AKD to AKD2G Migration FAQs

1. **Can I use the same motor and feedback with the AKD2G as I did with the AKD (gen1)?**

   Yes, the motor and feedback used with an AKD likely are compatible with an AKD2G. However, the AKD2G was optimized for use with 2 wire feedback. If you are not using Kollmorgen SFD3 or DSL two wire feedback, care needs to be taken to select the correct feedback options on the drive or use an SFA to convert the feedback to be compatible with 2 -wire feedback. Also, the cables which connect the motor to the AKD2G are different than AKD.

2. **Can I use the same Workbench file?**

   No, although Workbench is still used to configure the AKD2G parameters and functionality, the parameters are different and most of the functions will be configured differently. For example, the drive still offers indexing and homing but the configuration and methodology to achieve these functions are different. Also, Inputs are not dedicated to serve a specific function; instead, the action table sets up the function to be triggered by specific I/O. It is important to understand what features are being use in the AKD and review these with Kollmorgen L2 engineering to be sure the functions can be replicated with this new platform.

3. **Will my wiring be the same?**

   No, all the connectors on the AKD2G are different than the AKD. The connection locations are also different. You will need new cables for motor power & feedback (or hybrid cable), and I/O. The exception to this is the AKD X10 feedback port is the same as the AKD2G optional X23 "legacy feedback" port.

4. **What about dimensions? Will the AKD2G fit into the space I have reserved in my cabinet for AKD?**

   That depends on the type of AKD2G you are planning to use. AKD2G MV 3A and 6A single axis are larger than their AKD counterparts. However, since AKD2G is offering a dual axis variant for 3A and 6A you can usually expect space savings when converting from AKD to AKD2G.

5. **Will I be able to use the same Inputs I use with AKD with the AKD2G?**

   Maybe, the AKD2G inputs 1-12 are IEC 61131-2 24V inputs. AKD inputs can be 5-24V sinking or sourcing inputs. Only inputs compatible with IEC 61131-2 can be used with AKD2G. Wiring and connectors will also be different.

6. **How do I get an Encoder Emulated Output on the AKD2G?**

   For all AKD2G drives:
   F3 option - enhanced feedback, adds X23 connector to the drive
   On Single axis AKD2G drives:
   IO option - I/O Expanded, adds X22 connector to the drive
   DX option - includes both X22 and X23 connectors
   X22 connector can provide A and B channel out
   X23 connector can provide A, B and Z channel out

On single axis drives, X22 is an adder.
On dual axis drives, X22 comes standard.
X23 is an adder on single and dual axis drives.

7. **AKD1G has one STO input; AKD2G has dual-channel STO. How do I wire the dual STO to my single STO wire?**
   Page 138 of the AKD2G-S Installation Manual has wiring examples; an example diagram is also shown below.
   AKD2G-S (Safety Option 1) Installation Manual english (kollmorgen.com)
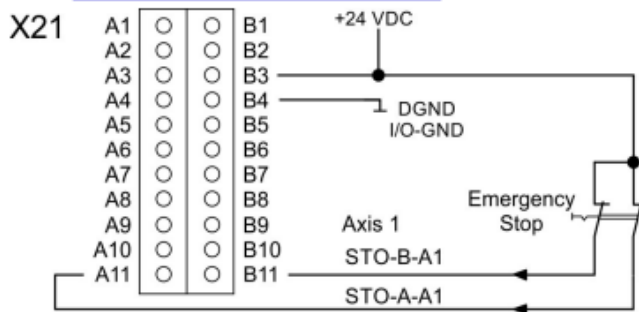
8. **Will power (logic and AC input) be the same?**

   Voltage requirements will be the same. However, wiring and connectors are different. Current draw (mA) may also be different for the logic input depending on number of axis and number of brakes used.

9. **Can I execute the same number of pre-set indexes in AKD2G as I did in AKD?**

   This should be verified through applications engineering. It is possible that extended I/O will be necessary to access all moves in the motion task table. Multiplexing on inputs is not the same in AKD2G as it is in the AKD. The AKD supports 129 motion tasks; the AKD2G supports 32 motion tasks.

10. **Is Modbus the same?**

    No, addresses need to be mapped for AKD2G parameters. The AKD parameters have a fixed mapped address. AKD2G vs. AKD: Modbus (kollmorgen.com)

11. **Is the EtherCAT implementation the same?**

    No, AKD2G will support the same operations and functionality. However, object numbers are not the same, default values and scaling could be different. Please consult the manual for specific differences.

12. **Is the Ethernet/IP implementation the same?**

    AKD2G EIP version is in beta release only. There are some differences.

13. **Is the Profinet implementation the same?**

    No, the Profinet protocol is similar, but there are differences including: supported telegrams, PNU numbers, device configuration, communication rate. In general, the AKD2G follows the Profinet standard more closely. It supports faster communication rate. It supports IRT, allowing control via Siemens "technology" PLC's and supporting coordinated motion. It is more user friendly for configuration and diagnostics in Workbench.

14. **How about SERCOS and SynqNet?**

    AKD2G will not offer SERCOS nor SynqNet.

15. **Is there also a PDMM variant of AKD2G?**

    No, there is no PDMM variant available. But you can use a PCMM + AKD2G instead.

16. **Is there a BASIC programmable variant of AKD2G?**

    No, there is no AKD-T like version of AKD2G available.

17. **How is the implementation different for KAS?**

    The implementation is very similar. Re-scan of network is needed and re-mapping of I/O. Any drive parameters used in the PLC code need to migrate to new parameter addresses (CANOPEN addresses are different in AKD vs AKD2G). All other PLC code can stay the same.

More information can be found in the online manual under the topic AKD2G vs. AKD
AKD2G vs. AKD (kollmorgen.com)