

EWELLIX

EWELLIX linear axis for Universal Robots cobots

LIFTKIT-UR

Product Data Sheet

We pioneer motion

SCHAEFFLER

1 Benefits for handling and inspection

Schaeffler offers effective solutions for intelligent and complete vertical adjustment with a wide range of ready-to-mount additional linear axis solutions. These have been developed for various applications and thus extend the application range of your robot.

Fully automated pick-and-place solutions are becoming the new standard in packaging stations. A traditional cobot does not have such a large vertical working area. The LIFTKIT can be used to raise or lower the robot base to work in the optimum position. Stacking on pallets starts at floor level, but can be at heights of up to 2 m. The LIFTKIT can increase the efficiency of your packaging station in this scenario. And whenever you need a repetitive operation sequence, such as final inspections, the LIFTKIT guarantees precision and reliability to deliver the best-possible outcome.

2 Product description

Expansion of the working range

- vertical lifting of the cobot by up to 1400 mm with a compact, retracted length
- robust column design for industrial use, vibration-free movement, and virtually maintenance-free operation

Plug-and-play solution

- hardware interface compatible with: UR3 robots, UR5 robots, UR10 robots, and UR16 robots
- Universal Robots+-certified product
- integrated software control system with UR controller (URCaps) for easy motion programming
- basic control option with digital inputs and outputs without URCaps

Cost savings and increased productivity

Cobots working in combination with a LIFTKIT offer a cost-effective solution for modernizing an existing assembly hall with a switch from a manual to a fully automated production line.

3 Scope of delivery

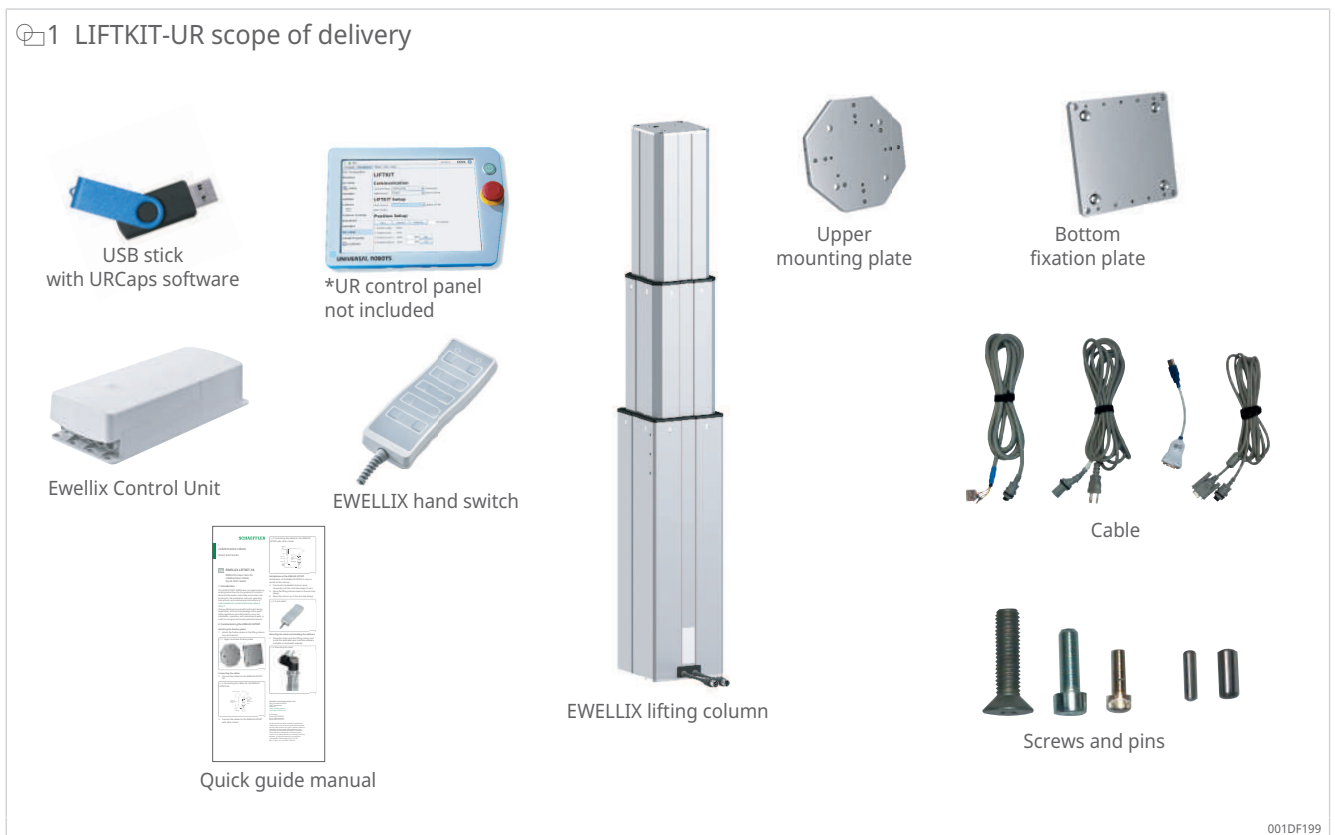
3.1 LIFTKIT-UR scope of delivery

The following parts are included in the scope of delivery:

- 1 EWELLIX lifting column TLT
- 1 EWELLIX control unit SCU 16/56/96
- 1 mains cable SCU EU/US/CH/CN
- 1 interface cable RS232
- 1 adapter from RS232 to USB
- 1 cable for UR safety controller I/O
- 1 EWELLIX hand switch EHA31, UR version
- 1 mounting plate UR
- 1 bottom mounting plate
- 8 screws M10×40 for mounting plates
- 8 screws M6×20 for UR robots, bottom mounting plate
- 4 screws M8×25 for UR5 robots, UR10 robots, UR16 robots
- 4 screws M6×30 for UR3 robots
- 2 pins, dia. 6×20, for aligning the UR3 robot
- 2 pins, dia. 8×20, for aligning the UR5 robot, UR10 robot, UR16 robot
- 1 USB stick with the URCaps software
- 1 quick guide manual

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1 LIFTKIT-UR scope of delivery



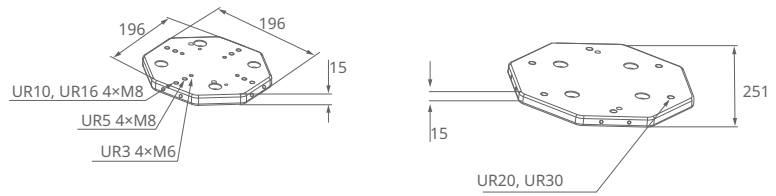
4 Technical data

1 Technical information for the LIFTKIT-UR-601 and LIFTKIT-UR-620

Characteristic	Unit	LIFTKIT-UR-601	LIFTKIT-UR-620
Column type	-	TLT	TLT
Rated push force	N	1500	1500
Rated pull force	N	0	0
Max. static bending moment	Nm	3000	3000
Max. linear speed	mm/s	55 to 80	55 to 80
Duty cycle of operation	-	10 % (20 % at 500 N)	10 %
Screw type	-	Lead screw	Lead screw
Strokes	mm	500 to 1400	800
Retracted length (virtually limited)	mm	Stroke/2 + 275	Stroke/2 + 475
Mass at 0-mm stroke	kg	21	26 (800-mm stroke)
Δ mass per 500-mm stroke	kg	1.7	-
Compatible robots	-	UR3, UR5, UR10, UR16, CB series and e-series	UR20, UR30
Cable management	-	Threads on column and adapter plate for attaching cables	Threads on column and adapter plate for attaching cables
AC voltage	V	120	120
Amperage	A	6.5	6.5
AC voltage	V	230	230
Amperage	A	3.3	3.3
Input frequency	Hz	50 to 60	50 to 60
Input fuse	A	10	10
DC I/O voltage	V	24	24
I/O amperage	A	max. 10, not protected	max. 10, not protected
Emergency stop	-	Connection to UR safety I/O	Connection to UR safety I/O
Control interface	-	URCaps plugin compatible with CB3.1, Polyscope 3.6 or higher	URCaps plugin compatible with CB3.1, Polyscope 3.6 or higher
Positioning	mm	±1	±1
Achievable positions	-	Any	Any
Feedback	-	Position feedback via URCaps	Position feedback via URCaps
Soft start and soft stop	-	Implemented for smooth running	Implemented for smooth running
Software	-	URCap	URCap
Protection class	-	IP40	IP40
Ambient temperature	°C	+10 to +40	+10 to +40
Max. humidity	%	85	85
Vibration	-	Stationary industrial environment	Stationary industrial environment

4.1 Dimensional drawing of a LIFTKIT-UR

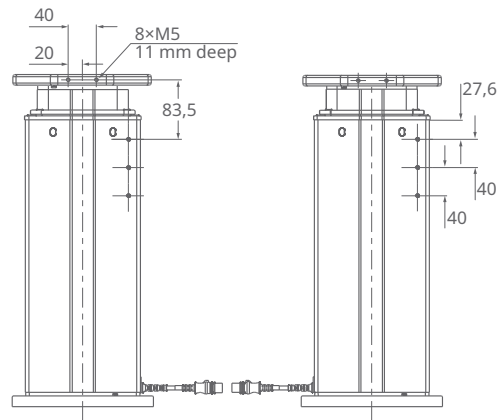
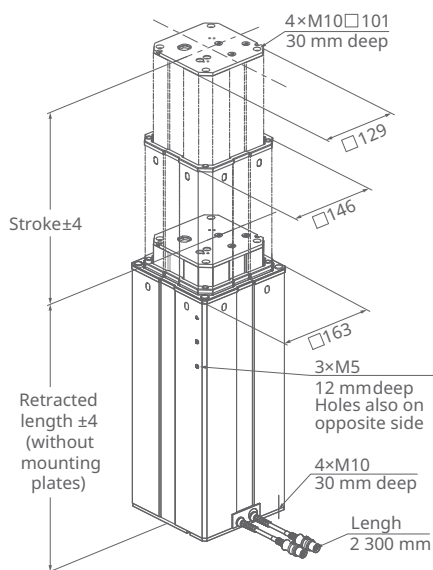
2 Robot fixation plate



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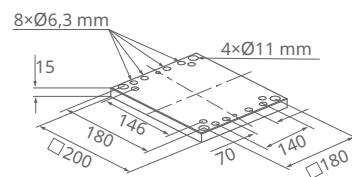
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3 EWELLIX lifting column TLT



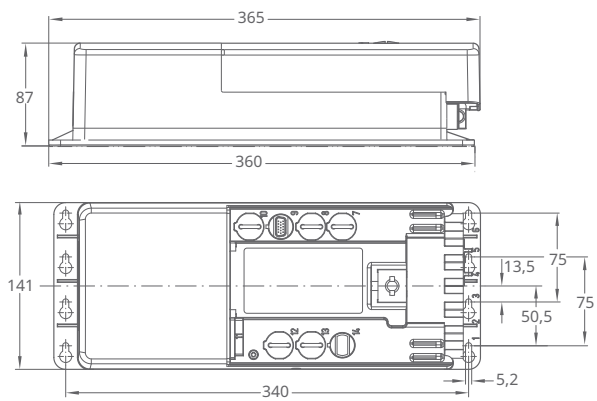
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4 Lower fixation plate



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5 EWELLIX control unit SCU

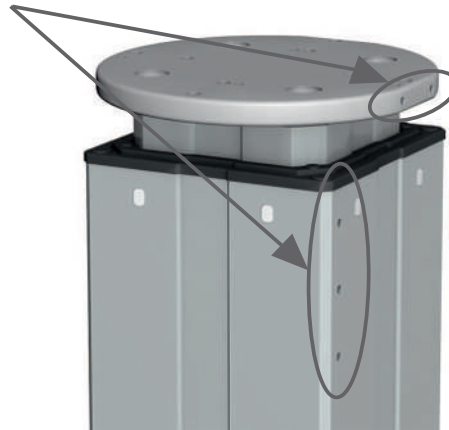


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4.2 Cable management

6 Cable management

Threads for cable management attachments.
Attachment plate not included.



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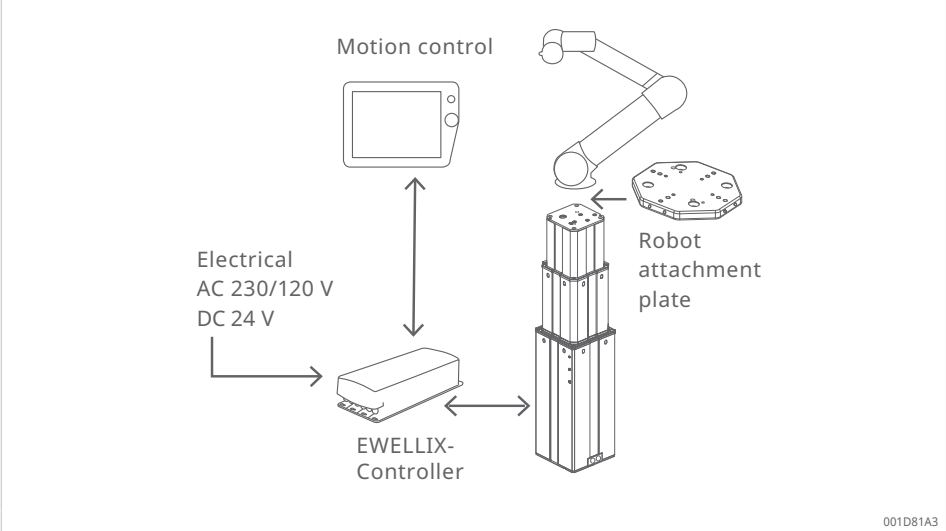
7 Cable management (drag chain for cable routing)



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4.3 Connection diagram

8 Connection diagram



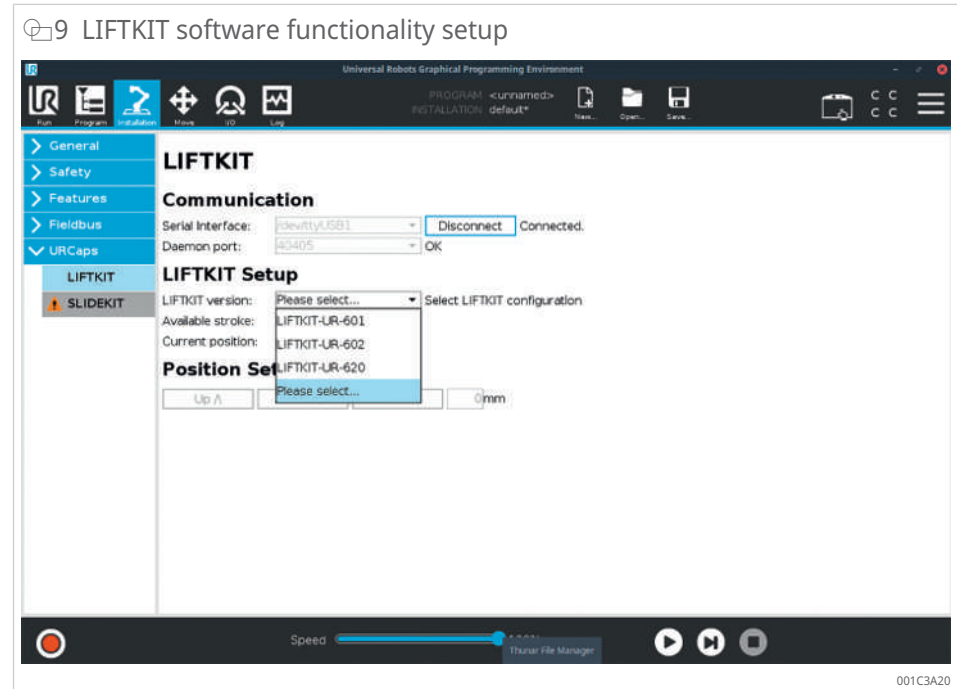
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5 Software functionality

The URCaps software for the LIFTKIT enables easy positioning access within the UR Polyscope environment.

Setup

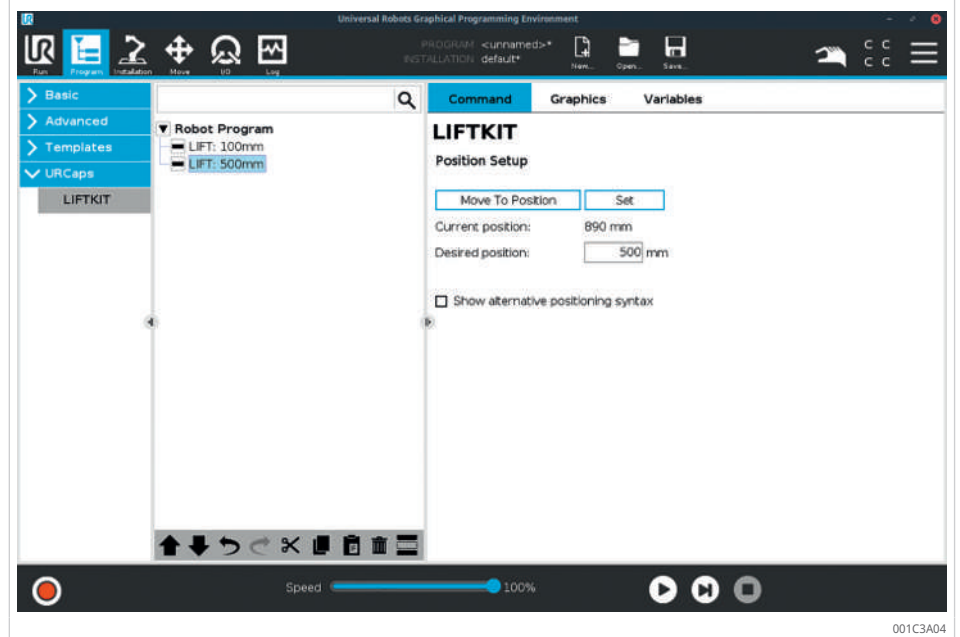
In the installation tab, the user can manually move the linear axis in both directions and define multiple user-specific positions that are accessible in programming mode.



Motion programming

Within the UR motion program, the LIFTKIT axis can be easily integrated using a URCaps command module. Simply insert this element from the Structure tab at the desired position in the program. In addition, it is possible to read and set positions via a script function.

10 Determining the position of LIFTKIT software functionality



Safety elements

The LIFTKIT is equipped with a number of integrated safety elements that enable its integration into a robot application.

Software updates

To download the latest software update, go to <https://www.schaeffler.de/std/226A>.

11 QR code software update for LIFTKIT



6 Safety warning

The LIFTKIT-UR is not a functional safety system that meets DIN EN ISO 13849-1 or IEC 62061 standards. To integrate the LIFTKIT-UR into a functional safety chain, external safety devices must be incorporated into the overall system. Please move the robot arm close to the center of gravity of the column when moving the LIFTKIT.

7 Ordering key

12 LIFTKIT-UR ordering key



Type

Robot

UR Universal Robots

Stroke

	Stroke	Retracted length	Extended length
500	500 mm	525 mm	1025 mm
600	600 mm	575 mm	1175 mm
700	700 mm	625 mm	1325 mm
800	800 mm	675 mm	1475 mm
800 ¹⁾	800 mm	875 mm	1675 mm
900	900 mm	725 mm	1625 mm
A00	1000 mm	775 mm	1775 mm
B00	1100 mm	825 mm	1925 mm
C00	1200 mm	875 mm	2075 mm
D00	1300 mm	925 mm	2225 mm
E00	1400 mm	975 mm	2375 mm

Electrical options

00	DC 24 V
11	AC 120 V, US cable
22	AC 230 V, EU cable
23	AC 230 V, CN cable
24	AC 230 V, UK cable
25	AC 230 V, CH cable

Column type

601	TLT
620 ¹⁾	TLT for UR20 and UR30

¹⁾The 620 version for UR 20 and 30 is only available with a stroke of 800 mm. For more information, please contact Schaeffler

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PDB 81 / 01 / en-US / 2026-05