

CONSIDERATIONS ON THE JARA OPEN ROBOT INTERFACE FOR THE NETWORK ARCHITECTURE

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Abstract: Modern industrial robot systems are a major part of flexible manufacturing and production environments. Due to the ability of reprogramming and automatic changeable end-effectors robot systems provide an immense increase of flexibility in such environments. Automation systems running industrial robots are very efficient and their designs cover a very large spectrum of manufacturing parts or production applicability. Not just production cycle time, even the time to place the product on the market is drastically reduced. For that case the time to respond to customer demands is very short. These benefits of automation systems implementing industrial robots encouraged the different manufactures to produce more types and kinds of industrial robots ever. Nowadays, a considerable number of different kinds of industrial robots with different communication interfaces as well as different application software running on it can be found on the market. However, companies usually buy robots from different robot vendors for their particular needs and place them all in the same manufacturing facility arranging automation systems. As a result the problem occurred how to communicate among different industrial robots in the "same" manner. There is a need to design an open network interface, which enables a uniform communication of personal computer with different industrial robots from various manufacturers. A project which treats these problems is called Open Robot Interface for the Network (ORiN) since 1999 and it comes from Japan Robot Association (JARA). This project will be shortly presented in this book chapter additionally with the aim to outline the need for expanding the project for the manufacturers outside JARA.

Key words: industrial robot network standardization, robot controller network interface, open robot interface architecture, industrial software standards.



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