



# NATIVE-Discovery

The **NATIVE-Discovery** is a one slot MTCA.0 chassis AMC box with minimum MTCA infrastructure including cooling as well as basic management and switching functionality. The system is powered by an external power supply.

The chassis can accommodate one single- or double-width, mid- or fullsize AMC. All AMC ports and a debug interface are routed towards the rear panel of the box, so they are accessible externally.

As the **NATIVE-Discovery** aims amongst others on testing and development applications, it offers sliding covers on top and bottom to access top and bottom side of the AMC's PCB.

Moreover, the **NATIVE-Discovery** is a good choice for applications which request the operation of just a single AMC and make minor demands on management and switching functionality, or redundancy.

For special demands, the **NATIVE-Discovery** can be integrated in another chassis. In this case, the core of the **NATIVE-Discovery** (without enclosure) is mounted inside a customized chassis.



Form Factor	
	<ul style="list-style-type: none"> <li>• W 206mm x H 46mm x D 312mm (+ appr. 5mm for rear connectors)</li> <li>• designed for one single- or double-width, mid- or full-size AMC</li> <li>• standalone operation or integration in customized chassis</li> </ul>
Management & Switching	
<b>Processing Resources</b>	<ul style="list-style-type: none"> <li>• Atmel ATxmega128</li> <li>• Marvel 88E6320 Ethernet Switch</li> </ul>
<b>Firmware</b>	<ul style="list-style-type: none"> <li>• Microcontroller Firmware for MTCA environment simulation</li> </ul>
Power Supply	
	<ul style="list-style-type: none"> <li>• External 240W Power Supply / Input Voltage: 18-36V</li> <li>• Internal onboard 24V</li> </ul>
Cooling Units	
	<ul style="list-style-type: none"> <li>• Integrated fan unit with five fans and 120W cooling power for AMC</li> <li>• Airflow direction: right to left</li> </ul>
Front Panel	
	<ul style="list-style-type: none"> <li>• Slot for single- or double-width AMC with mid-/ full-sized front panel</li> <li>• Depending on the form factor, the use of filler panel(s) is mandatory</li> </ul>
Rear Panel	
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>• AMC Ports 0/1: 2x 1GbE via RJ45 <b>or</b> 2x 10GbE via SFP</li> <li>• AMC Ports 2/3: 2x SAS/SATA via Dual Port SATA Connector including SSD power</li> <li>• AMC Ports 4-7 / 8-11: 8 lanes with 10G per lane to QSFP-DD for PCIe Gen3 or 40G Ethernet</li> <li>• AMC Ports 12-15 / 17-20: 8 lanes with 10G per lane to QSFP-DD for PCIe Gen3 or 40G Ethernet</li> <li>• TCLK 1-4: single-ended TCLK A-D via SMA</li> <li>• UART interface via USB Type C</li> <li>• AMC JTAG access via USB Type C</li> <li>• LEDs for:                             <ul style="list-style-type: none"> <li>• Power / Fan Status</li> <li>• Temperature</li> <li>• MMC Status</li> </ul> </li> </ul>
Compliance	
	<ul style="list-style-type: none"> <li>• PICMG AMC.0 Rev. 2.0</li> <li>• PICMG μTCA.0 Rev. 3</li> <li>• CE, RoHS</li> <li>• EN55032:2015, EN 55024:2010+A1:2015, EN IEC 62368-1:2020 + A11:2020</li> </ul>
Environmental	
<b>Ambient Temperature</b>	<ul style="list-style-type: none"> <li>• 0°C to +45°C (long term) *</li> <li>• 0°C to +55°C (short term) *</li> </ul>
<b>Humidity</b>	<ul style="list-style-type: none"> <li>• 5% to 85%, non-condensing</li> </ul>

**\*Please note:** These values are only valid with **closed housing** and **managed cooling** functionality! During operation with open sliding cover(s) and/or in Unmanaged Mode, the board temperature must be **supervised** by the user **manually!**