MANAGERS GUIDE TO INDUSTRIAL ROBOTS pdf

1: NIOSH Creates Robotics Research Center -- Occupational Health & Safety

A Manager's Guide to Industrial Robots [Ken Susnjara] on www.enganchecubano.com *FREE* shipping on qualifying offers. This book offers a clear explanation of the technology without a rigorous theoretical treatment or a complete engineering analysis.

Although offline programming has advanced hugely much of the programming is done using the teach pendant. This is a handheld device that allows the robot to be moved and allow the input of commands and instructions. This is a diagram of an ABB teach pendant: After the robot has been moved to a required position point is recorded along with any other information required such as the speed and type of movement to the point. Allowing multiple points to be built up, along with logic commands, such as wait, go to, if, and, etc. Each robot language has its own terms and phraseology, meaning that a program cannot be copied from one type to another, but the structures will be very similar. Moving or "jogging" the robot and recording positions is really the easy part. A learner-programmer can pick up a pendant and start moving the robot and modifying existing positions or "mod pozzing" very quickly. It is possible to get a little disoriented in the program, especially on the early robots where information and terminology can sometimes be unhelpful, but practice helps. There is also some degree of artistry in programming a robot well. Movements should be fast and flowing and ideally be economical. This is by no means always the case. This picture shows an ABB pendant showing a simple program: Co-ordinate movement follows straight lines but requires the movement of many more axis and more computing power. Circular motions are also possible as are changing the types of positions to those that are stopped at or ones that are "flown through". The speed of each movement can also be specified, this can be slow, almost imperceptible movement to over 2. However as a robot is almost always accelerating or decelerating a manufacturers quoted top speed is rarely seen in practice. Programming robot positions and the movement between them while simple to grasp and achieve can take years to fully master. Experienced programmers will often try to use joint moves as much as possible as they are generally quicker for the robot to execute and will sometimes slow down the robots maximum permissible speed in a small move to actually increase the speed of the arm. As important as the movement instructions are the logic functions. Early robots are sometimes limited in that they can only run through one operation at a time, while most advanced robots can "multitask". It is difficult to give an illustration of a simple program as most will involve several sub-routines depending on the process. This is a picture of a Fanuc pendant showing some simple moves: The movement buttons can be seen on the right of the keypad in blue. If the only concern was the location of the end of the robot then it would be straight forward. When programming via the pendant the robot calculates and stores the data for all of its axis; but CAD-CAM data typically only gives a single point in space.

2: ABB Robotics - Manufacturer & Supplier of Industrial Robots

A Manager's Guide to Industrial Robots zeroes in on the important managerial aspects of planning a robot installation, such as the trade-offs between using robots and.

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