

# JOYSCAPE

The Joystick Platform for your Control Systems






# CONVINCING IN EVERY DIRECTION

**RAFI** is a leader in human-machine communication. Together with our customers we develop high-quality control systems as tailor-made complete solutions – including touchscreens, housings, computers, components and joysticks. That's why we understand what makes a good joystick: ease of use, a long operating life and good ergonomics. And to ensure our exacting requirements are met, we manufacture our own joysticks: **JOYSCAPE**.

With our BASIC, MULTI, LINEAR, ROUGH and TINY multifunctional joystick variants, we offer flexibility in terms of both features and price. Together with you, we find the right solution for your control system.

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- System integration and scalable technology thanks to in-house production
  - Space-saving platform solutions with standard modules
  - Customer and application-specific handles
  - Wear-free 3D Hall sensors
  - A wide range of gates, angles of deflection and actuating forces for optimum ease of use
  - Illuminated handles for use after dark in mobile applications
  - Easy cleaning for high hygiene standards thanks to special folding bellows

# THE PLATFORM

THE RIGHT JOYSTICK – ALWAYS



Compact single-axle joystick for ergonomic finger operation. The capacitive sensors in the optimally shaped, illuminated handle ensure a high degree of operating safety.



For integration into the joystick handle. Compact, flexible and optimized for thumb operation.

Installation size/flange (plus production tolerance)	25 x 43 mm	30 x 30 mm
Mounting depth	0 mm	30 mm
Orthogonal deflection	35° each	25° each
Multifunction handle	no	no
Gates	momentary contact function, latching	cross, linear, round
Locking	optional	optional
Housing material	synthetic material	synthetic material
Preferred guidance	no	no
Sensor system	3D Hall sensors	3D Hall sensors
Redundant sensor system	optional	optional
Interfaces	analog	analog
Operating torque depends on actuator spring, folding bellows, bearing shell - (locking/preferred guidance)		-
Robustness of actuator in X and Y direction	-	-
Robustness of actuator in Z direction	-	-
Resolution at 20° deflection	-	-
Operating life under climatic influence (-40°C to +85°C)	-	-
Temperature range	-	-





**JOYSCAPE BASIC**

When limited space is available for mounting. Tilts freely in the X-Y plane. Designed for work requiring "fingertip feel".

**JOYSCAPE MULTI**

Flexible and versatile. Enables use of versatile multifunctional handles with a variety of options, such as thumb joystick, rocker switch and push function, with low space requirements for mounting. In a steel or synthetic material design.

**JOYSCAPE ROUGH**

Comes into its own when it's time to get down to business. Easy to operate – even in the harshest conditions. Ergonomic multifunction handles can be implemented for intuitive control of complex processes.

38 x 38 mm	46 x 46 mm steel housing 48 x 48 mm synthetic material housing	77 x 77 mm
31 mm + mating connector	38 mm + mating connector	67 mm + mating connector
round gate: 20° each (on request also < 20°), square gate: 18° each (on request also < 18°)	round and square gate: 20° each (on request also < 20°)	square gate: 20° each (on request also < 20°)
no	yes (hollow axle for max. 5 stranded wires)	yes (hollow axle for max. 6 stranded wires)
square, round	square, round, cross, single-channel	square, cross, single-channel
no	optional	optional
ferromagnetic steel	ferromagnetic steel or synthetic material	ferromagnetic steel or synthetic material
optional	optional	optional
3D Hall sensors	3D Hall sensors	3D Hall sensors
optional	optional	optional
SPI (additional custom interfaces)	SPI and analog (additional custom interfaces)	analog (additional custom interfaces)
0.10 to 0.40 Nm different actuating forces can be realized via different actuator springs	0.20 to 0.60 Nm different actuating forces can be realized via different actuator springs	1.0 to 2.0 Nm different actuating forces can be realized via different actuator springs
max. 10 Nm	max. 25 Nm	max. 110 Nm
+/- 250 N (compressive and tensile load)	500 N (compressive load) 250 N (tensile load)	1,000 N (compressive load) 500 N (tensile load)
8 Bit (max. +/- 4% rel. linearity)	8 Bit (max. +/- 3% rel. linearity)	8 Bit (max. +/- 3% rel. linearity)
> 5 m actuation cycles	> 5 m actuation cycles	> 5 m actuation cycles
-40°C to +85°C working temperature -50°C to +90°C storage temperature	-40°C to +85°C working temperature -50°C to +90°C storage temperature	-40°C to +85°C working temperature -50°C to +90°C storage temperature

# IN USE

## INDUSTRIES AND APPLICATIONS

High-quality control systems require reliable and flexible joysticks. This is where **JOYSCAPE** truly shines. Leading manufacturers from various industries rely on the joystick platform from **RAFI**.



Ergonomic control units and control lever modules for easy control of heavy machinery.  
**JOYSCAPE ROUGH, MULTI AND LINEAR**

**INDUSTRIAL TRUCKS**



Simple and reliable operation of forklift trucks.  
**JOYSCAPE MULTI**

**AGRICULTURAL AND FORESTRY MACHINERY**



Enhanced functionality for the complex hydraulics and safe handling of these devices.  
**JOYSCAPE MULTI AND LINEAR**

**MEDICAL ENGINEERING**



Precise control units for medical devices with the strictest hygiene standards.  
**JOYSCAPE MULTI**

**SPECIAL-PURPOSE VEHICLES**



Intuitive control of the new generation of Pistenbully vehicles.  
**JOYSCAPE ROUGH**





The information in this brochure contains general descriptions and performance characteristics which may not apply exactly in the concrete application and/or which can change due to further development of the products. The technical data, images and other details of our products are merely the results of individual technical tests. These and other performance characteristics are only binding when they are expressly agreed upon conclusion of the contract.

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