

# Smart Box

*Simple, compact and all-purpose.*

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EAO Smart Box: Snap-on, plug & play operator devices  
*for industrial environments.*

A machine's operator device must meet numerous requirements to function reliably in industrial environments. To be successful, the front design must provide flexible configuration and the mounting process must be simple and quick – even in very tight spaces.

EAO Smart Box is a simple and customisable “snap-on, plug & play” solution for operator devices in industrial environments that can include on/off, up/down or emergency stop functions in CNC machines or semiconductor production. Alongside a broad standard range, customised solutions are also available to meet the needs of the user.

#### **Simple snap-on mounting and M12 connection technology**

Mounting is handled without any special tools – simply snap it on the mounting adapter. Thanks to the standardised M12 terminal, the Smart Box can be brought into service quickly and easily. The device can also be mounted on a standard top hat rail without the need for an external mounting adapter which ultimately benefits the end user with a unique level of flexibility in terms of number and arrangement of the compact Smart Boxes. Bus connection or direct wiring allow for easy integration into the system.

The devices are also easily dismantled by simply pulling out the plug and pushing back the spring element. This design element enables the end user to effortlessly detach the Smart Box in a uncomplicated manner.

The Smart Box can be seamlessly implemented with compatible EAO actuators and indicators. The Series 84 is ideal for this purpose – especially illuminated pushbuttons and emergency stop switches (other EAO products on request).

The robust construction combined with front protection of up to IP67 enables reliable switching – even at operating temperatures ranging from –25 °C to +70 °C (depending on the integrated products), in dirty environments and under high humidity or severe vibration.

#### **Customised front design with films**

The front design can be optionally and flexibly adapted to almost any application with an age-resistant polyester film (e.g. for customer logos or warning symbols), a marking plate or a LED status indicator. EAO integrates any additionally required electronic functions onto a PCB and can equip and connect the Smart Box to meet specific needs.



## Advantages.

- Simple snap-on mounting and M12 connection technology
- Flexible arrangement and robust, compact construction
- Ease of integration into the system thanks to bus connection or direct wiring
- Customisable front design and functionality
- Standard range available – customised solutions on request

### Typical applications

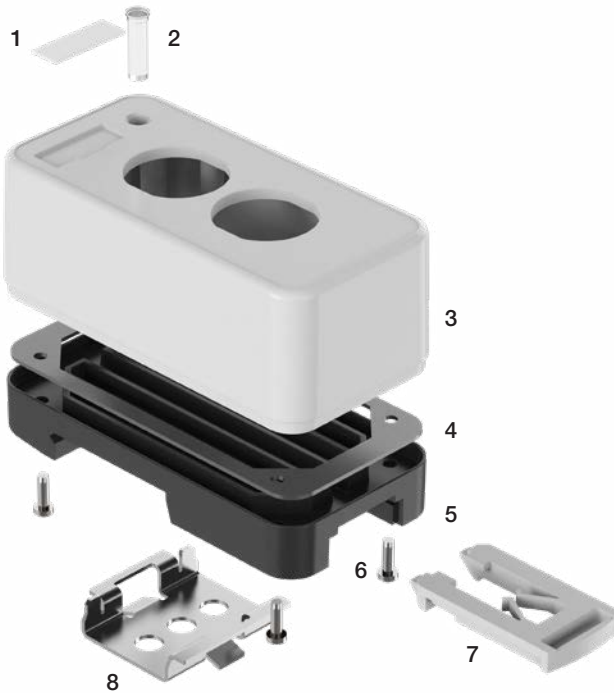
- CNC milling, lathing, grinding and drilling equipment
- Semiconductor and electronics production
- Industrial lifting and handling automation
- Cooling and ventilation equipment
- Food and beverages
- Pharmaceutical, chemical production and process control
- Tobacco production and process control
- Textile production, including equipment for preparing, drying, spinning and weaving
- Packaging systems
- Production lines
- Plus many additional applications

### EAO is here to advise you

Our experts are happy to help you choose the product that meets your specifications and can provide you with a custom solution tailored to your individual application needs.



## Product structure of the compact Smart Box.



### Components and materials

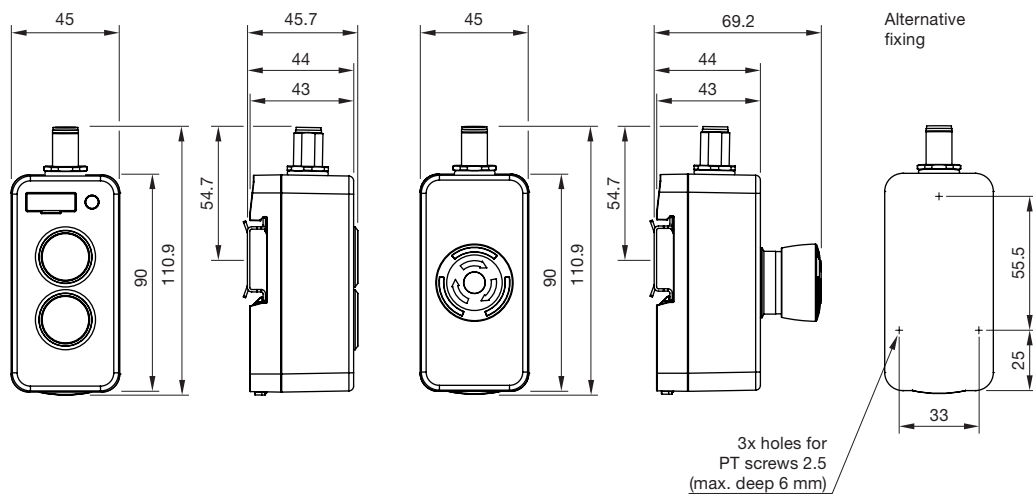
- 1 Marking plate  
PVC/aluminium-coloured/adhesive
- 2 Fibre-optic cable, PC/glass clear
- 3 Upper part of housing  
PBT/RAL9010/RAL1004
- 4 Seal, Silicon MVQ
- 5 Lower part of housing  
PBT/RAL9011
- 6 Housing screws,  
Stainless steel A2/Torx
- 7 Spring element, POM natural
- 8 Mounting adapter  
Stainless steel 1.4301/vibratory  
finish

The hole pattern for the M12 plug is optimised as standard for the zinc die-cast plug from Murr Elektronik (design 17162).

### Mounting cut-outs

The Smart Box can be shipped with a standard hole pattern or without a mounting cut-out on the upper side. Special hole patterns are possible on request depending on order volume.

### Dimensions



All dimensions in mm.

## *Simple, flexible snap-on mounting and M12 connection.*



Mounting is handled without any special tools – simply snap it on the mounting adapter. Thanks to the standardised M12 plug, the Smart Box can be brought into service quickly and easily. The device can also be optionally mounted on a standard top hat rail without a mounting adapter.

### **Mounted in three steps**

1. Attach mounting adapter
2. Snap-on Smart Box
3. Connect cable with M12 plug

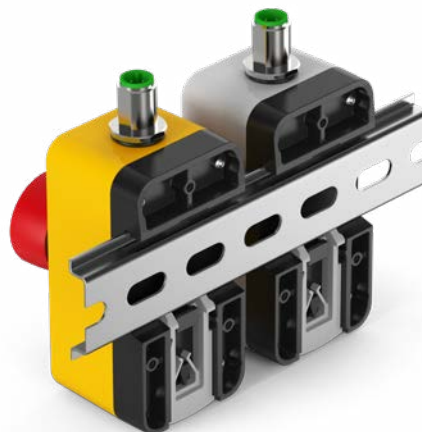


### **Flexible in quantity and arrangement**

Mounting on a top hat rail provides the user with a unique level of flexibility in terms of number and arrangement of the compact Smart Boxes.

### **Easy to dismantle**

This device is easily dismantled by simply pulling out the plug and pushing back the spring element, which enables the end user to easily detach the Smart Box.

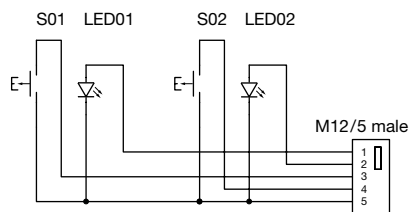


## Equipped and wired Smart Box. Standard and customised.



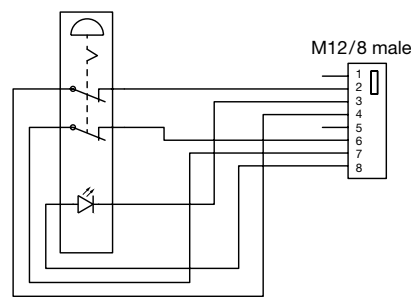
### Standard type

The Smart Box is available as a standard type with two fully illuminated Series 84 pushbuttons (white LEDs) and one 5-pin M12 plug. The colour of the buttons and the illumination can be easily configured by selecting the corresponding lenses.



### Standard type "e-stop"

This standard type is available with a Series 84 emergency stop switch, an independently operable status indicator and an 8-pin M12 plug.



### Customised equipment and wiring

On request, the Smart Box can also be equipped with other EAO actuators and indicators – alternate plug types and connector pin assignments are also available. The availability of customised equipment and wiring depends on the quantity required.

### Specialist advice from experts

Our HMI experts will be happy to advise you of the product specifications that meet your needs and requirements – including customised solutions.

### Standard products at a glance

Wired and AS-i versions

Part no.	Description
73-00001.1	White housing, M12, 2x Series 84 holes no lenses
73-00001.2	White housing, M12, 2x Series 84 holes with red and green lenses
80-4022.000	White housing, M12, 2x Series 84, no lenses, no HALO illumination, with AS-i profile S-7.A.7 (according to 3.0 specifications) See separate data sheet

### Wired Smart Boxes

Part no.	Description
73-00002.1	Yellow housing with M12 and Series 84 emergency stop switch (not illuminated)
73-00002.2	Yellow housing with M12 and Series 84 emergency stop switch (illuminated)

### Unequipped Smart Boxes

Part no.	Description
74-10003.1	Yellow housing with M12 and Series 84 emergency stop switch mounting cut-out
74-10002.1	Yellow housing with M12 hole
74-10001.1	Yellow housing no M12 no holes
74-00003.1	White housing with M12 and 2x Series 84 mounting cut-out
74-00002.1	White housing with M12 hole
74-00001.1	White housing no M12 no holes

# Sharing experiences. *Creating interactions.*

Since 1947, our product innovation has been based on a thorough understanding of the end users *and on our fascination with making interactions between humans and machines possible.*

EAO develops impressive, customised HMI Systems that feature innovative technology, intuitive operation and reliable functions.

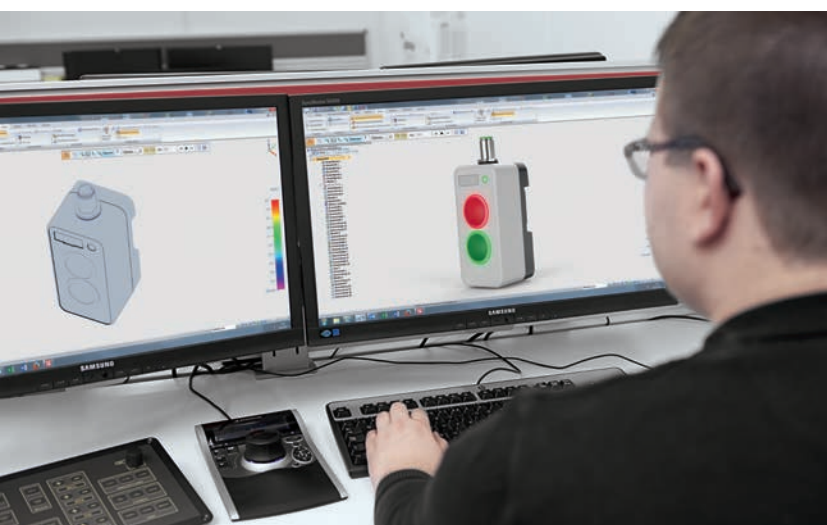
EAO HMI Systems are of an outstanding quality in order to meet any requirement. Our engineering services also include the combining of customer-specific components outside of EAO's product range. As an expert in mixed-technology solutions, we create optimal solutions for our customers saving them both time and money. Here, we have global supply

chain experience at our disposal, and can draw on our expertise in process optimisation and EAO's risk management system.

We meet not only every possible functional and ergonomic end user requirement, but also all market- and country-specific standards. We also possess all necessary certifications and approvals.

Our HMI solutions offer the lowest total cost of ownership. EAO customers benefit from extensive savings in terms of money and time, as well as extremely long-term availability of our products and systems.

As a successful company with production sites around the world, EAO is actively committed to the effective implementation of a sustainable environmental policy. Our ISO 14001 certification for environmentally friendly management is something we are committed to and passionate about.



#### Your benefits as EAO customer:

- EAO is your HMI expert – including mixed-technology solutions
- Efficient system solutions – tailored to your needs
- You save time and money – thanks to reduced interfaces
- Global service – around the world
- Sustainability – an integral part of our consultation service



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