KUKA

Mobile manipulator for research and education
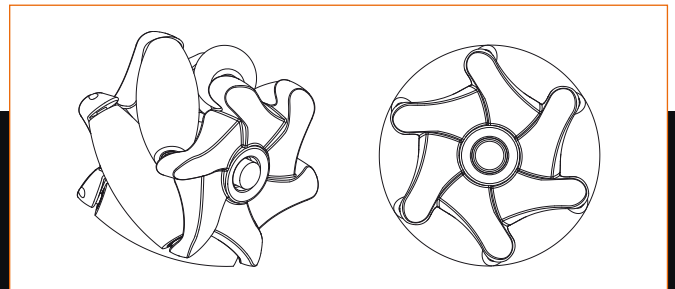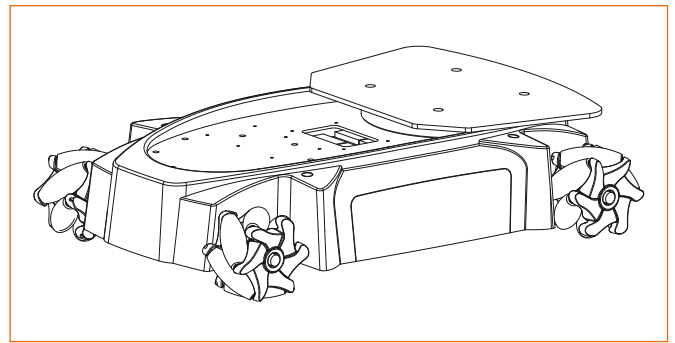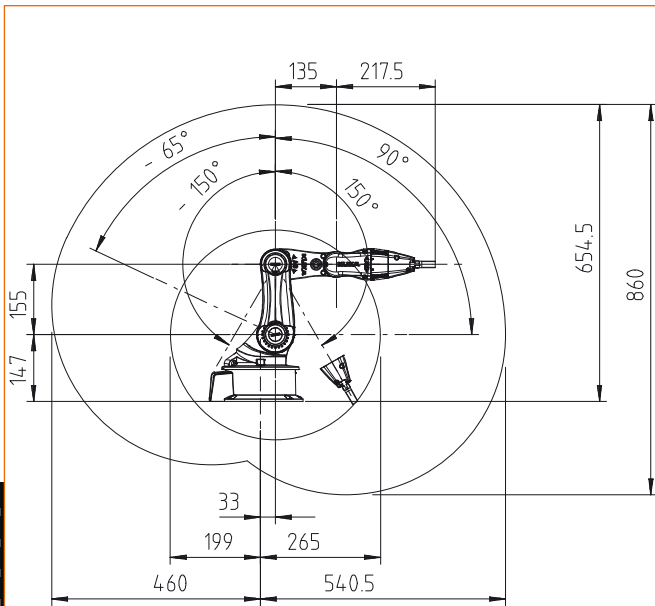
KUKA youBot

KEY FEATURES:

- omnidirectional mobile platform
- 5-DOF manipulator
- two-finger gripper
- real-time EtherCAT communication
- open interfaces
- arm and platform can be used independently

General characteristics youBot arm		
Serial kinematics	5 axes	
Height	655 mm	
Work envelope	0.513 m³	
Weight	6.3 kg	
Payload	0.5 kg	
Structure	Magnesium Cast	
Positioning repeatability	1 mm	
Communication	EtherCAT	
Voltage connection	24 V DC	
Drive train power limitable to	80 W	
Axis data	Range	Speed
Axis 1 (A1)	+/− 169°	90 °/s
Axis 2 (A2)	+ 90°/− 65°	90 °/s
Axis 3 (A3)	+ 146°/− 151°	90 °/s
Axis 4 (A4)	+/− 102°	90 °/s
Axis 5 (A5)	+/− 167°	90 °/s
Gripper	Detachable, 2 fingers	
Gripper stroke	20 mm	
Gripper range	70 mm	

General characteristics youBot platform	
Omnidirectional kinematics	4 KUKA omniWheels
Length	580 mm
Width	380 mm
Height	140 mm
Clearance	20 mm
Weight	20 kg
Payload	20 kg
Structure	Steel
Speed	0.8 m/s
Communication	EtherCAT
Voltage connection	24 V DC

General characteristics energy supply
Maintenance-free lead acid rechargeable batteries: 24 V, 5 Ah; Power supply: 200 W
Approximate battery runtime of KUKA youBot mobile manipulator: 90 minutes

General characteristics mini PC
Mini ITX PC-Board with embedded Intel® Atom Dual-Core CPU, 2 GB RAM, 32 GB SSD, USB

Disclaimer Specifications regarding the quality and usability of the products do not constitute a warranty of properties. They are intended to serve informative purposes only. Solely the respective contract of sale is binding with respect to the supplied goods and services.

FREE SOFTWARE AVAILABLE:

■ Linux installation
■ Open source robot controller with open interfaces (position, velocity and current control)
■ BRIDE (BRICS Integrated Development Environment) based on Eclipse to simplify application development

■ BROCRE (BRICS Open Code Repository) offers
 – interoperable interfaces and
 – best practice algorithms libraries:
  • BRICS_MM: mobile manipulation
  • BRICS_3D: 3D perception and modelling
  • BRICS_RN: robust navigation
■ Blender simulation model
■ Sample applications

Further information available at:

www.youbot-store.com