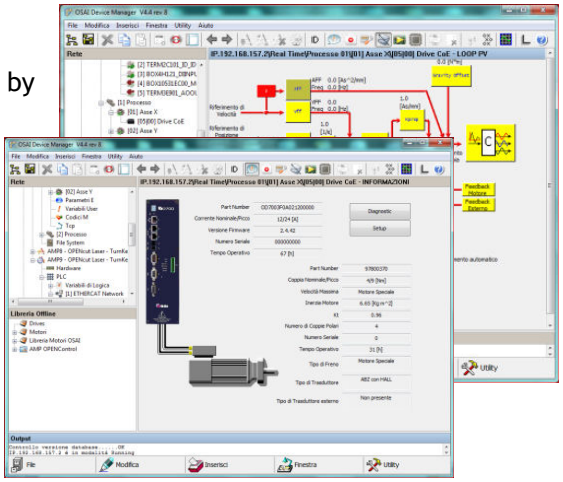
OD700 OPEN*drive*

The new line of OSAI **OPEN*drive* *OD700*** servo-drives perfectly matches the new CNC of OPEN*control* family, improving system dynamic performances and simplifying configurability and commissioning. OD700 are provided with EtherCAT fieldbus, they have compact mechanical dimensions and they support a wide range of operating currents and power supply voltages. They are then the perfect solution for machines dedicated to metal sheet cutting (Plasma, Oxy-fuel, Water-jet, Laser cutting), wood and marble working and for swarf removal machines. There are six available sizes, in four different mechanical formats, having nominal currents of 3A, 4,5A, 6A, 12A, 18A and 36A.

The capability to withstand a high peak current, which can reach the 300% of the nominal current for some specific sizes, allows optimizing costs and plant dimensions. High internal sampling, advanced motor-management algorithms and the high speed of the communication bus allow managing high dynamics machines, while the possibility to connect an auxiliary transducer allows improving mechanical system precision.



The automatic recognition of the connected motors and the configuration by "ODM", a powerful browser executable on the Numerical Control able to contemporarily manage all connected drives and motors, notably facilitate start-up operations.

ODM allows both the display and the modification of motors and drives characterization parameters, both the diagnostic analysis of the drive through several graphical pages that ease its use.

A complete multi-trace oscilloscope allows performing a detailed analysis of the dynamic behaviour of the axes, obtaining the best performances of the machine.

All sizes have available the integrated security function **STO (Safe Torque Off)** to control the cut of the power supplied by the drive and allow the intervention of the operator without cutting power to the machine tool.

OSAI offers **two series of high-power sinusoidal brushless servomotors**, with low inertia and high dynamics.

XML Series Servomotors

Models belonging to this series, characterized by compact dimensions, all with a maximum speed of 5000 rpm and equipped with an incremental encoder 3000 ppr and optionally with a brake, have different characteristics according to their operating voltage, 230V or 400V, and to the stall torque ranging from 0,64 Nm to 15,9 Nm.

OS3 Series Servomotors

OS3 servomotors have available a thermal sensor and can also be equipped with an optional brake. The position transducer is a Resolver or a SinCos encoder with Hiperface protocol, 1024 pulses/turn (electric pitch= 524288). All servomotors have an IP65 protection level. According to the model, the available stall torques range from 0,2 Nm to 66 Nm, maximum speed of 3000, 4000 and 6000 rpm and different number of poles (4 or 8).

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Technical Data

	OD700 OPEN*drive*					
Rms current	3A	4,5A	6A	12A	18A	36A
Peak current	9A	9A	12A	24A	36A	108A
Dimensions (h, d, w) [mm]	183 x 200 x 65		275 x 266 x 73		310 x 266 x 104	320 x 310 x 90
Protection	Overcurrent, overvoltage, over-temperature of the drive. Overcurrent and overtemperature of the motor					
Connection	2 x RJ45 for EtherCAT, 1 x RJ45 for Ethernet, D-sub connectors for main and auxiliary motor feedback Removable power connections					
Power supply	230VAC ÷ 480VAC ±10% Three-phase					
Integrated Clamp Resistor	60W		100W		200W	NO
External Clamp Resistor	Optional external resistor					Always
Local diagnostic	7 segments display					
Safe Torque Off (STO)	YES					
Integrated Safety	SS1, SS2, SOS, SLL (under development)					
Transducer interface Port 1	Encoder SinCos 16/1024 Hiperface Single/Multi turn, Incremental SinCos 1Vpp, Incremental ABZ with Hall probe, Resolver, Incremental Sincos 1Vpp+Hall, ABZ, ABZ+Hall					
Transducer interface Port 2	Incremental SinCos 1Vpp, Incremental ABZ					
Digital input	Rapid Halt, Zero switch, Fast Touch Probe (optoisolated, programmable)					
Other digital inputs	1 optoisolated, programmable					
Digital output	Drive ready					
Other digital output	3 optoisolated, programmable					
Motor brake	Driven directly by the drive					
Parametrization & Programming	Executable on Windows 7. Parameters setup, diagnostic and monitoring functions through oscilloscope Drive connection through EtherCAT port (CNC) or locally through Ethernet port					
Cooling	Forced cooling					
Temperature	Operating: -20÷55 °C	Operating: -20÷45 °C, 45÷55 °C (de-rating -3% for each °C)				
	Storage: -25÷70 °C					
Humidity	10÷90% without condensing					

	XML MOTORS*									
Voltage	230V					400V				
Family	SB02	SC06	SC10	SE15	SE22	SEP09	SEP15	SEP22	SEP30	SFP50
Flange Dimension (mm)	60	80		130		130				180
Stall torque (Nm)	0,64	1,91	3,19	4,77	7	2,86	4,77	7	9,55	15,92
Stall current (A)	1,63	3,58	5,37	8,23	11,98	2,97	4,89	7,17	9,78	15,49
Power (kW)	0,2	0,6	1	1,5	2,2	0,9	1,5	2,2	3	5
Length w/o brake (mm)	106	138,5	178,5	167,3	191,3	143,3	167,3	191,3	215,3	216,5
Nominal speed	3000									
Maximum speed	5000									
Connections	Signal & power connectors			Signal connector & screw power connector						
Drive size	3/9	5/9	6/12	12/24	12/24	3/9	5/9	12/24	12/24	18/36
Transducer	Incremental Encoder TTL with Hall probes 3000 pulses/turn									
Brake	Optional									

* further motors available - OS3 230V/400V

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