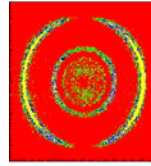


The ATR19-2b amp and CFD module



RoentDek
Handels GmbH
Supersonic Gas Jets
Detection Techniques
Data Acquisition Systems
Multifragment Imaging Systems

The **RoentDek** ATR19-2b module is a two-channel amplifier and constant-fraction discriminator module for the read-out of **RoentDek** MCP-based detectors.

It contains a **DLATR2** board with two channels of amp&CFD circuits, providing amplification and precise timing for signals from a delay-line anode as part of **RoentDek** DLD (or HEX) and from **RoentDek** DET detectors or similar timing detectors.

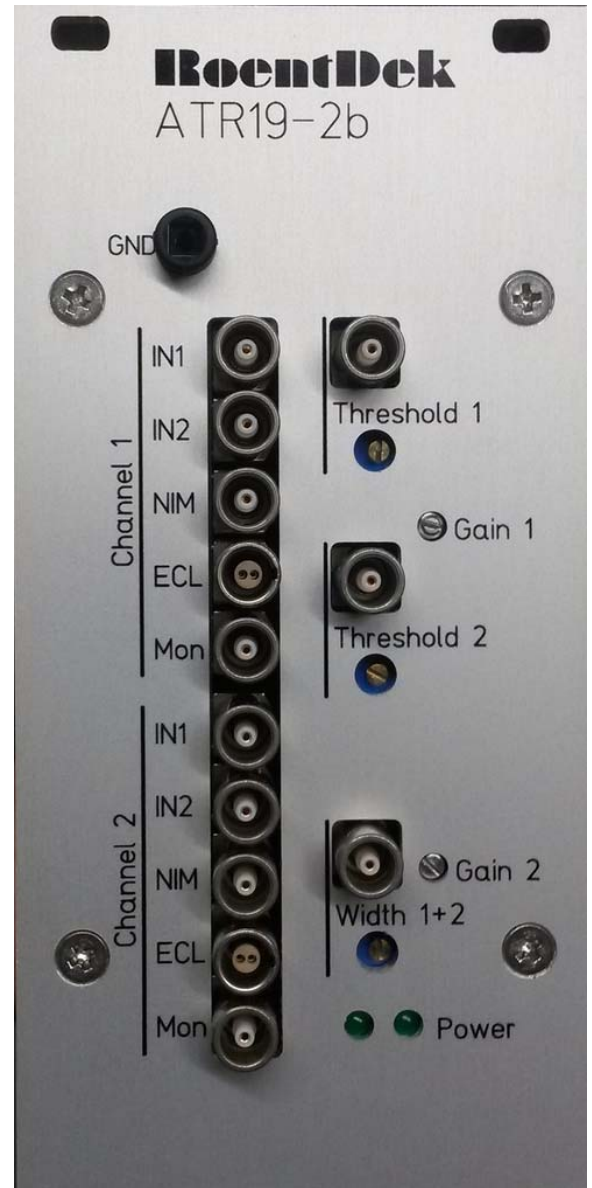
The amplification for each channel (positive or negative or differential input) can be adjusted from 20x to 100x by potentiometers. The bandwidth of the input is 100MHz, with 100Ω differential input impedance or single-ended 50 Ohm non-inverting (IN1) or inverting (IN2) inputs via lemo sockets.

The amplified signals can be verified via a “Monitor” output (lemo socket). Timing output signals (NIM or ECL) from the CFD circuit with adjustable width (10-150 ns) are provided by lemo sockets. The width of the timing signals and the thresholds (between 0 and 100 mV) are set by potentiometers or by remote 0-5V DC input via lemo sockets.

The CFD delay can be adjusted internally between 4 and 10 ns via jumpers on the **DLATR2** boards. The walk is automatically adjusted.

The **ATR19-2b** module has a 3HU case with dimensions W61mm/L129mm/H232mm and weight 0.8 kg. It comes with a 12V mains adapter (<12W power consumption), connected via a sub-D connector on the rear panel. Several modules can be combined, e.g. each one reading out one delay-line dimension.*

The achievable temporal resolution is between <100 and 500 ps FWHM, depending on the input signal width and the application. The double-hit dead-time of the CFD-outputs is about ≥ 20 ns (also depending on the input signal width).



Front panel of the **RoentDek** ATR19-2(b) module. The ECL outputs are only included on demand

* ATR19-2b units are part of the **RoentDek** FEE2(x) product, replacing earlier ATR19-6 and ATR19-8 modules..