



*MD-Control v2.0 is a 54 axis controller including an optional tip-tilt mount board*

## 1 - Application

MD-Control is a multi-axis controller allows to control up to 54 stepper motors for the deformable mirror and two additional stepper motor axis to drive tip-tilt mount.

## 2 - Description

- **19 inches – 5U controller:**
  - Up to 54 axis driver cards to drive stepper actuators simultaneously
  - One optional board to add tip-tilt control functionality (2 axis)
  - Monitoring of the main supply voltages to avoid the risks of sudden power outages
  - 1x Ethernet gateway
  - Internally 24VDC and 5VDC power supplies
- **Front panel:**
  - One general power switch
  - Two green lights indicators for power status (5VDC / 24VDC)
  - Three lights indicators for controller state
- **Back panel:**
  - Up to 6 D-SUB-37 female connectors for MD-AME deformable mirror connection
  - One power socket IEC type C20 (16A) for power supply
  - One RJ45 socket for Ethernet network
  - One optional D-SUB-15 female connector for tip-tilt connection
  - One optional D-SUB-15 female connector reserved for future developments

### 3 – Software

- Software Development Kit (SDK) available in 32 and 64-bits Windows-based machines
- Dedicated function library
- Programming example interface under Microsoft Visual Studio (C++) without GUI
- Optional SDK for Tip Tilt mount if mirror has one

### 4 – Technical Data

#### Main features

CHARACTERISTICS	SPECIFICATIONS
Power supply:	115VAC - 230VAC / 50 – 60Hz
Power consumption (maximum):	8A/230VAC 16A/115VAC
Safety:	Circuit breakers and fuses
Number of motor axes:	Mirror : Up to 54 axes Optional tip tilt mount : 2 axes
Communication:	Ethernet (10/100Mbit)
Light indicators:	24VDC (green) and 5VDC (green) Status ready (green), actuator moving (yellow) and fault (red)
Deformable Mirror connectors:	6x D-SUB-37 female sockets
Power consumption (maximum):	8A/230VAC 16A/115VAC
Mounting:	19" drawer (5U)
Outer dimensions (w x h x d):	430 x 220 x 550 mm (5U)
Housing material:	Galvanized steel and aluminum (front panel)
Cooling:	Natural convection
Mass:	16kg
Protection class:	IP20

#### Storage and handling

CONDITION	LEVEL
Storage temperature:	-20 to +70°C
Working temperature:	0 to +40°C
Relative humidity:	20 to 80%non-condensing
Environment:	Indoor only