, the LED ring around the power button on the MFPA-4 should be lit red when pressed.

IV. USAGE AND PRECAUTIONS



- Do not submerge the electronics in water as this will lead to permanent damage.
- Only use the 7 pin Lemo cable supplied with the kit. Any modifications to this cable or the use of cables of a different brand or type may result in permanent damage to the probe or the signal conditioner.
- The new Microflown™ 4-Channel signal conditioner (MFPA-4) CAN be exchanged with a product of the same type to be used with a different probe. Probe and MFPA-4 are no longer matched by calibration.
- The Microflown™ 4-Channel signal conditioner (MFPA-4) MUST always be powered via battery or power supply. Do not use any other power supply than the one provided with the setup, as this may result in permanent damage to the signal conditioner!
- When connected to a front-end, ensure that the ICP power options are correctly set and disabled for the channels where Microflown™ probes are connected.

V. TECHNICAL SUPPORT

If you experience any problem or doubt regarding your equipment, please contact Microflow™ Technologies Customer service:

- Mail: cs@microflown.com
- Skype: cs.microflown
- Telephone: +31(0) 88 001 08 11 Monday to Friday, from 9:00 to 17:00 (UTC+1).

VI. WARRANTY POLICY, REPAIRS AND REPLACEMENTS

WARRANTY AND REPLACEMENT OR SUBSTITUTION

During the first two years (24 months) the seller offers a warranty on all its products, except for trading items and third party manufactured items. The seller warrants that all products will be free from defects in materials and workmanship for this period of two years. During this two year period, the seller will repair or replace defect products free of charge. Products damaged by accident, abuse, misuse, natural disaster or by any unauthorized disassembly, repair or modification are not covered by this warranty. The incurred transportation costs of returning the products to seller will be borne by the buyer. The logistical cost for returning the products back to the buyer will be borne by the seller. Several products come with a “VOID if seal is broken” sticker, the warranty is void at all times when this sticker is broken.

GRACE PERIOD (YEAR 3 AND 4)

During the third and fourth year the seller offers a grace period. In the grace period the products purchased at an earlier date can be replaced by completely new state of the art products of the same scope of the original purchase. This applies only for the products known as standard probes and signal conditioners. In the first year of the grace period, (year 3) customers have an option to replace their products for 25 % of the actual ex works end-user price. The full freight and packaging charges apply.

In the second year of the grace period, (year4) customers have an option to replace their products for 50 % of the actual ex works end-user price. The full freight and packaging charges apply.

The new products are accompanied by a new warranty. Both the two years warranty and grace period become applicable again from the date of invoice.

REPAIRS OUTSIDE WARRANTY POLICY

Replaced/repared parts come with a six month warranty under the same conditions as the two year warranty.