

HXP controller firmware

HXP Installer Pack 30003 (released Aug. 2018)

Firmware (V3.1.1)

- ✓ Fix GatheringConfigurationSet returning -29 when used with hexapod coordinates

Configuration files

- ✓ No change.

Web site (V3.0.0)

- ✓ No change.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ No change.

HXP controller firmware

HXP Installer Pack 30002 (released July 2016)

Firmware (V3.1.0)

- ✓ Add new driver "XPS-DRV04" (with brake management)
 - Stages.ini file:

```
[STAGE]
DriverName=XPS-DRV04
MotorDriverInterface=AnalogVoltage
...
```
- ✓ Add new API "GatheringDataMultipleLinesGet"
- ✓ Fix Gathering issue with a SingleAxis group
- ✓ Fix issue with API TCLScriptExecuteAndWait

Configuration files

- ✓ No change.

Web site (V3.0.0)

- ✓ No change.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ No change.

HXP controller firmware

HXP Installer Pack 30001 (released September 2015)

Firmware (V3.0.2)

- ✓ Fix internal problems with QNX threads destruction.
- ✓ System.ref is modified to add "SingleAxisGroupOption" parameter in GENERAL section

Configuration files

- ✓ System.ref file for Hexapod + two single axes:
CorrectorISRPeriod = 200e-6 ; seconds
DACUpdateDelay = 170e-6 ; seconds
ProfileGeneratorISRRatio = 12
ServitudesISRRatio = 5
SingleAxisGroupOption = Disabled / Enabled

Web site (V3.0.0)

- ✓ No change.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ No change.

HXP controller firmware

HXP Installer Pack 20001 (released July 2014)

Firmware (V3.0.0)

- ✓ Add new group:
 - “SingleAxis” group
- ✓ Add new APIs:
 - *SingleAxisSlaveModeEnable*
 - *SingleAxisSlaveModeDisable*
 - *SingleAxisSlaveParametersSet*
 - *SingleAxisSlaveParametersGet*
 - *GroupReferencingActionExecute*
 - *GroupReferencingStart*
 - *GroupReferencingStop*
 - *GroupVelocityCurrentGet*

NOTE:

HXP controller must be equipped of **four CIE boards** to be able to configure **one** or **two** “SingleAxis” groups

Configuration files

- ✓ System.ini is modified to add the SingleAxis configuration

[GROUPS]

HexapodInUse = HEXAPOD

SingleAxisInUse = SINGLE1, SINGLE2 ;--- Two groups max

Web site (V3.0.0)

- ✓ Modify “Front Panel” pages to add SingleAxis group.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ No change.

HXP controller firmware

HXP Installer Pack 10008 (released March 2014)

Firmware (V2.1.1)

- ✓ Correction of Arc trajectories with negative angle
- ✓ Correction of "GroupReadyAtPosition" API

Configuration files

- ✓ System.ref
 - CorrectorISRPeriod = 125e-6 ; seconds
 - DACUpdateDelay = 110e-6 ; seconds
 - ProfileGeneratorISRRatio = 20

Web site (V2.1.0)

- ✓ No change.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ No change.

HXP controller firmware

HXP Installer Pack 10007 (released June 2013)

Firmware (V2.1.0)

- ✓ Add the hexapod trajectory functionality (Line, Rotation and Arc) with 5 new functions:
 - *HexapodMoveIncrementalControl*
 - *HexapodMoveIncrementalControlWithTargetVelocity*
 - *HexapodMoveIncrementalControlLimitGet*
 - *HexapodMoveIncrementalControlPulseAndGatheringSet*
 - *HexapodSGammaParametersDistanceGet*
- ✓ Add the new group function:
 - *GroupReadyAtPosition*

Configuration files

- ✓ The value of ProfileGeneratorISRRatio parameter is modified to 50 in System.ref

Web site (V2.1.0)

- ✓ Modify "Tool" and "Work" pages from FRONT PANEL menu to integrate hexapod trajectories.

QNX kernel (V2.1.0)

- ✓ No change.

Modules versions

- ✓ Driver revision 2.1.x (Labview, Matlab, Python, TCL, C, Basic, executable and source codes).

HXP controller firmware

HXP Installer Pack 10006 (released Sept. 2012)

Firmware (V2.0.0)

- ✓ Update I2C functions.
- ✓ Update MainController to run webInitialization at boot.

Configuration files

- ✓ No change.

Web site (V2.0.0)

- ✓ Update IP configuration file path.
- ✓ Update IP configuration for all CPU board (FS977, FS97D).
- ✓ Fix problem of gateway setting.

QNX kernel (V1.3.0 or V2.1.0)

V1.3.0 for CPU board FS977

- ✓ Update file attributes for ftp transfers.
- ✓ Improve tasks scheduling.
- ✓ Update Kernel to QNX V6.5.0 SP1.

V2.1.0 for CPU board FS97D

- ✓ Configured for new CPU board (FS97D).
- ✓ Update file attributes for ftp transfers.
- ✓ Improve tasks scheduling.
- ✓ Update Kernel to QNX V6.5.0 SP1.

Modules versions

- ✓ Driver revision 2.0.x (Labview, Matlab, Python, TCL, C, Basic, executable and source codes).

HXP controller firmware

HXP Installer Pack 10005 (released Aug. 2011)

Firmware (V1.4.2)

- ✓ Add *EncoderHardInterpolatorErrorCheck* parameter (*system.ini*) to enable or disable the encoder hard interpolator errors checking (*for AnalogInterpolated encoder only*).
- ✓ Fix problem of SetpointPosition rounding when moving with Hysteresis value (*stages.ini*) different than zero.
- ✓ Fix problem of TargetPosition reading with *GroupPositionTargetGet()* function.

Configuration files

- ✓ Add parameter in *system.ini* :
 - *EncoderHardInterpolatorErrorCheck* = Disabled ; *Enabled or Disabled*

Web site (V1.0.4)

- ✓ No change.

QNX kernel (V1.2.1)

- ✓ No change.

Modules versions

- ✓ Driver revision 1.4.x (Labview, Matlab, Python, TCL, C, Basic, executable and source codes).

HXP controller firmware

HXP Installer Pack 10004 (released December 2010)

Firmware (V1.4.1)

- ✓ Improve task scheduling.

Web site (V1.0.4)

- ✓ Correct Terminal and Actuators web page display.
- ✓ Correct missing displays on Actuators, Tool and Work web page.
- ✓ Update Web post.cgi and webInitialization modules.

QNX kernel (V1.2.1)

- ✓ No change.

Modules versions

- ✓ Driver revision 1.4.x (Labview, Matlab, Python, TCL, C, Basic, executable and source codes).

HXP controller firmware

HXP Installer Pack 10003 (released October 2010)

Firmware (V1.4.0)

- ✓ Add Hysteresis function.
- ✓ Correct positioner error reading that generates wrong status display.

QNX Configuration files (V1.0.1)

- ✓ Removed.

Web site (V1.0.3)

- ✓ No change.

QNX kernel (V1.2.1)

- ✓ No change.

HXP controller firmware

HXP Installer Pack 10002 (released August 2010)

Firmware (V1.3.0)

- ✓ Add RestartApplication function to avoid hardware reboot.
- ✓ Add function to play sound when controller is started.
- ✓ Correct actuators software limit.
- ✓ Correct function to get actuators position value.
- ✓ Correct TCLScriptExecuteAndWait function.
- ✓ Correct access to cards from website page General.
- ✓ Correct driver status acquisition.
- ✓ Correct positionner error acquisition.

QNX Configuration files (V1.0.1)

- ✓ Organize permissions for users.

Web site (V1.0.3)

- ✓ Correct display of “ÿ” on Error file display page.
- ✓ Change permissions for users for FTP connexion.

QNX kernel (V1.2.1)

- ✓ Add RestartApplication module to allow faster soft reboot than hard reboot.

HXP controller firmware

HXP Installer Pack 10001 (released May 2010)

Firmware (V1.2.1)

- ✓ Correct Error.log file reading from website.
- ✓ initializelp (V1.1.0): Switch Ethernet ports to fit chassis labelling.

Configuration files

- ✓ Initial version.

Web site (V1.0.2)

- ✓ Correct clear history in Terminal page.
- ✓ Correct display of errors in Error file display page.

QNX kernel (V1.2.0)

- ✓ Evolution to QNX 6.5.0 version to change QNX system's threads priorities.

HXP controller firmware

HXP Installer Pack 10000 (released May 2010)

Firmware (V1.2.0)

- ✓ Add TCL programming functionalities:
 - TCLScriptExecuteAndWait
 - TCLScriptExecute
 - TCLScriptKill
- ✓ Add Hexapod theoretical model error compensation
- ✓ Debug of actuator compensation error

Configuration files

- ✓ Initial version.

Web site (V1.0.1)

- ✓ Fix problem of IP address setting.

QNX kernel (V1.1.0)

- ✓ Add support for TCL programming.
- ✓ Add support for firmware in field upgrade using an installer.

HXP controller firmware

Initial version (released Nov. 2009)

Firmware (V1.0.0)

✓ Initial version.

Configuration files

✓ Initial version.

Web site (V1.0.0)

✓ Initial version.

QNX kernel (V1.0.0)

✓ Initial version.