CATEGORY SELECTION GUIDE

Medium-Power Servo Drives Category Selection Guide

Medium-power servo drives provide power conversion, position/speed/torque control, feedback connection and communications for closed-loop motion axes. The current category contains single- or three-phase 200–240 VAC and three-phase 380–415 VAC supply records plus different continuous-output current, peak-output current, rated-output power, protocol, braking, cooling and STO combinations for robotics, packaging, CNC, logistics, 3C, battery-manufacturing and general automation equipment.

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CATEGORY	CURRENT CATALOG	REVISION / ISSUE
Medium-Power Servo Drives	5 Product Platforms / 58 SKUs	R01	2026-09-04

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01 Category Scope and Objective

Product catalog and application scope

Medium-power servo drives provide power conversion, position/speed/torque control, feedback connection and communications for closed-loop motion axes. The current category contains single- or three-phase 200–240 VAC and three-phase 380–415 VAC supply records plus different continuous-output current, peak-output current, rated-output power, protocol, braking, cooling and STO combinations for robotics, packaging, CNC, logistics, 3C, battery-manufacturing and general automation equipment.

Product catalog

Item	Content
Terminal category	Medium-Power Servo Drives
Product Platforms	5
SKU	58
Primary catalog dimensions	AC supply, continuous and peak output current, rated output, communication, braking, cooling and STO

02 Typical Applications and Selection Inputs

Typical applications

Robotics and multi-axis motion equipment
For joints, rotary tables, conveying, lifting and synchronized axes; match motor current, supply, feedback and communication interface.

Packaging, CNC and 3C automation
For equipment axes requiring closed-loop position, speed or torque control; confirm response, cyclic duty, braking energy and I/O.

Logistics and battery-manufacturing equipment
For handling, conveying, winding, assembly and test mechanisms; confirm fieldbus, continuous and peak current, cooling and controlled documents.

Selection inputs

01	**Motor and load**	Record motor rated and peak current, continuous and peak torque, speed, load inertia and cyclic duty.
02	**Supply architecture**	Record phase arrangement, voltage, frequency, capacity, grounding, circuit protection and DC-bus conditions.
03	**Feedback and control**	Record feedback interface, position/speed/torque mode, pulse input or fieldbus protocol.
04	**Braking and regeneration**	Record deceleration duty, regenerative energy, braking resistor, stop frequency and brake-control requirement.
05	**Installation and environment**	Record cabinet envelope, cooling path, temperature, altitude, contamination, vibration and service clearance.

03 Product Platform Catalog Logic

Catalog navigation basis

Product Platform	Published distinction	Navigation use
ES-SD-C21-S001	RS232, RS485 and pulse-train commands; 6 SKUs	Entry for this interface combination
ES-SD-C21-S002	EtherCAT and CoE CiA 402; 6 SKUs	Entry for EtherCAT motion axes
ES-SD-C21-S003	EtherCAT, Modbus RTU, PROFINET and pulse combinations; 23 SKUs	Entry for the broadest output and protocol mix
ES-SD-C21-S004	EtherCAT or RS485/Modbus RTU/pulse; 18 SKUs	Continue by protocol and temperature condition
ES-SD-C21-S005	RS232, RS485, Modbus RTU and CANopen with recorded STO; 5 SKUs	Entry where CANopen and STO are required

04 | Product Platform Directory

Medium-Power Servo Drive Product Platforms

Pulse / RS485 Servo Drive Product Platform

This Product Platform covers 6 SKUs. Published standard-parameter records include 1-phase 220 VAC -20%/+15%, 47–63 Hz · 1-/3-phase 220 VAC -20%/+15%, 47–63 Hz supply, 50; 100 W · 200; 400; 750 W rated output, 7 · 5.5 continuous output current, A / 7 · A / 15 peak output current and RS232; RS485; Pulse train communication.

ES-SD-C21-S001

EtherCAT Servo Drive Product Platform

This Product Platform covers 6 SKUs. Published standard-parameter records include 1-phase 220 VAC -20%/+15%, 47–63 Hz · 1-/3-phase 220 VAC -20%/+15%, 47–63 Hz supply, 50; 100 W · 200; 400; 750 W rated output, 5.5 · 2 continuous output current, A / 7 · A / 15 peak output current and RS232; EtherCAT; CoE CiA 402 communication.

ES-SD-C21-S002

Multi-Protocol Servo Drive Product Platform

This Product Platform covers 23 SKUs. Published standard-parameter records include 3-phase 380–415 VAC □10%, 50/60 Hz □3 Hz · 3-phase 200–240 VAC □10%, 50/60 Hz □3 Hz supply, W / 3000 · W / 4500 rated output, 5.4 · 7.6 continuous output current, A / 32.53 · A / 42.43 peak output current and RS232; EtherCAT; CoE CiA 402; Pulse train · RS232; RS485; Modbus RTU; Pulse train · RS232; PROFINET; Pulse train communication.

ES-SD-C21-S003

EtherCAT / Modbus Servo Drive Product Platform

This Product Platform covers 18 SKUs. Published standard-parameter records include 3-phase 380–415 VAC □10%, 50/60 Hz □3 Hz · 1-phase 200–240 VAC □10%, 50/60 Hz □3 Hz supply, W / 3000 · W / 1500 rated output, 2.9 · 5.5 continuous output current, A / 32.53 · A / 16.97 peak output current and EtherCAT; CoE CiA 402 · RS485; Modbus RTU; Pulse train · RS485; Modbus RTU; Pulse train; Analog input communication.

ES-SD-C21-S004

CANopen / STO Servo Drive Product Platform

This Product Platform covers 5 SKUs. Published standard-parameter records include 1-/3-phase 220 VAC -20%/+15%, 47–63 Hz · 3-phase 380 VAC -20%/+15%, 47–63 Hz supply, 200; 400; 750; 1000; 1050; 1250; 1260; 1570 W · 1050; 1260; 1570; 1880; 2100; 2300; 3000 W rated output, 18 · 7 continuous output current, A / 27.5 · A / 25 peak output current and RS232; RS485; Modbus RTU; CANopen communication.

ES-SD-C21-S005

05 | Layered Selection Path

Recommended selection sequence

01	**1** Confirm motor continuous and peak current
02	**2** Confirm AC phase arrangement, voltage and capacity
03	**3** Check overload duration, cyclic duty and braking energy
04	**4** Confirm feedback, control mode and communication protocol
05	**5** Confirm STO, cooling, cabinet envelope and environment
06	**6** Open the matching Product Platform
07	**7** Confirm the SKU from differentiating parameters

06 | Product Platform Parameter Comparison

Initial screening matrix

Product Platform	Servo Drive AC Supply Voltage	Continuous Output Current	Peak Output Current	Rated Output Power	Communication Protocol	Braking Resistor / Braking Absorption Voltage	STO Support	Cooling Method	Operating Temperature
ES-SD-C21-S001	1-phase 220 VAC -20%/+15%, 47–63 Hz · 1-/3-phase 220 VAC -20%/+15%, 47–63 Hz · 3-phase 380 VAC -20%/+15%, 47–63 Hz	7 · 5.5 · 4.6 · 4 · 11 · 2	A / 7 · A / 15 · A / 27.5 · A / 25	50; 100 W · 200; 400; 750 W · 1000 W · 1000 to 2000 W · 1500; 2000 W · 3000 W	RS232; RS485; Pulse train	DC380V□5V · DC680V□5V	No / false · false / No	Natural convection cooling · Forced-air cooling	0–40 °C
ES-SD-C21-S002	1-phase 220 VAC -20%/+15%, 47–63 Hz · 1-/3-phase 220 VAC -20%/+15%, 47–63 Hz · 3-phase 380 VAC -20%/+15%, 47–63 Hz	5.5 · 2 · 11 · 7 · 4 · 5	A / 7 · A / 15 · A / 27.5 · A / 25	50; 100 W · 200; 400; 750 W · 1000 W · 1000 to 2000 W · 1500; 2000 W · 3000 W	RS232; EtherCAT; CoE CiA 402	DC380V□5V · DC680V□5V	false / No · No / false	Natural convection cooling · Forced-air cooling	0–40 °C
ES-SD-C21-S003	3-phase 380–415 VAC □10%, 50/60 Hz □3 Hz · 3-phase 200–240 VAC □10%, 50/60 Hz □3 Hz · 1-phase 200–240 VAC □10%, 50/60 Hz □3 Hz · 1-/3-phase 200–240 VAC □10%, 50/60 Hz □3 Hz	5.4 · 7.6 · 21 · 13 · 10 · 2.9 · 8.6 · 26 · 17 · 5.5 · 4	A / 32.53 · A / 42.43 · A / 53.04 · A / 65.06 · A / 16.97 · A / 22.98 · A / 28.29 · A / 10.61 · A / 12.73	W / 3000 · W / 4500 · W / 5500 · W / 7500 · W / 1500 · W / 2000 · W / 2500 · W / 400 · W / 1000 · W / 750	RS232; EtherCAT; CoE CiA 402; Pulse train · RS232; RS485; Modbus RTU; Pulse train · RS232; PROFINET; Pulse train	DC680V□5V · DC380V□5V · Integrated braking resistor, 50 □, 80 W limited power · Integrated braking resistor, 25 □, 100 W limited power · Integrated braking resistor, 100 □, 60 W limited power · No integrated braking resistor · Integrated braking resistor, 50 □, 60 W limited power	false / No · No / false	Forced-air cooling · Natural convection cooling	0–40 °C
ES-SD-C21-S004	3-phase 380–415 VAC □10%, 50/60 Hz □3 Hz · 1-phase 200–240 VAC □10%, 50/60 Hz □3 Hz	2.9 · 5.5 · 4 · 8.6 · 5.4 · 13	A / 32.53 · A / 16.97 · A / 22.98 · A / 10.61 · A / 12.73	W / 3000 · W / 1500 · W / 2000 · W / 400 · W / 750 · W / 1000	EtherCAT; CoE CiA 402 · RS485; Modbus RTU; Pulse train · RS485; Modbus RTU; Pulse train; Analog input	DC680V□5V · DC380V□5V · Integrated braking resistor, 50 □, 80 W limited power · No integrated braking resistor · Integrated braking resistor, 100 □, 60 W limited power	false / No · No / false	Forced-air cooling · Natural convection cooling	-10–40 °C nominal; 40–55 °C with 3% per °C derating above 40 °C

Product Platform	Servo Drive AC Supply Voltage	Continuous Output Current	Peak Output Current	Rated Output Power	Communication Protocol	Braking Resistor / Braking Absorption Voltage	STO Support	Cooling Method	Operating Temperature
ES-SD-C21-S005	1-/3-phase 220 VAC -20%/+15%, 47–63 Hz · 3-phase 380 VAC -20%/+15%, 47–63 Hz	18 · 7 · 10 · 13	A / 27.5 · A / 25 · A / 35 · A / 45 · A / 65	200; 400; 750; 1000; 1050; 1250; 1260; 1570 W · 1050; 1260; 1570; 1880; 2100; 2300; 3000 W · 3000; 3500; 3800 W · 4400 W · 7500 W	RS232; RS485; Modbus RTU; CANopen	DC380V□5V · DC680V□5V · External resistor: 39 to 100 ohm (75 ohm reference, 100 W) for 200 to 750 W; 27 to 51 ohm (39 ohm reference, 200 W) for 1000 to 1570 W; minimum withstand voltage 500 VDC · External resistor: 47 to 150 ohm (75 ohm reference, 200 W); minimum withstand voltage 800 VDC · External resistor: 39 to 100 ohm (47 ohm reference, 300 W); minimum withstand voltage 800 VDC · External braking-resistor connection provided; select resistance and power for the motor and duty cycle	1 / Yes · Yes / 1	—	0–40 °C

07 | Product Platform Differences and Engineering Trade-offs

Difference checks

Current before power label
Screen by motor continuous and peak current first, then check rated output power. Do not determine compatibility from power alone.

Supply defines the hardware boundary
The 200–240 VAC and 380–415 VAC conditions affect the power stage, protection and braking voltage; verify them at Product Platform and SKU levels.

Protocol is not the complete interface
Within one protocol, still confirm control mode, feedback, motor compatibility, I/O, synchronization cycle and commissioning path.

Braking, STO and cooling
Braking resistors can be integrated, external or unrecorded; STO and cooling also vary by SKU and must be checked against the actual cycle and cabinet.

08 | SKU Refinement

Key parameters after entering a Product Platform

01	**Continuous and peak output current**	Use the motor operating point, overload multiple and duration to narrow the SKUs.
02	**Supply and rated output power**	Confirm phase arrangement, voltage, frequency, rated output power and source capacity.
03	**Communication and control**	Confirm the recorded protocol, then check control mode, synchronization and I/O.
04	**Feedback and motor pairing**	Confirm feedback type, resolution, connector, cable and drive compatibility.
05	**Braking and STO**	Confirm braking-resistor configuration, regenerative energy, STO circuit and stopping logic.
06	**Thermal design and installation**	Confirm cooling, operating temperature, cabinet airflow, dimensions, weight and service clearance.
07	**SKU record**	Carry the final SKU, motor, supply, feedback, protocol, braking and controlled-document requirements into the RFQ or project record.

09 Application Record Checklist

Design-input record

01	**Motor and load**	Motor SKU, rated and peak current, continuous and peak torque, speed, load inertia and cyclic duty.
02	**Supply**	Phase arrangement, voltage, frequency, capacity, circuit breaker, contactor, grounding and DC-bus conditions.
03	**Feedback and control**	Feedback type, control mode, protocol, synchronization cycle, I/O, host controller and commissioning software.
04	**Braking and safety**	Regenerative energy, braking resistor, STO, safety circuit, emergency stop and brake timing.
05	**Thermal and environment**	Cabinet dimensions, cooling, ambient temperature, altitude, humidity, contamination and service clearance.
06	**Documents**	Record the required Datasheet, wiring information, 2D drawing, STEP/STP and Dimensional & Integration Guide.

10 Engineering Use and Verification Notice

Engineering use and controlled documents

This guide supports terminal-category screening and Product Platform navigation. Parameter names use names.en from product_param_dict_std, and values use published standard_display_value_en records from product_parameter_std. Before design freeze, verify motor pairing, supply, continuous and peak current, feedback, control mode, communication, braking, STO, thermal design and wiring for the final SKU, and obtain the current Datasheet, wiring information, 2D drawing, STEP/STP and Dimensional & Integration Guide. Do not infer an unrecorded current, interface, safety function or dimension from a SKU code, Product Platform title or a single rated-power value.