

# REEM-C<sup>®</sup>

## TECHNICAL SPECIFICATIONS

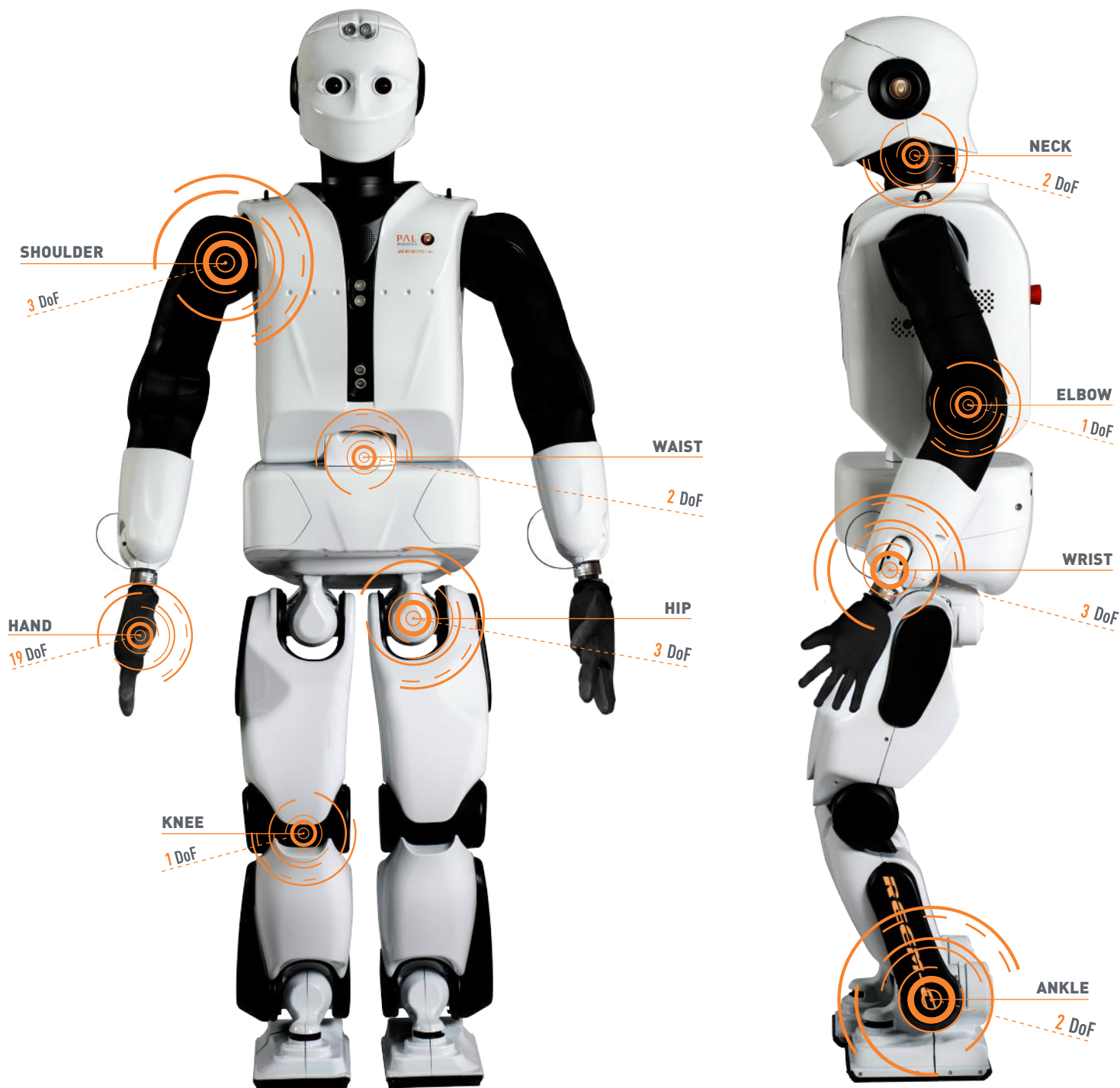
Simulation model available at:  
[wiki.ros.org/Robots/REEM-C](http://wiki.ros.org/Robots/REEM-C)

### GENERAL FEATURES

**Height** 165 cm  
**Width** 60 cm  
**Weight** 80 kg

### 68 DEGREES OF FREEDOM (DoF)

**Legs** 6 (x2)    **Waist** 2  
**Arms** 7 (x2)    **Neck** 2  
**Hands** 19 DoF (3 actuators) (x2)



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### PAYLOAD

Hand	1 kg (arm stretched)
Arms	10 kg (with both arms)
Legs	Standing on one foot

### CONNECTIVITY

Wi-Fi	802.11 a/n/ac 5 GHz
Ethernet	1000 Base T
CAN	1 Mbit/s, 10 channels

### ELECTRICAL FEATURES

Power system	Lithium-Ion Battery 48 V
Nominal energy	1225 Wh
Battery autonomy	3h walking / 6h stand by

### AUDIO

Speakers	x2 (5 watt)
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### SENSORS

Force/Torque sensors	6 axis F/T sensor x2 in ankles
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### COMPUTERS

Intel Core i7	x2 (multimedia and control)
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### SOFTWARE

OS	Ubuntu LTS 64-bits
Middleware	ROS LTS, Text to Speech, ros_control, MoveIt!
Control	Real-time ros_control loop at 200 Hz
Planning	MoveIt!
Applications	Walking, Grasping, Face Recognition, TTS, ASR

### VISION

	RGB-D Camera	Back Camera (Optional)
Sensor type	Intel Realsense D435	CMOS global shutter 1/3"
RGB Resolution	1920 x 1080 at 30 fps	752 x 480 at 93 fps
Depth Resolution	1280 x 720 at 90 fps	
Depth FOV	86 x 57 x 94 (+/- 3°)	

### OPTIONALS

Force/Torque sensors	6 axis F/T sensor x2 in wrists
Lasers	x2 (feet) 4m, 0.36°, 10 Hz
AHRS-IMU	400 Hz filtered orientation, gyro, acceleration
LED mouth	LED Matrix with API for visual effects control
GPU	NVIDIA Jetson TX2

