

CATEGORY SELECTION GUIDE

Synchronous Belt Linear Module Category Selection Guide

Synchronous-belt linear modules use a motor-driven toothed belt to move a carriage along a guide for long-stroke transfer, handling, positioning and automated motion axes. Product Platform and SKU differences include mounting layout, stroke, motor interface, belt type, sensor configuration, working travel and operating environment.

CATEGORY SELECTION GUIDE

CATEGORY	CURRENT CATALOG	REVISION / ISSUE
Synchronous Belt Linear Modules	5 Product Platforms / 729 SKUs	R01 2026-09-04

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01 | Category Scope and Objective

Item	Current category

02 | Operating Principle and Typical Applications

Compact rod-actuator principle

The Product Platform integrates a servo motor, drive electronics and a precision screw in a compact rod-type actuator. Screw lead changes the available speed, thrust, acceleration and payload combination recorded for the SKU, so those values must be considered together rather than independently.

Typical applications

Pushing and insertion Use controlled rod motion for insertion, pushing and pressing operations where a defined stroke and thrust are required.	Positioning and correction Use the actuator for compact X/Z positioning, alignment correction and stop functions.
Loading and transfer Use the small envelope for loading, unloading and transfer stations where the actuator must fit within a constrained machine layout.	Inspection and assembly Use programmable position, speed and thrust behavior for repeatable inspection or assembly moves.

03 | Application Record Checklist

Application record checklist

01	Work motion	Record stroke, direction, cycle time, acceleration and the required end-of-stroke condition.
02	Load path	Record horizontal or vertical payload, external forces, tooling mass and the required thrust margin.
03	Lead and performance	Record the acceptable screw lead, target speed and thrust combination; do not select one value without its lead condition.
04	Electrical control	Record 24 V DC supply tolerance, peak current, controller choice and communication path.
05	Mechanical envelope	Record mounting faces, rod clearance, bracket stiffness, cable routing and maintenance access.
06	Environment	Record ambient temperature, humidity, dust, liquid exposure and cleaning conditions.
07	Documents	Request the current controlled 2D, STEP/STP and integration records before design freeze.

04 | Product Platform Catalog

Miniature Rod-Type Electric Cylinder Product Platform

PRODUCT PLATFORM	Synchronous Belt Linear Module Product Platform 01 This Product Platform contains 260 SKUs using synchronous-belt transmission for linear motion. Start with lead, stroke and mounting layout, then confirm motor interface, sensors, module mass and working stroke for the exact SKU.	260 SKUs
PRODUCT PLATFORM	Synchronous Belt Linear Module Product Platform 02 This Product Platform contains 251 SKUs using synchronous-belt transmission for linear motion. Start with lead, stroke and mounting layout, then confirm motor interface, sensors, module mass and working stroke for the exact SKU.	251 SKUs
PRODUCT PLATFORM	Synchronous Belt Linear Module Product Platform 03 This Product Platform contains 108 SKUs using synchronous-belt transmission for linear motion. Start with lead, stroke and mounting layout, then confirm motor interface, sensors, module mass and working stroke for the exact SKU.	108 SKUs
PRODUCT PLATFORM	Synchronous Belt Linear Module Product Platform 04 This Product Platform contains 108 SKUs using synchronous-belt transmission for linear motion. Start with lead, stroke and mounting layout, then confirm motor interface, sensors, module mass and working stroke for the exact SKU.	108 SKUs
PRODUCT PLATFORM	Synchronous Belt Linear Module Product Platform 05 This Product Platform contains 2 SKUs using synchronous-belt transmission for linear motion. Start with lead, stroke and mounting layout, then confirm motor interface, sensors, module mass and working stroke for the exact SKU.	2 SKUs

05 | Technical Selection Path

Selection sequence

01	1 Define stroke and load path
02	2 Select the lead/performance point
03	3 Check accuracy and cycle
04	4 Check electrical integration
05	5 Open the Product Platform
06	6 Confirm the SKU

06 | Product Platform Parameter Matrix

Initial comparison parameters

Product Platform	SKUs	Lead	Stroke	Motor Interface	Mounting Layout	Belt Type	Module Mass
Synchronous Belt Linear Module Product Platform 01	260	65 / 130	100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800 / 850 / 900 / 950 / 1000 / 1050 / 1100 / 1150 / 1200 / 1250 / 1300 / 1350 / 1400 / 1450 / 1500 / 1550 / 1600 / 1650 / 1700 / 1750 / 1800 / 1850 / 1900 / 1950 / 2000 / 2050 / 2100 / 2150 / 2200 / 2250 / 2300 / 2350 / 2400 / 2450 / 2500 / 2550 / 2600 / 2650 / 2700 / 2750 / 2800 / 2850 / 2900 / 2950 / 3000 / 3050 / 3100 / 3150 / 3200 / 3250 / 3300 / 3350 / 3400 / 3450 / 3500 / 3550 / 3600 / 3650 / 3700 / 3750 / 3800 / 3850 / 3900 / 4000	MI01	Left-Fold Motor Mount	—	—
Synchronous Belt Linear Module Product Platform 02	251	65 / 130	100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800 / 850 / 900 / 950 / 1000 / 1050 / 1100 / 1150 / 1200 / 1250 / 1300 / 1350 / 1400 / 1450 / 1500 / 1550 / 1600 / 1650 / 1700 / 1750 / 1800 / 1850 / 1900 / 1950 / 2000 / 2050 / 2100 / 2150 / 2200 / 2250 / 2300 / 2350 / 2400 / 2450 / 2500 / 2550 / 2600 / 2650 / 2700 / 2750 / 2800 / 2850 / 2900 / 2950 / 3000 / 3050 / 3100 / 3150 / 3200 / 3250 / 3300 / 3350 / 3400 / 3450 / 3500 / 3550 / 3600 / 3650 / 3700 / 3750 / 3800 / 3850 / 3900 / 4000	MI01	Right-Fold Motor Mount	—	—
Synchronous Belt Linear Module Product Platform 03	108	75 / 150	100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800 / 850 / 900 / 950 / 1000 / 1050 / 1100 / 1150 / 1200 / 1250 / 1300 / 1350 / 1400 / 1450 / 1500 / 1600 / 1700 / 1800 / 1900 / 2000 / 2100 / 2200 / 2300 / 2400 / 2500 / 2600 / 2700 / 2800 / 2900 / 3000 / 3100 / 3200 / 3300 / 3400 / 3500 / 3600 / 3700 / 3800 / 3900 / 4000	MI01	Left-Fold Motor Mount	—	—
Synchronous Belt Linear Module Product Platform 04	108	75 / 150	100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800 / 850 / 900 / 950 / 1000 / 1050 / 1100 / 1150 / 1200 / 1250 / 1300 / 1350 / 1400 / 1450 / 1500 / 1600 / 1700 / 1800 / 1900 / 2000 / 2100 / 2200 / 2300 / 2400 / 2500 / 2600 / 2700 / 2800 / 2900 / 3000 / 3100 / 3200 / 3300 / 3400 / 3500 / 3600 / 3700 / 3800 / 3900 / 4000	MI01	Right-Fold Motor Mount	—	—

Product Platform	SKUs	Lead	Stroke	Motor Interface	Mounting Layout	Belt Type	Module Mass
Synchronous Belt Linear Module Product Platform 05	2	65, 130 / 75, 150	100–4000	Left-fold motor mount, Right-fold motor mount	Left-fold motor mount, Right-fold motor mount	Dust-free belt	21.5 / 21.8 / 10.2 / 25.1 / 10.8 / 15.3 / 24.2 / 25.7 / 20 / 20.6 / 11.1 / 14.7 / 22.4 / 7.2 / 9.9 / 7.8 / 20.9 / 6.9 / 19.7 / 21.2 / 12.6 / 9.6 / 7.5 / 15.9 / 24.5 / 19.4 / 14.1 / 18.2 / 17.6 / 12.9 / 26 / 10.5 / 25.4 / 23.6 / 23 / 9.3 / 6.3 / 13.5 / 19.1 / 11.7 / 27.2 / 13.8 / 17.9 / 26.3 / 12 / 8.1 / 23.9 / 18.8 / 8.4 / 16.7 / 5.7 / 5.4 / 6 / 26.6 / 17 / 22.7 / 13.2 / 16.4 / 24.8 / 6.6 / 5.1 / 14.4 / 18.5 / 28.4 / 12.3 / 15 / 11.4 / 17.3 / 15.6 / 8.7 / 27.8 / 26.9 / 20.3 / 16.2 / 9 / 22.1 / 23.3 / 27.5 / 21 / 19 / 9.5 / 28 / 15.5 / 15 / 37 / 27 / 31 / 12.5 / 17.5 / 10 / 10.5 / 18.5 / 11 / 11.5 / 40 / 21.5 / 20.5 / 9 / 45 / 13.5 / 24 / 26 / 42 / 22.5 / 36 / 41 / 12 / 38 / 20 / 43 / 16.5 / 34 / 33 / 18 / 25 / 19.5 / 14 / 30 / 17 / 47 / 39 / 35 / 13 / 32 / 29 / 16 / 48 / 14.5 / 22 / 23 / 44 / 46

07 | SKU Refinement

SKU refinement checklist

01	SKU identity	Confirm ES-EC-R01-M001 in the project or RFQ record.
02	Performance combination	Reconfirm that the selected screw lead, stroke and brake condition correspond to the displayed thrust, speed, acceleration, payload and weight values.
03	Mechanical fit	Confirm mounting, rod travel, clearance, bracket stiffness and the complete moving mass.
04	Control and supply	Confirm 24 V DC $\pm 10\%$, peak current, controller-dependent communication and cable routing.
05	Controlled documents	Request the current 2D drawing, STEP/STP record and integration information for the selected configuration.

08 | Integration Checklist

Integration checks

01	Mounting	Align the cylinder with the load path, support the actuator body and prevent side loading on the rod.
02	Stroke and clearance	Reserve the full 30 mm or 50 mm stroke option plus end clearances, tooling and service access.
03	Load and duty	Use the lead-specific thrust, speed, acceleration and payload values together with the actual duty cycle; verify external moments and shock separately.
04	Electrical and control	Provide the stated 24 V DC supply, confirm controller selection and validate the communication path before commissioning.

09 | Engineering Use and Verification Notice

Engineering use and verification

The values in this guide are a category-level navigation aid based on the cited published standard-parameter records and collected engineering material. Before design freeze, confirm the exact SKU, mechanical and electrical interfaces, duty cycle and the current controlled Datasheet and Dimensional & Integration Guide. Do not infer an unrecorded value from a SKU code or a single rated value.