



EWELLIX

## EWELLIX linear axis for all cobots

LIFTKIT-TX

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 robot 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 compatible with small and medium-sized robots < 50 kg and expanded version for large robots 50 kg to 75 kg
- LIFTKIT control via TCP/IP

### 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-TX 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 SCU mains cable EU/US/CH/CN
- 1 interface cable RS232
- 1 SCU controller I/O cable
- 1 EWELLIX hand switch EHA31
- 1 bottom mounting plate
- 8 screws M10×40
- 1 quick guide manual
- 1 TCP/IP converter
- 1 Ethernet cable
- 1 TCP/IP converter mains cable, USB-A to USB-C
- 1 serial converter cable, RS232 to USB

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#### 1 LIFTKIT-TX scope of delivery



Quick start guide



EWELLIX-Control unit SCU



TCP/IP converter



USB-C power cable



EWELLIX-Lifting column TLT



SCU power cable



SCU I/O cable



Bottom mounting plate



EWELLIX-operating handswitch EHA31



RS232 to USB serial converter cable



Screws



RS232 interface cable



Ethernet cable

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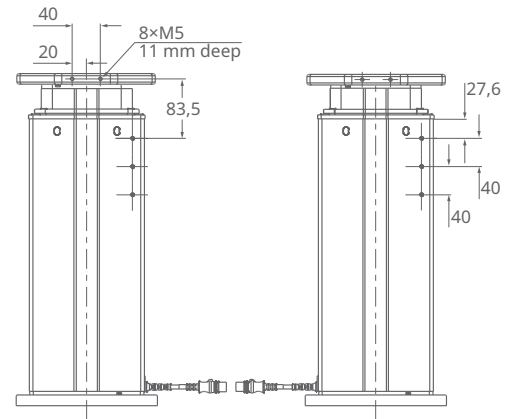
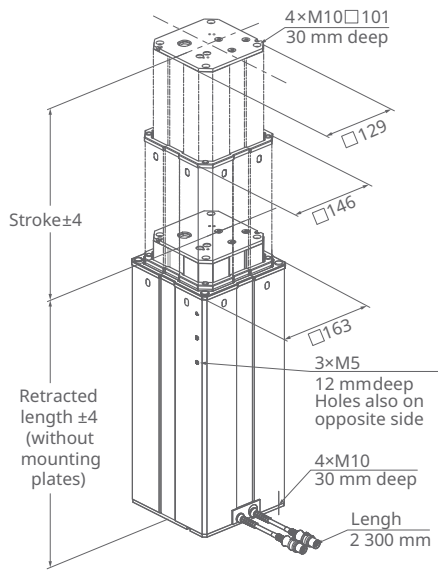
## 4 Technical data

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

Characteristic	Unit	LIFTKIT-TX-601	LIFTKIT-TX-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	80	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 100-mm stroke	kg	1.7	1.7
Compatible robots	-	Small and medium-sized robots (< 50 kg)	Large robots (50 kg to 75 kg)
Cable management	-	Threads on column and adapter plate for attaching cable guides	Threads on column and adapter plate for attaching cable guides
AC input voltage for SCU	V	120	120
Input amperage for SCU	A	6.5	6.5
AC input voltage for SCU	V	230	230
Input amperage for SCU	A	3.3	3.3
DC input voltage for TCP/IP converter	V	5	5
Input amperage for TCP/IP converter	A	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 robot safety I/O	Connection to robot safety I/O
Control interface	-	TCP/IP	TCP/IP
Positioning	mm	±1	±1
Achievable positions	-	Any	Any
Feedback	-	Position and status	Position and status
Soft start and soft stop	-	Implemented for smooth running	Implemented for smooth running
Protection class	-	IP40	IP40
Ambient temperature	°C	+10 to +40	+10 to +40
Max. humidity	%	85	85
Vibration	-	Stationary industrial environment	Stationary industrial environment

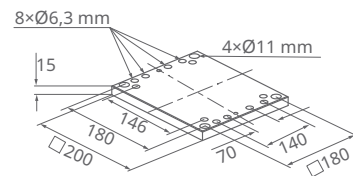
## 4.1 Dimensional drawing of a LIFTKIT-TX

2 EWELLIX lifting column TLT



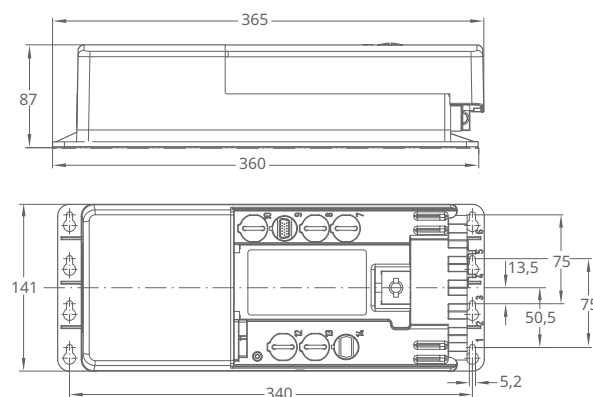
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3 Lower fixation plate

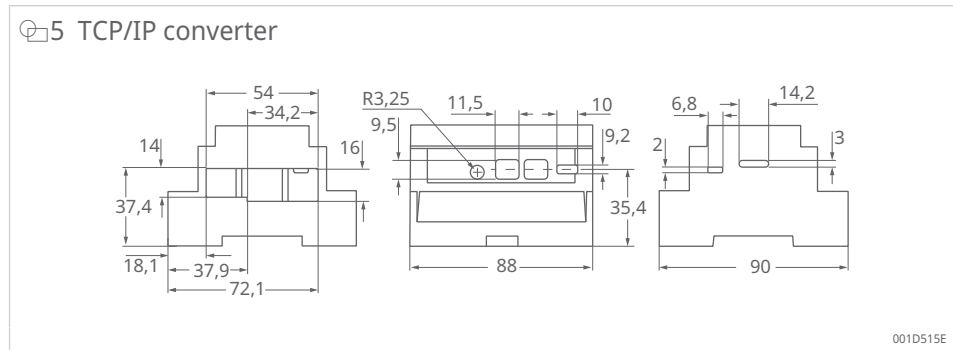


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4 EWELLIX control unit SCU



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## 4.2 Cobot LIFTKIT compatibility

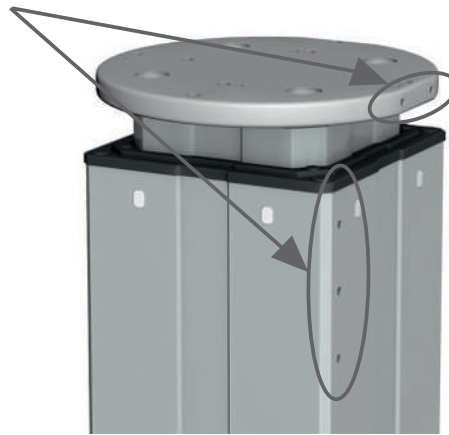
### 2 Cobot LIFTKIT compatibility

Cobot size	Brand	Type	Recommended LIFTKIT size	LIFTKIT > 10
< 50 kg	ABB	Gofa 10	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	ABB	Gofa 12	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Aubo	i5	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	DOOSAN	M0609	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	KUKA	LBR med 14 R820	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	KUKA	LBR iiwa	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Schneider Electric	LXMRL12	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	DOOSAN	M1509	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	DOOSAN	A0912/s	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Kassow Robots	KR1018	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Aubo	i16	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	KUKA	LBR iiSy 11 R1300	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	DOOSAN	M1013	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Aubo	i10	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	DOOSAN	M0617	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Dobot	CR3	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
	Dobot	CR5	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP
Dobot	CR10	LIFTKIT-0S-601	LIFTKIT-TX-601 ORP	
> 50 kg ... 75 kg	Aubo	i20	LIFTKIT-0S-620	LIFTKIT-0S-620
	DOOSAN	P2030	LIFTKIT-0S-620	LIFTKIT-0S-620
	DOOSAN	H2515	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP
	JAKA	Pro16	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP
	DOOSAN	H2017	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP
	JAKA	ZU20	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP
	JAKA	ZU20S	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP
	Dobot	CR20	LIFTKIT-0S-620	LIFTKIT-TX-620 ORP

### 4.3 Cable management

#### 6 Cable management

Threads for cable management attachments.  
Attachment plate not included.



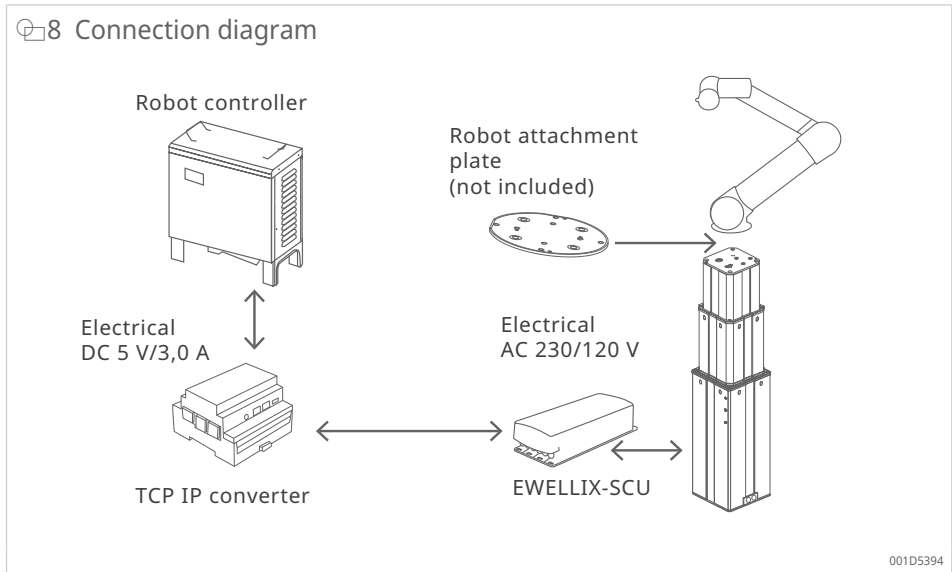
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#### 7 Cable management (drag chain for cable routing)



001D844E

## 4.4 Connection diagram



## 5 Software functionality

The TCP/IP connection for the LIFTKIT enables easy integration into any robot environment.

### Design and programming

The TCP/IP interface enables easy setup and control of the LIFTKIT. String-based commands mean that the LIFTKIT can access several positions and receive real-time feedback regarding the current position and status.

### Safety aspects

The LIFTKIT-TX is not a functional safety system that meets ISO 13489-1 or IEC 62061 standards. To integrate the LIFTKIT-TX 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.

### Software updates

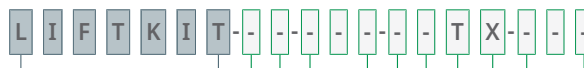
To download the latest software update, go to <https://www.schaeffler.de/std/226A>.

QR code software update for LIFTKIT



## 6 Ordering key

### 10 LIFTKIT-TX ordering key



**Type**

**Robot**

05 Any robot

**Stroke**

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 <sup>1)</sup>	800 mm	875 mm <sup>1)</sup>	1675 mm <sup>1)</sup>
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

**Communication options**

- TX TCP/IP converter without safety relay

**Column type**

- 601 TLT
- 620<sup>1)</sup> For large robots

<sup>1)</sup> Version 620 is only available with a stroke of 800 mm. For more information, please contact Schaeffler.

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PDB 87 / 01 / en-US / 2026-05