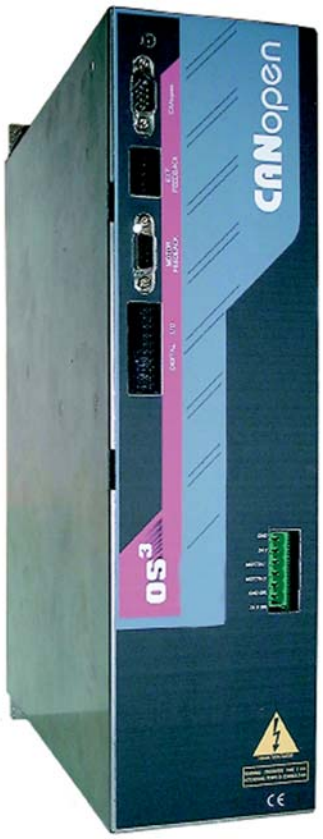
Drives & Motors

>>> The **OSAI OS3CAN servo drive** product line for brushless motors has been specifically designed for applications in Industrial Automation such as: Robots, textile machines, packaging machines, palletisers and all other applications where the direct interface of the drive to CANopen is required.

The drive integrates the CANopen interface, implemented according to the **DS402** profile, and can be driven in interpolation mode via real-time telegrams named PDO. The drive requires a three-phase power supply which can range between 230V (-10%) to 480V (+10%) without the need of a transformer. Four models are available in terms of RMS current (3A, 5A, 9A and 18A) in two physical sizes. The sampling times are 100 microseconds for the current loop and 200 microseconds for velocity and position loop.

It is also possible to connect an auxiliary encoder transducer to increase the position control accuracy, especially when the coupling between axis and motor is not rigid enough.

The drive speed reference command can also be via +/- 10V analogue signal when used in combination with SyncMotion with analogue interface. In this case, the drive transforms the resolver signal into an encoder signal compatible with the position input of the control unit; in this last case it is not possible to connect an external position transducer to the drive.



>>> The drive parameters are setup using a configuration utility, which runs under the Windows operating system.

This software utility also includes an interactive procedure which allows the system to be tuned using the integrated digital oscilloscope function, in order to achieve the best possible performance.

>>> The **OS3 motors** are high voltage sinusoidal brushless motors, with low inertia and high dynamics. They can also have an optional holding brake and include a thermal sensor. The position feedback is a resolver and all motors have an IP65 protection level.

The available standstill torques are from 0.6Nm up to 24Nm, with maximum speeds of 3000, 4000 and 6000 rpm.

The motors can support high acceleration and deceleration up to 110.000rad/sec^2.

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Drives & Motors

	VFD400FC			OS3CAN			
Power section	IGBT with PWM at 10KHz						
Control Loops	Space Vector with double sampling (50 µsec), Velocity and Position loop at 200 µsec						
Protections	Overcurrent, overvoltage, overtemperature for drive; Overcurrent and overtemperature for motor						
Connections	D-shell connectors for CANopen and resolver, Screw removable connections for power and external transducer						
Power supply	230VAC ±10% single/three phase			230VAC -10% ÷ 480VAC +10% three phase			380VAC -10% ÷ 440VAC +10% three phase
Clamp resistor	110W integrated resistor (possibly external resistor)			150W integrated resistor (possibility to connect external resistor)			
Rms current	3A	5A	7A	3A	5A	9A	15A
Peak current	6A	10A	14A	6A	10A	18A	30A
Motor transducer intf	Resolver with 12 bit resolution, 10KHz frequency, automatic cable lenght compensation						
External trasducer	Incremental, differential. Configurable like: encoder emulation, external encoder, master encoder						
Dedicated digital input	Enable and Reset (optoisolated)						
Programmable digital input	6 Input, 14V optoisolated						
Serial line	RS232/485 for parameters configuration						
Available power supply	+24VDC (only with stationery brake option)						
Digital output	Dedicated: Drive ready (relay contact) - Programmable: 2 Outputs, 24V						
Motor brake	Driven directly by the drive (optional)			Driven directly by the drive			
Parametrisation & programming	Running under Windows (2000, XP) with parameters setup, diagnostic and oscilloscope functionalities						
Cooling	Fanless system			Forced cooling			
Dimensions (mm) and weight	206x174x70 3Kg		206x194x80 3Kg	317x250x86 5Kg			352x270x113 7Kg
Temperature	Operating: 0÷40 °C, 40÷60 °C (derating -2,5% for each °C) / Storage: -20÷60 °C			Operating: 0÷40 °C Storage: -20÷55 °C			
Humidity	10÷90% without condensing						
Movement main functions	Point to point or continuos (fly positioning) positioning mode with velocity, acceleration and jerk control - Velocity or torque mode - Absolute/Incremental positioning, rollover axes management (endless), software overtravels - Manual and jogging movements - Homing - Master/slave gearing - Master/Slave						

MOTORS																			
Voltage	230V							400V											
Family	B28		B36		B56		B63	B36		B56		B63				B71			
Flange dimension (mm)	58		77		91,5		115	77		91,5		115				142			
Standby torque (Nm)	0,2	0,4	0,6	1,2	2	3,2	4	0,6	1,2	2	3,2	4	6	8	10	12	16	20	24
Standby current (A)	0,5	1	1,5	3	3,2	4,7	4,2	0,8	1,7	2,7	2,9	3,3	4,9	6,5	6,1	7,4	9,8	12,3	14,7
Power (KW)	0,1	0,2	0,3	0,6	0,8	1,2	1,1	0,3	0,6	0,7	1	1,3	2	2,7	2,8	3,3	4,4	5,5	6,6
Lenght without brake (mm)	118	133	126	151	210	235	224	126	151	210	235	224	249	274	299	259	284	309	334
Maxium speed (rpm)	6000				4000		3000	6000				4000				3000			
Number of poles	4				8			4		8									
Connections	Signal & Power connectors				Signal connector & screw connections for power			Signal & Power connectors		Signal connector & screw connections for power									
Drive size	230V/3A					230V/5A		400V/3A				400V/5A		400V/9A			400V/15A		
Transducer	Resolver																		
Stationery brake	optional																		

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