

# MAiRA<sup>®</sup> MULTI-SENSING INTELLIGENT ROBOTIC ASSISTANT

## Datasheet



**MAiRA<sup>®</sup> is the first cognitive robot.**

With fully integrated novel sensors and an unprecedented integration of artificial intelligence in control systems and applications MAiRA<sup>®</sup> is leading a new era of robots. The robust and rigid design combines the performance of a high-end machine with easy programming and infinite possibilities for interaction – both for beginners and experts. MAiRA<sup>®</sup> tears down the boundaries between humans and machines and brings them closer together for good.

General Specs	MAiRA Pro S	MAiRA Pro M	MAiRA Pro L
Payload	15-18 kg	12-15 kg	9-12 kg
Reach	1.100 mm	1.400 mm	1.600 mm
Degrees of Freedom	6 or 7 rotating joints	6 or 7 rotating joints	6 or 7 rotating joints
Weight	49.5 or 53 kg	48 or 51.5 kg	52.5 or 56 kg
Robot Mounting	Any orientation	Any orientation	Any orientation
IP classification	IP65	IP65	IP65
Data, Media & Power	Complete inner harness and ducts	Complete inner harness and ducts	Complete inner harness and ducts
Footprint Base	Ø 240 mm	Ø 240 mm	Ø 240 mm
Status Illumination	RGB LED on each axis	RGB LED on each axis	RGB LED on each axis
Tgt. Performance Level	Pld Cat.3 / SIL3	Pld Cat.3 / SIL3	Pld Cat.3 / SIL3
Tgt. Repeatability	Up to ±0.01 mm	Up to ±0.01 mm	Up to ±0.01 mm

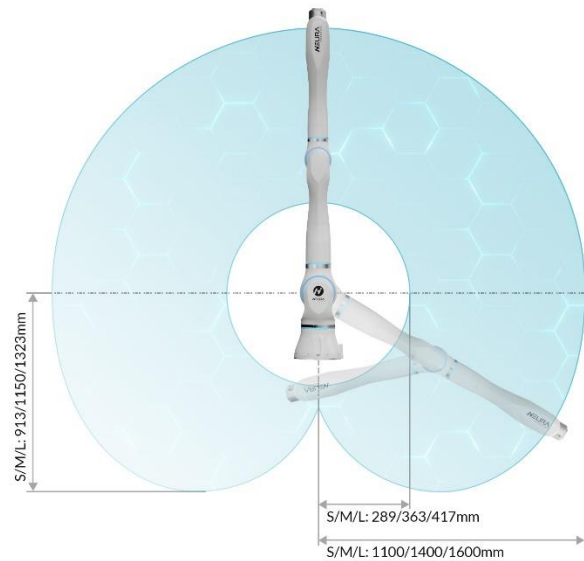
TCP Connector Flange	
Hole pattern	DIN ISO 9409-1-50-7-M6
Compressed Air	3 x Push-Pull-Plug - 3mm OD
EtherCAT	M8 4-pin-A-F   IEC 61076-2-104
GPIO	M8 8-pin-A-M   IEC 61076-2-104
I/O power supply	24V 600mA
Interfaces	EtherCAT/FSOE, GPIO, CAN Bus, Modbus, IO-Link

Sensors	
Vision	3D RGB-D Camera
Force/Torque	6-DOF F/T-Sensor in Flange
Guidance by Touch	Smart Sensitive 6-DOF Sensor Skin
Safety	Touchless Safe Human Detection
Sound	3D Voice Recognition Sensor

\* Dynamic Workspace

## Movement

	Working Range	Maximum speed
A1	± 360 °	120 °/Sec.
A2	± 120 °	120 °/Sec.
A3	± 270 °	150 °/Sec.
A4	± 150 °	150 °/Sec.
A5	± 270 °	200 °/Sec.
A6	± 160 °	200 °/Sec.
A7	± 360 ° / endless optional	360 °/Sec.



## Software & Controller

Motion Controller	Real-Time NR-Motion Master
Machine Learning (ML) Kernel	Smart Applications, Performance Enhancement
Open Architecture	3rd Party Apps, Access to Low Level Controllers & Sensor Data
Software Interfaces	Robot, Sensor & AI SDKs
Safety Architecture	Safe Master & FSoE Communication
Safety Features	Safe- Position, Speed, Torque, Zones, Limits

## Programming Features

Smart GUI	NR Easy Programming Interface
Fast Programming	Shortcut Buttons, Voice Control, Gesture Control, Dynamic Path and Force Recording
Human-Robot-Interaction	Visual-, Audio- and Force-Feedback, Face Recognition, Motion Tracking
Environment Visualization	3D CAD Data & Sensor Data



## Control Box

Dimensions	598 mm x 540 mm x 236 mm 23.5 in x 21.3 in x 9.3 in
Weight	25 kg / 55.1 lbs
Power Supply	100-240 VAC, 50/60 Hz, 3,2 kW
Interfaces	EtherCAT/FSoE, TCP/IP, USB 3.0, GPIO



## Teach Pendant

Dimensions	285 mm x 228 mm x 95 mm
Resolution	1280 x 800
Display	10.1" touchscreen
Cable Length	5 m

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