

The **RoentDek** FAMP3b, FAMP6b and PreFAMP6 amplifiers for high frequency pulse signals

The **RoentDek** FAMP3b, FAMP6b and PreFAMP6 are 3-or 6-fold amplifiers with fixed gain for high frequency pulse signals as obtained from micro-channel plate detectors and various kinds of secondary electron amplifiers (photomultiplier, channeltron, etc.). They are similar in function to the **RoentDek** FAMP8 module but the input impedance and bandwidth of the FAMP3b/FAMP6b/PreFAMP6 circuits can be adjusted within 40 Ohm to 100 Ohm and 50 MHz to 400 MHz by selection of different chip sets (factory set). The amplification setting ranges from 10x to 300x nominal gain for the FAMP3b and FAMP6b. This nominal gain is factory set for the FAMP6b (fixed) while in case of the FAMP3b the gain for each channel can be individually adjusted via potentiometers between 10% and 100% of the factory setting. The PreFAMP6 gain is fixed to 5x. The output impedance is usually set to 50 Ohm.*

The FAMP3b, FAMP6b and PreFAMP6 are especially designed for filtering high frequency ripple on low-bandwidth detector signals and impedance matching to 50 Ohm post-processing electronics. This makes them suitable for example for the read-out of **RoentDek** LC delay-line anodes (as for example used with the DLD40X) in combination with CFD8b or other follow-up electronics. The PreFAMP6 is also designed for this purpose but needs a second amplifier stage as the FAMP8, the ATR19 amplifier&CFD module or custom amplifier units.

The FAMP6b module is designed as a standard 1/12 NIM case (W34mm/L280mm/H220mm, weight 800 g). It requires a NIM-bin for operation (+/- 6V, 0.4A) or can be powered via the **RoentDek** SPS1.

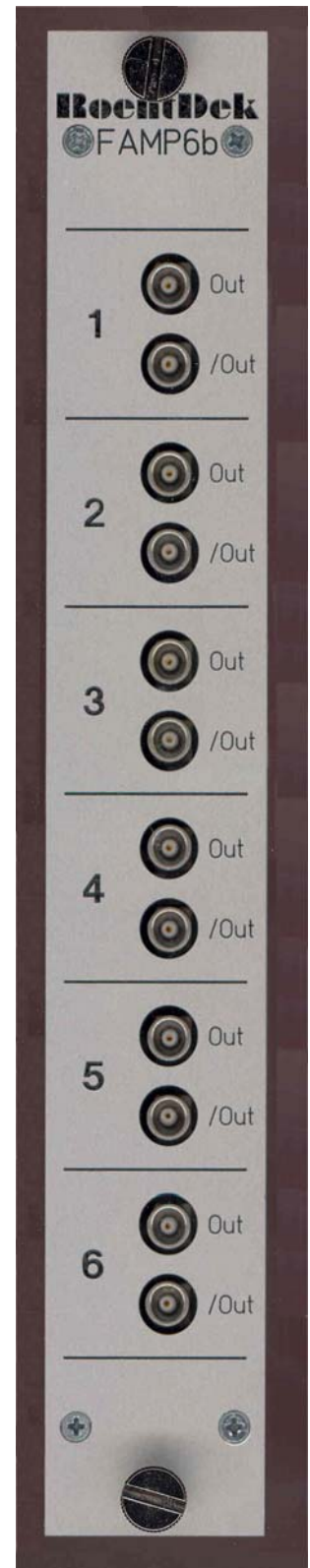


Figure 1: rear panel of FAMP6b (top) with NIM connector and signal inputs, right: front panel of FAMP6b with signal outputs.

* Please note that not all combinations of gain, input impedance and bandwidth within the given ranges are possible.

Each channel has a lemo (00 series) input on the rear panel and both an inverted and non-inverted amplified lemo 00 series output on the front side. Amplification, bandwidth and in-/output impedance for each channel is factory-set and can not be modified without changing the internal circuits. The default settings for LC anode read-out are 300x amplification, 15 MHz bandwidth and 50 Ohm impedance.

The **FAMP3b** module is designed as a standard 3HU 19" case (W61mm/L122mm/H128mm, weight 430 g without power adapter). It comes with a mains power adapter for 100-250VDC. power consumption is 0.25A at + 12V. Several modules can be daisy-chained via power cables. The default settings for LC anode read-out are 300x amplification, 15 MHz bandwidth and 50 Ohm impedance.

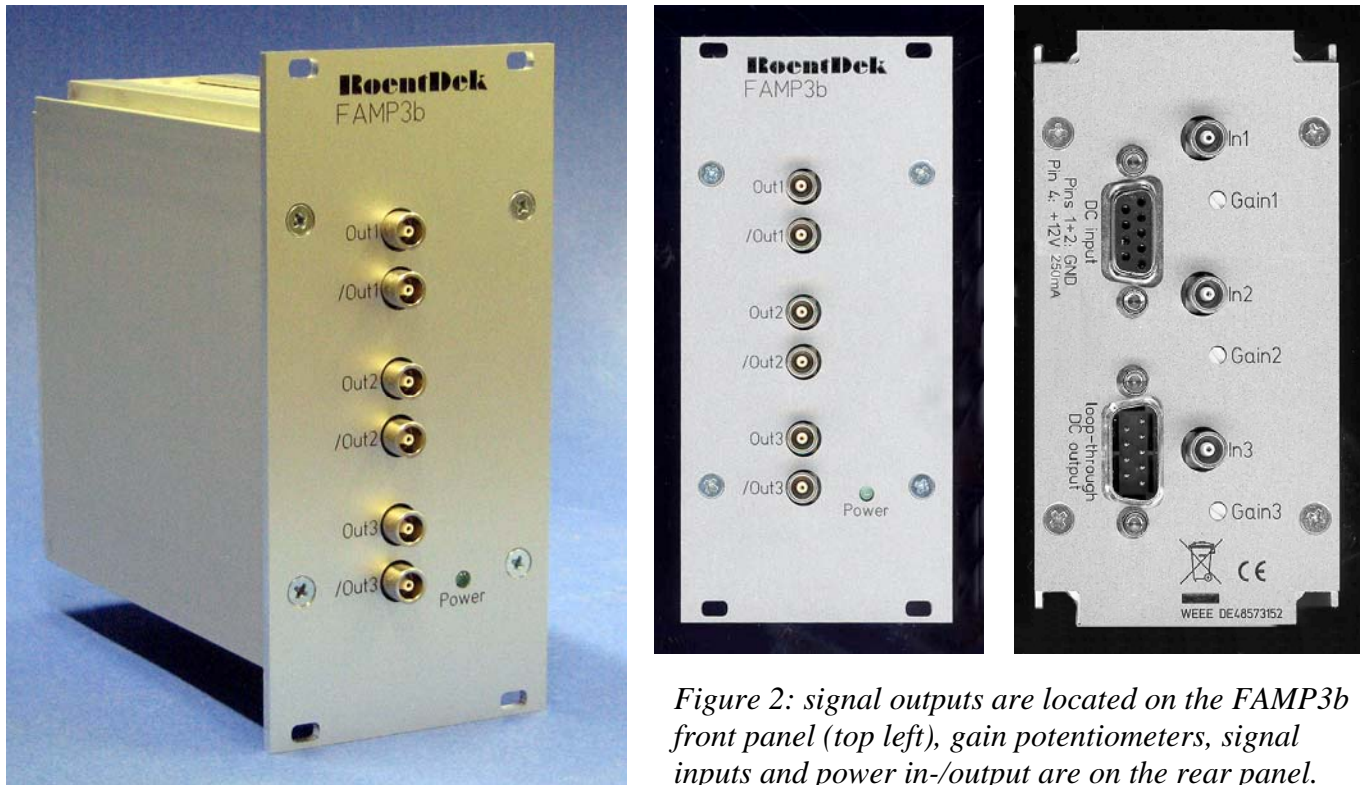


Figure 2: signal outputs are located on the FAMP3b front panel (top left), gain potentiometers, signal inputs and power in-/output are on the rear panel.

The **PreFAMP6** has the same default bandwidth and impedance settings as the **FAMP6b** but with a fixed gain of 5x on one non-inverting output. The **PreFAMP6** may be used to boost amplification of input signal heights which are too low for the designated post-processing electronics and/or to match impedance and bandwidth to the input signals (Example: read-out of LC-delay-line anodes with **ATR19-6/8** units).

The **PreFAMP6** case is a stand-alone box with size 115 mm x 40 mm x 105 mm, weight 300g and needs an external power input of +/-6V (0.2 A) via front panel inputs, e.g. from the **SPS1b**.*



Figure 3: rear panel of PreFAMP6 (left) with signal inputs and DC power input via 9-pin sub-D connector or 2mm pins. Right: front panel of PreFAMP6 with signal outputs.

* Please contact **RoentDek** for options how to power the **PreFamp6** via an **ATR19-6/8** or **HV2/4** unit.