easyE-line

linear in-line actuators

Bansbach easylift

EN

Gear ratio	C*	D	E	F	G	H
easyE-35						*12/24VDC*
Force *24V* (dyn. push and pull) [N]	120	400	600	900	1600	2200
Speed at maximum load [mm/s]	33	16	12	7,5	4	3
Force *12V* (dyn. push and pull) [N]	-	400	600	900	1500	2000
Speed at maximum load [mm/s]	-	16	9	7,5	3,5	2,5
Current at maximum load: **12VDC** (max 14 VDC) = 3,6A, **24VDC** (max 28 VDC) = 1,8A						
easyE-50						*12/24VDC*
Force *24V* (dyn. push and pull) [N]	500	1750	2200	3100	4500	4500
Speed at maximum load [mm/s]	70	20	17	12	6	4
Force *12V* (dyn. push and pull) [N]	-	1400	1700	2400	4500	4500
Speed at maximum load [mm/s]	-	14	10	6	3	3,5
Current at maximum load: **12VDC** (max 14 VDC) = 16A (ratio C-F), 14A (G), 9A (H), **24VDC** (max 28VDC) = 8A (C-F), 7A (G), 4,5A (H)						
easyE-60						*24VDC*
Force *24V* (dyn. push and pull) [N]		1900	4300	6600	8100	10000
Speed at maximum load [mm/s]		26	12	8	6	5
Current at maximum load: 24VDC (max 28VDC) = 11,5A						

Max. load limited for stroke > 400mm:
1000N (easyE-35), 2000N (easyE-50), 5000N (easyE-60)

*only 24V DC power supply

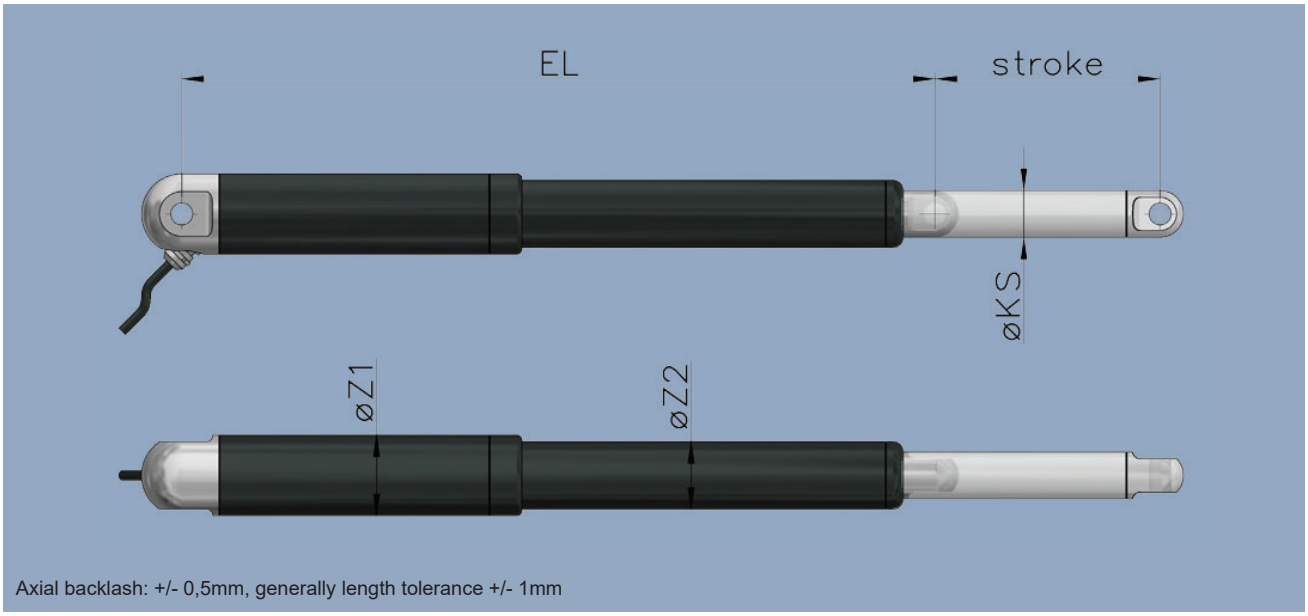
Features:

- Stroke length: 50, 100, 150, 200, 250, 300, 350, 400, 500 and 750mm (others on request)
- Cable: easyE-35: 1m, 2X0.52mm² (AWG20), Ø = 4.8mm, black, Molex Mini-Fit Jr. 6 pin
  easyE-50: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
  easyE-60: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
- Bending radius: 6x cable diameter
- Materials: Motor and actuator tube are powder coated steel or stainless steel
  Piston rod is aluminum (easyE-35) or stainless steel (easyE-50 and easyE-60)
  Front and rear brackets are PA, Aluminium or stainless steel
- Protection class: IP66 (standard), harsh environment (according to IP68 and IP69)
- Max. static load/ Self locking force: easyE-35: PA brackets: 2000N Alu/AISI: 5400N
  easyE-50: PA brackets: 4700N Alu/AISI: 16800N
  easyE-60: Alu/AISI: 18100N
  Depending on stroke length for push-applications
- Temperature: Operation: -20ºC to +70ºC (easyE-35 and easyE-50) -20°C to +50°C (easyE-60)
  Storage: -40ºC to +70ºC
- Duty cycle: Max. 10% or 2 minutes in use followed by 18 minutes rest

Please Note:

- Never expose the actuator to hammer strike during installation or in other situations
- Retrofitted bushings should be pressed into the bracket-borings. No hammering
- Power supply without over-current protection can cause serious damage to the actuator at mechanical end-stop or when actuator is overloaded in another way
- Keep piston tube clean
- Longer cable lengths may cause voltage drop which affects the performance of the actuator
- For medical applications (IEC60601-1, ANSI/AAMI/ES60601-1, CAN/CSA-C22.2 No60601-1):
  Operating temperature +5ºC to +48ºC, Relative humidity 20% - 70% atmospheric pressure = 1atm.
  Connect to medically approved supply source only and according to guidelines provided with the source.
- Function of the actuator is subject to the settings of the control box. If using your own controller please contact us.
- The dust and water sealing of harsh environment actuators might affect their performance
- All specifications are for 25 ºC ambient – low temperature might affect performance
- Depending on load and application, nominal and actual stroke length may differ due to internal disc springs not being fully compressed.
- The combination of gearing and stroke can cause limitations in the use of „End limit FW“ when using the S2-3 controller. See more in the datasheet for S2-3.

Please note the important advices at www.bansbach.de/easyE-line



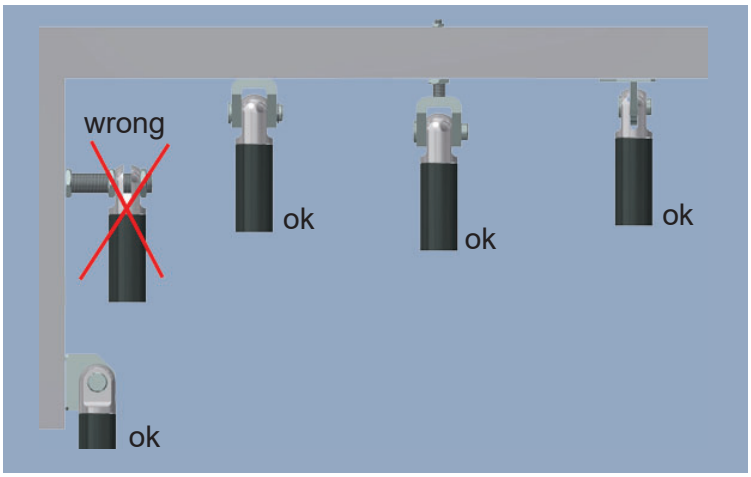
Axial backlash: +/- 0,5mm, generally length tolerance +/- 1mm

	EL	Clevis rear	Hall	UL/ EN60.601	harsh env.	Emergency lowering/spline	ØZ1	ØZ2	ØKS
***easyE**-35*									
Gear ratio: C, D, E, F	stroke+160*	+10	+10	+10	+11	-	Ø35	Ø28	Ø20
Gear ratio: G, H	stroke+170*								
***easyE**-50*									
Gear ratio: C, D, E, F	stroke+240**	-	+15	+15	+14	+23 / +6	Ø50	Ø40	Ø30
Gear ratio: G, H	stroke+255**								
***easyE**-60*									
Gear ratio: all ratios	stroke+358***	-	+15	-	+25	+31 / +10	Ø60	Ø50	Ø35

*If stroke >400mm: EL+7mm, if stroke >700mm: EL+42mm
**If stroke >750mm: EL+100mm (on request)
***If stroke >400mm: EL+25mm (not Harsh-Environment-version)

Recommended mounting methods:

- Do not clamp actuators on tubing
- Always keep both brackets mounted in the same orientation and ensure to flush mount actuator
- Brackets must always be able to rotate on axis in mountings
- Avoid radial forces at all times



Choose your actuator:

1. Model:
- ☐ ***easyE**-35*
- ☐ ***easyE**-50*
- ☐ ***easyE**-60*

2. Stroke length:
- ☐ 50, 100, 150, 200, 250, 300, 350, 400, 500 and 750mm (others on request)

3. Gear ratio:
- ☐ C, D, E, F, G, H (speed and load see table)

4. Voltage:
- ☐ 12V DC (only easyE-35 and easyE-50)
- ☐ 24V DC

6. Cable length:
- ☐ 1m - 9m (others on request)

7. Connector:
- ☐ no connector
- ☐ Molex minifit

8. Material:
- ☐ Standard steel
- ☐ AISI 316

9. Protection class:
- ☐ IP66 (standard)
- ☐ harsh environment (according to IP68 and IP69)

10. Certification:
- ☐ For medical applications: IEC60601-1, ANSI/AAMI/ES60601-1, CAN/CSA-22.2 No60601-1 (only 24 V DC) (Operation temperature: +5°C to +48°C)

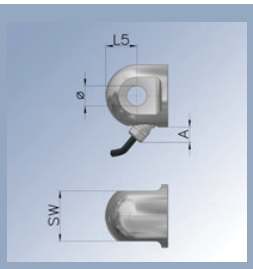
11. Hall sensor:
- ☐ no (standard)
- ☐ yes (cable will change)

12. Low noise:
- ☐ no (standard)
- ☐ yes (not available in stainless steel)

13. Color:
- ☐ Black (standard) Available in all RAL colors

14. Connecting parts

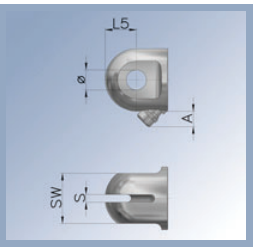
Connecting parts “motor side“:



Code	Ø	L5	SW	A	Material	Max static load
easyE-35	(mm)	(mm)	(mm)	(mm)		
A1M	$10^{+0,2}_{0}$	17,5	28	6	Alu	5400 N
B1M	$10^{+0,2}_{0}$	17,5	28	-	Polyamid (PA)	2000 N
C1M	$10^{+0,2}_{0}$	17,5	28	6	stainless steel (316)	5400 N
easyE-50						
A2M	$16^{+0,2}_{0}$	25	40	12,3	Alu	16800 N
B2M	$16^{+0,2}_{0}$	25	40	-	Polyamid (PA)	4700 N
C2M	$16^{+0,2}_{0}$	25	40	12,3	stainless steel (316)	16800 N
easyE-60						
A3M	$16^{+0,2}_{0}$	30	50	12,3	Alu	18100 N
C3M	$16^{+0,2}_{0}$	30	50	12,3	stainless steel (316)	18100 N

with spherical bearings

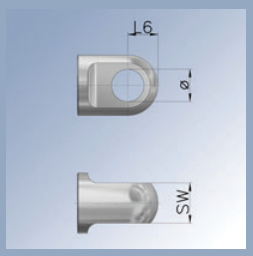
Code	Ø	L5	SW	A	Material	Max static load
easyE-35	(mm)	(mm)	(mm)	(mm)		
E1M	$8^{0}_{-0,008}$	17,5	28	-	Alu	5400 N
easyE-50						
E2M	$12^{0}_{-0,008}$	25	40	-	Alu	11000 N
easyE-60						
E3M	$15^{0}_{-0,008}$	30	50	12	Alu	11000 N
J3M	$15^{0}_{-0,008}$	30	50	12	stainless steel (316)	11000 N



Code	Ø	L5	SW	A	S	Material	Max static load
easyE-35	(mm)	(mm)	(mm)	(mm)	(mm)		
F1M	$10^{+0,2}_{0}$	17,5	28	6	6,2	Alu	5400 N
G1M	$10^{+0,2}_{0}$	17,5	28	-	4,2	Polyamid (PA)	2000 N
H1M	$10^{+0,2}_{0}$	17,5	28	6	6,2	stainless steel (316)	5400 N
easyE-50							
F2M	$16^{+0,2}_{0}$	25	40	12,3	6,2	Alu	16800 N
G2M	$16^{+0,2}_{0}$	25	40	-	6,2	Polyamid (PA)	4700 N
H2M	$16^{+0,2}_{0}$	25	40	12,3	6,2	stainless steel(316)	16800 N
easyE-60							
F3M	$16^{+0,2}_{0}$	30	50	14	8,2	Alu	18100 N
H3M	$16^{+0,2}_{0}$	30	50	14	8,2	stainless steel(316)	18100 N

PA-connecting parts are not available for gear ratio G and H

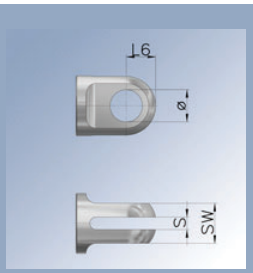
Connecting parts “piston rod side“:



Code	Ø	L6	SW	Material	Max static load
easyE-35	(mm)	(mm)	(mm)		
A1K	$10^{+0,2}_{0}$	10	13	Alu	5400 N
B1K	$10^{+0,2}_{0}$	10	13	Polyamid (PA)	2000 N
C1K	$10^{+0,2}_{0}$	10	13	stainless steel (316)	5400 N
easyE-50					
A2K	$16^{+0,2}_{0}$	15	20	Alu	16800 N
B2K	$16^{+0,2}_{0}$	15	20	Polyamid (PA)	4700 N
C2K	$16^{+0,2}_{0}$	15	20	stainless steel (316)	16800 N
easyE-60					
A3K	$16^{+0,2}_{0}$	17,5	25	Alu	18100 N
C3K	$16^{+0,2}_{0}$	17,5	25	stainless steel (316)	18100 N

with spherical bearings

Code	Ø	L6	SW	Material	Max static load
easyE-35	(mm)	(mm)	(mm)		
E1K	$8^{0}_{-0,008}$	12	18	Alu	5400 N
easyE-50					
E2K	$12^{0}_{-0,008}$	15	20	Alu	11000 N
easyE-60					
E3K	$15^{0}_{-0,008}$	20	28	Alu	11000 N
J3K	$15^{0}_{-0,008}$	20	28	stainless steel (316)	11000 N



Code	Ø	L6	SW	S	Material	Max static load
easyE-35	(mm)	(mm)	(mm)	(mm)		
F1K	$10^{+0,2}_{0}$	10	15	6,2	Alu	5400 N
G1K	$10^{+0,2}_{0}$	10	13	4,2	Polyamid (PA)	2000 N
H1K	$10^{+0,2}_{0}$	10	15	6,2	stainless steel (316)	5400 N
easyE-50						
F2K	$16^{+0,2}_{0}$	15	20	6,2	Alu	16800 N
G2K	$16^{+0,2}_{0}$	15	20	6,2	Polyamid (PA)	4700 N
H2K	$16^{+0,2}_{0}$	15	20	6,2	stainless steel (316)	16800 N
easyE-60						
F3K	$16^{+0,2}_{0}$	17	25	8,2	Alu	18100 N
H3K	$16^{+0,2}_{0}$	17	25	8,2	stainless steel (316)	18100 N

PPA-connecting parts are not available for gear ratio G and H

Controllers:

EEL-S1
For 1-3 actuators

FEATURES:
- Plug and play solution
- Handset or external switches
- for easyE-35 and easyE-50

TECHNICAL DETAILS:
- Supply: 230V
- Output voltage: 24V

EEL-S2-1
For 1 actuator

FEATURES:
- Adjustable start and stop ramp
- Adjustable current limit
- Continuous-mode, impulse-mode
- Easy interfacing to PLC etc.
- DIN-rail fittable
- Hall sensors not supported

TECHNICAL DETAILS:
- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Over voltage protection: 40 V
- Idle current: Approx. 15 mA
- Driving current: 10 A continuous, 16 A with duty cycle 50%, Max 16 A on duty 2 min

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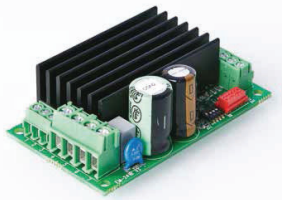
EEL-S2-2
For 1 actuator



FEATURES:
- Precise position control from analog voltage input
- Adjustable start and stop ramp
- Settable current limit
- High momentary load capacity
- DIN-rail base fittable
- “Position reached” - signal
- Hall sensors necessary

TECHNICAL DETAILS:
- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Actuator current continuous max: 15A
- Current limit adj.: 0.1-20A
- Overheat limit: 100°C
- Hall input freq.: Max 1kHz
- Input control logic (pos.): High=4-30V, Low=0-1V or open

EEL-S2-3
For 2 actuators

FEATURES:
- Synchronized operation of 2 actuators
- Current and temperature protection
- Settable drive speed
- Adjustable start- and stop ramp
- Easy setting with serial interface
- Autobalance feature
- Hall sensors necessary

TECHNICAL DETAILS:
- Supply: 10 to 35VDC
- Output voltage = supply voltage
- Quiescent current: 15mA
- Motor current: 2x10A cont. 2x20A, 25% duty
- Current limit: 1-20A
- Pulse input freq. max.: 1kHz
- Pulse inputs pull- up/down: 10kO
- Control inputs: 0-1V=OFF; 4-30V=ON

EEL-S3
EEL-S4
For 1-4 actuators

FEATURES:
- Battery powered for mobile use
- 24VDC NiMh or Li-Ion battery
- Customized colors and foil design
- Wired handset

EEL-S3:
- 1 actuator
- up- and down function

EEL-S4:
- Adjustable current limit in and out
- Adjustable calibration speed and current
- Adjustable virtual min/max-position
- Individual or synchronous operation for drive 1-4 actuators

TECHNICAL DETAILS:
- Supply: 24VDC NiMH or Li-Ion battery
- Output voltage: 24V
- Idle current: < 5mA
- Current limit: 8A/ch max. total 12A
- Ramps 0-3 sec
- Connector type Molex Mini-Fit 6 pin

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