Kuka KR-5sixx 650WP System Configuration

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Important configuration information the KR-5sixx in Henriks lab.

1   Rotation Conventions

Euler rotation angles reported by the robot are returned as angles A, B, and C. These angles are the rotations about the X, Y, and Z axes, respectively. However, the rotations are applied in the YPR order, the reverse of the order in which they appear in the XML protocol. To output coordinate frame is shown in Figure 1.
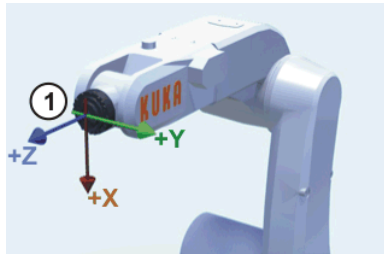

Figure 1: Kuka-defined flange coordinate frame. From "KR 5 sixx R650, R850 WP - Specification"
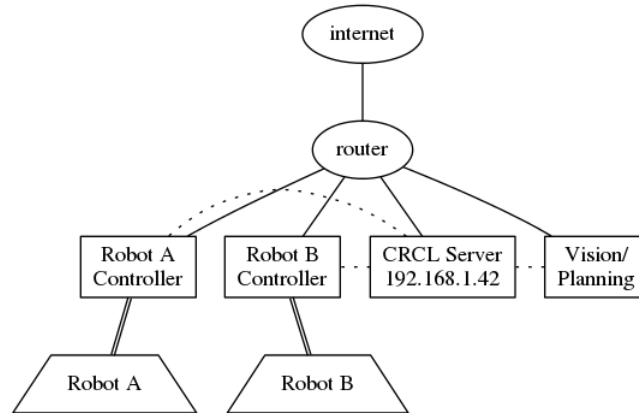
2   Network Configuration

Figure 2: Data connections between robots, PCs, and network infrastructure.

3   Pneumatic System

3.1   Supply and Control Systems

The air and vacuum supply lines are controlled from the compressor in CCB Room 322. See Dan with questions relating to their operation. A pressure regulator determines the actual system pressure in the robot arm.

3.2   Runtime Operation

Output pins are controlled over ERX via the **DiO** element. DiO contains bit flags for digital output pins, starting at $OUT9. Pins $OUT9-$OUT15 control the pneumatic valve positions: to set Valve 1 to position A, $OUT9 must be ON and $OUT11 must be OFF, giving a DiO value of 05.

For more information on the ERX protocol, see the document "KUKA.Ethernet RSI XML 1.1".

For more information on the pneumatic control valves, refer to the document "KR 5 sixx R650, R850 WP - Operating Instructions".