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Россия +7(495)268-04-70

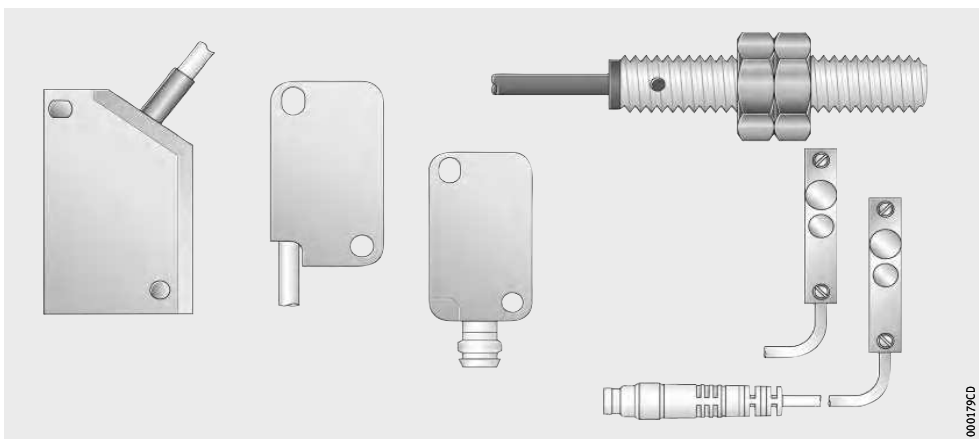
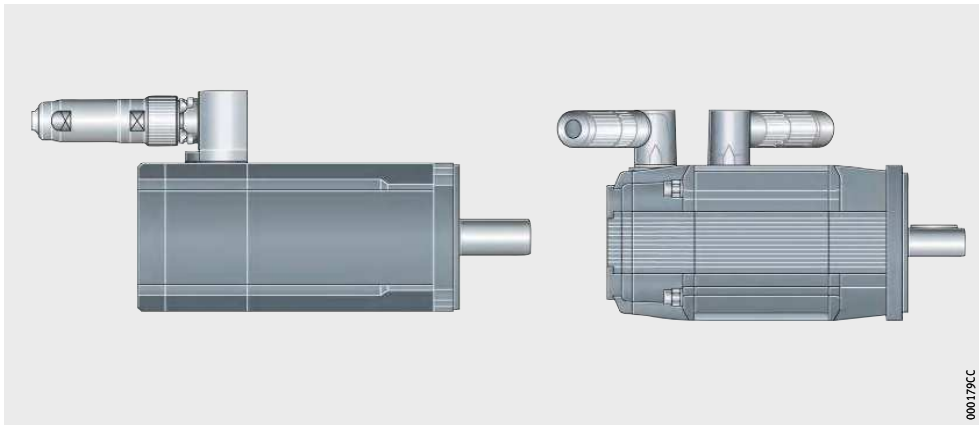
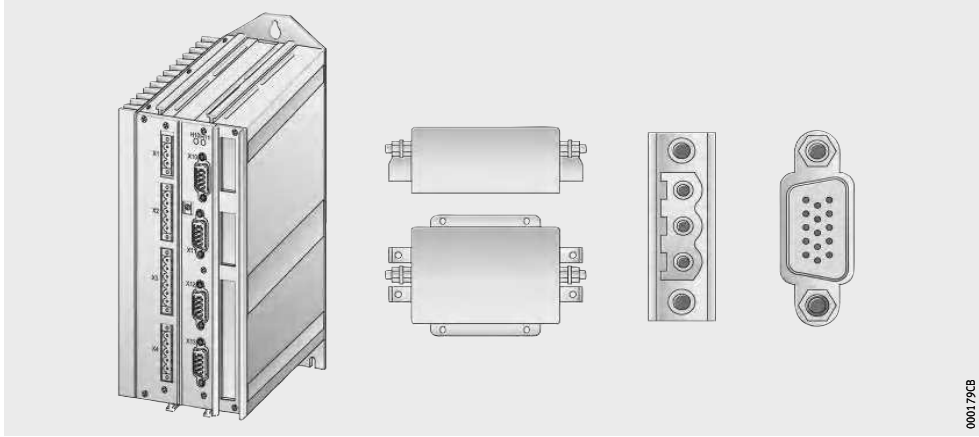
Казахстан +7(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: iap@nt-rt.ru || сайт: <https://ina.nt-rt.ru/>



Proven drive combinations

Proven drive combinations

Depending on the requirements and operating conditions, a range of possible solutions and combinations in drives and controls can be achieved for linear actuators. Based on our experience, we have established a selection of proven drive combinations for linear actuators, see page 686 to page 709.



The bearing load occurring in the linear actuator must always be checked for the stated mass.

Characteristics

The tables of proven drive combinations contain the following characteristics for the linear actuators:

Symbol	Description
$m_{\max}$	Maximum mass on the carriage unit
$v_{\max}$	Maximum permissible acceleration
$a_{\max}$	Maximum travel velocity of the carriage unit
v_m	Mean velocity of the carriage unit for a stroke length of 2,5 m

Servo motors

The information and designations stated are as follows:

- The designation of the servo motor with an absolute measuring system is always stated (MOT...SINCOS).
- In the case of servo motors with a holding brake, the designation is (MOT...BR-SINCOS).
- In the case of servo motors with a resolver, the designation SINCOS is omitted.

Servo controllers

The information and designations stated are as follows:

- The servo controller in the design with digital inputs and outputs is always stated.
- The necessary design of the servo controller must still be selected accordingly, see page 724.
- Servo controllers with the option of a Profibus have the designation (STUNG...PRO).

Subdivision of drive combinations

The tables of drive combinations for linear actuators are subdivided as follows:

- actuators with track roller guidance system, see page 686
- clamping actuators with track roller guidance system, see page 690
- actuators with track roller guidance system and integrated gearbox, see page 692
- actuators with ball screw drive, see page 700
- actuators with monorail guidance system and toothed belt drive, see page 706.

Proven drive combinations

Actuators
with track roller guidance system
and toothed belt drive

Designation	Position	Characteristics				Combination
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s	Planetary gearbox
MLF32...-ZR	Horizontal	4	2,4	10	1,95	GETR-PLE60-70-4
		4	2,4	10	1,95	GETR-PLN70-4
		19	1,2	10	1,13	GETR-PLE60-70-8
		19	1,2	10	1,13	GETR-PLN70-8
		22	2,4	10	1,95	GETR-PLN70-90-4
		45	1,2	10	1,13	GETR-PLN70-8
	Vertical	4	2,4	10	1,95	GETR-PLE60-70-4
		4	2,4	10	1,95	GETR-PLN70-4
		16	2,4	10	1,95	GETR-PLN70-90-4
		19	1,2	10	1,13	GETR-PLN70-8
MLF52...-ZR	Horizontal	5	3,2	10	2,3	GETR-PLN70-90-4
		20	3,4	10	2,3	GETR-PLN90-115-4
		30	0,8	10	0,8	GETR-PLN70-16
		35	4	10	2,45	GETR-PLN90-115-4
		35	1,7	10	1,5	GETR-PLN70-8
		65	4	10	2,5	GETR-PLN115-142-4
		85	1,7	10	1,5	GETR-PLN90-115-8
	Vertical	5	3,2	10	2,3	GETR-PLN70-90-4
		20	1,6	10	1,5	GETR-PLN70-90-8
		20	3,4	10	2,3	GETR-PLN90-115-4
		30	4	10	2,45	GETR-PLN90-115-4
		30	0,8	5	0,8	GETR-PLN70-16
		45	4	10	2,5	GETR-PLN115-4-142
MLF120...-ZR	Horizontal	4	4	10	2,1	–
	Vertical	4	4	10	2,1	–
MLF125...-ZR	Horizontal	4	4,5	10	2,1	–
		20	1,1	10	1,05	GETR-PLE60-70-4
		20	1,1	10	1,05	GETR-PLN70-4
	Vertical	5	4,5	20	3,2	–
		20	1,1	10	1,05	GETR-PLE60-70-4
		20	1,1	10	1,05	GETR-PLN70-4

¹⁾ Alternatively: KGEH.MKUE25-ZR-60/68/M5-3600.

Coupling	Coupling housing	Servo motor	Servo controller
KUP-560-56-16H7/20H7	KGEH32/43000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/43000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/43000-MLF-ZR	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR ¹⁾	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-25-10H7/11H7	KGEH20/36000-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-25-10H7/11H7	KGEH20/36000-MLFI-ZR	MOT-SMHA60-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-12H7/14H7	KGEH25/36100-MLFI-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-12H7/16H7	KGEH25/36000-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-12H7/16H7	KGEH25/43000-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-12H7/14H7	KGEH25/36100-MLFI-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-12H7/16H7	KGEH25/36000-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-12H7/16H7	KGEH25/43000-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O



Proven drive combinations

Actuators
with track roller guidance system
and toothed belt drive
(continued)

Designation	Position	Characteristics				Combination
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s	Planetary gearbox
MLFI50...-ZR	Horizontal	10	1,4	10	1,2	GETR-PLN70-8
		10	2,75	10	2,1	GETR-PLN70-90-4
		35	2,5	10	2	GETR-PLN90-115-4
		50	0,7	5	0,7	GETR-PLN70-16
		65	1,4	10	1,3	GETR-PLN70-90-8
		150	1,25	5	1,1	GETR-PLN90-115-8
	Vertical	10	1,4	10	1,2	GETR-PLN70-8
		10	2,75	10	2,1	GETR-PLN70-90-4
		30	1,4	10	1,3	GETR-PLN70-90-8
		30	0,7	5	0,7	GETR-PLN70-16
		35	2,5	10	2	GETR-PLN90-115-4
		60	3,0	10	2,2	GETR-PLN115-142-4
		75	0,7	5	0,7	GETR-PLN70-90-16
		75	1,25	5	1,1	GETR-PLN90-115-8
MLFI140...-3ZR	Horizontal	60	2	10	1,7	GETR-PLN90-115-4
		75	1	5	0,95	GETR-PLN70-90-8
		90	0,5	5	0,95	GETR-PLN70-16
		250	1	5	0,95	GETR-PLN90-115-8
	Vertical	20	1	5	0,95	GETR-PLN70-90-8
		30	2	5	1,75	GETR-PLN90-115-4
		55	2,5	10	2	GETR-PLN90-115-4
		70	1	5	0,95	GETR-PLN90-115-8
		75	0,5	5	0,5	GETR-PLN90-16
		150	1,25	5	1,12	GETR-PLN115-8
		200	0,5	2,5	0,46	GETR-PLN90-115-16
MLFI200...-3ZR	Horizontal	15	2,8	10	2,1	GETR-PLN90-115-4
		40	1,5	5	1,25	GETR-PLN90-16
		40	4	10	2,5	GETR-PLN90-115-4
		65	4	10	2,5	GETR-PLN115-142-4
		100	1,4	10	1,2	GETR-PLN90-115-8
		125	4	10	2,5	GETR-PLN115-142-4
		175	0,75	5	0,7	GETR-PLN90-16
		200	4	10	2,5	GETR-PLN115-142-8
	Vertical	10	2,8	5	1,7	GETR-PLN90-115-4
		25	4	10	2,5	GETR-PLN90-115-4
		40	0,75	5	0,7	GETR-PLN90-16
		40	4	10	2,5	GETR-PLN115-142-4
		50	1,4	5	1,2	GETR-PLN90-115-8
		120	2	5	1,2	GETR-PLN115-142-8
		150	0,7	2,5	0,65	GETR-PLN90-115-16

Coupling	Coupling housing	Servo motor	Servo controller
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-20H7/32H7	KGEH50/43110-MLFI-B-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.1-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66.1-25H7/32H7	KGEH15/43200-MDKUE-ZR	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.2-22H7/25H7	KGEH32/43100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-15-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66.1-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66(1)-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66(1)-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66(1)-32H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O



Proven drive combinations

Clamping actuators
with track roller guidance system
and toothed belt drive

Designation	Position	Characteristics				Combination
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s	Planetary gearbox
MKLF32...-ZR	Horizontal	2	2,4	10	1,95	GETR-PLN70-4
		8	1,2	10	1,13	GETR-PLN60-70-8
		10	2,4	10	1,95	GETR-PLN70-90-4
	Vertical	2	2,4	10	1,95	GETR-PLN70-4
		7	2,4	10	1,95	GETR-PLN70-90-4
		8	1,2	10	1,13	GETR-PLN70-8
MKLF52...-ZR	Horizontal	8	3,4	10	2,3	GETR-PLN90-115-4
		13	0,8	10	0,8	GETR-PLN70-16
		15	1,7	10	1,5	GETR-PLN70-8
		16	4	10	2,45	GETR-PLN90-115-4
	Vertical	8	1,6	10	1,5	GETR-PLN70-90-8
		8	3,4	10	2,3	GETR-PLN90-115-4
		13	0,8	5	0,8	GETR-PLN70-16
		14	4	10	2,45	GETR-PLN90-115-4

¹⁾ Alternatively: KGEH.MKUE25-ZR-60/68/M5-3600.

Coupling	Coupling housing	Servo motor	Servo controller
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/43000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH32/36000-MLF-ZR	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR ¹⁾	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Actuators
with track roller guidance system
and toothed belt drive
with integrated gearbox

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MLF52...-ZR-GTRI	Horizontal	20	3,4	10	2,3
		35	4	10	2,45
		35	1,7	10	1,5
	Vertical	20	3,4	10	2,3
		20	1,6	10	1,5
		30	4	10	2,45
MKLF52...-ZR-GTRI	Horizontal	8	3,4	10	2,3
		15	1,7	10	1,5
		16	4	10	2,45
	Vertical	8	3,4	10	2,3
		10	1,6	10	1,5
		14	4	10	2,45

Combination			
Planetary gearbox	Ratio i	Servo motor	Servo controller
GTRI/4	4	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/4	4	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
GTRI/8	8	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/4	4	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/8	8	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/4	4	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
GTRI/4	4	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/8	8	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/4	4	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
GTRI/4	4	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/8	8	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/4	4	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Actuators
with monorail guidance system
and toothed belt drive

Designation	Position	Characteristics				Combination
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s	Planetary gearbox
MKUVE20-C...-ZR	Horizontal	10	1,4	10	1,2	GETR-PLN70-8
		10	2,75	10	2,1	GETR-PLN70-90-4
		35	2,5	10	2,0	GETR-PLN90-115-4
		50	0,7	5	0,7	GETR-PLN70-16
		65	1,4	10	1,3	GETR-PLN70-90-8
		150	1,25	5	1,1	GETR-PLN90-115-8
	Vertical	10	1,4	10	1,2	GETR-PLN70-8
		10	2,75	10	2,1	GETR-PLN70-90-4
		30	1,4	10	1,3	GETR-PLN70-90-8
		30	0,7	5	0,7	GETR-PLN70-16
		35	2,5	10	2,0	GETR-PLN90-115-4
		60	3	10	2,2	GETR-PLN115-142-4
		75	0,7	5	0,7	GETR-PLN70-16-92
		75	1,25	5	1,1	GETR-PLN90-115-8
MKUSE25...-ZR MKUVE25...-ZR	Horizontal	5	3,2	10	2,25	GETR-PLN70-4-82
		20	3,2	10	2,25	GETR-PLN90-115-4
		30	0,8	10	0,8	GETR-PLN70-16
		35	4	10	2,45	GETR-PLN90-115-4
		35	1,6	10	1,45	GETR-PLN70-8
		65	4	10	2,45	GETR-PLN115-142-4
		85	1,6	10	1,45	GETR-PLN90-115-8
		150	1,6	10	1,45	GETR-PLN115-142-8
	Vertical	5	3,2	10	2,25	GETR-PLN70-4-82
		20	1,6	10	1,45	GETR-PLN70-90-8
		20	3,2	10	2,25	GETR-PLN90-115-4
		30	4	10	2,45	GETR-PLN90-115-4
		30	0,8	5	0,75	GETR-PLN70-16
		45	4	10	2,45	GETR-PLN115-142-4
		55	0,8	5	0,75	GETR-PLN90-16
		70	1,5	5	1,3	GETR-PLN90-115-8
		150	1,6	5	1,35	GETR-PLN115-142-8

¹⁾ Alternatively: KGEH.MKUE25-ZR-60/68/M5-3600.

Coupling	Coupling housing	Servo motor	Servo controller
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-20H7/32H7	KGEH50/43110-MLFI-B-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.1-16H7/20H7	KGEH50/43300-MLFI-B-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH50/43100-MLFI-B-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR ¹⁾	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66.1-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-MHA100-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/20H7	KGEH52/43300-MLF-ZR	MOT-SMH60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-20H7/22H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66.1-20H7/32H7	KGEH52/43400-MLF-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

**Actuators
with monorail guidance system
and toothed belt drive
with integrated gearbox**

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MKUSE25...-ZR-GTRI MKUVE25...-ZR-GTRI	Horizontal	20	3,2	10	2,25
		35	4	10	2,45
		35	1,6	10	1,45
	Vertical	20	1,6	10	1,45
		20	3,2	10	2,25
		30	4	10	2,45

Combination			
Planetary gearbox	Ratio i	Servo motor	Servo controller
GTRI/4	4	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/4	4	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
GTRI/8	8	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/8	8	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
GTRI/4	4	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
GTRI/4	4	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Tandem actuators
with monorail guidance system
and toothed belt drive

Designation	Position	Characteristics				Combination
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s	Planetary gearbox
MDKUE15...-3ZR	Horizontal	60	2	10	1,7	GETR-PLN90-115-4
		75	1	5	0,95	GETR-PLN70-90-8
		90	0,5	5	0,95	GETR-PLN70-16
		250	1	5	0,95	GETR-PLN90-115-8
	Vertical	20	1	5	0,95	GETR-PLN70-90-8
		30	2	5	1,75	GETR-PLN90-115-4
		55	2,5	10	2	GETR-PLN90-115-4
		70	1	5	0,95	GETR-PLN90-115-8
		75	0,5	5	0,5	GETR-PLN90-16
		150	1,25	5	1,12	GETR-PLN115-8
		200	0,5	2,5	0,46	GETR-PLN90-115-16
MDKUSE25...-3ZR	Horizontal	15	2,8	10	2,1	GETR-PLN90-115-4
		40	1,5	5	1,25	GETR-PLN90-16
		40	4	10	2,5	GETR-PLN90-115-4
		65	4	10	2,5	GETR-PLN115-142-4
		100	1,4	10	1,2	GETR-PLN90-115-8
		125	4	10	2,5	GETR-PLN115-142-4
		175	0,75	5	0,7	GETR-PLN90-16
		200	4	10	2,5	GETR-PLN115-142-8
		300	1	5	0,95	GETR-PLN115-142-16
	Vertical	10	2,8	5	1,7	GETR-PLN90-115-4
		25	4	10	2,5	GETR-PLN90-115-4
		40	0,75	5	0,7	GETR-PLN90-16
		40	4	10	2,5	GETR-PLN115-142-4
		50	1,4	5	1,2	GETR-PLN90-115-8
		65	4	10	2,5	GETR-PLN115-142-4
		120	2	5	1,2	GETR-PLN115-142-8
		150	0,7	2,5	0,65	GETR-PLN90-115-16
		250	1	2,5	0,9	GETR-PLN115-142-16
MDKUE35...-3ZR	Horizontal	250	2	10	1,75	GETR-PLN142-8
		350	2	5	1,5	GETR-PLN142-205-8
		400	2	5	1,5	GETR-PLN142-205-8
		500	1	5	0,9	GETR-PLN142-16
		800	1	5	0,9	GETR-PLN142-205-16
		1 200	1	2,5	0,85	GETR-PLN190-16
		1 500	0,5	2,5	0,45	GETR-PLN142-205-32
		1 500	0,5	2,5	0,5	GETR-PLN142-32
	Vertical	100	2	10	1,75	GETR-PLN142-8
		250	2	5	1,5	GETR-PLN142-205-8
		300	2	5	1,5	GETR-PLN142-205-8
		400	1	5	0,9	GETR-PLN142-16
		600	1	5	0,9	GETR-PLN142-205-16
		900	1	2,5	0,85	GETR-PLN190-16
		1 000	0,5	2,5	0,5	GETR-PLN142-32
		1 200	0,5	2,5	0,45	GETR-PLN142-205-32

Coupling	Coupling housing	Servo motor	Servo controller
KUP-560-56-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/25H7	KGEH32/36000-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56.1-22H7/25H7	KGEH32/43300-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66.1-25H7/32H7	KGEH15/43200-MDKUE-ZR	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56.2-22H7/25H7	KGEH32/43100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-MH105-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-15-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66.1-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66.1-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MH145-45-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66(1)-22H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-560-66(1)-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-66(1)-32H7/32H7	KGEH52/49100-MLF-ZR	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-66.2-32H7/32H7	KGEH25/43200-MDKUE-ZR	MOT-MHA145-45-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH145-30-28-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH205-30-28-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH205-30-50-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH145-30-28-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH205-30-28-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-M900-50H7/55H7	KGEH35/43000-MDKUE-ZR	MOT-MH205-30-50-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH205-30-28-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MH145-30-28-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA145-30-28-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA205-30-28-BR-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA205-30-50-BR-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA145-15-08-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA205-30-28-BR-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-M900-50H7/55H7	KGEH35/43000-MDKUE-ZR	MOT-MHA205-30-50-BR-SINCOS	STUNG-CPX3S300-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA145-30-28-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-KM600-40H7/50H7	KGEH35/43100-MDKUE-ZR	MOT-MHA205-30-28-BR-SINCOS	STUNG-CPX3S300-RS-I-O



Proven drive combinations

Tandem actuators
with monorail guidance system
and ball screw drive

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MDKUV15...-KGT/5-F	Horizontal	150 ¹⁾	0,25	5	0,25
		600	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		600	0,25	5	0,25
MDKUV15...-KGT/5-FM	Horizontal	100 ¹⁾	0,25	5	0,25
		600	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		600	0,25	5	0,25
MDKUV15...-KGT/10-F	Horizontal	12,5 ¹⁾	0,5	5	0,49
		200	0,5	5	0,49
		1 000	0,5	5	0,49
	Vertical	40	0,5	5	0,49
		60	0,25	2,5	0,25
		200	0,5	5	0,49
		325	0,5	0,5	0,49
MDKUV15...-KGT/10-FM	Horizontal	150	0,5	5	0,49
		175	0,5	2,5	0,48
		500	0,5	5	0,49
	Vertical	30	0,5	5	0,49
		50	0,25	2,5	0,25
		175	0,5	5	0,49
		200	0,25	2,5	0,25
		300	0,5	0,5	0,49
		325	0,25	2,5	0,25
MDKUV15...-KGT/20-F	Horizontal	100	1	5	0,91
		300	1	5	0,91
	Vertical	25	0,5	5	0,48
		85	1	5	0,91
		150	1	5	0,91
MDKUV15...-KGT/50-F	Horizontal	50	2,5	10	1,9
		90	2,5	10	1,9
		155	2,5	5	1,54
	Vertical	25	2,5	5	1,54
		50	2,5	5	1,54
		70	2,5	5	1,54

¹⁾ Stroke length = 1 000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-11H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA02-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-13H7/24H7	KGEH20/36300-MKUVE-KGT	MOT-MH145-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-13H7/24H7	KGEH20/36300-MKUVE-KGT	MOT-MHA145-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Tandem actuators
with monorail guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MDKUBE25...-KGT/5-F MDKUSE25...-KGT/5-F	Horizontal	200 ¹⁾	0,125	1,25	0,12
		700	0,21	2,5	0,21
		1 500	0,21	2,5	0,21
	Vertical	150 ¹⁾	0,21	5	0,21
		550	0,21	2,5	0,21
		700 ¹⁾	0,21	2,5	0,21
MDKUBE25...-KGT/5-FM MDKUSE25...-KGT/5-FM	Horizontal	200 ¹⁾	0,125	1	0,12
		700	0,21	2,5	0,21
		1 500	0,21	2,5	0,21
	Vertical	150 ¹⁾	0,21	5	0,21
		550	0,21	2,5	0,21
		700 ¹⁾	0,21	2,5	0,21
MDKUBE25...-KGT/10-F MDKUSE25...-KGT/10-F	Horizontal	100 ¹⁾	0,43	2,5	0,4
		300	0,43	5	0,42
		500 ¹⁾	0,43	5	0,41
		800	0,43	5	0,42
		1 200 ¹⁾	0,43	5	0,41
	Vertical	75	0,43	5	0,42
		175	0,43	2,5	0,41
		275	0,43	5	0,42
		400	0,43	5	0,42
MDKUBE25...-KGT/10-FM MDKUSE25...-KGT/10-FM	Horizontal	200	0,43	5	0,42
		400	0,43	5	0,42
		750 ¹⁾	0,43	5	0,41
	Vertical	100	0,43	5	0,42
		150 ¹⁾	0,43	2,5	0,4
		225	0,43	5	0,42
		275	0,43	2,5	0,41
		350	0,43	2,5	0,41
		650	0,43	5	0,42
MDKUBE25...-KGT/20-F MDKUSE25...-KGT/20-F	Horizontal	25 ¹⁾	0,5	5	0,48
		150	0,86	5	0,8
		225 ¹⁾	0,86	5	0,75
		450	0,86	5	0,8
		525	0,86	5	0,8
	Vertical	75	0,86	2,5	0,75
		125	0,86	5	0,8
		170	0,86	2,5	0,75
		350	0,86	2,5	0,75

¹⁾ Stroke length = 1 000 mm.

Proven drive combinations

Tandem actuators
with monorail guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MDKUVE25...-KGT/20-FM MDKUSE25...-KGT/20-FM	Horizontal	150	0,86	5	0,8
		450	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	35	0,86	5	0,8
		100	0,86	5	0,8
		135	0,86	5	0,8
		300	0,86	5	0,8
MDKUVE25...-KGT/40-F MDKUSE25...-KGT/40-F	Horizontal	30	1,73	5	1,35
		100	1,73	5	1,35
		125 ¹⁾	1,73	5	1,08
		200	1,73	5	1,35
		350	1,73	5	1,35
	Vertical	25	1,73	5	1,35
		50	1,73	5	1,35
		75	1,73	5	1,35
		150	1,73	5	1,35

¹⁾ Stroke length = 1000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MH145-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MH145-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MH145-15-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUE-KGT	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O



Proven drive combinations

Actuators
with monorail guidance system
and ball screw drive

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MKUVE15...-KGT/5-F MKUVE15...-KGT/5-FM	Horizontal	200	0,25	5	0,25
	Vertical	70	0,25	5	0,25
		175	0,25	5	0,25
MKUVE15...-KGT/10-F	Horizontal	25	0,5	5	0,49
		75	0,5	5	0,49
	Vertical	55	0,5	5	0,49
		200	0,5	5	0,49
MKUVE15...-KGT/10-FM	Horizontal	70	0,5	5	0,49
		250	0,5	5	0,49
	Vertical	55	0,5	5	0,49
		200	0,5	5	0,49
MKUVE15...-KGT/50-F	Horizontal	20	2,5	5	1,55
		50	2,5	5	1,55
		100	2,5	5	1,55
	Vertical	5	2,5	5	1,55
		35	2,5	5	1,55
		55	2,5	5	1,55
MKUVE20...-KGT/5-F MKUVE20...-KGT/5-FM	Horizontal	150 ¹⁾	0,25	5	0,25
		500	0,25	2,5	0,25
	Vertical	30 ¹⁾	0,25	5	0,25
		100 ¹⁾	0,25	5	0,25
		125	0,25	2,5	0,25
MKUVE20...-KGT/10-F	Horizontal	12,5 ¹⁾	0,5	5	0,49
		200	0,5	5	0,49
	Vertical	15 ¹⁾	0,5	5	0,49
		60 ¹⁾	0,5	5	0,49
		200	0,5	5	0,49
MKUVE20...-KGT/10-FM	Horizontal	150	0,5	5	0,49
	Vertical	50 ¹⁾	0,5	5	0,49
		40	0,5	5	0,49
		200	0,5	5	0,49
MKUVE20...-KGT/20-F	Horizontal	100	1	5	0,91
		300	1	5	0,91
	Vertical	20	1	5	0,91
		25 ¹⁾	1	5	0,91
MKUVE20...-KGT/50-F	Horizontal	100	1	5	0,91
		15	2,5	10	1,55
		60	2,5	10	1,55
	Vertical	100	2,5	10	1,55
		25	2,5	5	1,55
		50	2,5	5	1,55
		75	2,5	5	1,55

¹⁾ Stroke length = 1 000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-10H7/11H7	KGEH15/36100-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/11H7	KGEH15/36100-MKUVE-KGT	MOT-SMHA60-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/11H7	KGEH15/36100-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/11H7	KGEH15/36100-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH15/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH15/36200-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMHA60-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MH105-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-13H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-13H7/24H7	KGEH20/36300-MKUVE-KGT	MOT-MHA145-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Actuators
with monorail guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
MKUSE25...-KGT/5-M	Horizontal	200 ¹⁾	0,125	1,25	0,12
		1 000	0,21	2,5	0,21
	Vertical	50 ¹⁾	0,125	1	0,12
		400	0,21	2,5	0,21
MKUSE25...-KGT/5-MM	Horizontal	200 ¹⁾	0,125	1,25	0,12
		1 000	0,21	2,5	0,21
	Vertical	50 ¹⁾	0,125	1	0,12
		400	0,21	2,5	0,21
MKUSE25...-KGT/10-M	Horizontal	100 ¹⁾	0,43	2,5	0,4
		400	0,43	5	0,42
		800	0,43	5	0,42
		2 000 ¹⁾	0,43	2,5	0,4
	Vertical	50 ¹⁾	0,21	2,5	0,21
		150	0,43	5	0,42
		175	0,43	5	0,42
		300	0,43	5	0,42
MKUSE25...-KGT/10-MM	Horizontal	350	0,43	5	0,42
		800	0,43	5	0,42
		2 000 ¹⁾	0,43	2,5	0,4
	Vertical	100	0,43	5	0,42
		125	0,43	2,5	0,41
		225	0,43	5	0,42
		250	0,43	2,5	0,41
		350	0,43	2,5	0,41
MKUSE25...-KGT/20-M	Horizontal	150	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	80	0,86	2,5	0,75
		125	0,86	5	0,8
MKUSE25...-KGT/20-MM	Horizontal	150	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	30	0,86	5	0,8
		125	0,86	5	0,8
MKUSE25...-KGT/40-M	Horizontal	50	1,73	5	1,35
		200	1,73	5	1,35
		250	1,73	5	1,35
	Vertical	25	1,73	5	1,35
		55	1,73	5	1,35
		75	1,73	5	1,35
		140	1,73	5	1,35

¹⁾ Stroke length = 1 000 mm.

Proven drive combinations

Linear tables
with shaft guidance system
and ball screw drive

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
LTE16...1204-M LTS16...1204-M	Horizontal	40	0,2	5	0,25
	Vertical	40	0,25	5	0,25
LTE20...1605-M LTE20...1605-MM LTS20...1605-M LTS20...1605-MM	Horizontal	75	0,25	5	0,25
	Vertical	70	0,25	5	0,25
		75	0,25	5	0,25
LTE20...1610-M LTS20...1610-M LTE25...1610-M LTS25...1610-M	Horizontal	25	0,5	5	0,49
		75	0,5	5	0,49
	Vertical	55	0,5	5	0,49
		75	0,5	5	0,49
LTE25...1605-M LTE25...1605-MM LTS25...1605-M LTS25...1605-MM	Horizontal	75	0,25	5	0,25
	Vertical	70	0,25	5	0,25
		75	0,25	5	0,25
LTE30...2005-M LTE30...2005-MM LTS30...2005-M LTS30...2005-MM	Horizontal	100 ¹⁾	0,25	5	0,25
		100	0,25	2,5	0,25
	Vertical	30 ¹⁾	0,25	5	0,25
		100 ¹⁾	0,25	5	0,25
LTE30...2020-M LTS30...2020-M	Horizontal	100	1	5	0,91
	Vertical	20	1	5	0,91
		25 ¹⁾	1	5	0,91
		100	1	5	0,91
LTE30...2050-M LTS30...2050-M	Horizontal	15	2,5	10	1,55
		60	2,5	10	1,55
		100	2,5	10	1,55
	Vertical	25	2,5	5	1,55
		50	2,5	5	1,55
		75	2,5	5	1,55

¹⁾ Stroke length = 1000 mm.

²⁾ Alternatively: KUP-50-40-2-9H7/11H7.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-25-9-5H7/11H7	KGEH16/36000-LTS	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-25-9-5H7/11H7	KGEH16/36000-LTS	MOT-SMHA60-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-9-9H7/11H7 ²⁾	KGEH20/36100-LTS	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-9-9H7/11H7 ²⁾	KGEH20/36100-LTS	MOT-SMHA60-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-H7/14H7	KGEH20/36200-LTS	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-9H7/11H7 ²⁾	KGEH20/36100-LTS	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-9H7/14H7	KGEH20/36200-LTS	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-9H7/14H7	KGEH20/36200-LTS	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-9H7/19H7	KGEH20/36300-LTS	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-34-40-9H7/11H7 ²⁾	KGEH20/36100-LTS	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-34-40-9H7/11H7 ²⁾	KGEH20/36100-LTS	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-9H7/14H7	KGEH20/36200-LTS	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/13H7	KGEH20/36200-MKUVE-KGT	MOT-SMHA60-C7-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MH105-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-10H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-10H7/24H7	KGEH20/36300-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O



Proven drive combinations

Linear tables
with shaft guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
LTE40...-2505-M LTE50...-2505-M LTS40...-2505-M LTS50...-2505-M	Horizontal	75 ¹⁾	0,25	5	0,25
		500	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		500	0,25	5	0,25
LTE40...-2505-MM LTE50...-2505-MM LTS40...-2505-MM LTS50...-2505-MM	Horizontal	50 ¹⁾	0,25	5	0,25
		500	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		500	0,25	5	0,25
LTE40...-3210-M LTE50...-3210-M LTS40...-3210-M LTS50...-3210-M	Horizontal	100 ¹⁾	0,43	2,5	0,4
		300	0,43	5	0,42
		500 ¹⁾	0,43	5	0,41
		500	0,43	5	0,42
		500	0,43	5	0,42
	Vertical	75	0,43	5	0,42
		175	0,43	2,5	0,41
		275	0,43	5	0,42
		400	0,43	5	0,42
LTE40...-3210-MM LTE50...-3210-MM LTS40...-3210-MM LTS50...-3210-MM	Horizontal	200	0,43	5	0,42
		400	0,43	5	0,42
		500 ¹⁾	0,43	5	0,41
		500	0,43	5	0,42
	Vertical	100	0,43	5	0,42
		150 ¹⁾	0,43	2,5	0,4
		225	0,43	5	0,42
		275	0,43	2,5	0,41
		350	0,43	2,5	0,41
LTE40...-3220-M LTE50...-3220-M LTS40...-3220-M LTS50...-3220-M	Horizontal	25 ¹⁾	0,5	5	0,48
		150	0,86	5	0,8
		225 ¹⁾	0,86	5	0,75
		450	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	75	0,86	2,5	0,75
		125	0,86	5	0,8
		170	0,86	2,5	0,75
		350	0,86	2,5	0,75

¹⁾ Stroke length = 1 000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-11H7/16H7	KGEH40/36000-LTS-KGT/25	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36100-LTS-KGT/25	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36100-LTS-KGT/25	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/19H7	KGEH40/36200-LTS-KGT/25	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/19H7	KGEH40/36200-LTS-KGT/25	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/16H7	KGEH40/36000-LTS-KGT/25	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36100-LTS-KGT/25	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36100-LTS-KGT/25	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-560-56-16H7/19H7	KGEH40/36200-LTS-KGT/25	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-560-56-16H7/19H7	KGEH40/36200-LTS-KGT/25	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36000-LTS-KGT/32	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-14H7/16H7	KGEH40/36000-LTS-KGT/32	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MH145-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O



Proven drive combinations

Linear tables
with shaft guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
LTE40...3220-MM LTE50...3220-MM LTS40...3220-MM LTS50...3220-MM	Horizontal	150	0,86	5	0,8
		450	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	35	0,86	5	0,8
		100	0,86	5	0,8
		135	0,86	5	0,8
		300	0,86	5	0,8
LTE40...3240-M LTE50...3240-M LTS40...3240-M LTS50...3240-M	Horizontal	30	1,73	5	1,35
		100	1,73	5	1,35
		125 ¹⁾	1,73	5	1,08
		200	1,73	5	1,35
		350	1,73	5	1,35
	Vertical	25	1,73	5	1,35
		50	1,73	5	1,35
		75	1,73	5	1,35
		150	1,73	5	1,35

¹⁾ Stroke length = 1 000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MH145-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MH105-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MH145-08-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MH145-15-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-16H7/19H7	KGEH40/36100-LTS-KGT/32	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-16H7/24H7	KGEH40/36200-LTS-KGT/32	MOT-MHA145-15-BR-SINCOS	STUNG-CPX3S150-RS-I-O



Proven drive combinations

High precision linear tables
with monorail guidance system
and ball screw drive

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
LTP15-185-2005-F LTP15-275-2005-F LTPG15-185-2005-F LTPG15-275-2005-F	Horizontal	150 ¹⁾	0,25	5	0,25
		600	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		600	0,25	5	0,25
LTP15-185-2005-FM LTP15-275-2005-FM LTPG15-185-2005-FM LTPG15-275-2005-FM	Horizontal	100 ¹⁾	0,25	5	0,25
		600	0,25	2,5	0,25
	Vertical	100	0,25	5	0,25
		400	0,25	5	0,25
		600	0,25	5	0,25
LTP15-185-2020-F LTP15-275-2020-F LTPG15-185-2020-F LTPG15-275-2020-F	Horizontal	100	1	5	0,91
		300	1	5	0,91
	Vertical	25	0,5	5	0,48
		85	1	5	0,91
		150	1	5	0,91
LTP25-325-3205-F LTPG25-325-3205-F	Horizontal	200 ¹⁾	0,125	1,25	0,12
		700	0,21	2,5	0,21
		1 500	0,21	2,5	0,21
	Vertical	150 ¹⁾	0,21	5	0,21
		550	0,21	2,5	0,21
		700 ¹⁾	0,21	2,5	0,21
LTP25-325-3205-FM LTPG25-325-3205-FM	Horizontal	200 ¹⁾	0,125	1	0,12
		700	0,21	2,5	0,21
		1 500	0,21	2,5	0,21
	Vertical	150 ¹⁾	0,21	5	0,21
		550	0,21	2,5	0,21
		700 ¹⁾	0,21	2,5	0,21
		825	0,21	1,25	0,21

¹⁾ Stroke length = 1 000 mm.

Combination			
Coupling	Coupling housing	Servo motor	Servo controller
KUP-50-40-2-11H7/11H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/11H7	KGEH20/36200-MKUVE-KGT	MOT-SMH60-C7-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-11H7/14H7	KGEH20/36000-MKUVE-KGT	MOT-SMHA82-BR-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-11H7/19H7	KGEH20/36100-MKUVE-KGT	MOT-SMHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-14H7/19H7	KGEH25/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUVE-KGT	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S150-RS-I-O
KUP-50-40-2-14H7/19H7	KGEH25/36000-MKUVE-KGT	MOT-SMH82-SINCOS	STUNG-CPX3S025-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMH100-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-SMHA100-BR-SINCOS	STUNG-CPX3S063-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-50-40-2-19H7/19H7	KGEH25/36300-MKUVE-KGT	MOT-MHA105-08-BR-SINCOS	STUNG-CPX3S075-RS-I-O
KUP-560-56-19H7/24H7	KGEH25/36100-MKUVE-KGT	MOT-MHA145-08-BR-SINCOS	STUNG-CPX3S150-RS-I-O



Proven drive combinations

High precision linear tables
with monorail guidance system
and ball screw drive
(continued)

Designation	Position	Characteristics			
		m _{max} kg	v _{max} m/s	a _{max} m/s ²	v _m m/s
LTP25-325-3210-F LTPG25-325-3210-F	Horizontal	100 ¹⁾	0,43	2,5	0,4
		300	0,43	5	0,42
		500 ¹⁾	0,43	5	0,41
		800	0,43	5	0,42
		1 200 ¹⁾	0,43	5	0,41
	Vertical	75	0,43	5	0,42
		175	0,43	2,5	0,41
		275	0,43	5	0,42
		400	0,43	5	0,42
		700	0,43	5	0,42
LTP25-325-3210-FM LTPG25-325-3210-FM	Horizontal	200	0,43	5	0,42
		400	0,43	5	0,42
		750 ¹⁾	0,43	5	0,41
	Vertical	100	0,43	5	0,42
		150 ¹⁾	0,43	2,5	0,4
		225	0,43	5	0,42
		275	0,43	2,5	0,41
		350	0,43	2,5	0,41
		650	0,43	5	0,42
LTP25-325-3220-F LTPG25-325-3220-F	Horizontal	25 ¹⁾	0,5	5	0,48
		150	0,86	5	0,8
		225 ¹⁾	0,86	5	0,75
		450	0,86	5	0,8
		525 ¹⁾	0,86	5	0,8
	Vertical	75	0,86	2,5	0,75
		125	0,86	5	0,8
		170	0,86	2,5	0,75
		350	0,86	2,5	0,75
LTP25-325-3220-FM LTPG25-325-3220-FM	Horizontal	150	0,86	5	0,8
		450	0,86	5	0,8
		500	0,86	5	0,8
	Vertical	35	0,86	5	0,8
		100	0,86	5	0,8
		135	0,86	5	0,8
		300	0,86	5	0,8
LTP25-325-3240-F LTPG25-325-3240-F	Horizontal	30	1,73	5	1,35
		100	1,73	5	1,35
		125 ¹⁾	1,73	5	1,08
		200	1,73	5	1,35
		350	1,73	5	1,35
	Vertical	25	1,73	5	1,35
		50	1,73	5	1,35
		75	1,73	5	1,35
		150	1,73	5	1,35

¹⁾ Stroke length = 1 000 mm.

[illegible]

Electric drives and controls for linear actuators and linear tables

In appropriate configurations for all series of driven linear units, Schaeffler also offers the optimally suitable combinations of electric drives and controls. For all linear units, finely graduated servo motors and precise planetary gearboxes are available for the wide range of possible applications.

For control of the motors, the most modern control technologies are of course available and offer the prospect of high performance for linear actuators. For integration in the peripheral systems of the machine, all important field bus interfaces as well as digital inputs and outputs with a 24-V PLC level are available as options. Commissioning of the controllers can be carried out by means of a user-friendly commissioning tool, in addition to which preliminary commissioning with the linear actuator or linear table is offered as a service.

The highly dynamic servo motors are available with an absolute encoder or resolver and with or without a holding brake. Connections to the controller can be made easily and quickly using dedicated cables available in various standard lengths. For torque adjustment, the customer can select from single stage and twin stage gearboxes with low backlash values.

Further accessories include dedicated connection cables for the controller, mains filters, ballast resistors, motor chokes and various proximity switches for mounting on the linear actuators.

With the aid of these products, we can provide a reliable, rapid and economical solution for your positioning task.

For processing and detailing of the appropriate request, we recommend use of the datasheet in the appendix. A completed datasheet containing the mechanical and electrical requirements can be used as the basis for competent production selection and advice by the Schaeffler application engineering facilities and engineering service functions.

An aid to making decisions in the selection of controllers can be found on page 721.

The INA linear actuators and linear tables can also be equipped and supplied with other motors and controllers (drive and control components). In this case, please consult Schaeffler.

Selection of controllers

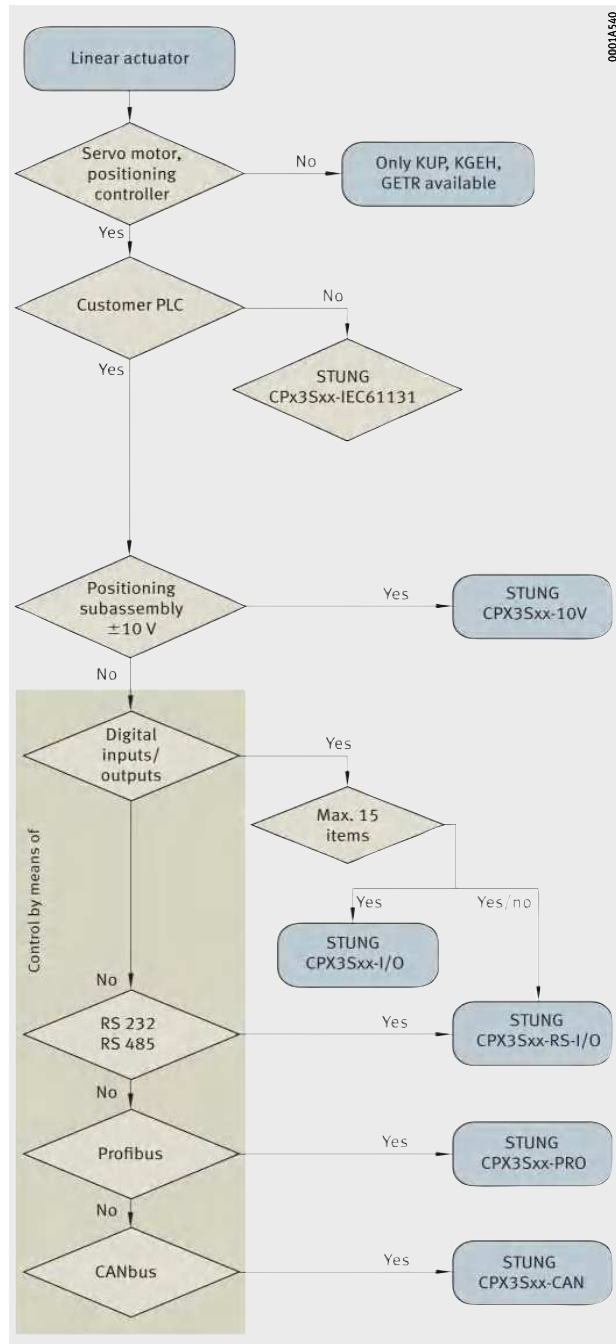
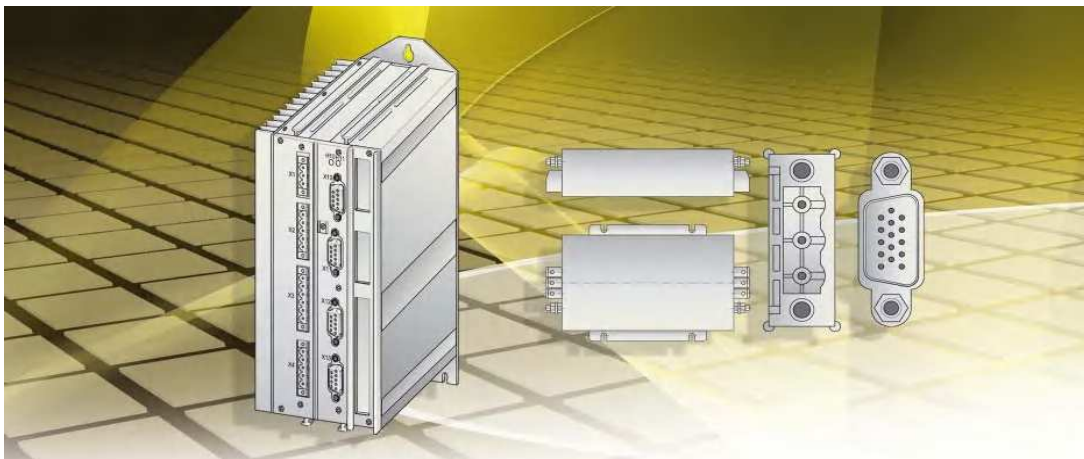


Figure 1
Flow chart

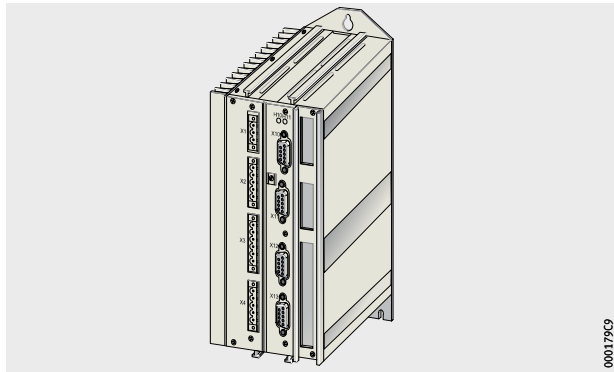


Digital servo controller

Product overview Digital servo controller

Digital servo controller

STUNG-CPX3



000175C9

Digital servo controller

Features

The controller STUNG-CPX3 is an intelligent servo positional controller that, due to its modular structure, can be used for a broad spectrum of different applications.

It can be used with all linear actuators of various drive types and with all linear tables.

With the appropriate feedback module, it can also be used to control the actuator with direct drive MKUVS42-LM (linear motor).

The user thus has access to an optimally matched, dynamic and precise positioning system for fulfilling his motion task.

The controller STUNG-CPX3 is a compact servo controller in an enclosed aluminium housing for installation in a control cabinet. All connectors are easily accessible to the electrician and the compact construction allows simple integration in the control cabinet or machine. Since almost all the connectors are of the push-fit type, installation time is considerably reduced.

Depending on the power level, it is operated directly from the 230-V alternating current network or from a 400-V three-phase network and the power rating is between 1 kW and 15 kW.

The controller contains the speed regulator and the complete positional controller with the position regulator for controlling the servo motors. The controller can easily be integrated in existing control systems. Digital inputs and outputs with a 24-V DC PLC level and various field bus options are available. For configuration and optimisation as well as for diagnosis, the controllers can be connected via an RS232 interface to a notebook computer or PC. One unit can be used to control one motor on an actuator, while connection to several axes is also possible.

The controller has a convincing combination of powerful control technology, compact design and excellent price/performance ratio. Due to the digital control technology, the controller STUNG-CPX3 is highly robust in response to load changes in the drive system.

The controller has very good damping and therefore fulfils the conditions for a stable control loop and precise positioning of the servo drive. The comprehensively optimised electronic controller is effective in preventing oscillations in the control loop and facilitates a high band width and thus a rigid drive system. Modern software algorithms give increased accuracy in the detection of encoder signals. The rapid control system gives very high clock speeds without process-critical overshoot behaviour.

STUNG-CPX3 ensures compliance with the standards UL, cUL and CE. Furthermore, it supports the function "Safe Torque Off" in accordance with EN ISO 13849:2008, Category 3 PL d/e.

For communication with other controllers, several interfaces such as Profibus, CAN-Bus, Ethercat, Profinet, Powerlink and RS485 are available.



Digital servo controller

Parametrising and commissioning is carried out by means of user-friendly PC tools with an intuitive user interface and wizard-based technology.

A user-friendly load identification function assists the commissioning operator in determining the actual mass moment of inertia.

Depending on parametrising, motors can be used in the form of resolver technology or with an absolute encoder as positional feedback.

Designs

The controller STUNG-CPX3 is available in the following designs, see table.

Available designs

Series	Design
STUNG-CPX3S...I-O	Controller for positioning by means of inputs and outputs
STUNG-CPX3S...RS-I-O	Controller for positioning by means of inputs and outputs and RS232 or RS485 interface
STUNG-CPX3S...PRO	Controller for positioning by means of Profibus interface
STUNG-CPX3S...CAN	Controller for positioning by means of CANopen interface
STUNG-CPX3S...10V	Speed regulator with interface ± 10 V

Control

The controller is available in several power stages with five options for positioning control:

- digital inputs and outputs
(15 or 31 positions controllable in one position table, depending on motor type)
- digital inputs and outputs + RS232, RS485
(31 positions controllable in one record table)
- Profibus DP
- CANopen
- ± 10 V as speed specification for a positioning subassembly in a PLC.

Control is generally carried out by a higher level PLC that takes over control of the entire machine installation.

Control by means of digital inputs STUNG-CPX3S...I-O

In one position table, up to 31 position records (15 in operation with machine zero) can be permanently set using the software tool C3 Manager.

The velocity, acceleration time and braking time can be stored for each position. Record selection is carried out by binary addressing via 4 or 5 outputs in a PLC.

The PLC sends a start signal to CPX3 and the selected record is executed.

The feedback "Position reached" is sent via an output on CPX3 and the controller is ready to start a new positioning step.

Movement by hand is only possible in commissioning mode by means of the PC.

**Control
by means of digital inputs and
RS232, RS485 interface
STUNG-CPX3S...-RS-I-O**

In one position table, to 31 position records can be permanently set using the software tool C3 Manager.

The velocity, acceleration time and braking time can be stored for each position. Record selection is carried out by binary addressing via 5 outputs in a PLC.

The PLC sends a start signal to CPX3 and the selected record is executed.

The feedback "Position reached" is sent via an output on CPX3 and the controller is ready to start a new positioning step.

12 additional inputs and outputs are available.

As a result, 3 programmable status bits can be used for the targeted feedback of up to 8 traversed positions. Initiators can also be connected in order to restrict the travel distance and act as a reference point switch. The option of travel by hand is permanently available as well as connection of a mark sensor for the function "Mark-related positioning".

The function "Electronic gearbox" is also available.

Motion control can be carried out, depending on the parametrising, via the input and output level of the 24-V PLC level or via the RS232 or RS485 interface using a control and status term.

**Control
by means of bus system Profibus or
CANopen
STUNG-CPX3S...-PRO,
STUNG-CPX3S...-CAN**

In this case too, the position table can be described using the C3 Manager. Selection of positions and execution of positioning is carried out via the relevant bus system and feedback is provided via a data bus. Furthermore, the table can also be described via the bus system, which means that more positions as well as different accelerations and velocities can be selected.

All important parameters can be read out and made available to the higher level controller. The data flow is thus secured and all information is always available to the user.

Motion control is by means of control and status terms.

Initiators can also be connected for end point restriction and as a reference point switch. Connection of a mark sensor for the function "Mark-related positioning" is available, as well as the function "Electronic gearbox".

**Control
by means of ± 10 -Volt speed
specification
STUNG-CPX3S...-10V**

The controller acts as a speed regulator that is controlled via ± 10 Volt of a positioning subassembly at a PLC level.

For positional control, the signals from encoder simulation are fed back to the positioning subassembly for processing.



Digital servo controller

Standalone system	Autonomous operation is possible. In this case, the controller can be ordered with a corresponding option. The PLC user can develop a specific motion profile by means of the programming system Codesys in programming according to IEC 61131-3. The programmer requires knowledge of programming irrespective of manufacturer in accordance with IEC 61131-3. The standalone system is supplied by agreement.
Parametrising and commissioning	Parametrising and commissioning is carried out by means of user-friendly PC tools and an intuitive user interface with wizard-based technology. The servo positional controller is matched to the corresponding linear actuator by automatic querying of all necessary inputs and a graphics-supported selection system. A user-friendly load identification function assists the commissioning operator in determining the actual mass moment of inertia. Predefined motion profiles can be executed and stored. Signals can be monitored directly on the PC by means of an integrated 4 channel oscilloscope. Various modes (single, normal, auto and roll) as well a zoom function and facility for exporting data to the Office environment, in graphic and tabular form, supplement the system to give a highly user-friendly aid.
Customer service	All controllers for linear actuators and linear tables can be partially configured and commissioned in advance upon customer request. In almost all cases, further commissioning work on site is no longer required. The linear actuator or linear table is then supplied with a fully mounted motor or motor/gearbox unit. Initiators and switching tags are mounted accordingly. Delivery on this complete basis gives the customer savings in terms of valuable mounting time and the possibility of fulfilling the motion task without delay.

Technical data

For technical data, see the tables.

Data for digital servo controller

Feature	Technical data
Functional scope	■ Digital positional controller ■ Positioning according to motion profiles ■ Absolute, relative positional data ■ IGBT output stage with short-circuit and short-to-earth protection
Suitable motors	With resolver ■ MOT-SMH60, MOT-SMHA60-BR ■ MOT-SMH82, MOT-SMHA82-BR ■ MOT-SMH100, MOT-SMHA100-BR ■ MOT-MH105-08, MOT-MH105-08-BR ■ MOT-MH145-08, MOT-MH145-08-BR ■ MOT-MH145-45-08, MOT-MHA145-45-08-BR ■ MOT-MH145-15, MOT-MH145-15-BR With absolute encoder ■ MOT-SMH82-SINCOS, MOT-SMHA82-BR-SINCOS ■ MOT-SMH100-SINCOS, MOT-SMHA100-BR-SINCOS ■ MOT-MH105-08-SINCOS, MOT-MHA105-08-BR-SINCOS ■ MOT-MH145-08-SINCOS, MOT-MHA145-08-BR-SINCOS ■ MOT-MH145-45-08-SINCOS, MOT-MHA145-45-08-BR-SINCOS ■ MOT-MH145-15-SINCOS, MOT-MHA145-15-BR-SINCOS ■ MOT-MH145-30-28-SINCOS, MOT-MHA145-30-28-BR-SINCOS ■ MOT-MH145-30-50-SINCOS, MOT-MHA145-30-50-BR-SINCOS ■ MOT-MH205-30-28-SINCOS, MOT-MHA205-30-28-BR-SINCOS With linear encoder, sine/cosine ■ MKUVS42A-LM (linear actuator with linear motor drive)
Accuracy	With resolver ■ Positioning on motor shaft ■ Resolution: 16 bit (= 0,3 angular minutes) ■ Absolute accuracy: ± 15 angular minutes With absolute encoder ■ Positioning on motor shaft ■ Resolution: 19 bit (= 2,5 angular minutes) ■ Absolute accuracy: ± 18 angular minutes
Supply voltage	■ $1 \times 230 \text{ V AC} +10\%$, 50 Hz – 60 Hz ■ $3 \times 400 \text{ V AC} +30\%$, 50 Hz – 60 Hz
DC operating voltage	■ 300 V DC with 230-V supply ■ 560 V DC with 400-V supply
Line-side fuse protection	Depending on size: ■ 10 A, 16 A, 20 A, 25 A/K automatic
Control voltage	24 V DC $\pm 10\%$, waviness $< 0,5 \text{ V}_{ss}$ (to be provided by customer)



Digital servo controller

Technical data continued

Feature	Technical data
Power requirement, power drain	0,8 A for device - Per digital output 100 mA - Maximum power drain: 120 W
Setpoint generator	- Jerk limited ramps - Travel data in mm, inch or incrementally variable by means of scaling factor - Specification of velocity, acceleration, deceleration and jerk
Monitoring functions	- Power and auxiliary voltage range - Motor regulator temperature, locking protection - Monitoring of contouring errors
Safety equipment	- Release input - Standby contact
Inputs and outputs	8 control inputs with 24 V DC, 10 kΩ 4 control outputs with 24 V DC, 100 mA, active HIGH, short-circuit protection 2 analogue inputs 2 analogue outputs
Additional inputs and outputs	For STUNG-CPX3S...-RS-I-O: 8 inputs, 4 outputs
RS232, RS485 (switchable)	115 kBaud, rigidly set - Word length 8 bit, 1 start bit, 1 stop bit - Hardware handshake (RTS, CTS)
Encoder simulation	Resolution: 4 – 16 384 increments/motor revolution 5 V TTL level, RS422
Bus connectors (alternatively)	- Profibus DP 3 V PROFIdrive profile for drive technology - CANopen according to CiADS402 (master/slave)
Absolute encoder	- High resolution encoder as substitute for resolver - Absolute encoder over 4 096 revolutions of motor
Connectors	- Motor, power, control input and control output by means of plug-in terminals - Encoder cables, interfaces by means of plugs
Housing	- Enclosed metal housing - Insulation according to VDE 0160 - Protection class IP 20
EMC emitted interferences	- Limit values according to EN 61800-3 - Limit value grade C3, C4 without additional mains filter
EMC interference immunity	Limit values for industrial sector according to EN 61800-3
UL conformity certified	- In accordance with UL 508C - Efile no.: E235 342
Protection class Protection against accidental contact Over voltage category	- Protection class 1 according to EN 60664-1 - EN 61800-5-1 - Voltage category III according to EN 60664-1
Safe Torque Off according to EN ISO 13849:2008, Category 3 PL d/e certified. Test mark IFA 1003004	For implementation of function "Prevention of unexpected startup" according to EN 1037

**Output data
for voltage rating 1×230 V AC**

Device STUNG-CPX3	Current rating A_{eff}	Peak current $A_{\text{eff}} < 5 \text{ s}$	Power kVA	Power drain W
S025	2,5	5	1	30
S063	6,3	12,6	2,5	60

**Output data
for voltage rating 3×400 V AC**

Device STUNG-CPX3	Current rating A_{eff}	Peak current $A_{\text{eff}} < 5 \text{ s}$	Power kVA	Power drain W
S038	3,8	9	2,5	80
S075	7,5	15	5	120
S150	15	30	10	160
S300	30	60	20	350

Standard scope of delivery

The standard scope of delivery comprises, in addition to the controller STUNG-CPX3 and the installation manual, the software C3 Servo Manager and the product handbook on CD.



Digital servo controller

Dimensions Data for dimensions and mass, *Figure 1* and table.

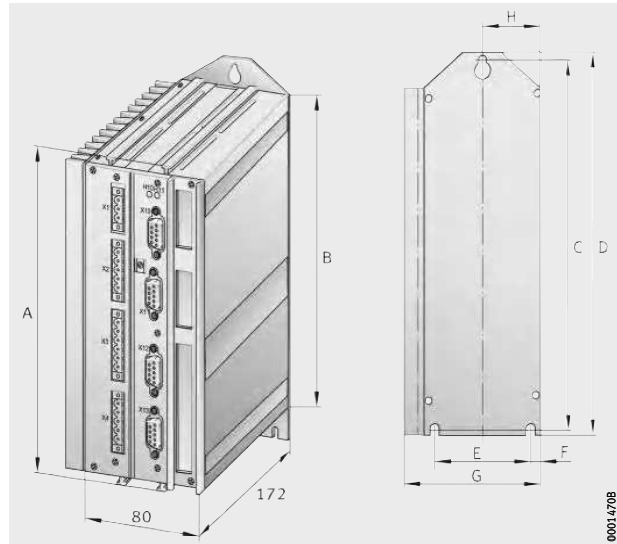


Figure 1
Dimensions

Dimensions and mass

Designation	Mass kg	Dimensions mm							
		A	B	C	D	E	F	G	H
STUNG-CPX3S025	2	199	191	210	222	65	7,5	85	40
STUNG-CPX3S063	2,5	199	191	210	222	65	7,5	100	40
STUNG-CPX3S038	3,5	260	248	267	279	65	7,5	100	40
STUNG-CPX3S075	4,3	260	248	267	279	65	7,5	115	40
STUNG-CPX3S150	6,8	260	248	267	279	80	39	158	39
STUNG-CPX3S300	10,9	391	380	400	412	80	47,5	175	47,5

Connection of supply voltage

Plugs X1 vary in their terminal assignment and design and this is shown in the following figure.

Voltage supply
Operating voltage
Plug X1

Terminal assignment of X1 (operating voltage)
for controllers STUNG-CPX3, *Figure 2* and table.

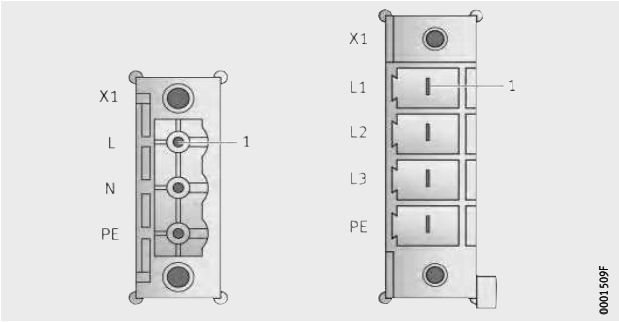


Figure 2
Plug X1

Pin assignment

PIN	Designation			
	STUNG-CPX3S025 STUNG-CPX3S063		STUNG-CPX3S038 STUNG-CPX3S075 STUNG-CPX3S150 STUNG-CPX3S300	
1	L	230 V AC	L1	3*400 V AC
2	N		L2	
3	PE		L3	
4			PE	

Voltage supply
Operating voltage
Plug X4

The terminal assignment of X4 (control voltage) is identical for all devices, *Figure 3* and table.

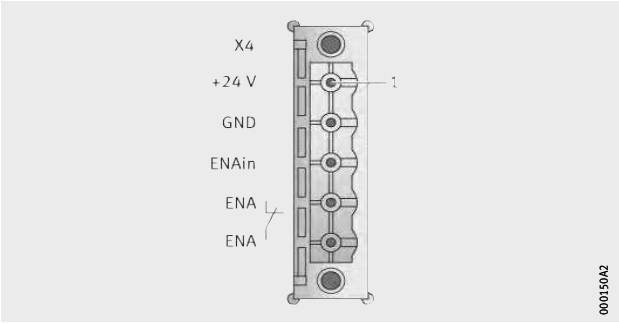


Figure 3
Plug X4

Pin assignment

PIN	Designation	
1	+24 V	21 V DC – 27 V DC
2	GND 24 V	
3	Enable_in	
4	Enable_out_a	
5	Enable_out_b	

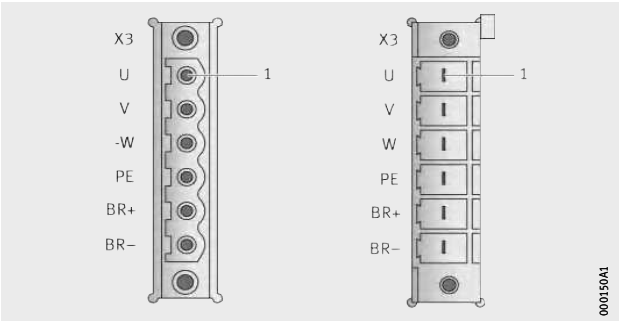


Digital servo controller

Connection of motor Plugs X3 vary in their design and this is shown in the following figure.

Power connection Plugs X3 Terminal assignment of X3 (power connection) for controllers STUNG-CPX3, *Figure 4* and table.

Figure 4
Plug X3



Pin assignment

PIN	Designation	
1	U	Motor
2	V	
3	W	
4	PE	
5	BR +	Motor holding brake
6	BR -	



The brake should only be wired in the case of a motor with a holding brake.

Connection
for encoder and feedback
of plug X13

The terminal assignment of X13 (feedback signal as a function of the feedback module) is identical for all devices, *Figure 5* and table.

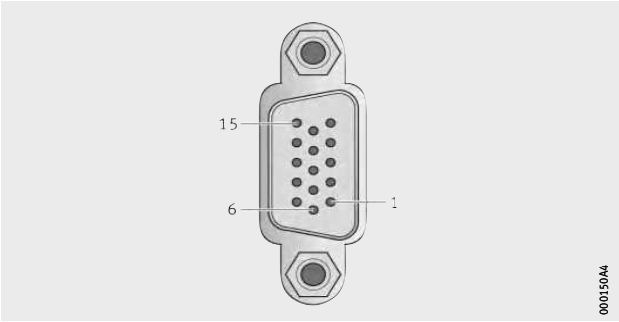


Figure 5
Plug X13

Pin assignment

PIN	Resolver	Absolute encoder	Linear encoder, sine/cosine
1	Reserved	Reserved	Sense –
2	Reserved	Reserved	Sense +
3	GND	GND	Reserved
4	REF – resolver +	Vcc (+8 V)	Vcc (+5 V) · max. 350 mA load
5	+5 V (for temperature sensor)		
6	Reserved	Reserved	CLK _{fbk}
7	Sin –	Sin –	Sin –/A – (encoder)
8	Sin +	Sin +	Sin +/A + (encoder)
9	Reserved	Reserved	CLK _{fbk}
10	T _{mot}	T _{mot}	T _{mot}
11	Cos –	Cos –	Cos –/B – (encoder)
12	Cos +	Cos +	Cos +/B + (encoder)
13	Reserved	Data _{fbk}	Data _{fbk}
14	Reserved	Data _{fbk}	Data _{fbk}
15	REF – resolver –	GND (Vcc)	GND (Vcc)



Digital servo controller

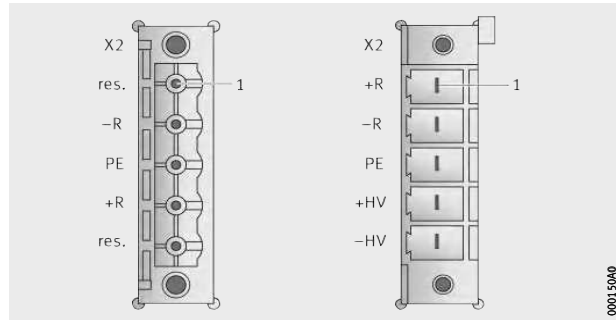
Connection of ballast resistor

Plugs X2 vary in their terminal assignment and design and this is shown in the following figure.

Plug X2

Terminal assignment of X2 (connection of ballast resistor) for controllers STUNG-CPX3, *Figure 6* and table.

Figure 6
Plug X2



Pin assignment

PIN	Designation	
	STUNG-CPX3S025 STUNG-CPX3S063	STUNG-CPX3S038 STUNG-CPX3S075 STUNG-CPX3S150 STUNG-CPX3S300
1	Reserved	+ ballast resistor ¹⁾
2	- ballast resistor ¹⁾	- ballast resistor ¹⁾
3	PE	PE
4	+ ballast resistor ¹⁾	+ operating voltage DC
5	Reserved	- operating voltage DC

¹⁾ No short-circuit protection.

**Connection
of digital inputs and outputs**

Plug X12

Plugs X12 vary in their terminal assignment and this is shown in the following figure.

Terminal assignment of X12 for controllers STUNG-CPX3S...I-0, *Figure 7* and table.

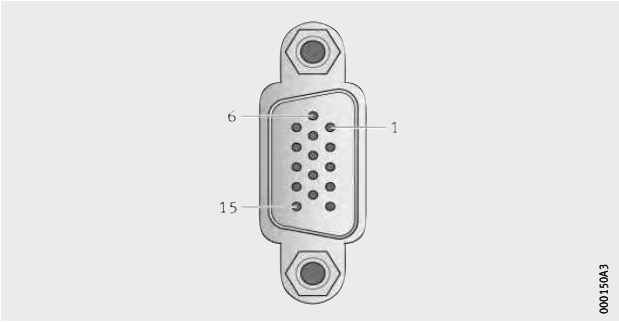


Figure 7
Plug X12

Pin assignment

PIN	Input and output	Designation
1	A	+24-V DC output (max. 400 mA)
2	A0	No error
3	A1	Position reached (max. 100 mA)
4	A2	Output stage current-free (max. 100 mA)
5	A3	Motor energised with nominal value 0 (max. 100 mA)
6	E0	No stop
7	E1	Start (flank)
8	E2 = "1"	Quit (positive flank) The address of the current position record is read in again
	E2 = "0"	Switch motor to current-free with delay
9	E3	Address 0
10	E4	Address 1
11	E	24-V input for digital outputs pin 2 to 5
12	E5	Address 2
13	E6	Address 3
14	E7	MN-Ini ¹⁾ /address 4
15	A	GND 24 V

All inputs and outputs have a 24-V level.

Maximum capacitive loading of outputs: 50 nF.

¹⁾ Machine zero initiator only if a corresponding mode has been selected; in this case, 15 motion profiles (address 0–3) and machine zero travel are possible.



Digital servo controller

Plug X12 Plug assignment of X12 for controllers STUNG-CPX3S...-RS-I-O, STUNG-CPX3S...-PRO, STUNG-CPX3S...-CAN, *Figure 8* and table.

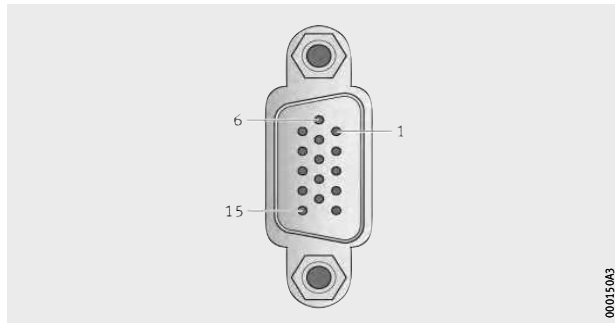


Figure 8
Plug X12

Pin assignment

PIN	Input and output	Designation
1	A	24-V DC output (max. 400 mA)
2	A0	No error
3	A1	Position, velocity, gearbox synchronisation achieved (max. 100 mA)
4	A2	Output stage current-free (max. 100 mA)
5	A3	Motor energised with nominal value 0 (max. 100 mA)
6	E0 = "1"	Quit (positive flank), energise motor The address of the current position record is read in again
	E0 = "0"	Switch motor to current-free with delay
7	E1	No stop
8	E2	Hand +
9	E3	Hand –
10	E4	Mark input
11	E	24-V input for digital outputs pin 2 to 5
12	E5	Limit switch 1
13	E6	Limit switch 2
14	E7	Machine zero initiator
15	A	GND 24 V

All inputs and outputs have a 24-V level.

Maximum capacitive loading of outputs: 50 nF.

Plug X2 Plug assignment of X22 for controllers STUNG-CPX3S075-RS-I-0, Figure 9 and table.

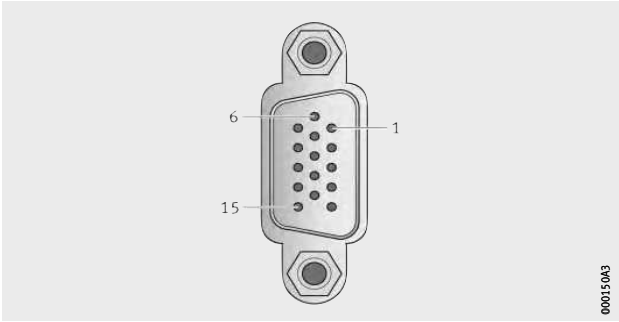


Figure 9
Plug X22

Pin assignment

PIN	Input and output	Designation	
1	n.c.	Reserved	
2	M.E0	Address 0	Free assignment for operation via RS232, RS485
3	M.E1	Address 1	
4	M.E2	Address 2	
5	M.E3	Address 3	
6	M.E4	Address 4	
7	M.E5	Start (flank triggered)	
8	M.E6	No stop (2nd stop input)	
9	M.E7	Open motor holding brake	
10	M.A8	Datum system referenced	
11	E	24-V DC supply	
12	M.A9	Programmable status bit 0 (PSB 0)	Free assignment for operation via RS232, RS485
13	M.A10	Programmable status bit 1 (PSB 1)	
14	M.A11	Programmable status bit 2 (PSB 2)	
15	E	GND 24 V	

All inputs and outputs have a 24-V level.
Maximum capacitive loading of outputs: 50 nF.
Maximum loading of one output: 100 mA.



The 24-V supply (X22.11) must be fed in from outside and fused for delayed action at 1,4 A.



Digital servo controller

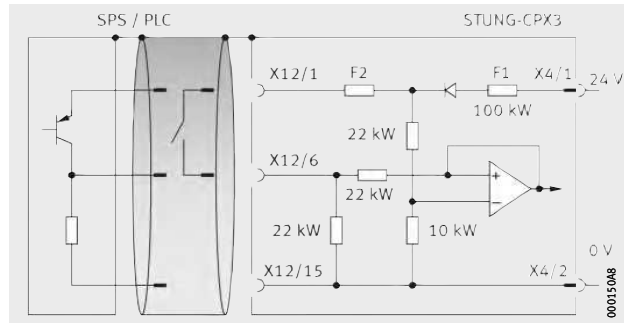
Input wiring of digital inputs

The wiring example is valid for all digital inputs on all controllers, *Figure 10*.

F1 = delayed action fuse
F2 = rapid action electronic fuse;
resettable by 24-V DC switch-off and
switch-on

Figure 10

Wiring example for input



Output wiring of digital outputs

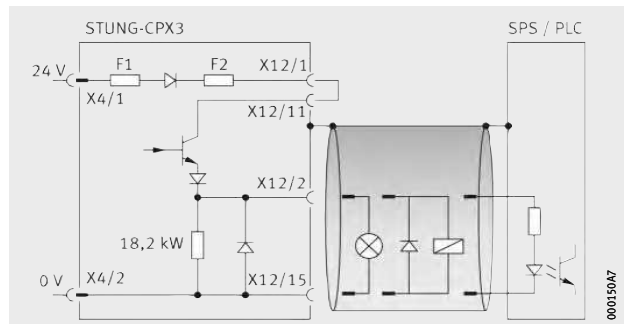
The wiring example is valid for all digital outputs on all controllers, *Figure 11*.

The outputs have short-circuit protection; if a short circuit occurs, an error is generated.

F1 = delayed action fuse
F2 = rapid action electronic fuse;
resettable by 24-V DC switch-off and
switch-on

Figure 11

Wiring example for output



Available designs

The controller STUNG-CPX3 is available in the following designs, see table. Further possibilities with field bus connectors are available by agreement.

Controllers

Designation	Current A	Voltage V	Control and comments
STUNG-CPX3S025-I-O	2,5	1×230	Communication via 8I/4O (minimum version) 24-V level
STUNG-CPX3S063-I-O	6,3	1×230	
STUNG-CPX3S025-I-O	7,5	3×400	
STUNG-CPX3S150-I-O	15,0	3×400	
STUNG-CPX3S025-RS-I-O	2,5	1×230	Communication via 16I/8O 24-V level or RS485 interface; gearing, motion by hand possible, mark positioning
STUNG-CPX3S063-RS-I-O	6,3	1×230	
STUNG-CPX3S075-RS-I-O	7,5	3×400	
STUNG-CPX3S075-RS-I-O-ENC	7,5	3×400	
STUNG-CPX3S150-RS-I-O	15,0	3×400	Communication via Profibus DP PROFIdrive profile for drive technology V3
STUNG-CPX3S025-PRO	2,5	1×230	
STUNG-CPX3S063-PRO	6,3	1×230	
STUNG-CPX3S075-PRO	7,5	3×400	
STUNG-CPX3S075-PRO-ENC	7,5	3×400	
STUNG-CPX3S150-PRO	15,0	3×400	Communication via CANopen CiADS402
STUNG-CPX3S025-CAN	2,5	1×230	
STUNG-CPX3S063-CAN	6,3	1×230	
STUNG-CPX3S075-CAN	7,5	3×400	
STUNG-CPX3S075-CAN-ENC	7,5	3×400	
STUNG-CPX3S150-CAN	15,0	3×400	Speed regulator with interface ±10 V
STUNG-CPX3S025-10V	2,5	1×230	
STUNG-CPX3S063-10V	6,3	1×230	
STUNG-CPX3S075-10V	7,5	3×400	
STUNG-CPX3S150-10V	15	3×400	



Digital servo controller

Accessories for digital servo controllers

Connector set

One connector set is included as standard with each controller. It contains the mating connectors for X1, X2, X3, X4, a ferrite core for the cables for the motor brake and cable ties, *Figure 12*.

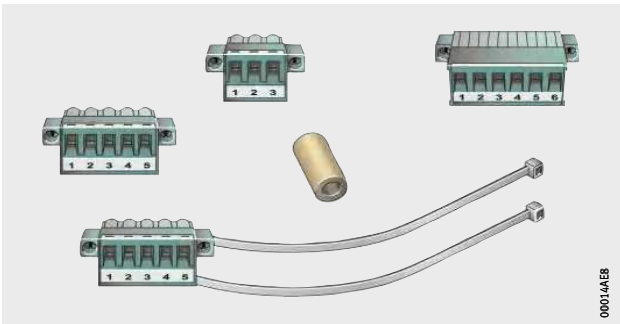


Figure 12
Connector set

Dedicated connection cables and terminal modules

Dedicated cables and terminal modules are available for simple wiring of plugs X11, X12 and X22 to STUNG-CPX3.

Dedicated cables

The simplest variant is cables KAB-SSK21 and KAB-SSK22 with Sub-D connectors on one end and bare cable ends with ferrules on the other end, see table and *Figure 13*.



Figure 13
Cable with one connector

Designation

Designation	Connector	Length m
KAB-SSK21/01-CPX3-X11	X11	1
KAB-SSK21/02-CPX3-X11	X11	2
KAB-SSK22/01-CPX3-X12	X12, X22	1
KAB-SSK22/02-CPX3-X12	X12, X22	2

A further variant is cables KAB-SSK23 and KAB-SSK24 with Sub-D connectors on both ends, see table and *Figure 14*.



Figure 14
Cable with two connectors

Designation

Designation	Connector	Length m
KAB-SSK23/01-CPX3-X11	X11	1
KAB-SSK23/02-CPX3-X11	X11	2
KAB-SSK24/01-CPX3-X12	X12, X22	1
KAB-SSK24/02-CPX3-X12	X12, X22	2



Digital servo controller

Terminal modules

A user friendly variant is provided by onward connection using terminal modules. These comprise a housing with a terminal strip and a mounted Sub-D connector, with or without LEDs for displaying the status of the inputs and outputs on the STUNG-CPX3. The housings are designed so that they can be mounted on standard mounting bars.

The terminal modules are connected using the cables KAB-SSK23 and KAB-SSK-24. These cables have Sub-D connectors on both ends.

Terminal modules without LEDs for displaying the status of the inputs and outputs on the STUNG-CPX3, see table and *Figure 15*.

Terminal modules with LEDs for displaying the status of the inputs and outputs on the STUNG-CPX3, see *Figure 16* and table.

Figure 15

Terminal modules without LEDs

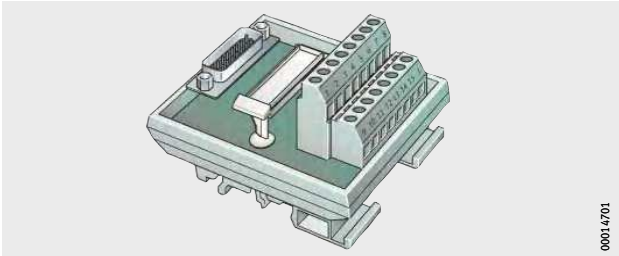
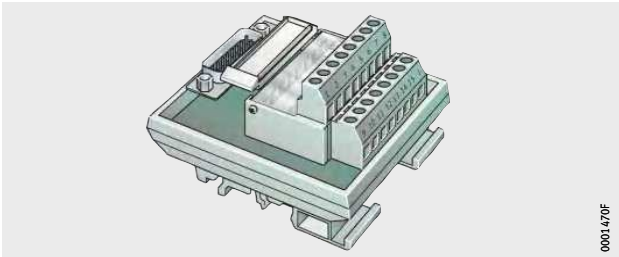


Figure 16

Terminal modules with LEDs



Designation

Designation	Application
KLMD-EAM-06/01-CPX3-X11-X12	Terminal module without LEDs for X11 (with cable SSK23) and X12, X22 (with cable SSK24)
KLMD-EAM-06/02-CPX3-X12	Terminal module with LEDs for X12 (with cable SSK24)

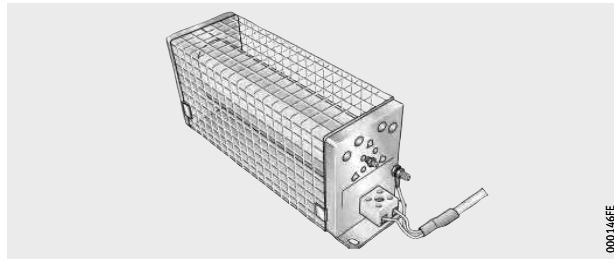
Ballast resistors

If the internal ballast circuit in the digital servo controller is not sufficient to absorb the kinetic energy occurring in extremely dynamic braking operation, an external ballast resistor can be connected, see table Dimensions, page 746 and *Figure 17* to *Figure 20*, page 746.

Technical data for ballast resistors WIDST-BRM and allocation to the relevant controller, see table Allocation of ballast resistor and controller.

WIDST-BRM

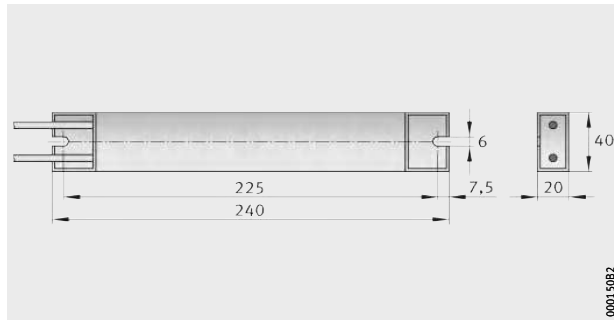
Figure 17
Ballast resistor



000146FE

WIDST-BRM08-01

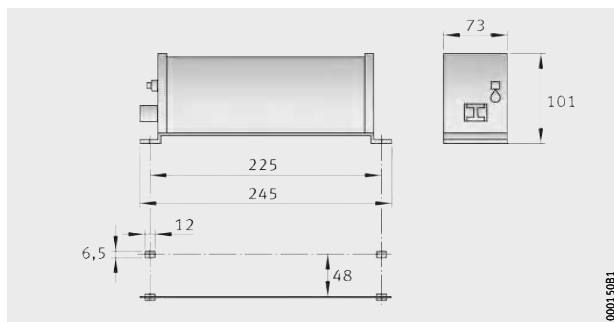
Figure 18
Dimensions



000150B2

WIDST-BRM05-01

Figure 19
Dimensions



000150B1

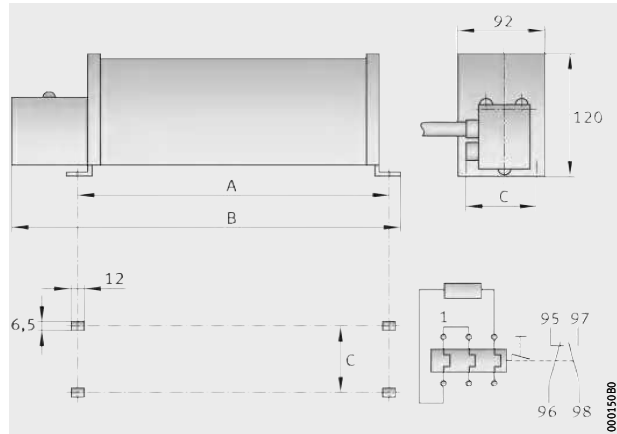


Digital servo controller

WIDST-BRM10-01
WIDST-BRM04-01
WIDST-BRM04-02

Figure 20
Dimensions

Dimensions



Designation	A mm	B mm	C mm
WIDST-BRM10-01	250	330	64
WIDST-BRM04-01	250	330	64
WIDST-BRM04-02	300	380	64

Allocation
of ballast resistor and controller

Designation	Technical data			Controller
	Continuous power W	Peak power W	Resistance Ω	
WIDST-BRM08-01	60	250	100	STUNG-CPX3S025 STUNG-CPX3S038
WIDST-BRM05-01	180	2 300	56	STUNG-CPX3S063 STUNG-CPX3S075
WIDST-BRM10-01	570	6 900	47	STUNG-CPX3S150
WIDST-BRM04-01	570	6 900	15	STUNG-CPX3S300
WIDST-BRM04-02	740	8 900	15	

EMC measures For the industrial sector (limit values C3 according to EN 61800-3), operation with larger motor cables without a mains filter is possible.

For the commercial and residential sector (limit values C2 according to EN 61800-3), the use of a mains filter is necessary. This can be implemented once for the specific machine or for each individual controller, see table and *Figure 21* to *Figure 24*, page 748.

Figure 21
Mains filter



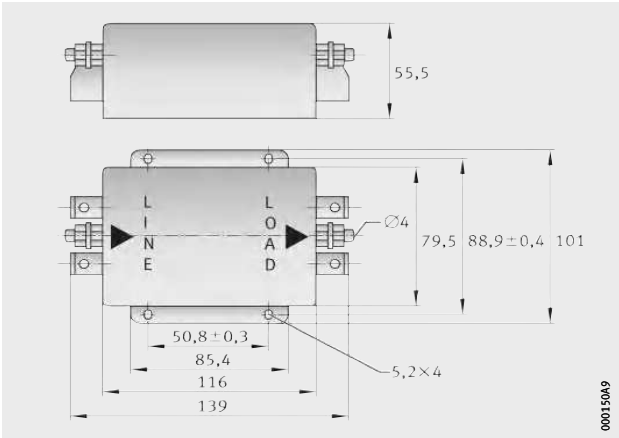
Designation

Designation	Designation	Controller
Filter-CPXS025-S063	Mains filter	STUNG-CPX3S025 ¹⁾
		STUNG-CPX3S063 ¹⁾
Filter-CPXS038-S075-S150		STUNG-CPX3S038 ¹⁾
		STUNG-CPX3S075 ¹⁾
		STUNG-CPX3S150 ¹⁾
Filter-CPXS300		STUNG-CPX3S300

¹⁾ Only necessary for motor cables >10 m.

Filter-CPXS025 S063

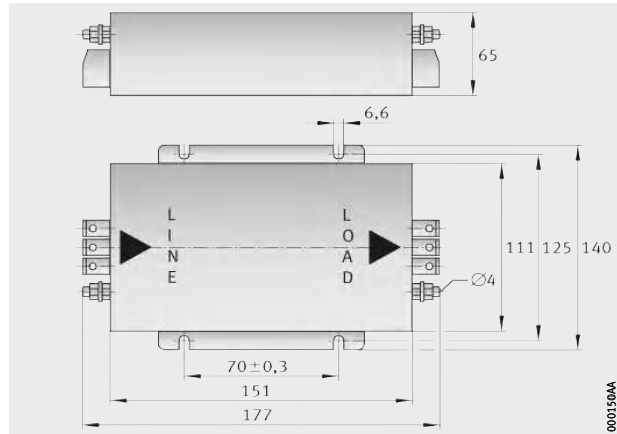
Figure 22
Dimensions



Digital servo controller

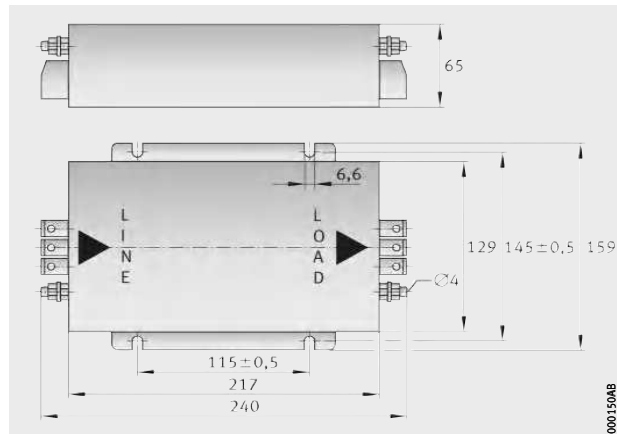
Filter-CPXS038-S075-S150

Figure 23
Dimensions



Filter-CPXS300

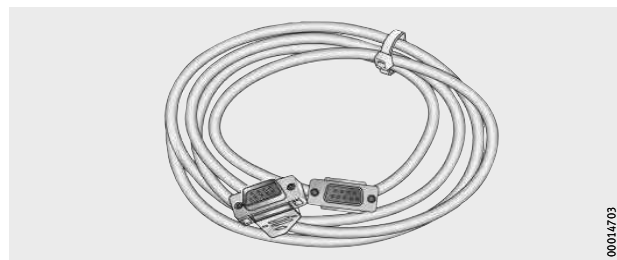
Figure 24
Dimensions



RS232 cable

For parametrising of controllers, a corresponding PC connection cable is available. The cable length is 2,5 m. Connection to the PC is made using an RS232 interface, to the controller using X10, see table, page 749 and Figure 25.

Figure 25
RS232 cable



Designation

Designation	Designation
KAB-RS232-2,5M-COMPAX	PC connection cable

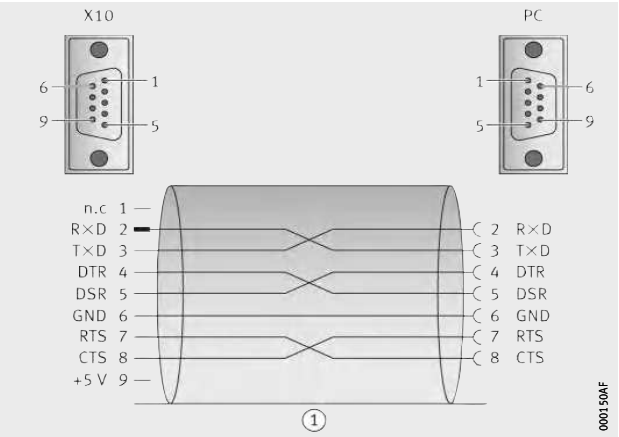
Wiring plan

Apply the shield flat on both sides, *Figure 26*.

KAB-RS232-2,5M-COMPAX

① 7 · 0,25 mm + shield

Figure 26
Wiring plan



Assignment plan for X10

The interface can be selected by means of the assignment of X10/1:
■ RS232: X10/1 = 0 V
■ RS485: X10/1 = 5 V; pin 1 and 9 with external bridging, *Figure 27*.

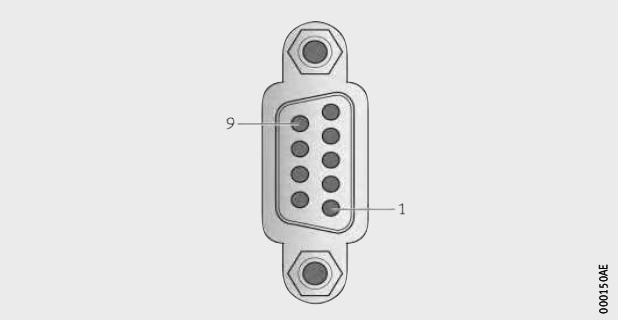


Figure 27
Assignment plan for X10,
parametrisable



Digital servo controller

The terminal assignment varies. It is given in the following tables.

RS232

PIN	Designation
1	(Enable RS232) 0 V
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	+5 V

RS485 Four-wire

PIN	Designation
1	(Enable RS232) +5 V
2	RxD
3	TxD
4	res.
5	GND
6	res.
7	TxD
8	RxD
9	+5 V

In order to ensure reliable operation of the various functions of the Servo Manager, a USB RS232 inverter is recommended.

RS485 Two-wire

PIN	Designation
1	(Enable RS485) +5 V
2	Reserved
3	TxD_RxD
4	Reserved
5	GND
6	Reserved
7	TxD_RxD
8	Reserved
9	+5 V

The following inverters have been tested:

- ATEN UC 232A
- USB GMUS-03
(available under various company designations).



For Windows 7 and later, inverters with an FDTI chipset are necessary, e. g.:

- Digitus DA-70156
- Delock 61364.

**Positioning function
with STUNG-CPX3S...-RS-I-O**

Positioning is carried out using 31 positional records that are defined by means of address, mode (POSA, POSR), target position, velocity, acceleration, deceleration and PSB, *Figure 28*.

Satz	Modus					
0	Homing	Mode=0	V=10.00mm/s	A=100mm/s²		000
1	MoveAbs	P=0.00mm	V=1000.00mm/s	A=5000mm/s²	D=5000mm/s²	J=1000000mm/s³
2	MoveAbs	P=500.00mm	V=750.00mm/s	A=5000mm/s²	D=5000mm/s²	J=1000000mm/s³
3	MoveAbs	P=1000.00mm	V=750.00mm/s	A=5000mm/s²	D=5000mm/s²	J=1000000mm/s³
4	MoveAbs	P=2000.00mm	V=1000.00mm/s	A=5000mm/s²	D=5000mm/s²	J=1000000mm/s³
5	MoveAbs	P=3000.00mm	V=1000.00mm/s	A=5000mm/s²	D=5000mm/s²	J=1000000mm/s³
6	MoveAbs	P=5000.00mm	V=2000.00mm/s	A=10000mm/s²	D=10000mm/s²	J=1000000mm/s³
7	Empty					000
8	Empty					000
9	Empty					000
10	Empty					000

Figure 28
Positional records

The required positional record is selected using the inputs ME0 to ME4 and started by means of a START flank.
The positional record address is read in using the START flank.
The precondition for the START flank is a minimum pulse duration of 1 ms. The response time is a maximum of 1,4 ms (0,4 ms to 1,4 ms).

**Positioning example
with STUNG-CPX3S...-RS-I-O**

Absolute operation

Type of operation:
■ absolute operation and single positioning.

The travel range is graduated using a fixed dimensional system; there is a defined, fixed zero point. All positions are defined relative to this zero point, *Figure 29*.

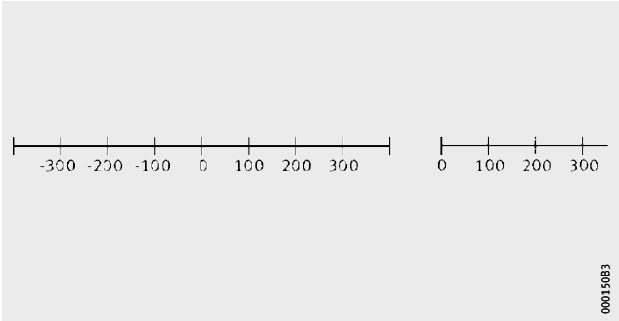


Figure 29
Zero point



Since the position type (relative or absolute) can be additionally selected for each motion record, mixed operation is also possible.



Digital servo controller

Single positioning With a START flank (X22.7 = 24 V DC), the positional record addressed via the inputs is always executed. Before each START, the required positional record must therefore be addressed, *Figure 30* and table.

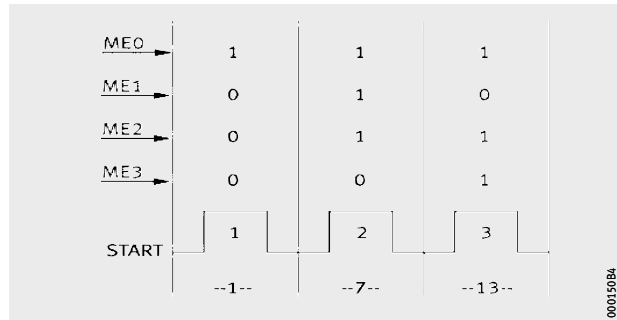


Figure 30
Positional record

Addressing the positional record

Action	Behaviour
START 1	Positional address is read in Positional record 1 is executed
START 2	Positional address is read in Positional record 7 is executed
START 3	Positional address is read in Positional record 13 is executed

A positional record is structured as follows:

- **Address:**
address of the positional record. The required positional record is selected by means of the inputs ME0 to ME4. The address is determined from the binary value of the inputs, where
 $ME0 = 2^0 = 1$
 $ME1 = 2^1 = 2$
 $ME2 = 2^2 = 4$
 $ME3 = 2^3 = 8$
 $ME4 = 2^4 = 16$.
- **Mode:**
 POSA: absolute positioning. This is appropriate in continuous operation and in operation without a machine zero.
 POSR: relative positioning. Relative positioning can also be carried out in absolute operation.
- **Target position:**
target position in the selected unit of measurement.
- **Velocity:**
velocity in the unit of measurement/s.
- **Acceleration:**
acceleration in the unit of measurement/s².
- **Deceleration:**
deceleration in the unit of measurement/s².
- **STATUS:**
3 programmable status bits.

Available designs The accessories for the controller STUNG-CPX3 are available in the following designs, see table.

Accessories

Designation	Application
WIDST-BRM08-01	STUNG-CPX3S025
WIDST-BRM05-01	STUNG-CPX3S063, STUNG-CPX3S075
WIDST-BRM10-01	STUNG-CPXS150
WIDST-BRM04-01	STUNG-CPXS300
WIDST-BRM04-02	
KAB-SSK21/01-CPX3-X11	Connection cable for X11
KAB-SSK21/02-CPX3-X11	
KAB-SSK22/01-CPX3-X12	Connection cable for X12
KAB-SSK22/02-CPX3-X12	
KAB-SSK23/01-CPX3-X11	Connection cable for X11 and terminal module
KAB-SSK23/02-CPX3-X11	
KAB-SSK24/01-CPX3-X12	Connection cable for X12 and terminal module
KAB-SSK24/02-CPX3-X12	
KLMD-EAM-06/01-CPX3-X11-X12	Terminal module for X11 and X12
KLMD-EAM-06/02-CPX3-X12	Terminal module for X12 with LEDs
KAB-RS-232-2,5M-COMPAX	RS232 interface cable
KAB-SSK29/20-CPX3-X11	Encoder interface cable
FILTER-CPX3S025-S063	Mains filter, STUNG-CPX3S025, STUNG-CPX3S063
FILTER-CPX3S038-S075-S150	Mains filter, STUNG-CPX3S075, STUNG-CPX3S150
FILTER-CPX3S300	Mains filter, STUNG-CPX3S300



Digital servo controller

Ordering example, ordering designation Digital servo controller

Controller	STUNG
2,5 A current rating, 230 V AC	CPX3S025
Control by means of inputs and outputs	I-O
Control by means of RS232, RS485	RS

Ordering designation 1×**STUNG-CPX3S025-RS-I-O**, Figure 31

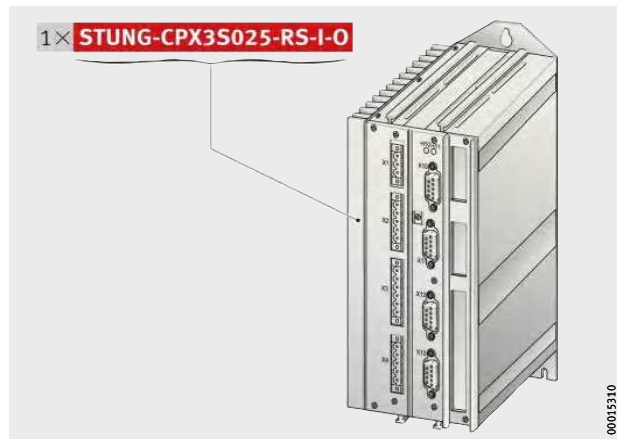


Figure 31
Ordering designation



По вопросам продаж и поддержки обращайтесь:				
Алматы (727)345-47-04 Ангарск (3955)60-70-56 Архангельск (8182)63-90-72 Астрахань (8512)99-46-04 Барнаул (3852)73-04-60 Белгород (4722)40-23-64 Благовещенск (4162)22-76-07 Брянск (4832)59-03-52 Владивосток (423)249-28-31 Владикавказ (8672)28-90-48 Владимир (4922)49-43-18 Волгоград (844)278-03-48 Вологда (8172)26-41-59 Воронеж (473)204-51-73 Екатеринбург (343)384-55-89	Иваново (4932)77-34-06 Ижевск (3412)26-03-58 Иркутск (395)279-98-46 Казань (843)206-01-48 Калининград (4012)72-03-81 Калуга (4842)92-23-67 Кемерово (3842)65-04-62 Киров (8332)68-02-04 Коломна (4966)23-41-49 Кострома (4942)77-07-48 Краснодар (861)203-40-90 Красноярск (391)204-63-61 Курск (4712)77-13-04 Курган (3522)50-90-47 Липецк (4742)52-20-81	Магнитогорск (3519)55-03-13 Москва (495)268-04-70 Мурманск (8152)59-64-93 Набережные Челны (8552)20-53-41 Нижний Новгород (831)429-08-12 Новокузнецк (3843)20-46-81 Ноябрьск (3496)41-32-12 Новосибирск (383)227-86-73 Омск (3812)21-46-40 Орел (4862)44-53-42 Оренбург (3532)37-68-04 Пенза (8412)22-31-16 Петрозаводск (8142)55-98-37 Псков (8112)59-10-37 Пермь (342)205-81-47	Ростов-на-Дону (863)308-18-15 Рязань (4912)46-61-64 Самара (846)206-03-16 Санкт-Петербург (812)309-46-40 Саратов (845)249-38-78 Севастополь (8692)22-31-93 Саранск (8342)22-96-24 Симферополь (3652)67-13-56 Смоленск (4812)29-41-54 Сочи (862)225-72-31 Ставрополь (8652)20-65-13 Сургут (3462)77-98-35 Сыктывкар (8212)25-95-17 Тамбов (4752)50-40-97 Тверь (4822)63-31-35	Тольятти (8482)63-91-07 Томск (3822)98-41-53 Тула (4872)33-79-87 Тюмень (3452)66-21-18 Ульяновск (8422)24-23-59 Улан-Удэ (3012)59-97-51 Уфа (347)229-48-12 Хабаровск (4212)92-98-04 Чебоксары (8352)28-53-07 Челябинск (351)202-03-61 Череповец (8202)49-02-64 Чита (3022)38-34-83 Якутск (4112)23-90-97 Ярославль (4852)69-52-93
Россия +7(495)268-04-70	Казахстан +7(727)345-47-04	Беларусь +(375)257-127-884	Узбекистан +998(71)205-18-59	Киргизия +996(312)96-26-47

эл.почта: iap@nt-rt.ru || сайт: <https://ina.nt-rt.ru/>