

Marine applications  
Application marine  
Schiffahrtsanwendungen

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## Our company

Founded in 1958 the company was specialized in the production of rotary potentiometers. The company developed successfully in the market of the sensors until the 1980s when Genge&Thoma AG started to invent the first joysticks to expand the product portfolio.

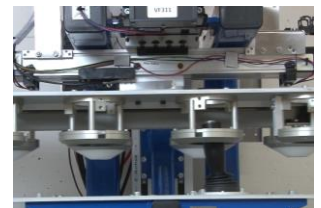
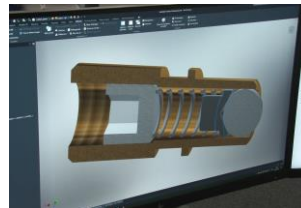
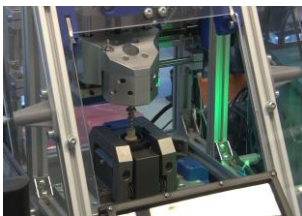
With the time the still family-owned company moved to Lengnau and later to our current location in Brügg, in the heartland of the most famous Swiss watch production sites where mechanical innovation and electrical engineering are practiced with passion. Our main focus moved more and more towards the joystick market, and we expanded our business around the world.

In 2023 we legally transferred the joysticks and sensor business to the newly founded GT Joysticks AG to better focus on our core activities.

## What we offer

Our goal is, to have the perfect joystick solution for your needs. That for we have expanded our portfolio continuously over the past decades and can offer you the whole range from small thumb joysticks to rigid ones for heavy applications.

We are proud to offer everything in house, from the first contact with our sales team through development to modern in-house assembly and quality control. Thanks to this, we are able to offer you an efficient and fast development process for new joysticks, fully adapted to your needs. With a broad team of electrical, IT and mechanical engineers we have all the knowledge inhouse, which we need to develop a new product.



## Our marine portfolio

An overview about our most common marine applications

Page 04	Overview
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## Our marine controller series

Be it for sailboats, luxury yachts or large freighters, they all trust on Genge&Thomas naval joysticks and controllers.

All our specially designed controllers are equipped with contactless hall effect sensors and can be mounted on the panel without any installation depth.

Another advantage of those controllers is the possibility of customizing perceptible notches as well as a dimmable illumination of the deflection angle.

We might even adapt the design of our controllers to your needs, so it optically suits into your panel of the boat.

Do not hesitate to contact us for any questions or to find a customized solution for your needs.

### BS 130

The BS130 azimuth controller includes a customizable design-handle with a maximum range of  $\pm 80^\circ$  for speed control and a rotary angle of  $360^\circ$ .



### BS 140

The BS140 azimuth controller includes a customizable single or double handle with a maximum range of  $\pm 70^\circ$  for speed control.



### BS 160

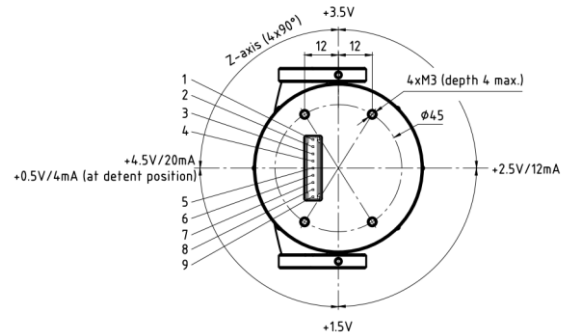
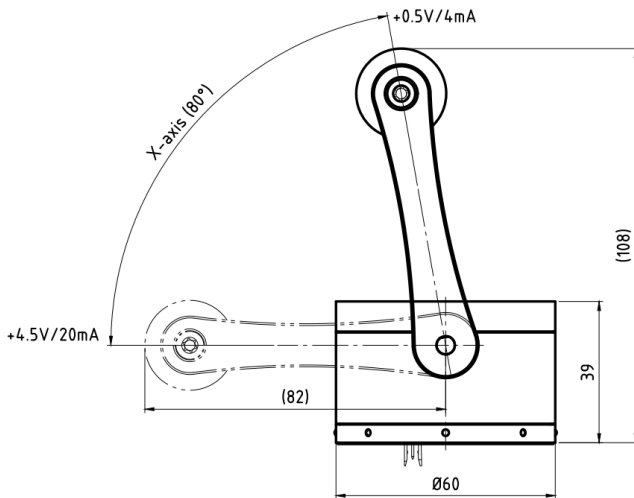
The BS160 tiller controller is equipped with contactless hall effect sensors and includes a customized handle and rotary angle.



Check the technical specifications on the next pages.



# BS 130 azimuth controller

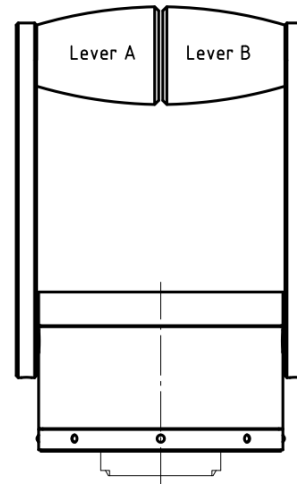
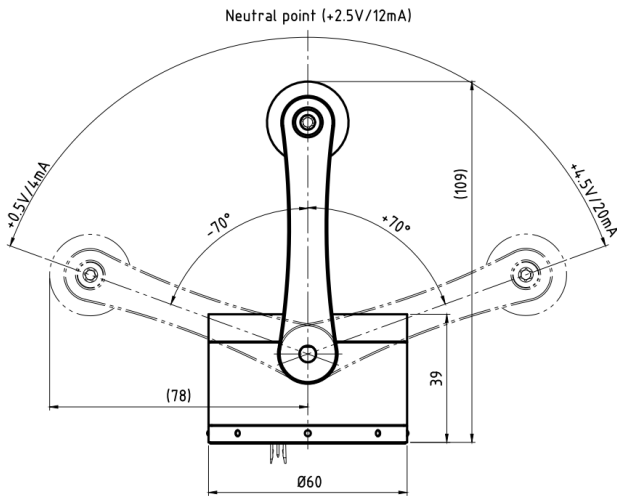


## Technical specification

Axes	2 axes (X/Z)
Deflection Angle	X-axis 80° / Z-axis 360°
Options	Notch for Idle Handle design
Height above panel	39mm (108mm with lever at max position)
Mounting depth	0mm (only cable feedthrough)
Bolt circle	45mm with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	24V DC(standard)
Output signal	Analogue 0.5-4.5V
Connection	Dubox
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	IP50 above panel

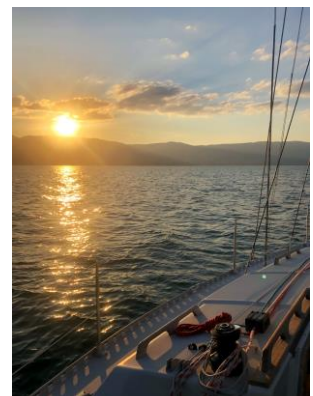
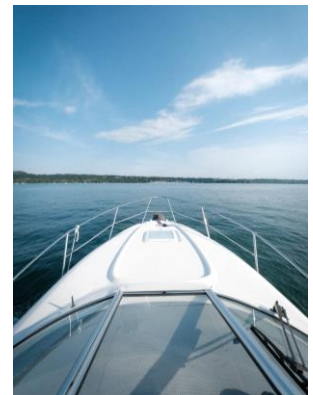


# BS 140 engine controller

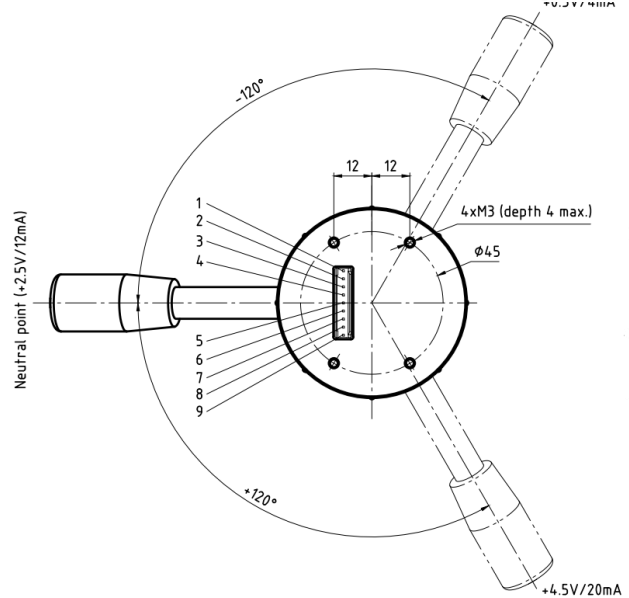
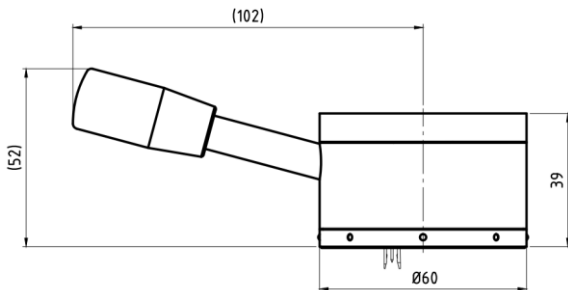


## Technical specification

Axes	1 axe
Deflection Angle	±X-axis 70°
Options	Notch for Idle Handle design
Height above panel	39mm (109mm with lever at max position)
Mounting depth	0mm (only cable feedthrough)
Bolt circle	45mm with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	24V DC(standard)
Output signal	Analogue 0.5-4.5V
Connection	Minitek
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	IP50



# BS 160 tiller controller



## Technical specification

Axes	1 axis
Deflection Angle	Z-axis 240°
Options	Rotation angle Handle design
Height above panel	52mm
Mounting depth	0mm (only cable feedthrough)
Bolt circle	45mm with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	24V DC(standard)
Output signal	Analogue 0.5-4.5V
Connection	Dubox
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	



# SK60 The all-rounder



## One fits most

The SK 60 base offers several options with different haptic characteristics to choose from.

In the core of the joystick is a well proven hall effect sensor. Our modular design solutions can deliver the most common communication signals and interfaces like analogue CANopen or J1939.

Thanks to its wide range of options, a joystick based on this platform can be used in many different ways. Almost anything is possible, whether with a closed bellow for the harsh environment outside or as a multifunctional three-axes version on the bridge.

## Technical specification

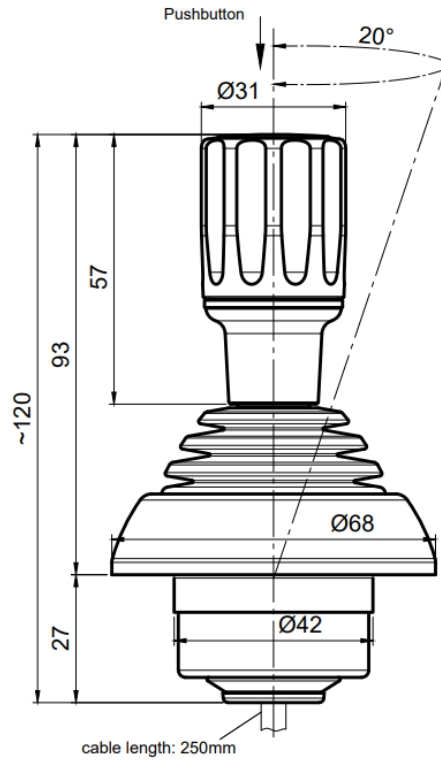
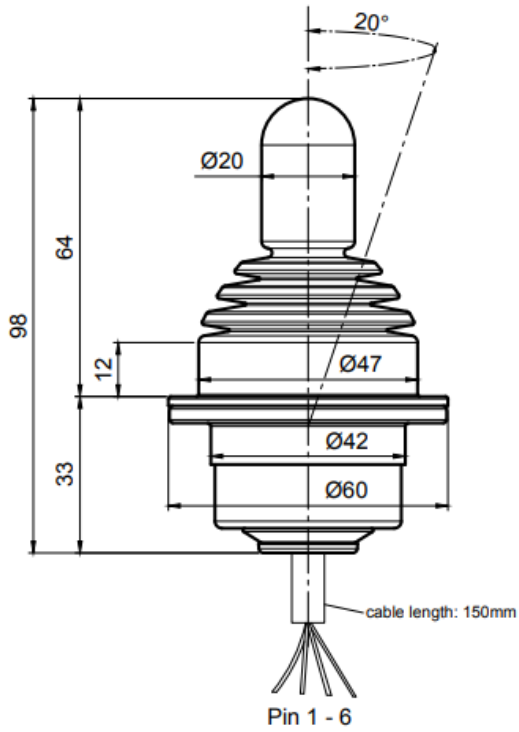
Axes	Up to three axes
Deflection Angle	+/- 20°
Resetting	Self-resetting or friction brake
Push button	Optional
Options	Connectors, push button, handles, rigide cross guidance
Mounting depth	34mm (1.3in), below panel + cable
Panel cut-out	Ø 43 or 49mm (1.69in or 1.93in)
Bolt circle	53mm (2.08in) with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	5V DC(standard)
Output signal	Analogue / CANopen / J1939
Connection	Cable
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	Depending on the version up to IP67



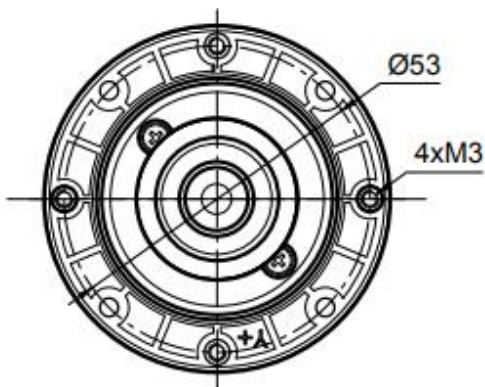


# SK60 technical drawings

Side view



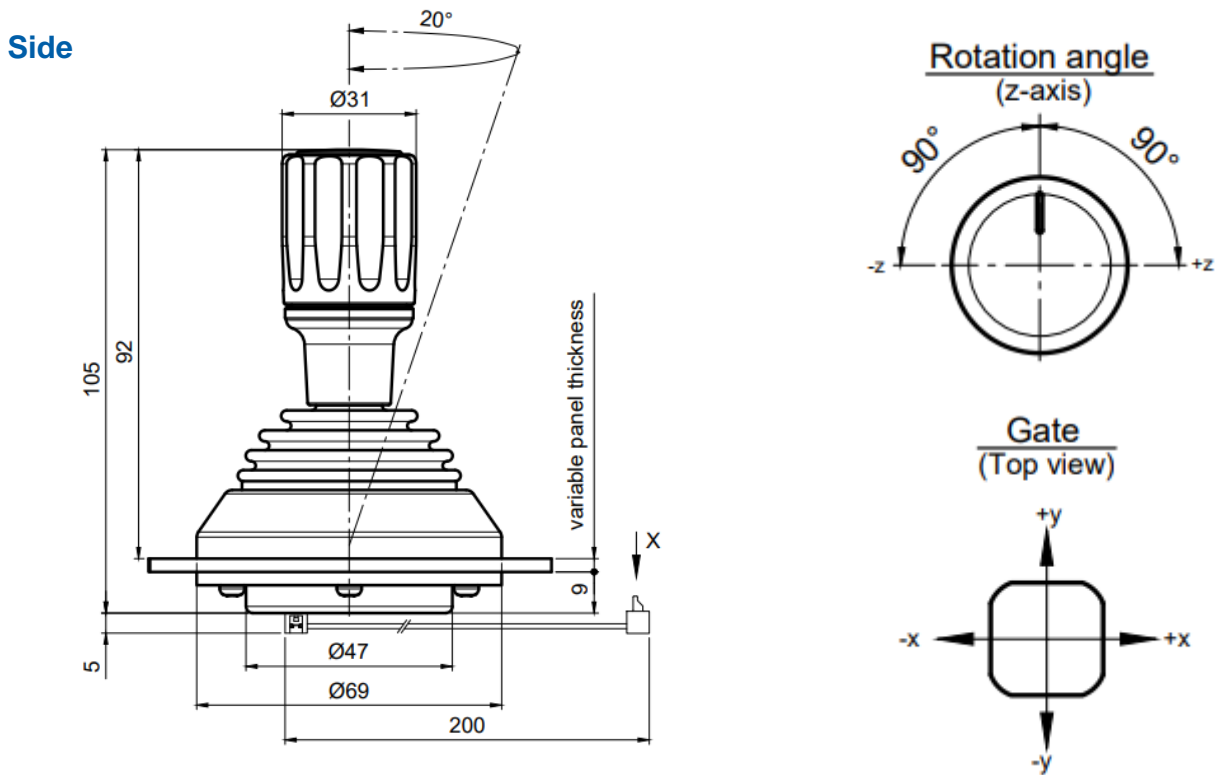
Bottom view



Mounting illustration with mounting ring



# SK60 The bow thruster solution



## Mounting illustration with mounting ring

Axes	Three axes
Deflection Angle	+/- 20° for X/Y // +/- 90° for Z
Resetting	Friction brake
Mounting depth	14mm, below panel + cable
Panel cut-out	Ø 47.5mm
Bolt circle	53mm with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	5V DC(standard)
Output signal	CAN/SPI/ analogue propotional
Connection	Micro-MaTch
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)



# SK315 The small one



## Compact with many possibilities

Compact and durable multi-axis joysticks, perfectly made for marine applications.

It comes with a low height to fit in many controls or integrated panels, but with a large handy knob to operate also with gloves.

Remarkable - all axes are available with single or redundant output signals. The joysticks can be equipped with a push button if needed.

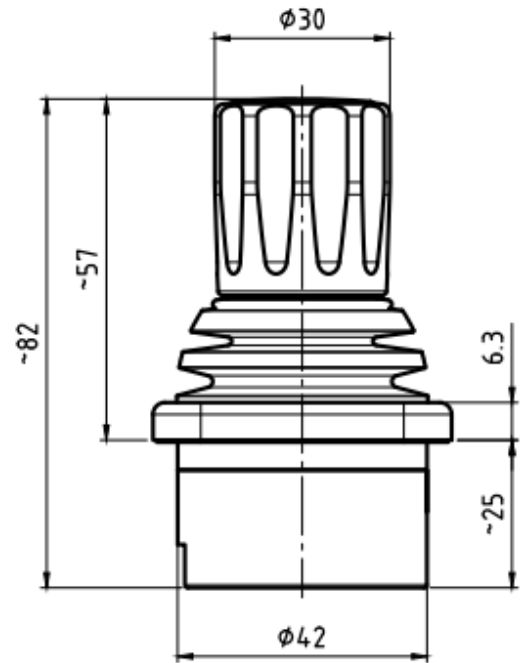
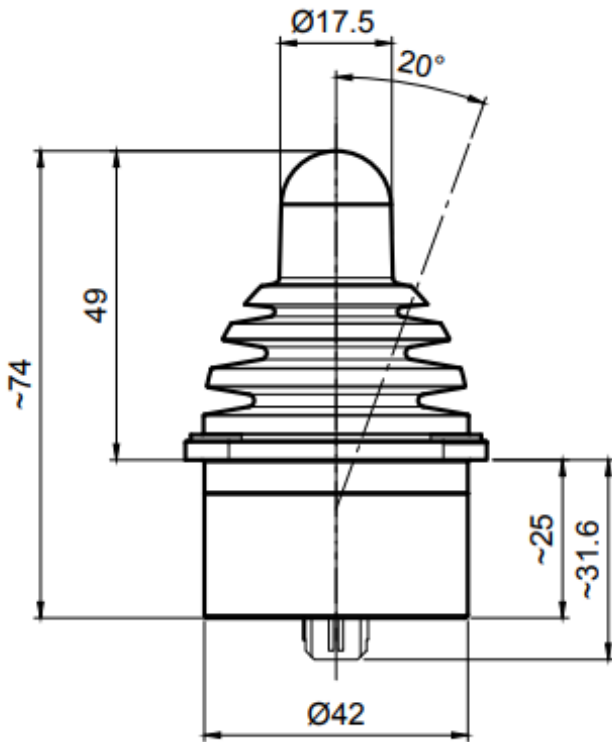
## Technical specification

Axes	Up to 3 axes
Operating angle	X/Y axis: +/- 20° / Z axis: +/- 30°
Resetting	Self-resetting
Guidance	Soft guidance
Push button	Optional
Options	Push button, handles
Height above panel	57mm (2.24in)
Mounting depth	25mm (0.98in), below panel + cable
Panel cut-out	Ø 42.5mm (1.67in)
Bolt circle	35mm (1.37in) with 4 x M3 screws
Technology	Hall-effect sensors
Operating voltage	5V DC(standard)
Output signal	0.5V – 4.5V, linear, redundant
Connection	Connector
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	Depending on the version up to IP67

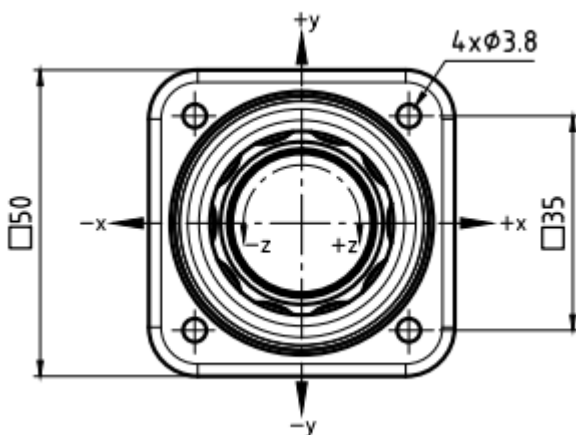


# SK315 technical drawings

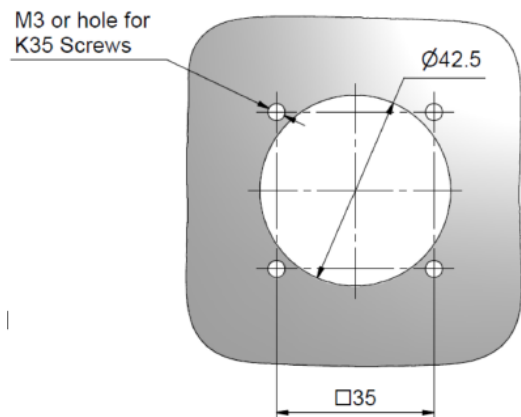
## Side view



## Bottom view



## Panel cut-out



# SK225 The round one



## The precision controller

The SK 225 precision motion controller is designed for rough applications. In addition to the movement of a normal joystick, the entire knob can be continuously rotated 360 degrees while 20 clearly noticeable detents provide operator feedback.

A programmable, integrated, multi-colored led ring along with a built-in push button are just a few of its unique features.

The controller impresses with no installation depth and could be a perfect solution for ship navigation systems and other wide range of maritime applications.

Its design and customizable features make it an ideal option for precise and efficient navigation at sea.

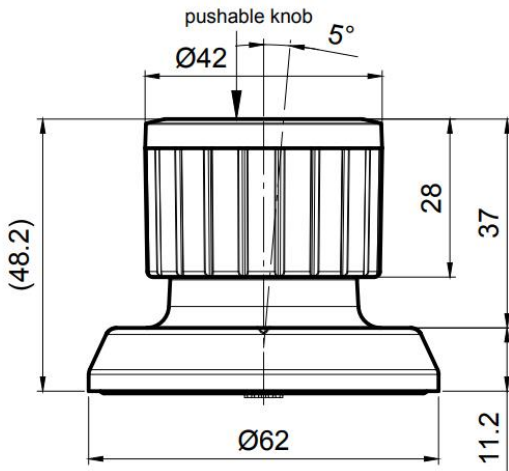
## Technical specification

Axes	3 axes
Rotation	360° continuous rotation with 20 detents
Deflection angle	5° per semiaxis, self-centering
Push button	Press down whole knob – snap dome
Options	Without steps, without deflection in X and Y axes
Height above panel	48mm (~1.89in)
Mounting depth	0mm (0in), top mounted
Panel cut-out	Ø 40mm (1.57in)
Bolt circle	53mm (2.1in) with 4 x K30 self-tapping screws
Technology	Hall-effect sensors
Operating voltage	3,3-5V DC
Output signal	I <sup>2</sup> C (standard), ask for options
Connection	Molex PicoBlade 4-pin connector
Durability	Up to 3 million full cycles, push button up to 1 million
Operation temperature	-30° - +70°C
Storage temperature	-40° - +85°C
IP protection class	IP67 (above panel)
Fire protection	UL94-V0
Illumination	Up to 150 cd /m <sup>2</sup> RGB
Application examples	Medical devices, display control, vehicles, industrial machines

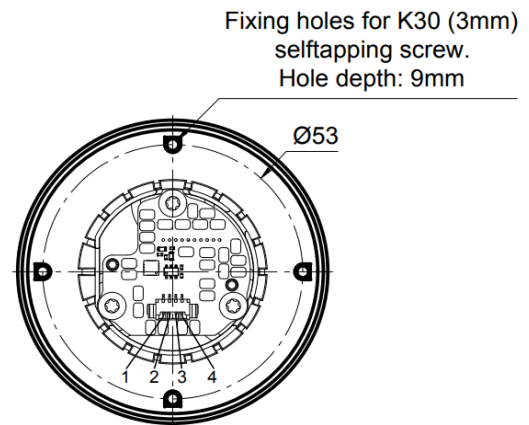


# SK225 technical drawings

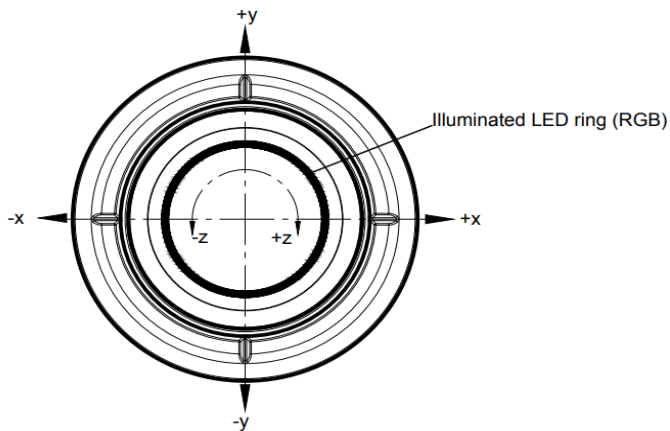
Side view



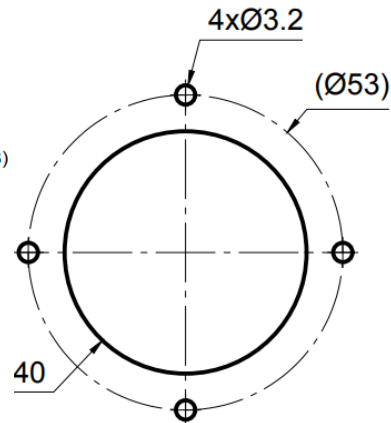
Mounting



Top view



Panel cut-out



# SK216 The control lever



## The tough joystick

This joystick has been developed to withstand harsh maritime conditions while delivering precise and stable control.

With two overlaying rubber boots, it is not only more than leakproof, but it also even allows for the upper boot to be exchanged while installed. Available in various models and is configurable to your needs.

This industrial joystick is perfect as throttle and drive lever, offering precise control and durability in challenging maritime conditions. It provides reliable performance tailored to the unique requirements of the marine industry.

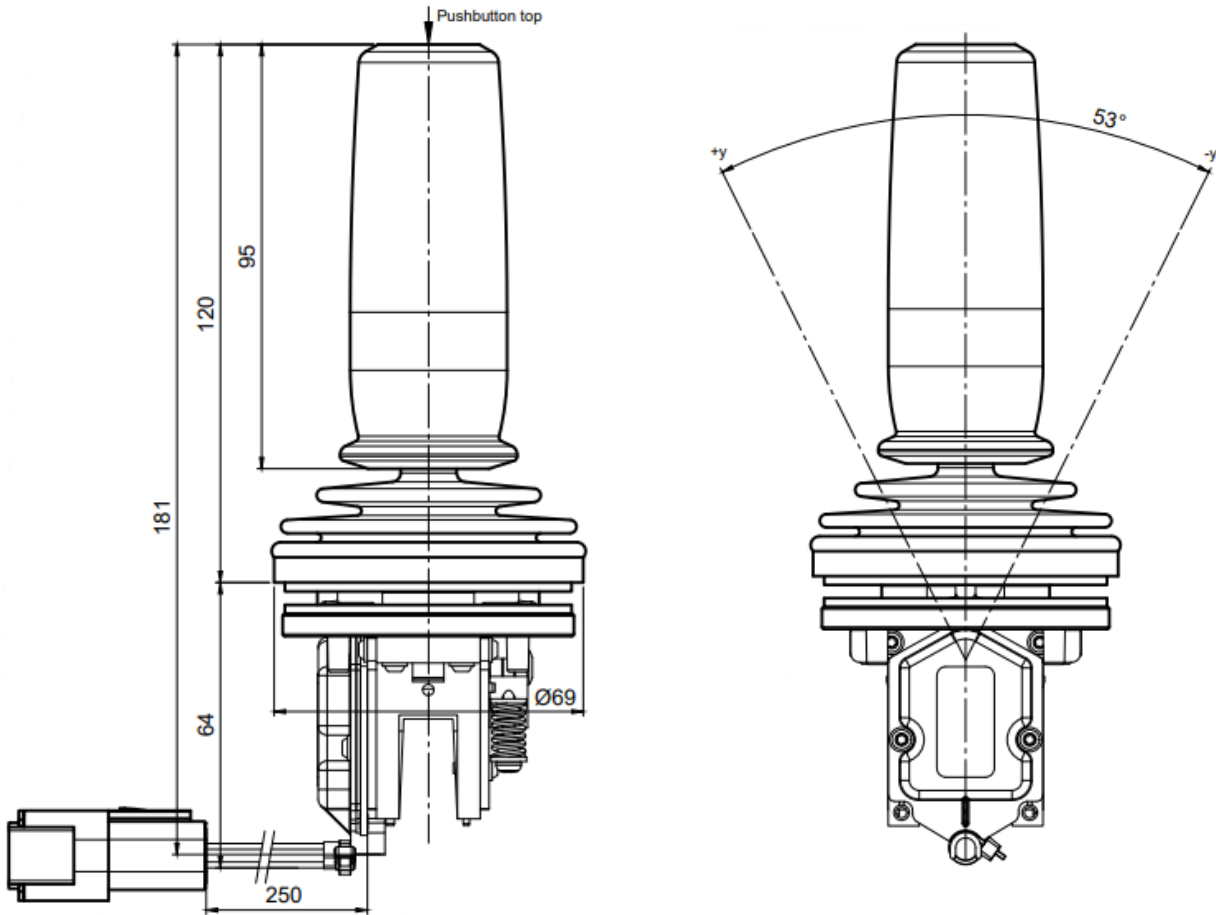
## Technical specification

Axes	1 axis
Deflection Angle	+/- 26.5°
Resetting	Center-lock, friction brake
Push button	Optional
Self-centering	Optional
Height above panel	120mm (~4.72in) (Depending on handle)
Mounting depth	64mm (~2.44in), below panel
Panel cut-out	Ø 51mm (~2.00in)
Bolt square	40mm (1.57in) with 4 x K30 self-tapping screws
Technology	CP or Hall
Operating voltage	5V DC (CP version)
Output signal	Analogue, ask for options
Connection	Mate-N-Lok, ask for options
Durability	Up to 3 million full cycles
Operation temperature	-30° - +80°C (-22°F - +176°F)
Storage temperature	-40° - +85°C (-40°F - +185°F)
IP protection class	IP67 (above panel, 2 rubber boots)
Fire protection	UL94-V0
Application examples	Vehicles, machinery, off-shore

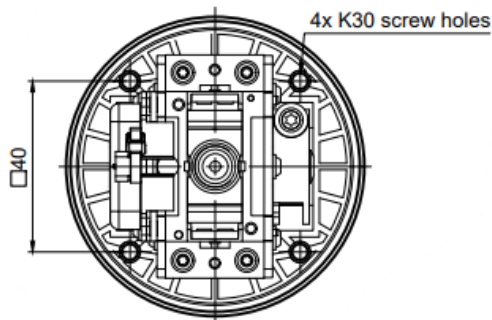


# SK216 technical drawings

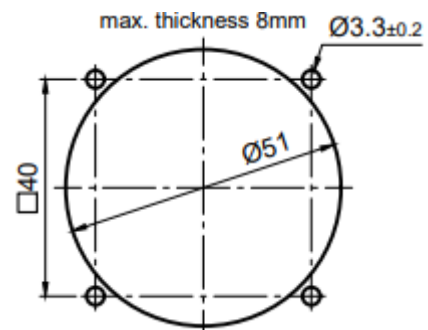
Side view



Bottom view

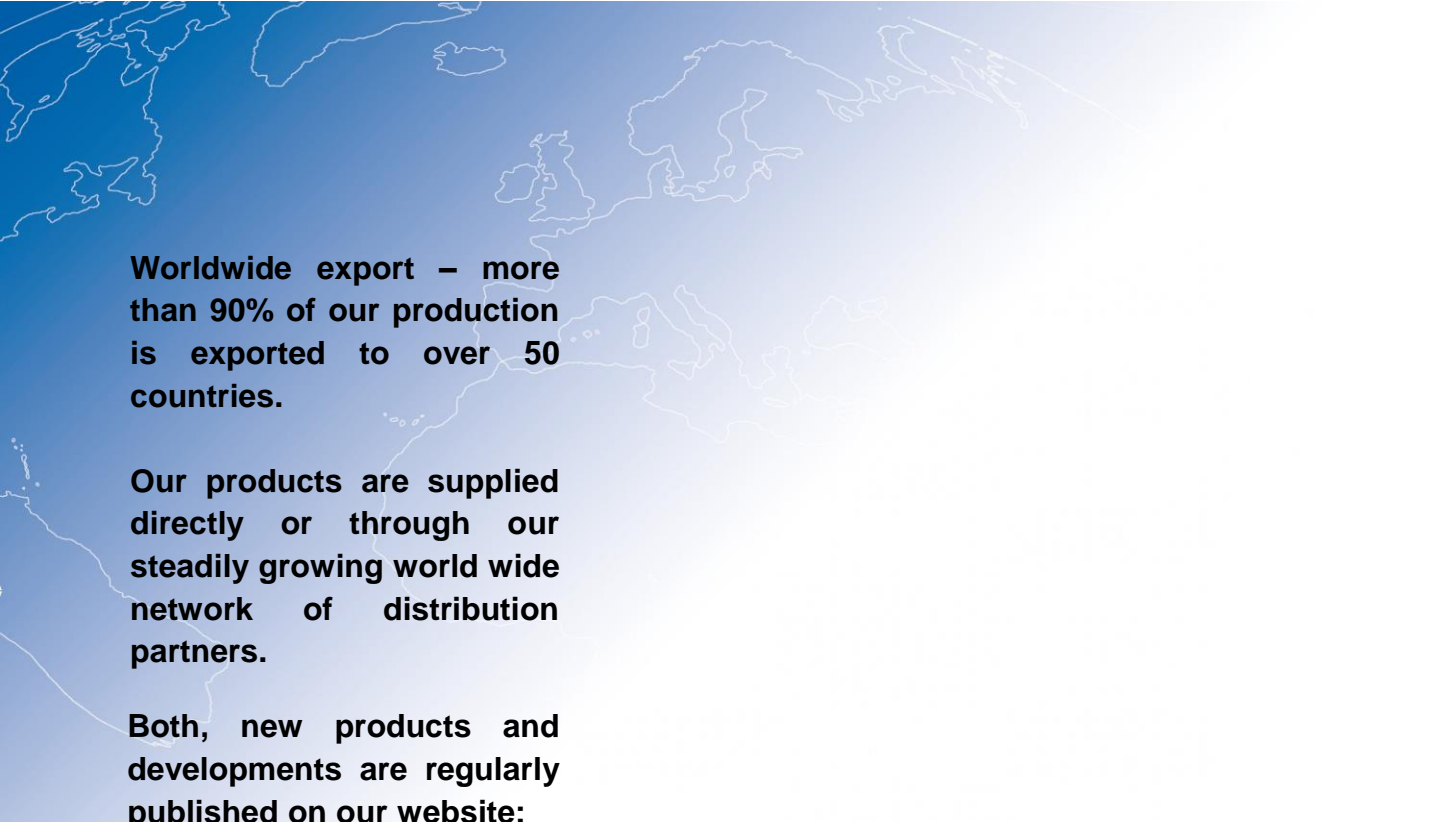


Panel cut-out





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