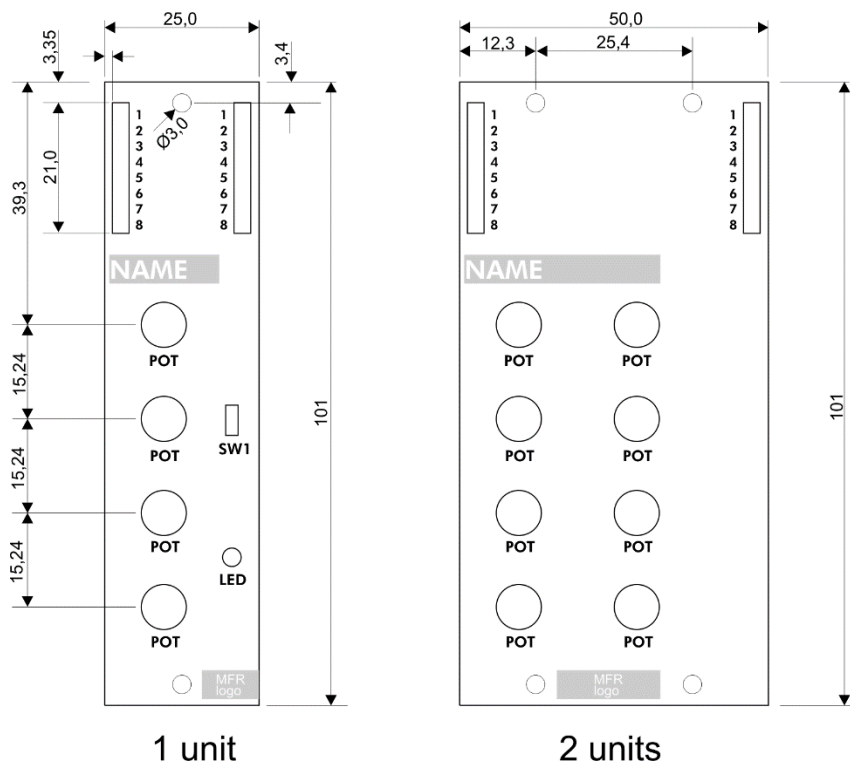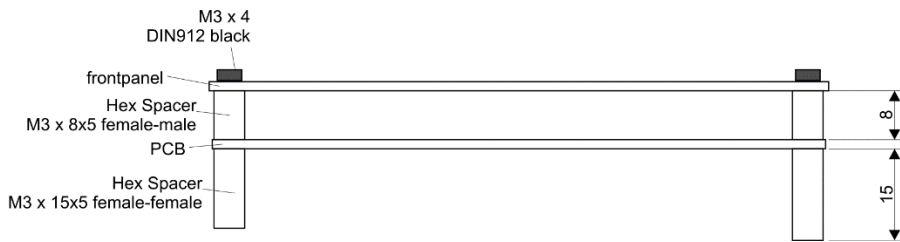# AE modular

# mechanical specs for module makers and DIY

november 2018

## Module dimensions

- Size of the modules (single unit) is 101mm h x 25mm w
- Wider modules are a multiple of 25,4mm (1") minus approx. 0,5mm gap tolerance
- PCB (single unit) is 100 x 25mm
- A module is composed of
  - The frontpanel
  - Hex spacers M3 8mm high (female-male) between frontpanel and PCB
  - PCB
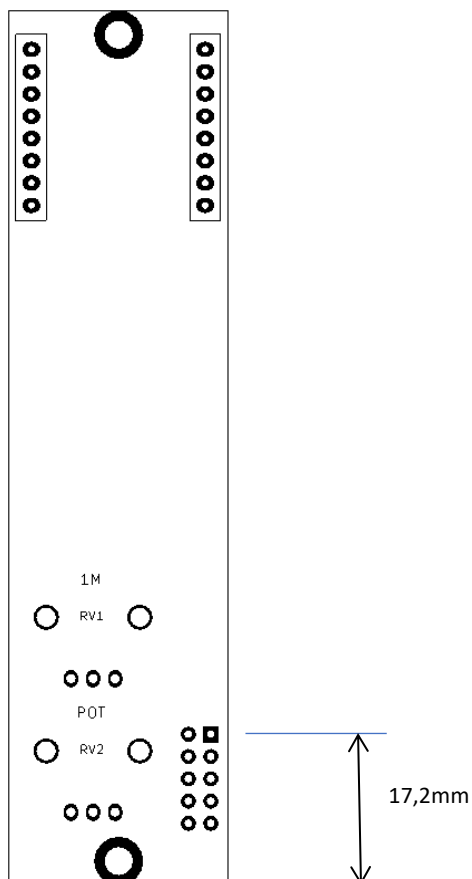  - Hex spacers M3 15mm high (female-female)



1 unit                    2 units

The modules are mounted in a case/rack with M3 screws from the bottom (through the bottom plate).

## PCB / control elements, placement

- On the top end of the module, there are two female pin headers (usually 8p.); left the module inputs, right the outputs.
- The pin headers are 2,54mm grid (the usual Arduino type headers)
- Potentiometers are RK09 type, 20mm high. Typically no additional knobs, only the pot axis.
- For connecting to the bus cable, each module has a 2x5 male pin header at the right bottom end of the module:

## Frontpanels:

- Material: 1.5mm MDF board, primed and sprayed with color Could be also Acrylic or aluminium…
- Marking/printing is made originally by a rubber stamp and special stamp color; any other options are possible of course.
- Mounting: Frontpanels are mounted with M3x4 screws, black, DIN912 cap screw with inner hex

## Electrical:

- Power supply +5V single supply
- Signal level for audio signals: +1 … +4V
- CV's: 0…5V
- Gate signals: typ. 0V - 5V

## Bus:

- All modules are connected with a 10-pin ribbon cable that runs below the modules. Each module is plugged onto this bus cable with a 10-pin connector.
- The red strip marks the +5V side (on two pins); the next 2 pins are ground (GND), the remaining 6 pins are CV/GATE, START/STOP/CLOCK and CTRL (MIDI controller #20) usually fed by the MASTER module.

## AE modular bus pinout

view from top

| | |
|---|---|
| +5V | +5V |
| GND | GND |
| CV | GATE |
| START | CLOCK |
| CTRL | STOP |