



# OPERATOR CONTROL SYSTEMS

for mobile applications

# GRIESSBACH



## From idea to production...

As a specialist for operating and control systems, we – Griessbach in Luckenwalde – develop and manufacture advanced solutions for mobile and stationary applications.

Our products are used in agricultural and construction machinery, rail vehicles, printing machines and ships, as well as in machine tools and medical equipment.

Our experience and modern manufacturing technology enable us to produce products onsite according to your specifications and requirements – from mechanical components to complex industrial electronics. We'll take care of everything, from product design to manufacturing.

All our products are developed using customised hardware, software and mechanical solutions and our designs are rigorously tested on samples and prototypes.

As a result, we are able to provide fully wired operating systems which fulfil both your technical requirements and quality expectations.





# LIGHTING



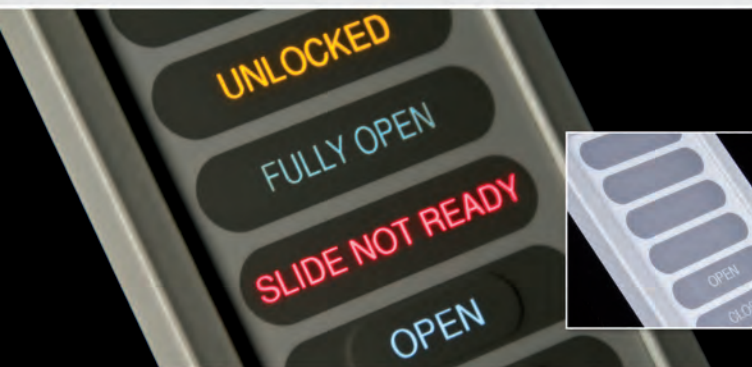
## Signal lighting

- Switching states clearly visible with signal lighting, even in bright conditions and direct sunlight
- Standard LEDs provide variable scope for design in terms of colour and brightness



## Night design

- Safe operation in the dark thanks to illuminated imagery
- LED selector for adjustable lighting colour
- Dimmable control to adapt to the brightness of the surroundings



## Disappearing effect

- To avoid sensory overload, the defined symbols only become visible when actuated
- Available in all colours



## Partial lighting

- Illuminated buttons display ON/OFF states, extensions possible through partial lighting of subareas
- Segments can be individually actuated
- Subareas can be lit in different ways
- Colour switching possible





# PRODUCT DESIGN



## Surface

- Operation via sealed frontal membrane, even for integrated touch
- Actuating areas accentuated by membrane imprints
- Lighting via Griebbach illuminated key



## Finger guidance

- Switching without looking – through raised guidance strips



## Housing

- Adapted to the respective workload, the control unit is constructed as:
  - metal housing
  - drawn plastic consoles
  - or thick-walled foamed housing parts



## Design

- Operating systems adapted to the individual unit design



# OPERATING PHILOSOPHY



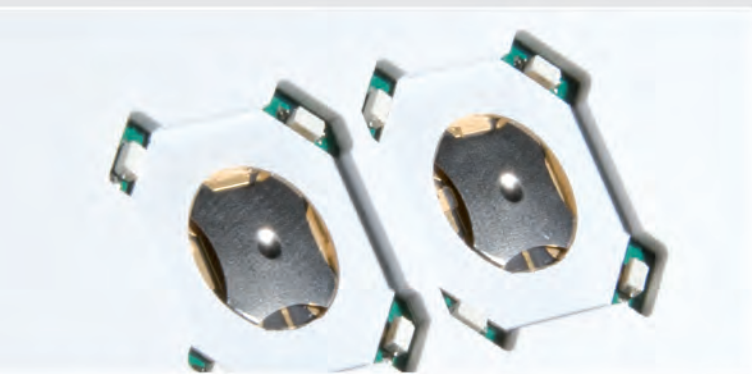
## Mechanical switching elements

- Modern membrane design combined with conventional operating elements
- Safe operation in extreme conditions



## Tact switch

- Standard tact switch and LEDs provide variable illumination of the buttons when used with Griessbach key cap
- Integration of control hardware



## Snap dome

- Snap domes for operating systems with a low overall height
- LEDs light up the buttons
- Different actuating forces available



## Displays

- Integration of standard and customer-specific displays into the control concepts



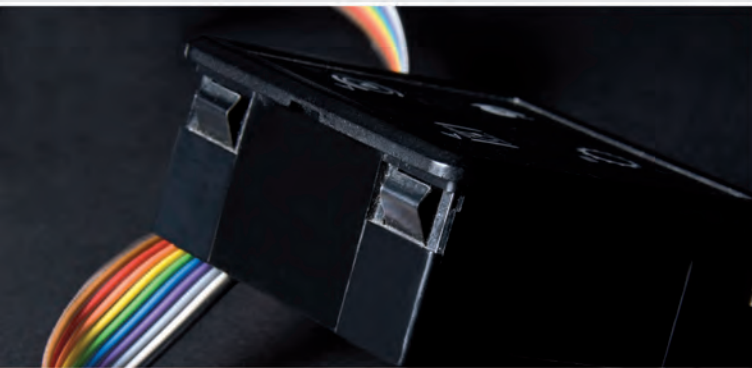


# MODULE SOLUTIONS



## Standard base modules

- Available as standard module with different number of keys
- Variable membrane design
- CAN interface




## Snap-in-system

- Easy to assemble fastening system
- Easy to install

## Customised configuration

- Membrane design as desired by the customer
- Can be combined and enhanced
- Optional activation guard and finger guidance
- Provision of additional inputs and outputs for peripheral devices, such as brightness sensors or external keys





# DEVELOPMENT & MANUFACTURING

At our site in Luckenwalde we offer a full range of development and manufacturing services for operating and control systems.

During joint discussions we come up with solution approaches to implement your ideas. Our development team develops hardware, software and mechanical solutions which we then use to manufacture samples, prototypes or pre-production batches and produce them in series following validation and approval.

With your help we aim to break the mould when developing operating and control systems. Our vertical range of manufacture guarantees flexibility, quality and speed during the manufacturing process.

The availability of tried-and-tested in-house front plate production, film printing, component assembly, final assembly and final inspection provides an excellent basis for successful new developments.

We ensure that the agreed characteristic values are achieved through extensive testing, for example environmental tests and EMC tests. If necessary, we will obtain external evidence and certificates from accredited institutes.







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