

Need flexibility in your servo system?

VLT® Integrated Servo Drive ISD® 520 is a high-performance decentral servo motion solution, developed specifically for the Food & Beverage and Packaging industries. The servo system comprises a central power supply, drive modules and cabling infrastructure. The decentralization of the drive unit offers benefits in mounting, installation, and operation. Depending on the application, the system can power up to 68 servo drives. The open system supports EtherCAT®, PROFINET, and Ethernet POWERLINK®, as well as advanced functional safety protocols.

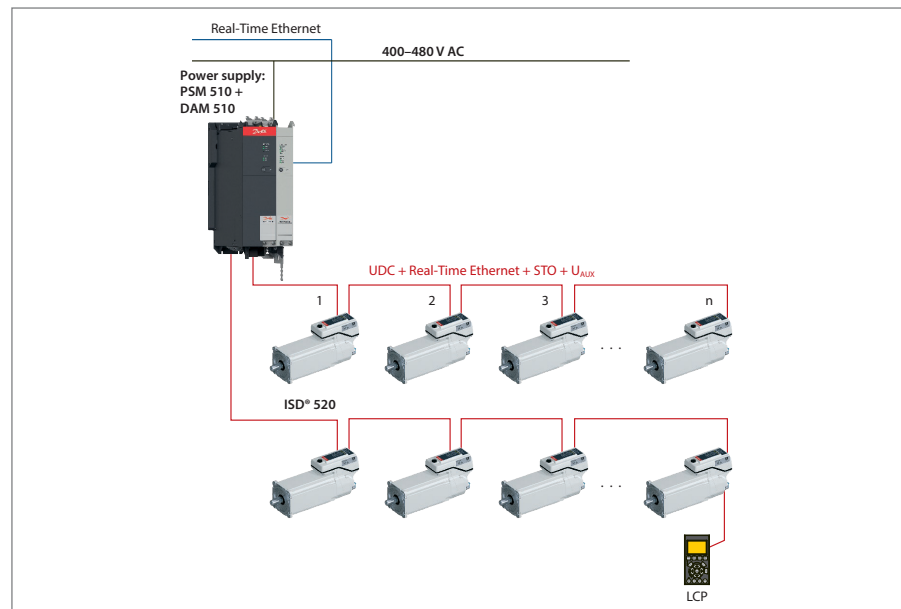
Integrated control

The motion control is integrated into the drive so that the motion sequences can take place independently. This releases the central PLC and offers a highly flexible drive concept. The programming of the master is supported by PROFIdrive AC4 (PROFINET) and DS402 libraries (POWERLINK/EtherCAT). Hybrid cables are used to connect the servo drives, making installation fast and simple.

The perfect solution for:

- Material handling and packaging machines
- Food & beverage machines
- Pharmaceutical machines
- Metal forming processes
- Textile industries

1.5-16 Nm torque
range gives you more design flexibility in your decentralized system plans



Example of system topology using ISD 520



Feature	Benefit
Dynamic servo performance	Fast, accurate, and energy-efficient
Compact and decentral servo drive	Great flexibility in machine design
Up to 68 standard servo drives in one daisy chain line	Selection of most suitable drive for the application's torque and power requirements
Real-time systems: EtherCAT®, PROFINET, Ethernet POWERLINK®, & advanced functional safety protocols: PROFIsafe and FSoE	Fast process communication
Control via IEC 61131-3 Native integration in TwinCat, TIA Portal, Automation Studio, and CODESYS	Open, native, and compliant system
System setup performance	Simple and fast configuration of several drives
Hybrid cables in daisy-chain concept	Easy and fast installation, reduced number of cables
Removable Local Control Panel (LCP) (Optional)	Direct connection to the servo drives for fast commissioning, diagnosis, and service
LEDs on servo drive and power supply modules	Fast and effective monitoring
Standard and advanced servo drive variants	Match the application needs with the minimum viable product

Power supply for ISD® 520:

- **VLT® Power Supply Module PSM 510**
generates a 565-680 V DC link voltage. Power sizes: 10 kW, 20 kW or 30 kW modules, with 200% overload capability. For nominal output up to 60 kW, install 2 units in parallel.
- **VLT® Decentral Access Module DAM 510**
connects ISD® 520 to the rest of the system, with good design flexibility. Supports modular machine architectures.

Options for ISD® 520

- Mechanical holding brake
- Feedback:
 - 15...22 bit
 - single-turn/ multi-turn
 - safe/ non-safe
- Shaft seal
- Flexible hybrid cable

Specifications

VLT® Integrated Servo Drive ISD® 520		
Rated voltage	$U_{DC\ link}$	565-680 V DC +/-10%
Rated torque	M_N	1.6-13.8 Nm
Peak torque	M_{0max}	6.3-39 Nm
Rated current	I_N	1.1-6.6 A
Peak current	I_{max}	5.7-21.7 A
Rated speed	n_N	2000-6000 rpm
Rated power	P_N	0.5 - 3.7 kW
Inertia (without mechanical brake)	J	0.63 - 9.8 kgcm ²
Shaft diameter		11-24 mm
Protection rating		IP67 (shaft IP65)
Ambient temperature		40 °C, +55 °C with derating
Vibration resistance		3M7
Maximum altitude		3000 m
Safety rating		STO (Safe Torque Off), SIL 2, PLd/CAT3 Option: VLT® FlexSafety™ over Fieldbus, SIL3, Ple /CAT3

VLT® Power Supply Module PSM 510		
Input voltage	U_{IN}	400-480 V AC ±10%, 3-phase
Input current	I_{IN}	20/34/50 A @ 400 V
Output voltage	U_{OUT}	565-680 V DC ±10%
Rated power	P_N	10/20/30 kW
Rated current	I_N	20/40/60 A
Enclosure		IP20

VLT® Decentral Access Module DAM 510		
Rated voltage	$U_{DC\ link}$	560 - 680 V +/- 10%
Rated output current	I_{DCN}	15/25 A
Peak current	$I_{DC\ peak}$	30/48 A (for < 1 sec)
Enclosure		IP20

Dimensions

Dimensions [mm]	Size 1	Size 2	Size 3	Size 4	Size 5
Width (flange)	92 (70)	92 (92)	100 (100)	142 (116)	142 (142)
Length (+ mech.brake)	256 (+35)	210...255 (+30)	249...267 (+38)	298...328 (+40)	289...306 (+40)
Height	147	147	147	169	190

Example frame size 3 (-05T0+FN30) ISD 520

