KINGSTAR 3.2

SOFT MOTION RELEASE NOTES

KS-DOC-X64-0015-R14

KINGSTAR
IntervalZero

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Contents

KINGSTAR Soft Motion 3.2 release notes 1
New features 1
Updates 2
Fixes 3
Known issues 4
Get support 5
Third-party support 5
Online support 5
Before calling technical support 5
The version number of your RTX64 and KINGSTAR software 5
Phone support 6

KINGSTAR Soft Motion 3.2 release notes

New features

The following new features and improvements are available in this release:

NOTE: Reference numbers, [KS–<XXX>], are for internal tracking purposes.

- Add new supported hardware:
  - Servo drives
    - Inovance IS620N [KS-408]
  - EtherCAT I/O modules
    - Nexcom NEIO-B1811/B1812 [KS-505]
  - EtherCAT coupler
    - VIPA SLIO EtherCAT Coupler [KS-378]
- Add PLCopen Gearing functions: **`MC_GearIn`**, **`MC_GearOut`**, **`MC_GearInPos`**. [KS-23]
- Add retry to bus scan. If new slaves are added between the INIT and OP state, the KINGSTAR master will run the bus scan again. [KS-77]
- Send I/O commands in the motion queue. I/O commands can be triggered automatically once a motion is done. This feature is provided using **`MC_DigitalCamSwitch`**. [KS-227]
- Add a PLCopen cam switch function: **`MC_DigitalCamSwitch`**. [KS-236]
- Add PLCopen Touch Probe functions: **`MC_TouchProbe`**, **`MC_AbortTrigger`**. [KS-237]
- Build a new user interface for KINGSTAR Tuning Console. [KS-288]

- Add the .NET Class sample. [KS-382]
- Add KINGSTAR .NET Class Sample. [KS-384]
- Add API functions: **`CommandTest`**, **`GetServoAvailableControlModes`**, **`GetLinkState`**. [KS-393] [KS-394] [KS-396]
- Add the `KsDataAvailable` and `KsTransmitting` events to let users synchronize their own timers and the EtherCAT timer, so users know when they can read or write EtherCAT data. [KS-458]
- Add the option to access custom variables of the axis through the PDO: **`GetServoCustomInput1`**, **`GetServoCustomInput2`**, **`SetServoCustomOutput1`**, **`SetServoCustomOutput2`**. [KS-476]
- Add the feedback delay explanation in Concept.

Updates

- Add properties to the Axis class in the .NET Class interface: HomingMode, HomingDirection, HomingSwitch, NegativeLimit, NegativeSoftLimit, PosToVelRatio, PositiveLimit, PositiveSoftLimit, SlaveControlLimit, SlaveHomingMode, SlaveHomeOffset, TorqueReverse. [KS-420]
- Add a method to the Axis class in the .NET Class interface: **`CancelHomeAsync`**. [KS-420]
- Add the command-line mode in KINGSTAR Analysis Console. [KS-427]
- Add options in KINGSTAR ESI Import Tool: Cycle time interval, Default resolution, MOP Display, Custom Input/Output. [KS-444]
- Make the **Index** property public in the Module class in the .NET Class interface. [KS-495]
- Add the parameters 1036-1049 to **`MC_AxisParameter`**.
- With **`MC_TouchProbe`**, you can use the homing mode **homingLatch**.

Fixes

- The KINGSTAR .NET Sample can't run in the KINGSTAR **bin** folder or from the shortcut of Windows **Start** menu (because the shortcut points to the **bin** folder). [KS-63]
- Application's max velocity can be greater than system's max velocity. [KS-337]
- For SanyoDenki RF2, when using SDO to write the value into the object index of the multiple axes, the address of the index is wrong. [KS-359]
- Add custom variables into the PDO variable list. Users can use KINGSTAR ESI Import Tool to set these variables. They can also use the corresponding KINGSTAR EtherCAT API functions to read and write them. [KS-360]
- The output of the **`MC_GroupEnable`** and **`MC_GroupDisable`** function blocks influence the power state of the single axis in the group. [KS-366]
- Simulated axis keeps running after **`MC_Halt`** in some conditions. [KS-392]
- Done and Busy outputs are wrong for **`MC_Jog`** and **`MC_Inch`** in the Win32 interface. [KS-398]
- When you recompile samples, the default output directory is the KINGSTAR **bin** folder (`C:\Program Files\IntervalZero\KINGSTAR\bin`). The output directory needs to be changed to other folder to avoid a build/compile error. [KS-399]
- **`MC_GroupSetPosition`** doesn't work properly in the Win32 interface. [KS-405]
- Motion-card API functions are returning **MC_Error** codes instead of ReturnCode. [KS-414]
- Applications can't catch the exception of the .NET Class functions whose return type is async void. [KS-422]
- Memory that occupied with classes is not cleaned after calling the **`Stop`** function. [KS-437]
- In .NET Class interface, **Started** and **ProcessInitialized** properties don't change their state as expected. [KS-451]

- The SlaveID and PhysAddress are read incorrectly using **`GetIOByIndex`** and **`GetSlaveById`**. [KS-464]
- Axis velocity is wrong when EtherCAT cycle time is 125 microseconds. [KS-512]
- When converting the **`StartHoming`** API to **`MC_Home`**, the HomingDirection parameter is lost. The homing will always use forward direction. [KS-515]
- PLCopen SDO functions (with EC_ prefix) do not work in the Win32 interface. [KS-517]

Known issues

- If you click **Start/Stop KINGSTAR PLC** in KINGSTAR Soft PLC Runtime when ISaGRAF PLC Workbench is debugging in **Online** mode, the computer may crash. The workaround is stopping debugging first, and then click **Start/Stop KINGSTAR PLC**. [KS-390]
- The **`MC_MoveLinearAbsoluteEx`**, **`MC_MoveLinearRelativeEx`**, **`MC_MoveLinearAdditive`**, **`MC_MoveCircularAbsolute`**, **`MC_MoveCircularAdditive`**, **`MC_MoveCircularRelative`** and **`MC_GroupReadActualAcceleration`** functions don't work in the Win32 interface. [KS-397] [KS-548]
- After installing and configuring RTX643.2, you are prompted to restart Windows. There is an error icon in the prompt dialog box, but the message is a reminder, not an error.
- ISaGRAF PLC Workbench needs internet connection to install Microsoft .NET Framework 4.5.1.

Get support

KINGSTAR offers a number of support options for KINGSTAR users, including third-party, online and phone support.

Third-party support

If you are a customer who purchased a KINGSTAR product through a third-party reseller, contact the reseller for support.

Online support

The KINGSTAR Customer Support web page is located at:

http://kingstar.com/support/

The KINGSTAR support web pages provide electronic access to the latest product releases, documentation, and release notes. You can access the online support ticketing system to submit issues or questions.

Before calling technical support

Please have the following information ready before calling KINGSTAR Technical Support:

The version number of your RTX64 and KINGSTAR software

To obtain the RTX64 version number:

1. Click **Start** > **All Programs** > **RTX64 3.2 Runtime** > **Control Panel**.
2. In the **RTX64 3.2 Control Panel**, record **Version** shown in the **Runtime Information** area.

To obtain the KINGSTAR version number:

1. Click **Start** > **All Programs** > **KINGSTAR** > **Runtime**.
2. In **Windows Explorer**, click the `ksm64.rtdll` file, and right-click the same file again.
3. On the shortcut menu, click **Properties**.
4. In the **ksm64.rtdll Properties** window, click the **Details** tab, and record **Product version**.

Phone support

For technical support related to installing and using KINGSTAR, please call technical support at this number:

+886-2-2556-8117

Hours are Monday-Friday from 9:30 to 18:30, UTC+08:00, excluding holidays.