



**Floppy to USB Converter  
for CNC and  
Robot Control Systems**

**Installation and Software User Manual**

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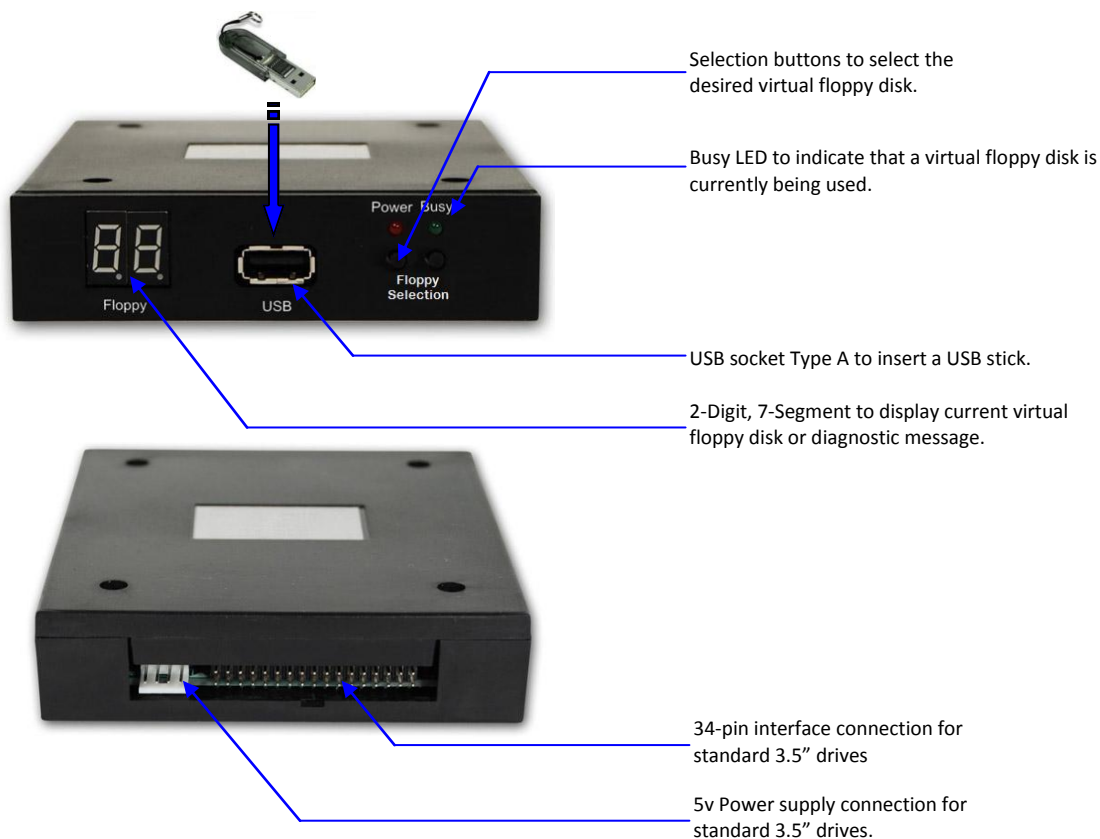
## Limited Warranty

KSB Technologies warrants to the end-user customer that this data storage product, exclusive of software will be free from defects in material and workmanship for a period of 12 months from the date of purchase. If KSB Technologies receives notice of any such defects during the warranty period, KSB Technologies will, at its option, either repair or replace the product which it finds to be defective at no charge. Any exchanged parts under this warranty will become the property of KSB Technologies. A replacement product may be either new or reconditioned. If the product is discontinued and no longer available, then it may be replaced with a product, determined by KSB Technologies, to be of similar value and performance. This Limited Warranty is invalid if the product has been opened, deliberately damaged or tampered with, or if the factory-applied seal has been damaged or removed from the product. In order to obtain warranty service, please contact KSB Technologies.

## Features:

- Store up to 100 Virtual floppy disks on a USB Flash Drive,
- Direct replacement for Legacy Floppy Drives,
- Robust and reliable.

## Physical Layout



Virtual floppy disks are selectable via the two pushbuttons on the front of the floppy to USB converter. The 7-segment display indicates which virtual floppy disk has been selected. When a virtual floppy disk is being accessed on the USB stick, the Busy LED will be lit.

**Note:** The virtual floppy disk number should only be changed when the Read/Write LED is not lit!

# Installation Instructions

## General Floppy Disk Drive Replacement

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### Removal of existing floppy disk drive:

- Turn off the supply to the controller.
- Remove all covers to reveal the floppy disk drive.
- Disconnect the power connector and the 34way ribbon cable from the rear of the drive.
- Remove the floppy disk drive.

### Installation of new Floppy to USB Converter

- Secure the floppy to USB converter to the machine using the supplied screws. Adjust the unit to the correct position before tightening the nuts.
- Connect the power connector to the rear of the floppy to USB converter. Now connect the 34 way ribbon cable to the unit. The red/blue wire on the ribbon cable should be connected to pin 1 on the unit. (This is located on the side nearest the power connector).

**Note: This may vary on different machines. If the Read/Write LED is lit constantly, please connect the red/blue wire of the cable to pin 34.**

- Ensure that there is no USB stick in the front of the unit and power on the controller. The unit should now be showing **00** on the display and the Read/Write LED should be off. If not, please check all connections again.
- Insert the pre-formatted USB stick provided. The display should now change to **00**, indicating the virtual floppy disk that has been selected. This can now be accessed by the control. The virtual floppy disk can be changed using the two selection buttons at the front of the unit.

**Note: The virtual floppy disk number should only be changed when the Read/Write LED is no lit.**

# Installation Instructions

## ABB S4 - Floppy Disk Drive Replacement

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### Removal of existing floppy disk drive:

- Turn off the supply to the controller.
- Disconnect the power connector and the 34way ribbon cable from the rear of the drive, located on the inside of the control cabinet.
- Remove the two M4 nuts and washers that secure the floppy drive and brackets to the cabinet. Now remove the floppy disk drive.
- Remove the two angle brackets attached to the floppy disk drive by removing the four retaining screws.

### Installation of new Floppy to USB Converter

- Attach the two angle brackets to the new floppy to USB converter using the four self tapping screws provided.
- Secure the floppy to USB converter to the cabinet on the existing mounting studs, using the nuts and washers removed. Adjust the unit to the correct position before tightening the nuts.
- Connect the power connector to the rear of the floppy to USB converter. Now connect the 34 way ribbon cable to the unit. The red/blue wire on the ribbon cable should be connected to pin 1 on the unit. (This is located on the side nearest the power connector).

**Note: This may vary on different machines. If the Read/Write LED is lit constantly, please connect the cable to pin 34.**

- Ensure that there is no USB stick in the front of the unit and power on the controller. The unit should now be showing **00** on the display and the Read/Write LED should be off. If not, please check all connections again.
- Insert the pre-formatted USB stick provided. The display should now change to **00**, indicating the virtual floppy disk that has been selected. This can now be accessed by the control. The virtual floppy disk can be changed using the two selection buttons at the front of the unit.

**Note: The virtual floppy disk number should only be changed when the Read/Write LED is no lit.**

# Installation Instructions

## ABB S4C and S4C Plus



### Removal of existing floppy disk drive:

- Turn off the supply to the controller.
- Open the control cabinet lid and remove the screws that secure the cover plate of the floppy disk drive area.
- Remove the cover plate and locate the floppy disk drive.
- Disconnect the power connector and the 34way ribbon cable from the rear of the drive.
- Remove the 4 screws that secure the floppy disk drive to the cabinet and remove the floppy disk drive.

### Installation of new Floppy to USB Converter

- Secure the floppy to USB converter to the existing mounting plate on the cabinet using the four self tapping screws provided.
- Connect the power connector to the rear of the floppy to USB converter. Now connect the 34 way ribbon cable to the unit. The red/blue wire on the ribbon cable should be connected to pin 1 on the unit. (This is located on the side nearest the power connector).

**Note: This may vary on different machines. If the Read/Write LED is lit constantly, please connect the cable to pin 34.**

- Replace the cover plate and secure with the original screws.
- Close the control cabinet lid.
- Ensure that there is no USB stick in the front of the unit and power on the controller. The unit should now be showing **00** on the display and the Read/Write LED should be off. If not, please check all connections again.
- Insert the pre-formatted USB stick provided. The display should now change to **00**, indicating the virtual floppy disk that has been selected. This can now be accessed by the control system. The virtual floppy disk can be changed using the two selection buttons at the front of the unit.

**Note: The virtual floppy disk number should only be changed when the Read/Write LED is no lit.**

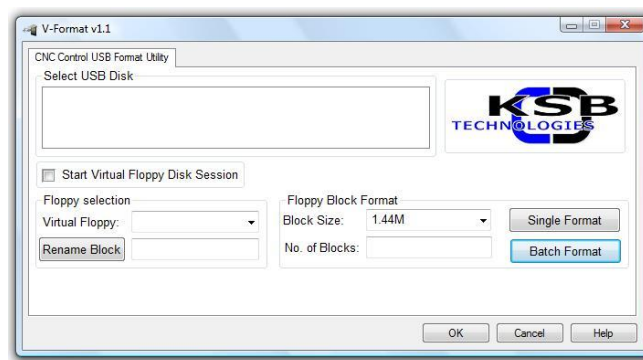
This manual provides a description of the USB formatting software provided with your floppy to USB converter. The software can be used for the following:

- Formatting a new USB Stick into 100 Virtual Floppy Disks.
- Formatting a single block on a pre-formatted USB Stick.
- Accessing USB virtual floppy disks.

The USB stick supplied with the floppy to USB converter has already been formatted into 100 virtual floppy disks, and would therefore not require formatting prior to use.

## Formatting a new USB Stick into 100 Virtual Floppy Disks

1. Start the supplied USB format application by selecting VFormat.exe.



2. Insert the USB stick into an available USB port.
3. Select the necessary USB stick from the list in the top selection box labelled 'Select USB Disk'

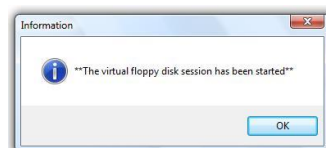


4. Select the box labelled 'Start Virtual Floppy Disk Session'. This starts a new session with the current USB stick.



**Note:** Ensure this box is de-selected before removing the USB Stick or closing the application!

5. A message now appears to acknowledge that the virtual floppy disk session has been selected. Press OK.



**Note:** If the USB stick has been previously formatted into virtual floppy disks, the drop down tab labelled 'Virtual Floppy' will show all the virtual floppy disks on the stick. These should be labelled 'FLPPY0' – 'FLPPY99'. If the USB stick has not been previously formatted, the tab will display 'NO.0:UNFORMATTED'.



6. In the box labelled 'No. of Blocks' in the 'Floppy Block Format' section of the page, enter the amount of virtual floppy disks you would like to format the USB stick into. Select the button labelled 'Batch Format'.

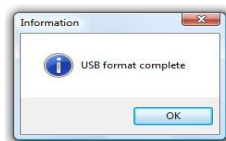
**Note:** A maximum of 100 virtual floppy disks can be made on a single USB stick. For this, the USB stick should be a minimum of 1GB in capacity.



7. A message now appears to confirm the formatting procedure. Press OK.



8. The formatting process now begins, which may take a few moments. When complete, a message is displayed to indicate that the process is complete. Press OK.

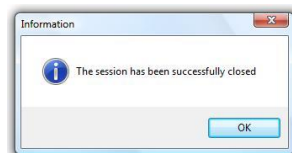


9. When you have finished with the USB stick, close down all applications that are accessing the USB stick and de-select the box labelled 'Start Virtual Floppy Disk Session'.



**Note:** Data may be lost if the 'Virtual Floppy Disk Session' is not closed before removing the USB Stick!

10. A message now appears to acknowledge that the virtual floppy disk session has been closed. Press OK.



## Formatting a single block on a pre-formatted USB Stick

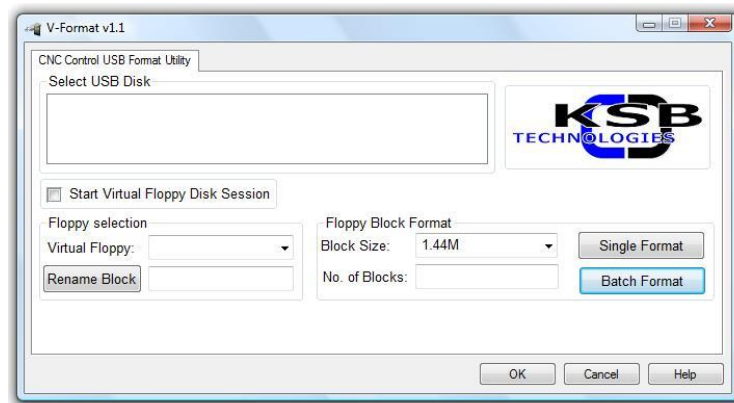
If it is necessary to format a single virtual floppy disk on a preformatted USB stick, the user can format the disk using either the robot controller, or the USB formatting software provided.

When using the robot controller, the virtual floppy disk can be formatted using the standard Floppy disk format function on the controller. The correct floppy block should be selected prior to formatting, using the selection buttons at the front of the floppy to USB converter.

**Note:** All data on the selected virtual floppy disk will be lost if formatted!

When using the USB formatting software to format a single virtual floppy disk, the following procedure should be followed:

1. Start the supplied USB format application by selecting VFormat.exe.



2. Insert the USB stick into an available USB port.
3. Select the necessary USB stick from the list in the top selection box labelled 'Select USB Disk'

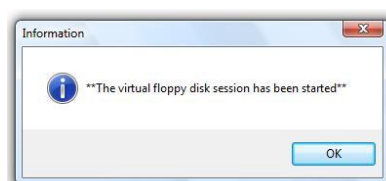


4. Select the box labelled 'Start Virtual Floppy Disk Session'. This starts a new session with the current USB stick.



**Note:** Ensure this box is de-selected before removing the USB Stick or closing the application!

5. A message now appears to acknowledge that the virtual floppy disk session has been started. Press OK.



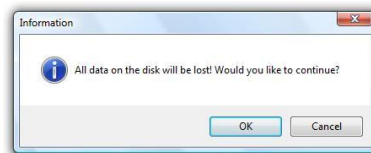
6. In the drop down tab labelled 'Virtual Floppy', choose the virtual floppy disk you would like to format.

**Note:** The floppy to USB converter display number '00' refers to the floppy block labelled 'FLPPY0'.

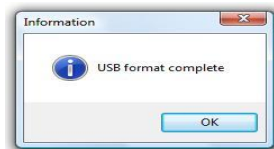
7. Select the function 'Single Format' in the box labelled 'Floppy Block Format'.



8. A message now appears to confirm the formatting procedure. Press OK.



9. The virtual floppy disk is now formatted. When complete, a message is displayed to indicate that the process is complete. Press OK.

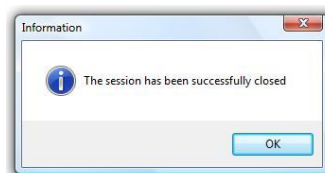


10. When you have finished with the USB stick, close down all applications that are accessing the USB stick and de-select the box labelled 'Start Virtual Floppy Disk Session'.



**Note:** Data may be lost if the 'Virtual Floppy Disk Session' is not closed before removing the USB Stick!

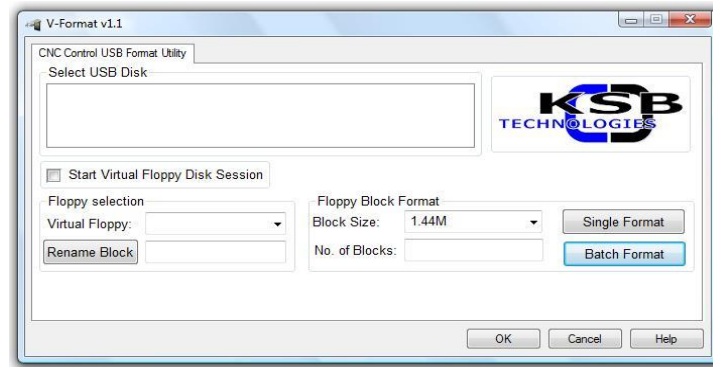
11. A message now appears to acknowledge that the virtual floppy disk session has been closed. Press OK.



## Accessing USB virtual floppy disks

The software provided with the floppy to USB converter can be used to access the virtual floppy disks on a preformatted USB stick using a standard PC. The following procedure should be followed:

1. Start the supplied USB format application by selecting VFormat.exe.



2. Insert the USB stick into an available USB port.
3. Select the necessary USB stick from the list in the top selection box labelled 'Select USB Disk'

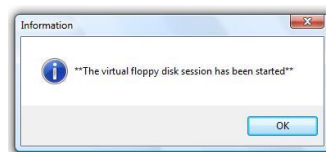


4. Select the box labelled 'Start Virtual Floppy Disk Session'. This starts a new session with the current USB stick.



**Note:** Ensure this box is de-selected before removing the USB Stick or closing the application!

5. A message now appears to acknowledge that the virtual floppy disk session has been started. Press OK.



6. In the drop down tab labelled 'Virtual Floppy', choose the virtual floppy disk you would like to access.

**Note:** The floppy to USB converter display number '00' refers to the floppy block labelled 'FLPPY0'.

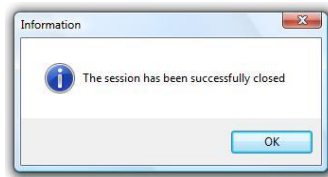
7. Once selected, the USB stick will be recognised as the selected virtual floppy disk. The label of the USB stick will now be the label of the virtual floppy disk that has been selected. The virtual floppy disk can now be accessed through 'My Computer', if a window has not already appeared to explore the drive.

8. When you have finished with the USB stick, close down all applications that are accessing the USB stick and de-select the box labelled 'Start Virtual Floppy Disk Session'.



**Note:** Data may be lost if the 'Virtual Floppy Disk Session' is not closed before removing the USB Stick!

9. A message now appears to acknowledge that the virtual floppy disk session has been closed. Press OK.



Connections / Interfaces	USB Socket Type A 4-Pin Power Connector 34-Pin Floppy Communications Connector
Voltage Supply	5v DC Tolerance= +-10%
Compatibility	FAT12 File System Sectors of Size : 512 bytes/sector 3.5" - 1.44MB: 80 Tracks/18 Sectors 5.25" - 1.2MB: 80 Tracks/15 Sectors 3.5" - 720kB: 80 Tracks/9 Sectors
Diagnostics LED's	1 - Busy (Green LED)
Display	Two-digit, 7 Segment Display (Displays current Virtual Block)
Casing	Smoke Grey / Black Plastic
Dimensions (W/H/D)	Approx: 100mm/25mm/122mm
Temperature Range	0° to 65°
Relative Humidity	5% to 90% (Non Condensing)
Selection Buttons	Left Selector: Virtual Blocks 10-90 Right Selector: Virtual Blocks 00-09