Danfoss VLT FlexMotion General Purpose Servo Drive Installation Guide

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Danfoss VLT FlexMotion General Purpose Servo Drive

VLT® FlexMotion™ is a general-purpose servo drive solution. It consists of three different servo-drive product lines, each with its own unique benefits. But, as they are based on the same platform, the user interface is identical and programming, installation, and maintenance are equally quick and easy.

Developed specifically for the food and beverage, packaging, textile, pharmaceutical and material handling industries, VLT® FlexMotion™ consists of:

- VLT® Multiaxis Servo Drive MSD 510
- VLT® Integrated Servo Drive ISD® 520
- VLT® Decentral Servo Drive DSD 520

Mutual benefits

- System independence – the unique open system architecture means that all three product lines are compliant with most real-time Ethernet field buses, such as EtherCAT®, POWERLINK®, PROFINET® RT, and PROFINET® IRT, and 3rd-party masters can be used
- Coherent central and decentral solutions – provide optimal flexibility and machine design
- VLT® FlexSafety™ functional safety over fieldbus (PROFIsafe and FSoE) and hardwired STO ensures enhanced safety capabilities throughout the whole platform. The platform includes numerous safe speed, position, and brake functions.

The decentral servo drives offer 3M7-rated vibration resistance, making them ideal for rotating machine parts. Their IP67-rated enclosure design ensures a high degree of protection.VLT® Multiaxis Servo Drive MSD 510 is a generic multi-axis system that allows perfect integration of decentral drives. It comprises a Power Supply Module (PSM 510), Drive Modules (SDM 511, SDM 512), a Decentral Access Module (DAM 510) and an Auxiliary Capacitors Module (ACM 510). Modules are available in two frame sizes with a width of 50 mm and 100 mm. It

supports EtherCAT®, POWERLINK®, and PROFINET® IRT Ethernet-based protocols and features an internal brake resistor and a mounting plate that includes a DC link and auxiliary voltage. The ‘click and lock’ solution for the mounting plate makes installation simple and safe.

VLT® Integrated Servo Drive

ISD® 520 is a fundamental component in a flexible, high-performance decentral servo motion solution. It is powered by a central power supply (VLT® Power Supply Module PSM 510 and VLT® Decentral Access Module DAM 510), which provides a 565-680 V DC supply and ensures a higher power density. ISD 520 drive modules and a hybrid daisy-chain cabling concept significantly reduce the number of cables required.

VLT® Decentral Servo Drive DSD 520
extends the selection of a decentral servo drive concept. It is compatible with a wide range of PM motors, linear motors, and also ASM motors. For optimal control of speed and position, DSD 520 is equipped with these feedback encoders:

- Resolver
- Single- and multi-turn
- BiSS, SSI
- EnDat 2.1 and 2.2
- Hiperface and Hiperface DSL
- SinCos
- Open Loop

VLT® FlexSafety™
Use the factory option VLT® FlexSafety™ for highly demanding functional safety applications. Level SIL3 (IEC 61508), PLe / CAT3 (ISO 13849) is achievable for PROFIsafe and FSoE over Fieldbus. The offering includes STO, SS1, SS2, SOS, SLA, SAR, SLS, SSR, SLP, SLI, SDI, SCA, SSM, SBC, SBT. Optionally, 2x safe DI (double channel) and 2x safe DO (double channel) allow access to several functions independently from the Fieldbus.

VLT® Multiaxis Servo Drive MSD 510

VLT® Integrated Servo Drive ISD® 520

VLT® Decentral Servo Drive DSD 520

Specifications

- User-friendly and open servo motion solution
- 3M7-rated vibration resistance
- IP67-rated enclosure design for high protection
- 2x safe DI (double channel) and 2x safe DO (double channel)
- Supports EtherNet/IP and DeviceNet

FAQ (Frequently Asked Questions)

Q: What is the vibration resistance rating of the decentral servo drives?
A: The decentral servo drives offer a 3M7-rated vibration resistance, making them ideal for rotating machine parts.

Q: Can I access multiple functions independently with this servo motion solution?
A: Yes, you can access several functions independently using the 2x safe DI and 2x safe DO channels.

Q: What fieldbus protocols are supported by this product?
A: This product supports EtherNet/IP and DeviceNet protocols.

Documents / Resources

	Danfoss VLT FlexMotion General Purpose Servo Drive [pdf] Installation Guide VLT FlexMotion General Purpose Servo Drive, FlexMotion General Purpose Servo Drive, General Purpose Servo Drive, Purpose Servo Drive, Servo Drive, Drive

References

- Engineering Tomorrow | Danfoss
- User Manual