

# **Fingertip Joystick**

JFT...

### Single-axis joystick for easy and ergonomic actuation

- + Compact design for simple
  "on top" installation in control panels
- + Parallel arrangement in the tightest installation spaces possible
- + High reliability and long lifetime thanks to contactless, shielded Hall Effect technology
- + Developed for adverse environmental conditions, protection class IP 67 (electronics)
- + Completely sealed above installation level, protection class IP 67
- + Angled actuator with soft-touch finger rest for optimum ergonomics
- + Color-coded actuator cap and customized symbol imprints for maximum user-friendliness



### Use

Due to its compact design, the fingertip joystick is ideal for use in control panels and armrests. The area of application ranges from industrial trucks, agricultural and construction machinery to countless industry applications.

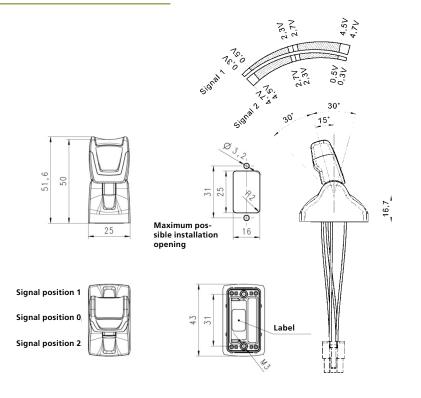
The JFT with its easy "on top" installation and unique ergonomic design is the optimum solution for controlling functions in forklifts, tractors and wheel loaders.

#### **Variants**

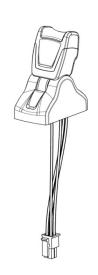
The JFT is available with single and dual channel, ratiometric-analog output signals. The detent or nodetent end positions allow a broad range of commercial vehicle functions to be implemented. The large selection of actuator colors and symbols enable the operator to visually assign functions.



### **Mechanical assembly**



 = recommended tolerance range (electronic and mechanical tolerances over the life cycles) for software application



### **Installation dimensions**

Installation size	43 x 25 x 51.6 mm installation depth below fastening level 0 mm
Installation	Threaded holes for 2 x M3 screws
Height of operating lever	35 mm from pivot point

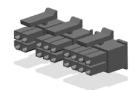
### **Key mechanical data**

Technology	Contactless Hall sensor technology
Actuation	Single-axis
Mechanical service life	≥ 5 million cycles - no detent ≥ 2 million cycles - detent
Deflection	± 30°
Actuation type	No detent, detent, no detent with feel points
Actuation force	No detent 3.5 N4 N Detent 12 N14 N
Detent position	± 30°
Position of feel points	± 23°
Static capacity	≥ 200 N at 35 mm from pivot point



# sensor technology

Working temperature range	-40°C+85°C DIN IEC 68
Storage temperature range	-40°C+85°C DIN IEC 68
Protection class electronic	IP 67 DIN EN 60529
Protection class mechanical	IP 50 DIN EN 60529
Protection class above instal- lation level	IP 67 DIN EN 60529
Connection	Wire outlet 0.1 mm², 0.34 mm², 0.5 mm²
Connector	<ul><li>4/6 pin Molex Mini-Fit Jr. series 5557</li><li>4/6 pin Molex Micro-Fit</li></ul>





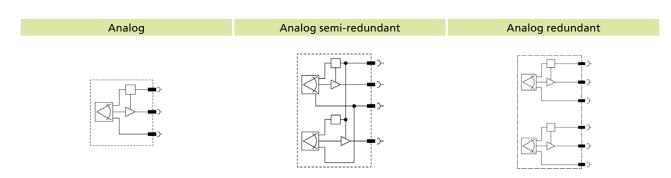
Molex Micro-Fit

Molex Mini-Fit Jr.

## **Analog electrical data**

	Analog output
Operating voltage	4.55.5 V DC
Max. operating current	15 mA
Output signal	0.54.5 V DC
Neutral position	2.5 V DC
Load resistance	> 20 kΩ
EMC	Tested in accordance with DIN EN 12895 (Electromagnetic compatibility for industrial trucks) Tested in accordance with DIN EN 13309 (Electromagnetic compatibility for construction machinery) Tested in accordance with DIN EN ISO 14982 (Electromagnetic compatibility for agricultural and forestry machinery)

# Wiring

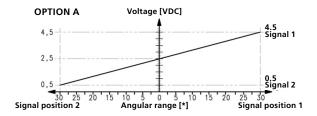


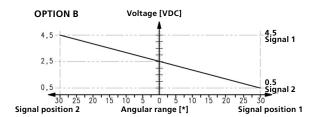


### **Circuitry signal pattern**

#### Analog, one signal output

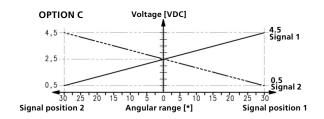
- 4.5...0.5 V DC, ±30° displacement
- 0.5...4.5 V DC, ±30° displacement

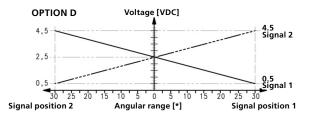


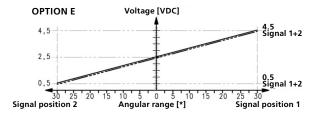


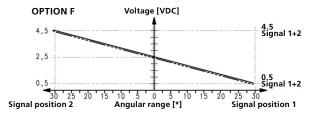
#### Analog, two signal outputs

- Opposing signals, 0.5...4.5 V DC/4.5...0.5 V DC, ±30° deflection
- Synchronous signals, 0.5...4.5 V DC or 4.5...0.5 V DC, ±30° deflection











### **Actuator colors**



The following actuator colors are included in our standard range:

RAL 9004 Signal Black	RAL 3001 Signal Red
RAL 5005 Signal Blue	RAL 6010 Grass Green
RAL 1023 Traffic Yellow	RAL 8001 Ochre Brown
RAL 2010 Signal Orange	RAL 7042 Traffic Grey A
RAL 7043 Traffic Grey B	RAL 4008 Signal Violet

### **Symbols**

Individual symbols can be printed by means of pad printing and hot embossing. The maximum size for symbols is  $9 \times 13 \text{ mm}$ .

Some examples of symbols:



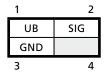


### Standard pin assignment

Illustration shows all connectors viewed from wire side.

#### Analog single-channel

1		3
UB	SIG	GND
4		6



6-pin male connector

4-pin male connector

#### Analog semi-redundant

		3
UB	SIG1	GND
	SIG2	
4		6



6-pin male connector

4-pin male connector

#### Analog fully-redundant



6-pin male connector



# **Specifications of your JFT fingertip joystick**

Outpi	ut signal / voltage supply			A_A
	Analog single-channel			
	Analog semi-redundant			Ų Š (M)
	Analog redundant			A A
Funct	ion			
	No detent			
	Detent			A
	No detent with feel points			
Symb	ol			
	No symbol	Please sketch or choose symbol		A
	With symbol –	_		
				A
			_	
				A A
		File available in *.dxf format		A A
		Yes		
		No		
Actua	tor color			AA
	Color name	Color number		
[	Signal Black	RAL 9004		
	Signal Red	RAL 3001		
	Signal Blue	RAL 5005		
	Grass Green	RAL 6010		
	Traffic Yellow	RAL 1023		
	Ochre Brown	RAL 8001		
	Signal Orange	RAL 2010		\\2/
	Signal Grey A	RAL 7042	_	
	Signal Grey B	RAL 7043		A A
$\equiv$	Signal Violet	RAL 4008		



Wire cross section	Connection type
0.10 mm <sup>2</sup>	Wire outlet without connector
0.34 mm <sup>2</sup>	Wire outlet with connector
0.50 mm <sup>2</sup>	Molex Micro-Fit
	Molex Mini-Fit-Jr.
Circuitry signal pattern	
1 signal (forward risi	ng)
B 1 signal (forward fal	ling)
2 signals (signal 1 for	rward rising, signal 2 forward falling)
D 2 signals (signal 1 for	rward falling, signal 2 forward rising)
E 2 signals (signals 1 ar	nd 2 forward rising)
F 2 signals (signals 1 a	nd 2 forward falling)



Fax: +49 (0) 7561 970-100 E-Mail: info@elobau.de

# Your product enquiry

Quar	ntity	,									ļ	Bat	ch	siz	e					
Nam	e/fii	rst n	ame	<b>:</b>																
Com	pany	/																		
Addr	ess																			
Posta	al co	de/1	tow	n																
Cour	ntry																			
(																				
U																				
E-Ma	ail																			
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ions,	oth	ner															
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ons,	oth	ner															
Note	es, qu	uesti	fons	oth	ner															
Note	es, qu	uesti	Cons	oth	ner															
Note	es, qu	uesti	Cons	oth	ner															
Note	es, qu	uesti	Cons	oth	ner															
Note	es, qu	uesti	ons	oth	ner															
Note	es, qu	uesti	ons	oth	ner															