

**Note:** This tutorial assumes basic familiarity with the FS/DX100 robot controller. Consult the manufacturer's documentation for further details on any of the steps listed in this tutorial..

💡 Please ask about problems and questions regarding this tutorial on [answers.ros.org](http://answers.ros.org) (<http://answers.ros.org>). Don't forget to include in your question the link to this page, the versions of your OS & ROS, and also add appropriate tags.

# Installing the Motoman FS/DX100 ROS Server(Hydro)

**Description:** This tutorial walks through the steps of installing the ROS server code on the FS/DX100 robot controller

**Keywords:** Motoman, FS100, DX100, Industrial

**Tutorial Level:** BEGINNER

**Next Tutorial:** Next, you'll learn how to interact with the FS/DX100 controller using ROS nodes Using the FS/DX100 Interface ([/motoman\\_driver/Tutorials/Usage](/motoman_driver/Tutorials/Usage))

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## 1. Overview

The motoman driver ROS Server code is written in MotoPlus, using a socket interface and multiple parallel tasks. *Note: Dual-arm manipulators may require additional development on both the MotoPlus and ROS sides to achieve coordinated motion control.*

## 2. Installing MotoPlus Code

The MotoPlus application resides on the robot controller and acts as the server for clients on the ROS PC. This application can be installed from binary versions(**recommended**) or from source. Installation from source is only required if the default server implementation does **not** meet your needs. Source installation may require additional MotoPlus software.

## 2.1 Installation from Binary

The MotoPlus application comes with pre-built binaries. The binary files can be found in *motoman/motoman\_driver/MotoPlus/output*. Different binaries may be required for different system configurations:

- MpRosFs100 - The version is good for all FS100 software version.
- MpRosDx100 - DX100 controller version DS1.63.XX()-03 which is normally the recommended version. Note that the expanded memory option board is required to use these API.
- MpRosDx100Ftp - DX100 controller version that support MotoPlus (-03 or -14)

## 2.2 Installation from Source

All files in the *motoman/motoman\_driver/MotoPlus* directory should be downloaded to a development PC. Several macros (in Controller.h) must be defined for different controllers (see below). Once compiled, the resulting binary file should be loaded to the robot controller as described in the MotoPlus documentation.

- No macro definitions - default compilation (i.e. FS100)
- DX100 macro - define this macro for DX100 controller
- DX100FTP macro - define for DX100 controller version -03 or -14

## 3. Installing INFORM Code

The motoman driver specifies a required handshake between the native INFORM robot code and the MotoRos layer. The MotoRos code will automatically run an INFORM job called INIT\_ROS at the start of a motion command, which will provide the required handshaking.

Load the INIT\_ROS file found in *motoman/motoman\_driver/INFORM* directory to the controller. See the manufacturer's documentation for details.

## 4. Controller Configuration

Verify that the controller is enabled to receive "Remote Commands" in Remote mode:

1. Using the pendant, select In/OUT -> PSEUDO INPUT SIG
2. Set input #82015 CMD REMOTE SEL to on (if needed)
  1. Set Security Level to "Management"
  2. Move the cursor to the circle beside the specified input
  3. Press INTERLOCK + SELECT to turn on the input

Except where otherwise

noted, the ROS wiki is

Wiki: [motoman\\_driver/Tutorials/InstallServer](http://wiki.ros.org/motoman_driver/Tutorials/InstallServer) (last edited 2014-11-12 17:20:12 by ShaunEdwards (/ShaunEdwards))

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