

HMI – Human Machine Interface operation and monitoring



KeTop Basic
The HMI standard

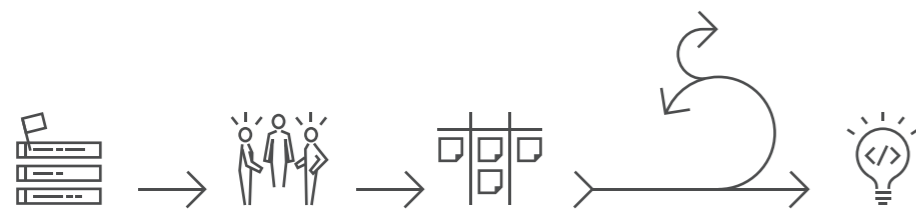
KEBA[®]
Automation by innovation.

It's All About Partnership. And Choices.

Automation solutions become a success factor when they give our customers the freedom to make the most of their competitive advantage. A good relationship needs space.

The KEBA formula

It is this unique mixture of creativity, enthusiasm, determination and enjoyment of working together that makes our employees KEBAns.



Working in agile teams provides an excellent breeding ground for encouraging the development of different talents and personalities. As part of an organisation with flat hierarchies, it is the people who work here that create a very special working atmosphere. Creating an environment in which you can really feel the innovation.



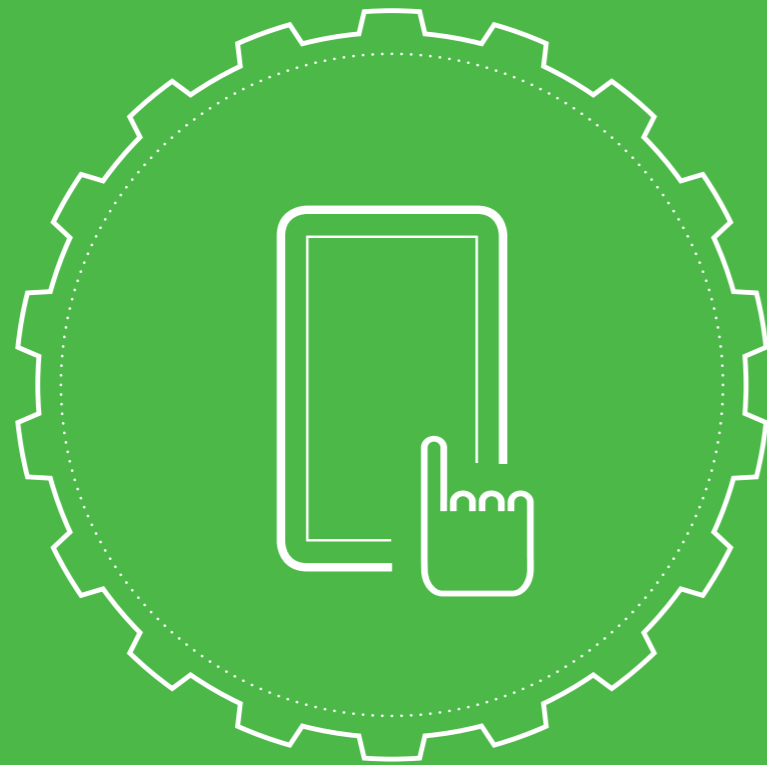


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KeTop Basic

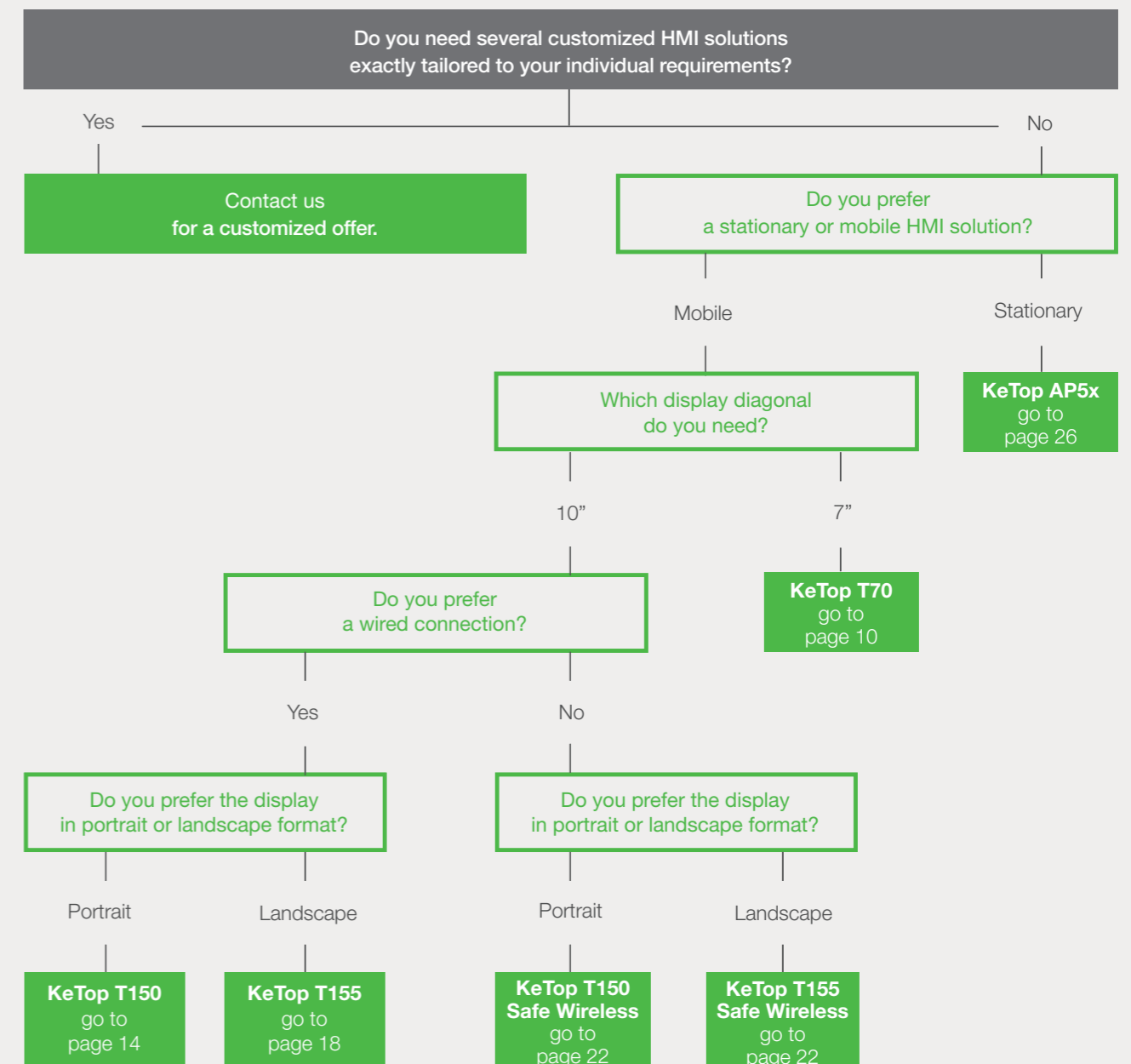
The HMI standard



KeTop decision tree

The KeTop decision tree was created to help you, our customers and partners, find the right HMI solution. By answering only a few questions, it guides you directly to the ideal KeTop Basic product for you - in line with your high requirements and needs.

In the product chapters, we present the different **KeTop Basic models** and **their advantages**. Let yourself be guided through the brochure and discover the various **KEBA junction boxes and cables** in further product chapters, perfectly matched to each KeTop model, of course. **That way you are guaranteed to make the right choice.**



KeTop Basic overview

From mobile to stationary HMI.

KEBA offers a unique selection of mobile and stationary operating devices. Performance and size are adapted to the respective visualisation and operating tasks. Depending on the model, our HMI solutions are available with analogue resistive or project-capacitive touchscreens – and in the case of mobile devices, they are equipped with membrane keyboards.

Efficiency is the hallmark of the KeTop Basic range. All products are control-independent and can therefore be easily integrated into existing solutions. The user interface is easily created by means of a practical HMI construction kit.

The operating devices of the KeTop Basic range are already preconfigured and the various combination options with matching accessories are clearly defined. With products from the KeTop Basic series, selecting the ideal HMI solution has never been easier.



Overview HMI



T 150
Safe Wireless



Safe Wireless
base station CB4x



T 155
Safe Wireless



T 150



T 155



AP5x



T 70

KeTop T70



KeTop T70 with robotics keyboard

The tried-and-tested 7" mobile hand-held control unit in portrait format is ideally suited for teaching robots.

The KeTop T70 mobile terminal has a high-resolution display. It is ideally suited for demanding visualisation and operating applications. The robust housing is light and ergonomic, allowing long operation without fatigue.

Unique features, such as the modular design, which allows performance to be adjusted by upgrading to newer processor technologies as application requirements increase, make the KeTop T70 a long-term and versatile hand-held operating device.

What do all KeTop T70 models include with Windows 10 IoT as standard?

- // 7" TFT WSVGA display, 600 x 1024 pixels
- // Analogue resistive touch screen
- // Operating system Windows 10 IoT Enterprise licence incl. Device Access Interface
- // USB 2.0
- // Intel Celeron N2807 2*1.58GHz (up to 2.16 GHz)
- // 32GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM
- // Intel 7 Gen HD Graphics



Scan code for the technical data sheet

Choose your KeTop Basic model

Mat. nr.	Name	Keyboard	Hot plug capable	Safety elements	Options
108085	KeTop T70-M0A-AN0-W10E	Standard keyboard KEBA WIN10 with 21 keys and 3 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II externally wired 3 rel. pos.
108086	KeTop T70-R0A-AN0-W10E	Robotics keyboard KEBA WIN10 with 21 keys, 4 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II externally wired 3 rel. pos.
108100	KeTop T70-M0a-AN0-W10E	Standard keyboard KEBA WIN10 with 21 keys and 3 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II internally wired 3 rel. pos.
108101	KeTop T70-M00-AN0-W10E	Standard keyboard KEBA WIN10 with 21 keys and 3 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	
108102	KeTop T70-R0a-AN0-W10E	Robotics keyboard KEBA WIN10 with 21 keys, 4 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II internally wired 3 rel. pos.
108103	KeTop T70-R00-AN0-W10E	Robotics keyboard KEBA WIN10 with 21 keys, 4 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	
108333	KeTop T70-R0a-NN0-W10E	Robotics keyboard KEBA WIN10 with 21 keys, 4 status LEDs and 1 power LED	Yes	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II internally wired 3 rel. pos.
108379	KeTop T70-R0A-BN0-W10E	Robotics keyboard KEBA WIN10 with 21 keys, 4 status LEDs and 1 power LED	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II externally wired 3 rel. pos.
112508	KeTop T70-Rqa-AN0-W10E	Robotics keyboard KEBA WIN10 with 21 key, 4 status LEDs and 1 power LED; with 3 large keys on backside	No	Emergency stop twin circuit enabling switch 3 positions	Key switch I-O-II internally wired 3 rel. pos.

KeTop T70 keyboards



T70 standard keyboard

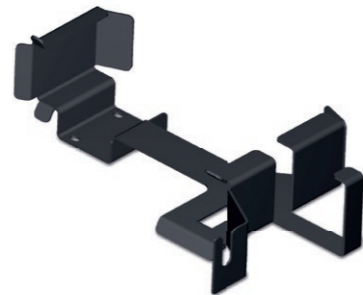


T70 robotics keyboard

Optional accessories for KeTop T70



Wall bracket
KeTop WB070
Mat. nr. 94528



Wall bracket
incl. cable holder
KeTop WB075
Mat. nr. 94529

// You have decided on a KeTop T70 model and accessories?

Now turn to page 29, where you will find the perfect junction box for your KeTop in a “mix and match” style.

No junction box needed? Discover our range of open end cables on page 32.



// What does hot plug capability mean?

Hot plug refers to the addition or removal of a hand-held control unit from a control without triggering an emergency stop on the machine. This is possible by the use of an illuminated emergency stop on the KeTop and an automatic emergency stop jumper in the hot plug capable junction box CB310. You can read more about the CB310 junction box on page 30.

KeTop T150



T150 with standard keyboard
Emergency stop twin circuit



T150 with robotics keyboard
Illuminated emergency stop

The first choice for more demanding tasks in robotics. Equipped with a PCT touch screen and a large, high-resolution screen.

The KeTop T150 in portrait format has a capacitive touchscreen that can be operated as a true multi-touch touchscreen and thus scores points for ease of use, ergonomics and user experience. Despite a display size of 10 inches, the KeTop T150 is a real lightweight. The KeTop T150 is designed in modular design. Optional features, such as energy storage, allow for additional diverse application scenarios.

Designed for mixed use of wired and wireless solutions: The same application can be operated either on a T150 wired unit and a T150 Safe Wireless - one application for a wide range of uses.

Choose your KeTop Basic model

Mat. nr.	Name	Keyboard	Hot plug capable	Safety elements	Options
104911	KeTop T150-M10-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	Emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II internally wired 3 rel. pos. (back)
106366	KeTop T150-M10-NN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	Yes	Illuminated emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II internally wired 3 rel. pos. (back)
106582	KeTop T150-MA0-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	Emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II externally wired 3 rel. pos.(back)
107722	KeTop T150-r10-AN0-W10E	Robotics keyboard for WIN10 with 23 keys and 4 status LEDs	No	Emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II internally wired 3 rel. pos. (back)
107723	KeTop T150-r10-NN0-W10E	Robotics keyboard for WIN10 with 23 keys and 4 status LEDs	Yes	Illuminated emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II internally wired 3 rel. pos. (back)
107724	KeTop T150-rA0-AN0-W10E	Robotics keyboard for WIN10 with 23 keys and 4 status LEDs	No	Emergency stop twin circuit enabling switch 3 Positions	Key switch I-0-II externally wired 3 rel. pos. (back)

What do all KeTop T150 models include with Windows 10 IoT as standard?

- // 10,1" TFT WXGA display, 800 x 1280 pixels
- // PCT projects capacitive touchscreen
- // Ethernet, USB 2.0
- // 64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM
- // Intel Celeron N2807 2*1.58GHz (up to 2.16GHz)

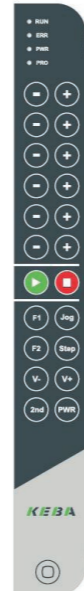


Scan code for the technical data sheet

KeTop T150 keyboards



T150 standard keyboard



T150 robotics keyboard

Optional accessories for KeTop T150



Wall bracket
KeTop WB150
Mat. nr. 105052



Protection cover
Bumper
Mat. nr. 125248

// You have decided on a KeTop T150 model and accessories?

Now turn to page 29, where you will find the perfect junction box for your KeTop in a „mix and match“ style.

No junction box needed? Discover our range of open end cables on page 32.

KeTop T155



T155 with standard keyboard
emergency stop twin circuit



T155 with standard keyboard
illuminated emergency stop

Ideally suited for the use of existing landscape format HMI applications. Equipped with a PCT touchscreen and a large, high-resolution screen.

The KeTop T155 in landscape format has a capacitive touchscreen that can be operated as a true multi-touch touchscreen and thus scores with intuitive operability, maximum ergonomics and the best user experience. Despite a display size of 10 inches, the KeTop T155 is a real lightweight.

The KeTop T155 has a modular design. Optional features such as energy storage enable a wide range of additional application scenarios.

Designed for mixed use of wired and wireless solutions: The same application can be operated either on a T150 wired unit and a T150 Safe Wireless - one application for a wide range of uses.

What do all KeTop T155 models include with Windows 10 IoT as standard?

- // 10,1 TFT WXGA display, 1280x800 pixels
- // PCT projected capacitive touch screen
- // USB 2.0
- // Intel Celeron N2807 2*1.58GHz (bis zu 2.16 GHz)
- // Intel 7 Gen HD Graphics



Scan code for the technical data sheet

Choose your KeTop Basic model

Mat. nr.	Name	Keyboard	Hot plug capable	Memory Flash / RAM	Safety elements	Options
107686	KeTop T155-M10-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit; enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos.
109054	KeTop T155-M10-NN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos.
109055	KeTop T155-MA0-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit; enabling switch 3 positions	Key switch I-0-II externally wired 3 rel. pos.
113412	KeTop T155-M10-Ad0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit; enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos.
110964	KeTop T155-M10-NNC-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. with energy storage
109914	KeTop T155-M1G-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. 16 position gray coded selector switch internally wired
111854	KeTop T155-M1w-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. handwheel
122272	KeTop T155-M10-BN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Stop button twin circuit enabling switch 3 positions*	Key switch I-0-II internally wired 3 rel. pos.
122507	KeTop T155-M16-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. 16 position gray coded selector switch internally wired
123416	KeTop T155-M00-NNC-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit enabling switch 3 positions	With energy storage
123435	KeTop T155-M06-NNC-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit enabling switch 3 positions	16 position gray coded selector switch internally wired with energy storage
124031	KeTop T155-R9w-NN0-W10E	Robotics keyboard KEBA with 20 keys und 3 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit enabling switch 3 positions	Illuminated, momentary, green push button internally wired handwheel
125147	KeTop T155-M00-ANC-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit; enabling switch 3 positions	With energy storage
125891	KeTop T155-ME0-AN0-W10E	Standard keyboard KEBA with 21 keys and 5 status LEDs	No	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Emergency stop twin circuit; enabling switch 3 positions	Key switch I-II externally wired 2 rel. pos., 4 wires (I/II in separate circuits) (rear side)
126501	KeTop T155-R00-NN0-W10E	Robotics keyboard KEBA with 22 keys and 3 status LEDs	Yes	64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM	Illuminated emergency stop twin circuit; enabling switch 3 positions	

KeTop T155 keyboards



T155 standard keyboard



T155 robotics keyboard

Optional accessories for KeTop T155



Wall bracket
KeTop WB150
Mat. nr. 105052



Protection cover
Bumper
Mat. nr. 122868

// What does energy storage mean?

An energy storage device in the form of a capacitor for efficient switching between junction boxes using the hibernate mode (maintenance-free). When unplugged, the energy of the storage is used to shut down the unit in hibernate mode and then generate a faster start-up time when plugged in again.

// You have decided on a KeTop T150 model and accessories?

Now turn to page 29, where you will find the perfect junction box for your KeTop in a "mix and match" style.

No junction box needed? Discover our range of open end cables on page 32.

KeTop T150 / 155 Safe Wireless



The wireless handheld operating device in portrait or landscape format.

The new Safe Wireless KeTop T150 in portrait and T155 in landscape format combine user experiences from the high-end smartphone world, such as connectivity and multi-touch use as well as safe machine operation.

With the KeTop Safe Wireless models, you can implement safe operation without restrictions. Any (safety) control can be used due to discrete safety outputs. Even retrofit solutions can be realised in this way.

The robust Bluetooth connection for the communication of safety data guarantees maximum availability and thus uninterrupted operation.

Optional operating area monitoring prevents operation in areas where the danger is no longer visible, although a radio connection still exists. Thanks to Windows 10, PCT projected capacitive touchscreen and optional HMI software, all options are open for integration.

What do all KeTop T150 / 155 Safe Wireless models include with Windows 10 IoT as standard?

- // WiFi 802.11 a/b/g/n/ac
- // BT 4.2 to transmit the safe signals to the wireless base station
- // Integrated RFID module 13,56MHz
- // USB 2.0
- // Intel Celeron N2807 2*1.58GHz (bis zu 2.16GHz)
- // 64GB SSD Flash, 8GB eMMC Flash, 4GB DDR3 RAM
- // Intel 7 Gen HD Graphics



Scan code for the technical data sheet

Choose your KeTop Safe Wireless Modell

Mat. nr.	Name	Format	Keyboard	Safety elements	Options
124395	KeTop T150WL-R11-EN0-W10E	Portrait 800 x 1280 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. (rear side) camera, 5MP, 2592x1944 67° viewing angle, autofocus
124396	KeTop T150WL-R11-EN1-W10E	Portrait 800 x 1280 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions operation are monitoring	Key switch I-0-II internally wired 3 rel. pos. (rear side) camera, 5MP, 2592x1944 67° viewing angle, autofocus
124397	KeTop T150WL-R10-EN0-W10E	Portrait 800 x 1280 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. (rear side)
124398	KeTop T150WL-R10-EN1-W10E	Portrait 800 x 1280 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions operation are monitoring	Key switch I-0-II internally wired 3 rel. pos. (rear side)
124390	KeTop T155WL-D11-EN0-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. (rear side) camera, 5MP, 2592x1944 67° viewing angle, autofocus
124391	KeTop T155WL-D11-EN1-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions operation are monitoring	Key switch I-0-II internally wired 3 rel. pos. (rear side) camera, 5MP, 2592x1944 67° viewing angle, autofocus
124392	KeTop T155WL-D10-EN0-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. (rear side)
124393	KeTop T155WL-D10-EN1-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions operation are monitoring	Key switch I-0-II internally wired 3 rel. pos. (rear side)
124394	KeTop T155WL-R70-EN0-W10E	Landscape 1200 x 800 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Illuminated, momentary, white push button internally wired
124504	KeTop T155WL-D16-EN0-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Key switch I-0-II internally wired 3 rel. pos. (rear side) 16 position gray coded selector switch internally wired
126252	KeTop T155WL-D0S-EN0-W10E	Landscape 1200 x 800 Pixel	Automation key-board KEBA with 20+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Handwheel 50 increments
126253	KeTop T155WL-R01-EN0-W10E	Landscape 1200 x 800 Pixel	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	Camera, 5MP, 2592x1944 67° viewing angle, autofocus
126503	KeTop T155WL-R00-EN0-W10E	Landscape 1200 x 800 px	Robotics keyboard KEBA with 22+2 keys and 5+1 status LEDs	Illuminated emergency stop twin circuit enabling switch 3 positions	

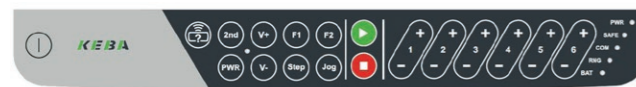
// Why operation area monitoring?

To ensure that no dangerous actions of the machine or machine parts can be triggered outside the field of view, operation area monitoring is available. By means of a timely warning, the operation area monitoring offers the additional advantage that disconnections are reduced. Through various tactile and optical measures (e.g. vibration of the hand control unit, pulsation of the illuminated emergency stop), the user is alerted when the limit of the operation area has been reached. Depending on the direction, the frequency of these measures increases or slows down.

KeTop T150 / T155 Safe Wireless keyboards



T155 standard keyboard



T155 robotics keyboard



T150 robotics keyboard

Optional accessories for KeTop Safe Wireless



Protection cover T150
Mat. nr. 125248
KeTop Bumper



Protection cover T155
Mat. nr. 122868
KeTop Bumper

// ATTENTION!

If the option operation area monitoring is selected for the handheld device, it must also be selected for at least one connected base station CB410.

What do all Safe Wireless base stations include as a standard?

- // WLAN 802.11a/b/g/n for data transmission to the hand-held device
- // BT 4.2 for transmission of safe signals to the hand-held device
- // Discrete wiring of the safety elements
- // IP65
- // Machine/wall mounting
- // Integrated emergency stop button with 2 circuits
- // Key holder I-0-II (externally wired)



Choose your Safe Wireless base station

Mat. nr.	Name	Safety elements & options	With operation area monitoring
124399	KeTop CB410-EE0	- Integrated emergency stop button twin circuit - Key switch I - 0 - II (externally wired) - Safe pairing type detection	No
124400	KeTop CB410-EE1	- Integrated emergency stop button twin circuit - Key switch I - 0 - II (externally wired) - Safe pairing type detection - With 14 digit outputs for transfer of time critical signals	No
124401	KeTop CB410-EE2	- Integrated emergency stop button twin circuit - Key switch I - 0 - II (externally wired) - Safe pairing type detection - With 14 digit outputs for transfer of time critical signals	Yes

Choose your Safe Wireless charging station & spare battery



Mat. nr.	Name	Safety elements & options
124399	Charging station for KeTop 150/T155 Safe Wireless	- Charging contacts for 24 V DC - Terminal blocks for installation - Hollow socket 24V DC 2.1 x 5.5 mm - Mounting material included
124400	Spare battery for KeTop T150 Safe Wireless	- Internally mountable - 3.500mAh Li-Ion capacity - With integrated shaft cover and screws
124401	Spare battery for KeTop T155 Safe Wireless	- Internally mountable - 3.500mAh Li-Ion capacity - With integrated shaft cover and screws

KeTop AP515 & AP521



The stationary, real-time multitouch panel.

The KeTop AP5xx panel range offers robust gesture operation through an industrial multitouch with integrated touchbooster for glove operability.

The RealTime Multitouch is able to transmit operator interactions in real time via EtherCAT or Profi Net directly to the control system. Many mechanical components and membrane keys are now a thing of the past. Thanks to the KeTop AP5xx line, you can reduce your HMI variants to one panel.

The Intel Atom CPU with 7 Gen Intel HD graphics acceleration makes the KeTop AP5xx panel line an optimal platform for visualisation tasks. Multitouch, gesture operation and graphic effects provide a new user experience in machine operation.

What do all KeTop APxx models include with Windows 10 IoT as standard?

- // TFT display
- // PCT projected capacitive multitouch
- // High-gloss glass surface
- // Backlight: LED (50,000 h)
- // Intel 7 Gen HD Graphics
- // Dual Port Ethernet 1 Gbit/s für LAN und PLC
- // Connector set consisting of supply connector and IO terminals

Choose your AP515 model

Mat. nr.	Name	Display	Interface	CPU / RAM
122384	KETOP AP515-SE/A-0200-W10E	15,6" TFT WXGA display, 1366 x768 px	Ethernet 100Mbit/s KVC	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
123268	KETOP AP515-SE/A-0300-W10E	15,6" TFT WXGA display, 1366 x768 px	Ethernet 100Mbit/s KVC	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB
123552	KETOP AP515-PN/A-0200-W10E	15,6" TFT WXGA display, 1366 x768 px	PROFINET IO Device	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
124974	KETOP AP515-PN/A-0300-W10E	15,6" TFT WXGA display, 1366 x768 px	PROFINET IO Device	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB
124977	KETOP AP515-EC/A-0200-W10E	15,6" TFT WXGA display, 1366 x768 px	EtherCAT	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
125172	KETOP AP515-EC/A-0300-W10E	15,6" TFT WXGA display, 1366 x768 px	EtherCAT	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB

Choose your AP521 model

Mat. nr.	Name	Display	Interface	CPU / RAM
122428	KETOP AP521-SE/A-0200-W10E	21,5" TFT WXGA display, 1920 x 1080 px	Ethernet 100Mbit/s KVC	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
123280	KETOP AP521-SE/A-0300-W10E	21,5" TFT WXGA display, 1920 x 1080 px	Ethernet 100Mbit/s KVC	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB
122429	KETOP AP521-PN/A-0200-W10E	21,5" TFT WXGA display, 1920 x 1080 px	PROFINET IO Device	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
124975	KETOP AP521-PN/A-0300-W10E	21,5" TFT WXGA display, 1920 x 1080 px	PROFINET IO Device	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB
125173	KETOP AP521-EC/A-0200-W10E	21,5" TFT WXGA display, 1920 x 1080 px	EtherCAT	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 32GB
125888	KETOP AP521-EC/A-0300-W10E	21,5" TFT WXGA display, 1920 x 1080 px	EtherCAT	Intel Atom E3845 QuadCore 1,91 GHz / 4 GB RAM Incl. Cfast MLC memory card 128GB

Accessories for AP515 / AP521



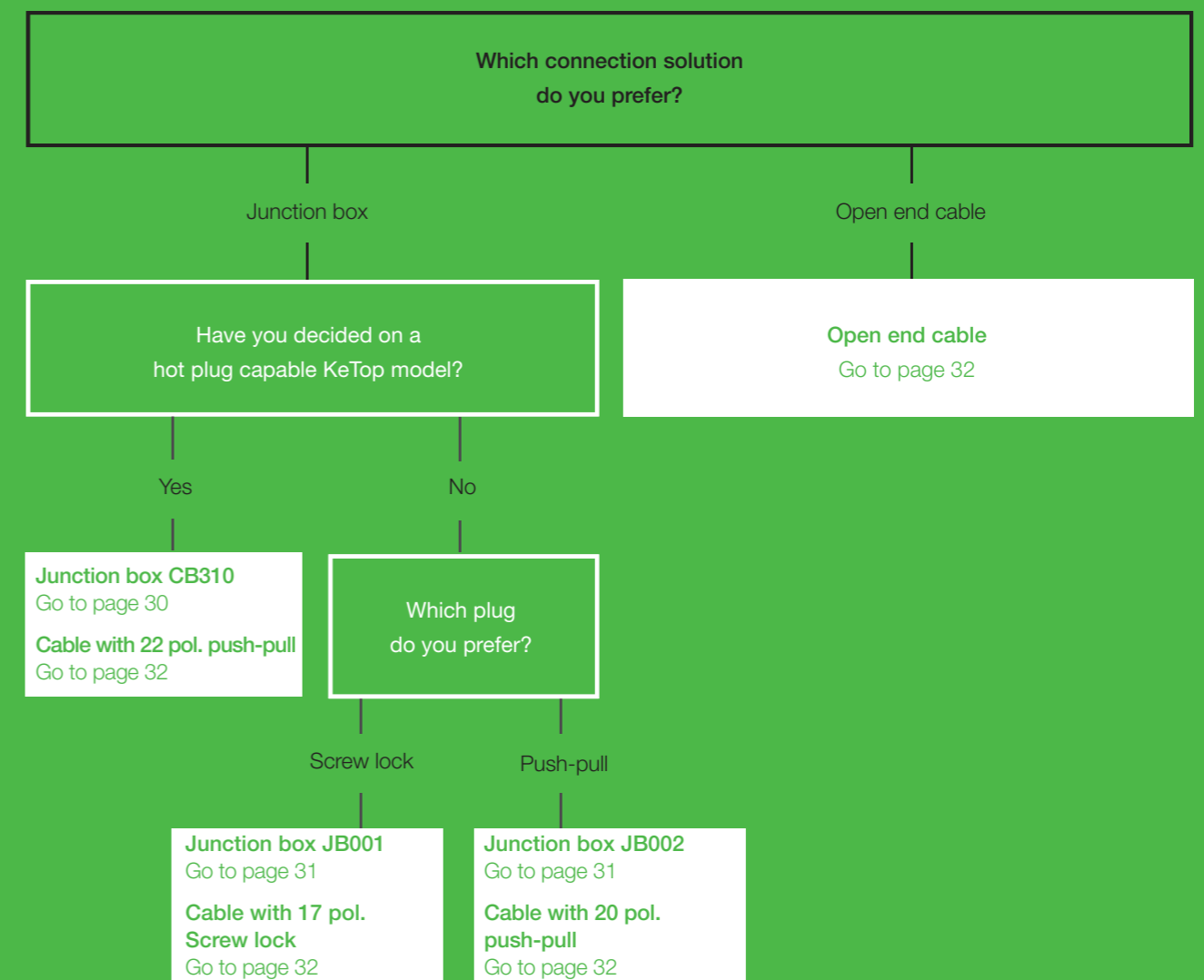
Extension panels EP500

In order to install control and signalling devices, AP500 Multitouch Panels can be equipped with extension panels (EP500). Depending on the version, up to 9 installation openings are available for any pushbuttons, switches and detectors as well as a yellow-marked installation opening for an emergency stop pushbutton. Furthermore, an RFID unit can also be integrated.

Mat. nr.	Name	Display	Model	Surface
126327	EP521/A-0000	21,5"	Panel cut-outs 1-row, long-sided	High gloss
126409	EP515/A-0000	15,6"	Panel cut-outs 1-row, long-sided	High gloss
126414	EP521/A-3002	21,5"	Panel cut-outs 2-row, short-sided	High gloss
126420	EP515/A-3002	15,6"	Panel cut-outs 2-row, short-sided	High gloss

KeTop "Mix & Match"

You have decided on a mobile KeTop hand control unit? In the simple „Mix & Match“ style you can put together the matching accessories on the following pages. Combine your KeTop model with a suitable junction box and cable and choose optional accessories, such as the practical bridge connector or the cable drum KeTop Reel.



KeTop junction boxes

// Have you decided on a hot plug capable KeTop model?

The hot plug capable junction box CB310 leaves nothing to be desired. It is suitable for round plug pin 22pol. push-pull and has an already integrated bridge plug as well as a slot detection.

The box checks the connection and indicates, for example, whether the plug is correctly connected or the cable is interrupted (cable break detection). If required, the CB310 can be equipped with safety and operating elements. You can learn about hot plug capability in our glossary or on page 13.



Hot plug junction box CB310



Hot plug junction box CB310 with emergency stop button

Mat. nr.	Name	Safety elements	Options
101183	KeTop CB310-000		
101184	KeTop CB310-SE0	Integrated emergency stop button 2-circuit	Key switch I-0-II
107780	KeTop CB310-S00	Integrated emergency stop button 2-circuit	
109796	KeTop CB310-0E0		Key switch I-0-III
126823	KeTop CB310-0Z0	Options: push button white illuminated tactile	

// You do not need a junction box?

On page 32 you will find our open end cables.

Which product features do all CB310 hot plug junction boxes have in common?

- // Internal bridging of the safety circuits
- // Integrated 3 port Ethernet switch (1x handheld, 2x free)
- // discrete wiring of the safety elements
- // IP65
- // Machine/wall mounting
- // Control cabinet mounting with direct internal wiring
- // **Must not be combined with units with a permanent red/yellow emergency stop or grey stop button!**

// Hot plug is not an issue?

The affordable **junction box JB001** is intended for control cabinet mounting. A combination with KeTop Reel is possible. JB001 supports only KeTop models with **internally** wired controls.

The **junction box JB002** is suitable for push-pull connections. Push-pull enables quick and comfortable connection and disconnection of the cable. Combination with KeTop Reel is possible. JB002 supports both **internally** and **externally** wired controls.



KeTop JB001/A Set



KeTop JB002 Set

Mat. nr.	Name	Safety
60543	KeTop JB001/A Set	IP20
96164	KeTop JB002 Set	IP54 (when installed)



Bridge connectors for your KeTop junction box

Mat. nr.	Name	Safety
60543	KeTop BC001	Bridges the emergency stop signal line For round plug pin 17pol. screw lock (junction box JB001)
89582	KeTop BC010	Bridges the emergency stop signal line For round plug pin 20pin push-pull (junction box JB002)




You will find the suitable cables for your junction box on page 32.

What do JB001 and JB002 junction boxes have in common?

- // Separation of signal and HW power on separate line connections
- // Suitable for direct mounting in the control cabinet wall
- // Junction box incl. plug and excl. cable

KeTop cables

Cables in different lengths for your KeTop model and the junction box can be found in the table below. You do not have a junction box? Our open end cables are available in many lengths.

	 CB310 model hot plug (22pol. push-pull)	 JB001 (17pol. screw lock)	 JB002 (20pol. push-pull)
Cable length	Mat. nr.	Mat. nr.	Mat. nr.
5 m	101259	85065	90293
10 m	101271	84808	90294
15 m	101278	85066	95155
20 m	106586	85067	91586

// Not the right cable for you?

Contact us! Together we will find a solution.

Open end cables



	Standard cable 18 wire	Standard cable 14 wire
Cable length	Mat. nr.	Mat. nr.
5 m	86129	88089
10 m	94461	93807
15 m	x	93808

KeTop Reel for T70 / T150 / T155



The KeTop Reel cable drum with automatic retraction system is used for comfortable stowage of the connection cable of a KeTop hand control unit.

An increased safety risk due to tripping over uncoiled cables is thus a thing of the past. In addition, the KeTop Reel effectively prevents soiling and damage to the cables and the service life of the cable as well as the safety at work are significantly increased.

The integrated retraction brake ensures simple and safe reeling. The KeTop Reel has overload protection, is EMC-optimised and thus complies with standards even without filtering in the control cabinet.

Mat. nr.	Name	Extension length	Suitable for junction box	Compatible with externally wired controls
99795	KeTop Reel TT103-PP20	10 m	JB002 (20pol. push-pull)	Yes
97901	KeTop Reel TT 183-PP20	18 m	JB002 (20pol. push-pull)	Yes
99940	KeTop Reel TT100-aaa	18 m	JB001 (17pol. screw lock)	No
97902	KeTop Reel TT180-aaa	18 m	JB001 (17pol. screw lock)	No

// Which product features do all KeTop Reel models have in common?

- // Connection length on the control cabinet side 2.5 m
- // Locking device for extension and retraction every 50 cm
- // Incl. holding and manipulation knob
- // Incl. mounting bracket
- // Incl. brake module to reduce the cable retraction speed

KeTop Bundles

You can quickly and easily find the right HMI solution with the KeTop Bundles. The prefabricated complete sets contain a KeTop Basic model and the matching connection box with cables and accessories.

Bundle "Economic"



108085 KeTop T70 standard keyboard

66373 junction box JB001



85065 cable 5m length

60543 bridge connector KeTop BC001

Bundle "Economic Robotics"



108086 KeTop T70 robotics keyboard

66373 junction box JB001



85065 cable 5m length

60543 bridge connector KeTop BC001

Bundle "Professional"



106366 KeTop T150 hot plug capable standard keyboard

101184 junction box CB310



101259 cable 5m length

Bundle "Professional Robotics"



107723 KeTop T150 hot plug capable robotics keyboard

101184 junction box CB310



101259 cable 5m length

Bundle "Advanced"



104911 KeTop T150 hot plug capable standard keyboard

96164 junction box JB002



90293 cable 5m length

89582 bridge connector KeTop BC010

Bundle "Advanced Robotics"



107722 KeTop T150 hot plug capable robotics keyboard


96164 junction box JB002



90293 cable 5m length


89582 bridge connector KeTop BC010

Bundle "Landscape"



107686 KeTop T155 standard keyboard

66373 junction box JB001



85065 cable 5m length

89528 bridge connector KeTop BC010

Bundle "Landscape Hot Plug"



109054 KeTop T155 hot plug capable robotics keyboard

101184 junction box CB310



85065 cable 5m length

Software

Operator Controls



Every KeTop model comes with **Windows 10 IoT Enterprise** software pre-installed as standard software. This is a fully-fledged Windows version that is in no way inferior to a classic PC in terms of features.

You have the free choice of using your preferred development environment for creating your visualisation. The operator controls can be easily evaluated via a software library. We will be happy to advise you about our KeTop models with Linux software in a personal conversation.

Flexible connection to different control types

The operator controls of your KeTop handheld terminal can not only be evaluated locally in your visualisation software, but also easily connect via the existing Ethernet interface to various control systems. For this purpose, the following pre-installed communication interfaces are available:

- // for **Siemens** controls, we offer an interface based on the S7 protocol
- // for **Beckhoff** controls we offer an interface based on the ADS protocol
- // for all other control systems, the Modbus TCP or OPC UA protocol is available.

Windows 10 IoT Enterprise

- // Version Windows 10/1607 LTSC 2016
- // Licence already included in every KeTop unit on delivery
- // Pre-installed browser MS Edge

// With the KEBA Quick Start Guides and Step By Step instructions for the communication interfaces, you can install your KeTop and set up the connection to your control system with just a few steps.

The Quick Start Guides and documentation for the software library are available at the KEBA Support support-a@keba.com, the manuals can be downloaded quickly and easily via the KEBA Doku Portal at <https://support.keba.com/cds/online/#home>

In addition, KEBA recommends **VisiWin for KeTop**, a visualisation solution that already has all KeTop operator controls integrated. This is a web-based or .NET-based framework. More information about VisiWin for KeTop can be found on the following pages.

VisiWin for KeTop

Under the name VisiWin for KeTop, KEBA, in cooperation with INOSOFT, offers a customised visualisation solution for all KEBA handheld devices of the KeTop Basic series. This solution is based on the open and powerful HMI and SCADA software VisiWin 7 and can be connected through own drivers or OPC UA with nearly every PLC.

VisiWin for KeTop offers modern and freely designable user interfaces, which can be run either as a native application directly on the Windows operating system of the KeTop devices or alternatively in the web browser. This gives you maximum flexibility and the right solution for every application.

Another highlight of the software is the implementation of high-quality and ergonomic user interfaces for your machine with the support of modern input options such as swipe and zoom gestures. This gives machine operators the familiar smartphone operating feeling on a KeTop device as well.

Depending on the version, KeTop handheld terminals are equipped with a keyboard and individual operating elements. These can also be integrated into the VisiWin user interfaces by means of special extensions and used conveniently. The added value of these hardware elements, which can be intuitively operated by the employee, thus also appears in the software and enables a consistent and harmonious user experience.

The sale of VisiWin for KeTop as well as technical support are provided by KEBA. We also provide you with information on INOSOFT training courses and workshops on VisiWin for KeTop.

The visualisation software VisiWin for KeTop contains the installation for the development environment (IDE) and the installation for the runtime (RT). The licensing of the IDE is done via USB dongles and for the RT via a software activation.

	1st license	2nd or 3rd license	4th or 5th license	Starting at 5th license	Bundle with 5 licences
SDK	Mat. nr. 107996 KeTop ViWi-WIN-SDK-1SI	Mat. nr. 110314 KeTop ViWi-WIN-SDK-3SI	Mat. nr. 110314 KeTop ViWi-WIN-SDK-5SI	Mat. nr. 110312 KeTop ViWi-WIN-SDK-6SI	Mat. nr. 110310 KeTop ViWi-WIN-SDK-BSI

	T70 with 2000 powertags	T150/T155 T150/T155 SWL AP5x 10-15" with 2000 powertags	T150/T155 T150/T155 SWL AP5x 10-15" with 4000 powertags	AP5xx 21-24" with 4000 powertags
RT	Mat. nr. 107999 KeTop ViWi-WIN-RT-T1	Mat. nr. 108001 KeTop ViWi-WIN-RT-T3	Mat. nr. 121244 KeTop ViWi-WIN-RT-T4	Mat. nr. 121243 KeTop ViWi-WIN-RT-T5



KEBA Glossary

Model names / codes

KeTop T70

Keyboard front

- M / KEBA standard 21 keys, 3 status LEDs, 1 Power LED
- R / KEBA robotics x86, 21 keys, 4 status LEDs, 1 power LED

Keyboard back

- 0 / no keyboard on back
- q / 3 big keys

operator controls

- A / key switch I-0-II externally wired 3 rel. pos.
- a / key switch I-0-II internally wired 3 rel. pos.
- 0 / no operator control

Safety

- A / emergency stop + enabling switch
- N / illuminated emergency stop + enabling switch
- B / stop button grey + enabling switch

KeTop T70 M0A-AN0-W10E

CPU / memory

- N / N2807, 32GB SSD Flash
8GB eMMC Flash, 4GB RAM
<NUR MIT WINDOWS>

Software

- W10E / Windows 10 IoT
Enterprise License

Options

- 0 / no options

KeTop T150 / T155 Safe Wireless

Keyboard

- D / keyboard KEBA Automation with 20+2 keys, 5+1 status LEDs
- R / KEBA robotics keyboards, 22+2 keys, 5+1 status LEDs

Operator control front / camera

- A / key switch i-0-II externally wired
3 rel. pos
- key switch i-0-II internally wired 3 rel. pos
- 0 / no operator control

Safety

- N / illuminated emergency stop + enabling switch
- E / illuminated emergency stop twin circuit,
enabling switch 3 positions

Operator control back

- 0 / no operator control
- 1 / key switch i-0-II internally wired 3 rel. pos
- 7 / push button white illuminated internally wired

KeTop T150WL-R10-NN0-W10E

Software

- W10E / Windows 10 IoT
Enterprise License

Options

- 0 / no options
- 1 / operation are monitoring

CPU / memory

- N / N2807, 64GB SSD Flash,
8GB eMMC Flash, 4GB RAM

KeTop T150 / T155

Keyboard front

- M / KEBA standard 21 keys, 5 status LEDs
- R / robotics keyboard 20 keys, 3 status LEDs
- r / KEBA robotics for Windows10 24 keys,
4 status LEDs

Operator controls front

- 0 / no operator controls in front
- 6 / 16-step selector switch grey-coded internally wired
- G / 16-step selector switch grey-coded externally wired
- w / handwheel

Operator controls back

- 0 / no operator controls in back
- 1 / key switch i-0-II internally wired
3 rel. pos.
- 9 / push button green illuminated internally wired
- A / Skey switch i-0-II externally wired 3 rel. pos.
- E / Key switch I-II externally wired 2 ab. pos,
4 wires (I/II in separate circuits)

KeTop T150-M10-AN0-W10E

Software

- W10E / Windows 10 IoT Enterprise License

Options

- 0 / no options
- C / with energy storage

CPU / memory

- N / N2807, 32GB SSD Flash
8GB eMMC Flash, 4GB RAM
<NUR MIT WINDOWS>

Safety

- A / emergency stop + enabling switch
- B / stop button grey + enabling switch
- N / illuminated emergency stop + enabling switch

KeTop AP515 / AP521

Interface

- SE / standard Ethernet
- EC / EtherCat
- PN / ProfiNet

Screen size

- 15 / 15,6"
- 21 / 21,5"

Version

- A / KEBA standard

Model

- 0 / standard

Option CPU

- 2 / Intel Atom E3845 QuadCore 1,91 GHz /
4 GB RAM, incl. Cfast MLC memory card 32GB
- 3 / Intel Atom E3845 QuadCore 1,91 GHz /
4 GB RAM, incl. Cfast MLC memory card 128GB

KeTop AP515-PN/A-0200-W10E

Software

- W10 / Windows 10 IoT
Enterprise License

Optional cooling

- 0 / without

Glass surface

- 0 / high gloss

Hot plug / hot plug capability

Hot plug refers to the addition or removal of a hand-held control unit from a control without triggering an emergency stop on the machine. This is possible by the use of an illuminated emergency stop on the KeTop and an automatic emergency stop jumper in the hot-plug capable junction box CB310.

Illuminated emergency stop

An illuminated emergency stop switch is only available on hot-plug capable KeTop models. It has the same functionality as a red and yellow emergency stop switch. It is wired in 2 circuits and the contacts are designed as break contacts. The difference is that it can only be used when connected (i.e. ready for operation) due to the lighting. The illuminated emergency stop only functions if the hand-held control unit is connected to a base station and - if an optional operating range is configured - the unit is within the operating range.

Key switch

The type of key switch, internally or externally wired, influences the choice of the connection box suitable for the KeTop. Basically, all hot plug capable KeTop models have an internally wired key switch and are combined with the hot plug capable junction box CB310.

The connection box JB001 can only be selected in combination with internally wired key switches, the junction box JB002 supports all KeTop models. A wired key switch can optionally be realised on the box.

Operation area monitoring

To ensure that no dangerous actions of the machine or machine parts can be triggered outside the field of view, operation area monitoring is available.

By means of a timely warning, the operation area monitoring offers the additional advantage that disconnections are reduced. Through various tactile and optical measures (e.g. vibration of the hand control unit, pulsation of the illuminated emergency stop), the user is alerted when the limit of the operation area has been reached. Depending on the direction, the frequency of these measures increases or slows down. The maximum adjustable operation area is 20m.



For the sake of legibility we have avoided gender-specific wording. We would like everyone to feel that they are included by our text. Many thanks for your understanding.

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