

EWELLIX

## EWELLIX linear axis for TECHMAN cobots

LIFTKIT-TM

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 TM5 cobots, TM12 cobots, TM14 cobots and TM20 cobots
- TECHMAN-certified product
- integrated software control via TMflow for easy programming

### 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-TM scope of delivery

The following parts are included in the scope of delivery:

- 1 EWELLIX lifting column TLT
- 1 EWELLIX control unit SCU16/56/96
- 1 SCU mains cable EU/US/CH/CN
- 1 interface cable RS232
- 1 SCU controller I/O cable
- 1 EWELLIX hand switch EHA31
- 1 mounting plate TECHMAN
- 1 bottom mounting plate
- 8 screws M10×40 for mounting plates
- 4 screws M6×20 for TECHMAN cobots
- 2 pins, dia. 8×20, for aligning the TECHMAN cobots
- 1 quick guide manual
- 1 EWELLIX SBOX
- 1 SBOX key
- 1 SBOX I/O cable
- 1 power cable SBOX to SCU
- 1 Ethernet cable
- SBOX mounting elements

1 LIFTKIT-TM scope of delivery



Quick start guide



EWELLIX-Control unit SCU



EWELLIX-SBOX



EWELLIX-Lifting column TLT



Attachment plate Techman



Bottom mounting plate



EWELLIX-Operating handswitch EHA31



Screws and pins



SBOX Key



SBOX I/O cable



SBOX power cable



SBOX to SCU power cable



SCU I/O cable



Interface cable RS232



Ethernet cable

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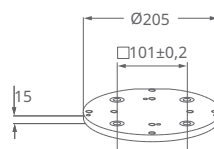
## 4 Technical data

### 1 Technical information for the LIFTKIT-TM-601

Characteristic	Unit	LIFTKIT-TM-601
Column type	-	TLT
Rated push force	N	1500
Rated pull force	N	0
Max. dynamic bending moment	Nm	210
Max. static bending moment	Nm	3000
Max. linear speed	mm/s	80
Duty cycle of operation	-	10 % (20 % at 500 N)
Screw type	-	Lead screw
Strokes	mm	500 to 1400
Retracted length (virtually limited)	mm	Stroke/2 + 275
Mass at 0-mm stroke	kg	21
Δ mass per 100-mm stroke	kg	1.7
Compatible robots	-	TM5, TM12, TM14, and TM20
Cable management	-	Threads on column and adapter plate for attaching cables
AC voltage	V	120
Amperage	A	6.5
AC voltage	V	230
Amperage	A	3.3
Input frequency	Hz	50 to 60
Input fuse	A	10
DC I/O voltage	V	24
I/O amperage	A	max. 10, not protected
Emergency stop	-	Safe Torque Off (STO) up to PLe, Cat. 4
Control interface	-	Compatible with TMflow on TM HW 3.2 or higher
Positioning	mm	±1
Achievable positions	-	Any
Feedback	-	Position and status
Soft start and soft stop	-	Implemented for smooth running
Software	-	TMflow software
Protection class	-	IP40
Ambient temperature	°C	+10 to +40
Max. humidity	%	85
Vibration	-	Stationary industrial environment

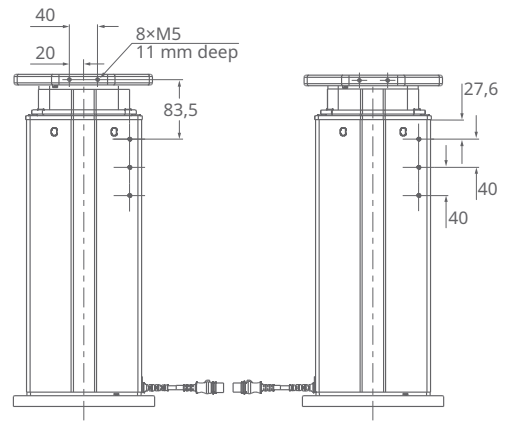
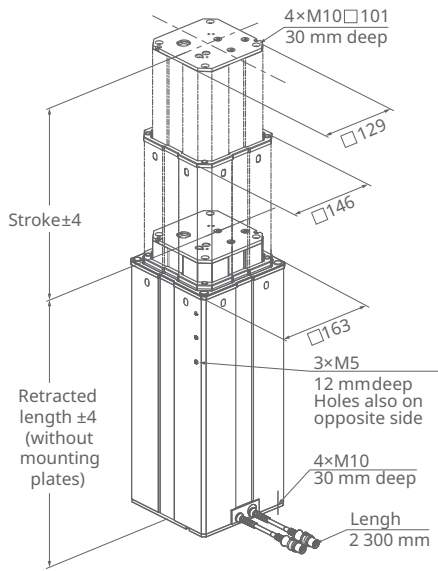
### 4.1 Dimensional drawing of a LIFTKIT-TM

#### 2 Robot fixation plate



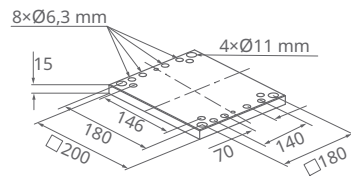
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3 EWELLIX lifting column TLT



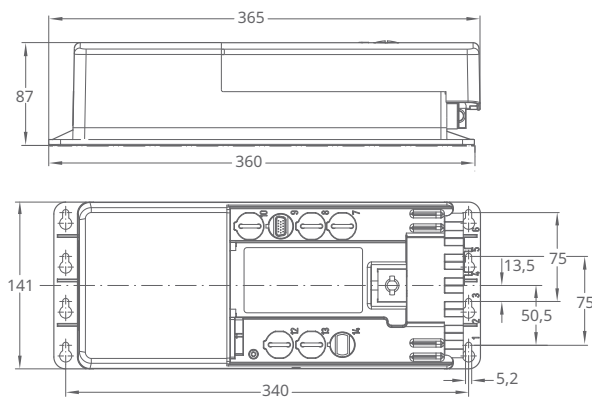
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4 Lower fixation plate

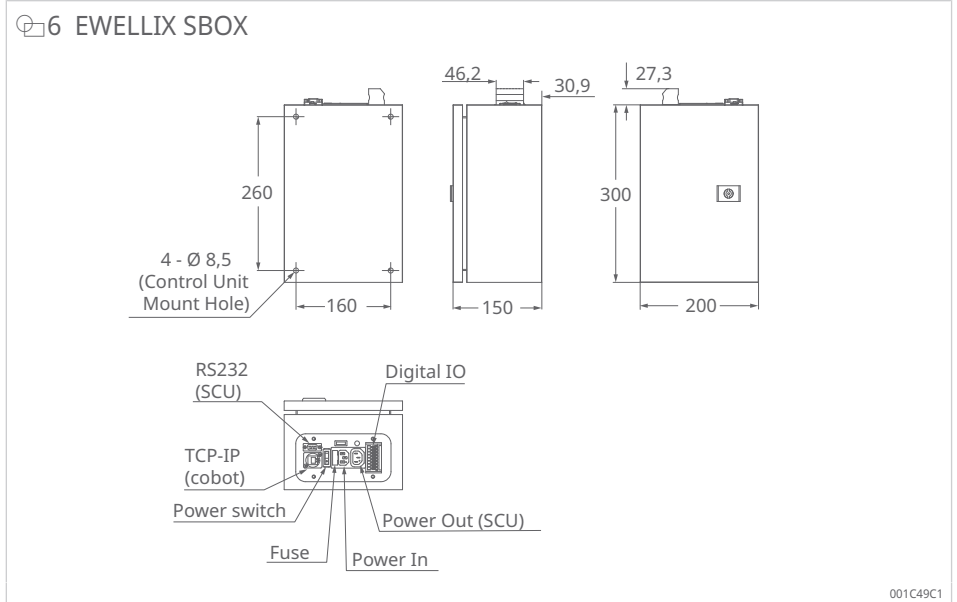


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5 EWELLIX control unit SCU



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## 4.2 Cable management



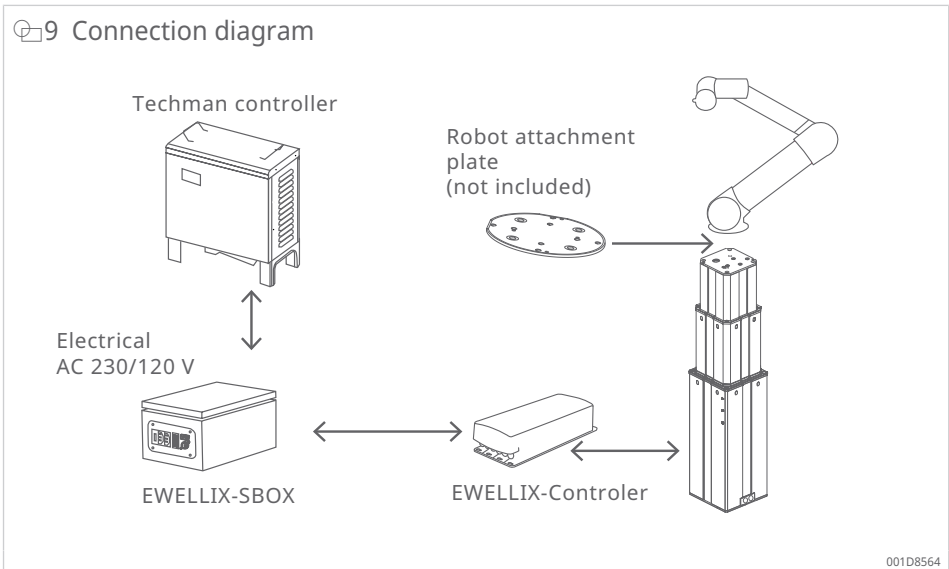
8 Cable management (drag chain for cable routing)



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### 4.3 Connection diagram

9 Connection diagram



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## 5 Software functionality

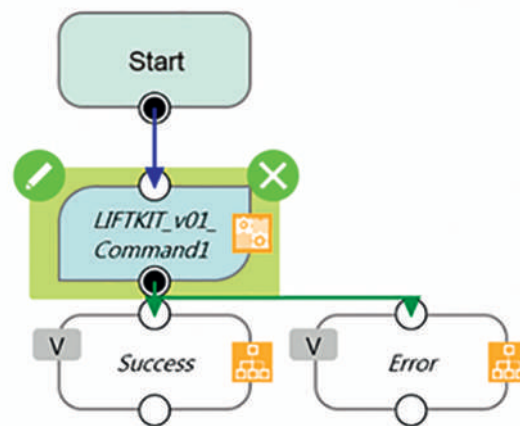
The LIFTKIT component allows customers to integrate the functions of the EWELLIX lifting column into TMflow applications.

### Setup and programming

The LIFTKIT command component allows the LIFTKIT to be setup and controlled in TMflow. The component can be inserted into a TMflow project multiple times via drag and drop, meaning that different positions can be accessed while receiving feedback on the current position and status.

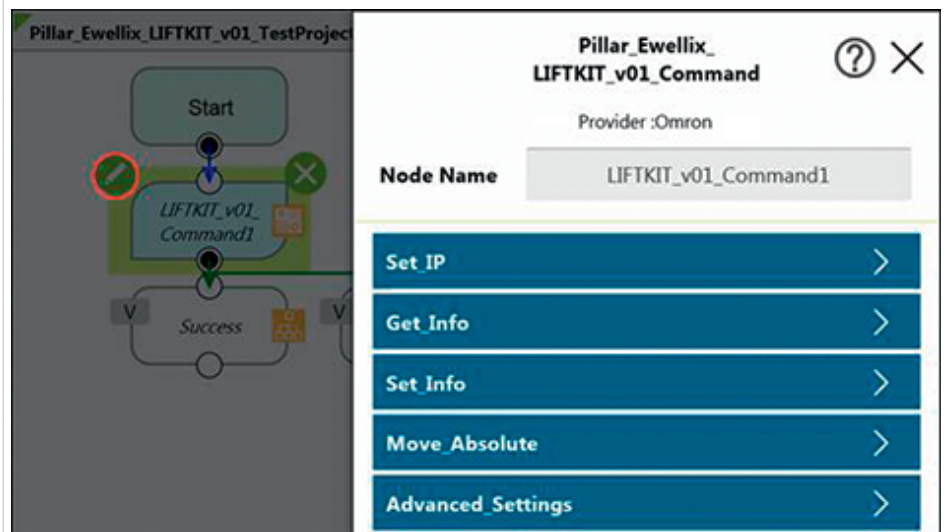
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10 LIFTKIT software functionality test project



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11 LIFTKIT software functionality command



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### Safety elements

The LIFTKIT has a number of safety elements that enable integration into a robot application, including safety relays certified to DIN EN ISO 13849-1, that allow ratings from STO up to PLe, Cat. 4.

## Software updates

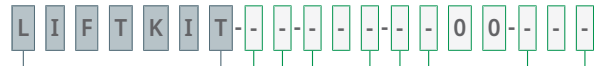
To download the latest software update, go to <https://www.schaeffler.de/std/226A>.

12 QR code software update for LIFTKIT



## 6 Ordering key

### 13 LIFTKIT-TM ordering key



**Type**

**Robot**

TM Techman

**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
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**

- 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

001D8364

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