

ROBOT ARM AND ROBOT WRIST

ABSTRACT

The invention relates to a robot arm and a robot wrist. The robot arm comprises a number N of actuator-drivable joint connections GV_n , which are connected in series via arm links GL_i , where $n = 1, 2, \dots, N$, and $i = 1, 2, \dots, N-1$, and $N \geq 6$, wherein the proximal arm link GL_1 of the robot arm can be connected to a robot body via the joint connection GV_1 , the distal arm link GL_{N-1} of the robot arm can be connected to an effector E via the joint connection GV_N , the arm links GL_{N-1} and GL_{N-2} are connected via the joint connection GV_{N-1} and the arm links GL_{N-2} and GL_{N-3} are connected via the joint connection GV_{N-2} , and each of the joint connections GV_N , GV_{N-1} , GV_{N-2} enables a movement about an axis of rotation $R_{GV,N}$, $R_{GV,N-1}$, $R_{GV,N-2}$ assigned to the same. The robot arm is configured in such a way that the axes of rotation $R_{GV,N-2}$ and $R_{GV,N-1}$ intersect at an angle in the range from 50 to 130° or the axes of rotation $R_{GV,N-2}$ and $R_{GV,N-1}$ have a minimum spacing $A1$ from each other in the range from 1 mm to 20 mm, the axis of rotation $R_{GV,N}$ is arranged radially at a constant distance $D1$ from the axis of rotation $R_{GV,N-1}$, and a sensor is present in the joint connection GV_{N-1} to detect a force or a torque about the axis of rotation $R_{GV, N-1}$ is present in the joint connection GV_{N-1} .