NEURA

Datasheet

MAiRA®

Ai Powered Robotics

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Multi-Sensing Intelligent Robotic Assistant

Ai Powered Robotics

MAiRA is the world's first commercially available cognitive robot. With its integrated AI and novel touchless safe human detection sensor technology, MAiRA can perceive its surroundings and is able to easily adapt to all kinds of industrial environments. MAiRA opens a new era of robots and offers endless possibilities for interaction, for beginners and experts alike. Enabling true collaboration of human and machine.

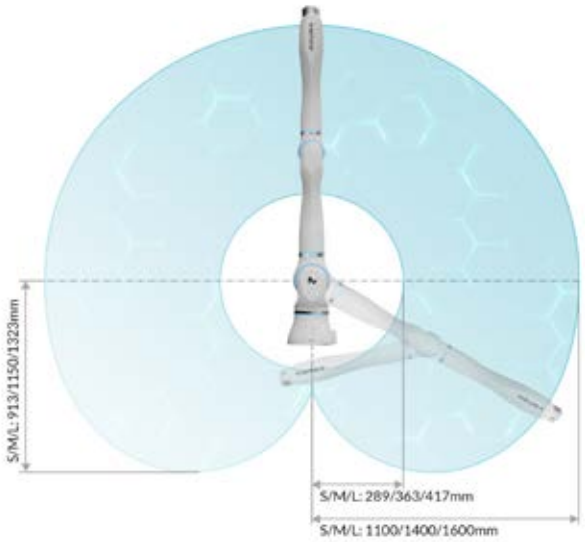
Specification	MAiRA S	MAiRA M	MAiRA L
Payload	15-18 kg[1]	12-14 kg[1]	9-11 kg[1]
Reach	1100 mm	1400 mm	1600 mm
Degrees of Freedom	7 rotary joints	7 rotary joints	7 rotary joints
Weight	51 kg	53 kg	56 kg
Robot Mounting	Any orientation	Any orientation	Any orientation
IP Classification	IP65	IP65	IP65
Ambient Working Temperature	0 °C – 40 °C	0 °C – 40 °C	0 °C – 40 °C
Data, Power, and Media	Full inner harness	Full inner harness	Full inner harness
Footprint Base	Ø 252 mm	Ø 252 mm	Ø 252 mm
Tool Flange	ISO 9409-1-50-7-M6	ISO 9409-1-50-7-M6	ISO 9409-1-50-7-M6
Status Illumination	RGB LED on each axis	RGB LED on each axis	RGB LED on each axis
Performance Level	PLd Cat.3 / SIL3[2]	PLd Cat.3 / SIL3[2]	PLd Cat.3 / SIL3[2]
Accuracy	≥0.01 mm[3]	≥ 0.01 mm [3]	≥ 0.01 mm [3]

[1] Lower number indicates payload for full workspace, higher number indicates payload for application specific smaller workspace and reduced speed.

[2] PLe Cat.3 / SIL3 released in 2024.

[3] In reference to ISO9283. Robot specific values might differ depending on application environment.

Movement MAiRA S/M/L		
Axis	**Working angle**	**Maximum Speed**
A1	± 180°	120 °/s
A2	± 120°	120 °/s
A3	± 180°	150 °/s
A4	± 150°	150 °/s
A5	± 180°	200°/s
A6	± 145°	200°/s
A7	± 180°[4]	360°/s[5]



Tool Flange	
Hole Pattern	MAiRA S/M/L: DIN ISO 9409-1-50-7-M6
Compressed Air (optional)	3 x push-pull-plug S/M/L: 3 mm OD
I/O Power Supply	24V 1.5A
Interfaces	Analog Input, GPIO, Modbus RTU via M8 8-pin-A-M, IEC 61076-2-104

Control Box	
Dimensions	592 mm x 567 mm x 253 mm
Weight	35 kg
Power Supply	90-250 VAC, 50/60 Hz max. 16A
Interfaces	GPIO, Modbus TCP

Software & Controller	
Motion Controller	Real-Time NR-Motion Master
Machine Learning Kernel	Smart applications, performance enhancement
Open Architecture	3rd party apps, access to low level controllers and sensor data (optional)
Software Interfaces	Robot and sensor data via Python NeuraPy API (SDK)
Safety Architecture	Safety master & FSoE communication

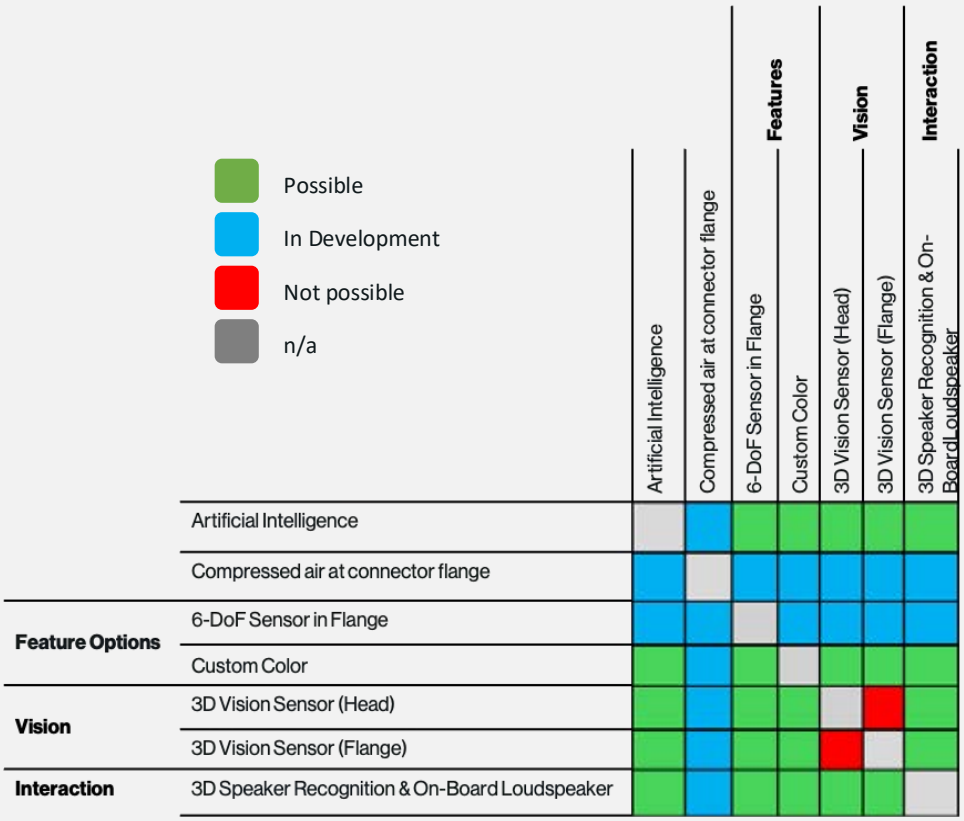
Teach Pendant	
Dimensions	285 mm x 228 mm x 95 mm
Cable Length	5 m
User Interface	Intuitive, drag-and-drop

[4] Effectively available working range depending on link7 configuration. Restriction due to pneumatic air and vision sensor might apply.
[5] To be released 2025.

Programming Features	
Smart GUI	NR easy programming interface
Fast Programming	Shortcut buttons, voice control, gesture control (optional), dynamic path and force recording
Human-Robot-Interaction	Vision, audio, force-feedback, face recognition (optional), motion tracking (optional)
Environment Visualization	3D CAD data, vision sensor data

Sensors	
Vision	3D Vision Sensor
Force/Torque Sensing	6-DoF F/T-sensor in flange (optional)
Guidance	Zero gravity mode

Feature Compatibility Matrix MAiRA S/M/L



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