



ACTILINK-S Integrated Servo Motors

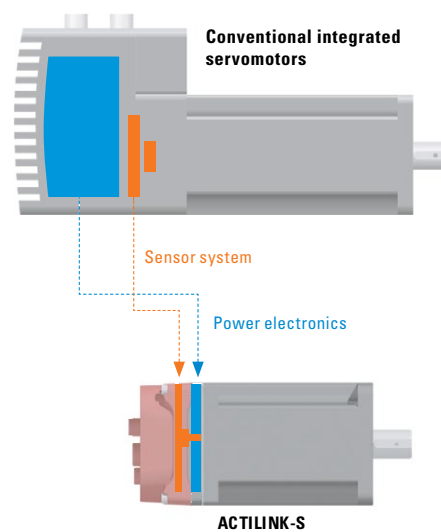
Guideline to find the best solution for your application

ACTILINK-S

Space, time and costs are decisive factors in modern automation. With the new ACTILINK-S product line, Kübler, in partnership with Synapticon, is presenting a highly integrated all-in-one solution that sets new standards both technologically and economically.

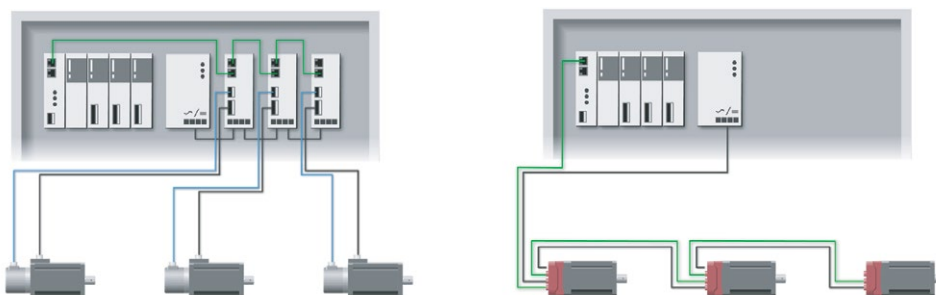
The critical factor in any motor control system is thermal overload, which can be caused by the drive current itself on the one hand and by frequent switching operations of the control system on the other. Conventional integrated servo drives therefore require a lot of space for cooling the electronic components, which results in a relatively large design.

The outstanding feature of the ACTILINK-S servo drives is the lower heat generation of the control system and the selection of electronic components with a higher thermal load capacity than in conventional systems. As a result, the control system can be made smaller and at the same time less heat needs to be dissipated. This ultimately leads to an extremely compact design of the overall system. The drive is complemented by a highperformance encoder sensor system from Kübler.



ACTILINK-S – COST COMPARISON

Comparison of total costs for a complete drive system consisting of a motor, sensor, control system, and wiring.



	Servo motor with an integrated encoder and control system in the switch cabinet	ACTILINK-S servo motor with integrated control and sensor
Purchase motor	X €	Y € ($Y > X$)
Purchase control	A €	0 € (integrated into ACTILINK-S)
Space requirements and cooling of the control system in the control cabinet	B €	0 € (integrated into ACTILINK-S)
Sensor	C €	0 € (integrated into ACTILINK-S)
Cabling	D €	< D (depending on the topology and distances)
Energy requirements	E €	< E € (through greater efficiency)
Total cost	$X+A+B+C+D+E$	up to 50% total savings

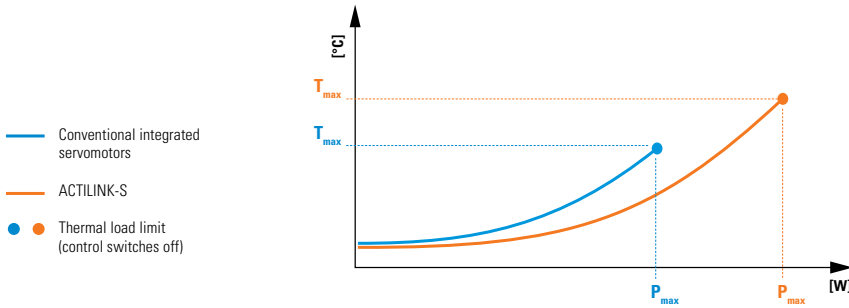
YOUR APPLICATION

Description of the application			
Description of the application	Function of the system		
Motors	Function description	Motor 1	Motor 2
Movement profile	Continuous operation (constant speed)		
	Short-term operation (adjustment, positioning)		
Load case	General load case		
	Off-center load (rotary table)		
	Load is transported from A to B (conveyor belt)		
	A load is transported with additional forces acting in the thrust direction (spindle)		
	Tape or wire is wound onto or off the reel (center-winding)		
	Torque is transmitted from one shaft to another (belt)		
	Movement using an automated guided vehicle (AGV)		
Installation situation	Motor stationary or in motion (rotating plane)		
	Requirements for dimensions		
	weight		
	Distances to control		
	power supply		

YOUR REQUIREMENTS

Performance data		Comments				
What kinds of loads are being moved?						
What torque is required?						
Features of ACTILINK-S						
		ASC 6-1	ASC 6-2	ASC 6-3	ASC 8-1	ASC 8-2
Rated torque		0.65 Nm	1.3 Nm	1.9 Nm	2.4 Nm	3.2 Nm
Peak torque		2.5 Nm	5 Nm	8 Nm	9.5 Nm	13 Nm
Rated power		200 W	400 W	600 W	750 W	1000 W
Peak power		520 W	1040 W	1670 W	2480 W	3400 W
Rated current		5 A DC	10 A DC	16 A DC	18 A DC	24 A DC
Rated voltage		48 V DC	48 V DC	48 V DC	48 V DC	48 V DC
Dimensions [mm]	height	60	60	60	80	80
	width	60	60	60	80	80
	depth (with motor brake)	134 (163)	151 (180)	171 (200)	159 (192)	172 (205)
ACTILINK-S performance data too low? Speed too high or insufficient? 						
Is it possible to use a gearbox to balance the power or to achieve a specific torque?						
Application example gearbox		A – overall increase in torque A gearbox increases torque through reduction by having a small input gear drive a larger output gear. In the process, the speed is reduced in the same proportion as the torque increases. B – high torque at low speeds Motors that deliver very high torque at low speeds are extremely large and heavy. A smaller, higher-speed motor combined with a gearbox is often lighter, less expensive, and more efficient.				

YOUR REQUIREMENTS

Motor heating		Comments
Ambient temperature?		
Is active cooling provided? This may not be necessary with ACTILINK-S		
Features of ACTILINK-S		
Significantly delayed derating	 — Conventional integrated servomotors — ACTILINK-S • Thermal load limit (control switches off) + Less heat generation at the same power output / more power at the same heat generation + Higher temperature resistance of the electronic components used → Reduced footprint / higher power density	
Motor brake		Comments
Motor brake?		
Features of ACTILINK-S		
Each power class with or without a motor brake	with a motor brake	without a motor brake
Safety requirements		Comments
Safety requirements?		
Features of ACTILINK-S		
STO/SBC integrated Safety Ethernet on request		

YOUR REQUIREMENTS

Additional features	Comments
What functions could be implemented directly by the motor (without a controller)? Direct switching/control signals from the motor?	
Features of ACTILINK-S	
Optional multipurpose input/output (GPIO) for: 2 x DI/DO, 1 x DI (fast), 1 x 24 V, 1 x analog input or external SSI/BiSS encoder	Application examples: Receiving signals (input): The port can detect whether a switch has been pressed, a sensor is sending a signal, or another device is transmitting an electrical signal. Transmitting signals (output): The port can send a signal to a light, a relay, or another device to turn it on or off. Control various functions: Start/Stop signals for machines. Error or status indicators (e.g., controlling LEDs). Communication with other controllers or sensors. and much more

Data network	Comments
Control specifications	
Which / how many components are in the network (e.g., impact on cycle times)?	
Features of ACTILINK-S	



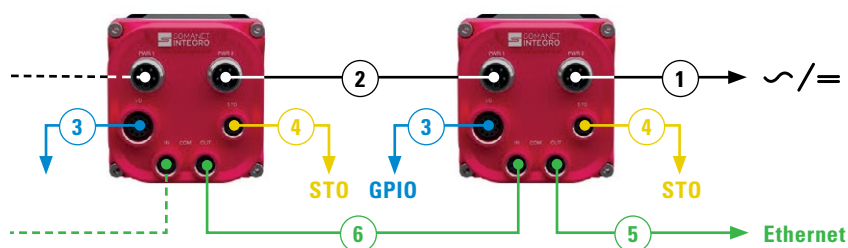
Power grid	Comments
Power supply (48 V power supplies available from Kübler) Design and sizing of power supplies and cabling	

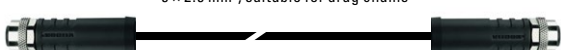
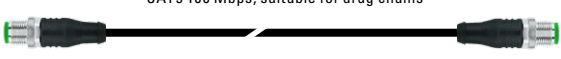
YOUR REQUIREMENTS

Connections / topologies	Comments
Preferred type of connections?	
System topology?	
ACTILINK-S connection options / corresponding connection technology	

ISO connectors

star and line topology

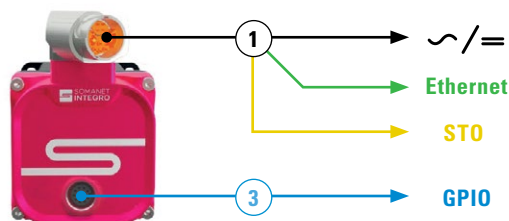


1	Power supply (power supply unit)	open cable end	 5 × 2.5 mm², suitable for drag chains 	 M12 female, 5-pin, L-coded
2	Power supply (daisy chain)	M12 female, 5-pin, L-coded	 5 × 2.5 mm², suitable for drag chains 	 M12 female, 5-pin, L-coded
3	GPIO	open cable end	 12 × AWG26 	 M12 male, 12-pin, A-coded
4	STO	open cable end	 3 × AWG22, suitable for drag chains 	 M8 male, 3-pin, A-coded
5	Ethernet (SPS)	RJ45	 CAT5 100 Mbps, suitable for drag chains 	 M8 male, 4-pin, A-coded
6	Ethernet (daisy chain)	M8 male, 4-pin, A-coded	 CAT5 100 Mbps, suitable for drag chains 	 M8 male, 4-pin, A-coded

YOUR REQUIREMENTS

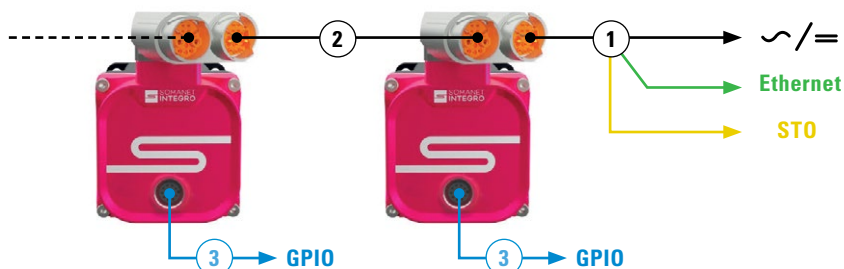
ACTILINK-S connection options / corresponding connection technology

I-Tec connectors star topology



1	Hybrid connection cable	open cable end Power supply open cable end ST0 RJ45 connector Ethernet		M17 female, 10-pin, Hybrid
3	GPIO	open cable end		M12 male, 12-pin, A coded

Y-Tec connectors line topology



1	Hybrid connection cable	open cable end Power supply open cable end ST0 RJ45 connector Ethernet		M17 female, 10-pin, Hybrid
2	Hybrid connection cable (daisy chain)	M17 male, 10-pin, Hybrid		M17 female, 10-pin, Hybrid
3	GPIO	open cable end		M12 male, 12-pin, A-coded

YOUR REQUIREMENTS

Additional requirements	Comments
Vibration - shock - mechanical adjustments - special load case	

YOUR DATA

Customer / Project				
Industry				
Contact Person (Engineering / Sales)				
Purpose of the inquiry	New project		Modernization of the existing facility	
	Systems used to date:			
Starter kit	yes		no	
Quantities	one-time	pcs.	series	pcs./year
	Sample requirements	pcs.		
Project timeline				
Additional information				
Completed by	Date	Name		

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