

# Control components

## Roller Gen 3



- ▶ For use with Rexroth control grip Sense+
- ▶ For all construction, handling or agricultural applications

### Features

- ▶ Several ergonomic caps of Rollers available
- ▶ Hall-effect proportional control up to:
  - PLc capable
  - PLd capable
- ▶ Different available outputs options
- ▶ Improved integration size
- ▶ Backlighting option available

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## Type code

01	02	03
<b>C</b>	<b>A</b>	<b>B</b>

Roller Generation		Performance Level	
01	Generation 3	PLc capable	<b>C</b>
		PLd capable	<b>D</b>

Output Signal		Cap color	
02	Analogic	Black ■	<b>A</b>
	PWM	Black ■	<b>B</b>

Backlight		Cap shape	
03	Without Backlight	Peak	<b>A</b>
		Ribbed	<b>B</b>
		Concave	<b>C</b>
	With Backlight	Peak	<b>D</b>
		Ribbed	<b>E</b>
		Concave	<b>F</b>

## Product description

### Features

- ▶ Analogic ratiometric or PWM output available
- ▶ Analogic version compatible with 4THE5 CAN Joystick base connection (Data processing of component signals, cross-check and CAN broadcast)

### Roller caps shape

#### ▼ Peak shape - A / D



#### ▼ Ribbed shape - B / E

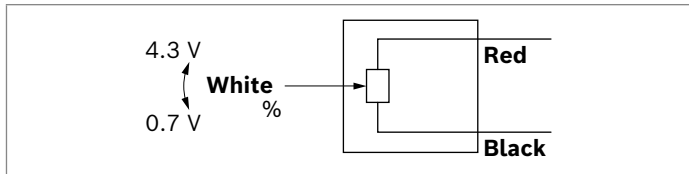


#### ▼ Concave shape - C / F

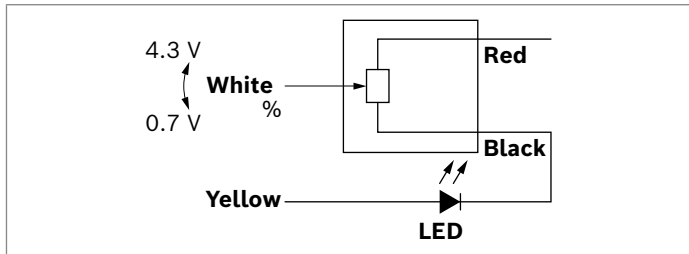


### Electric diagrams

#### ▼ Single output - C



#### ▼ Single output - C with Backlight

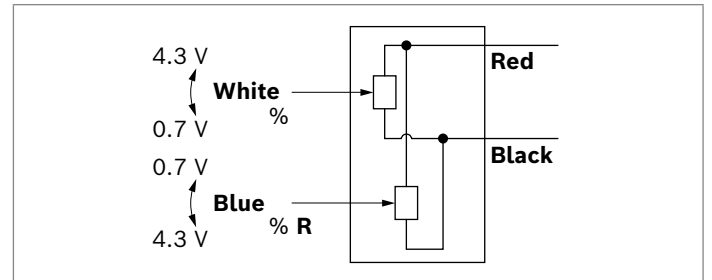


#### Electrical architecture for single output Roller (C)

- ▶ Fulfills ISO 13849 Category 1 requirements
- ▶  $MTTF_D = 23331$  years
- ▶ Designed to be implemented in PLC machine functions

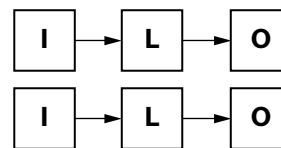


#### ▼ Dual output - D



#### Electrical architecture for dual output Roller (D)

- ▶ Fulfills ISO 13849 Category 3 requirements
- ▶  $MTTF_D = 13492$  years
- ▶ Designed to be implemented in PLd machine functions

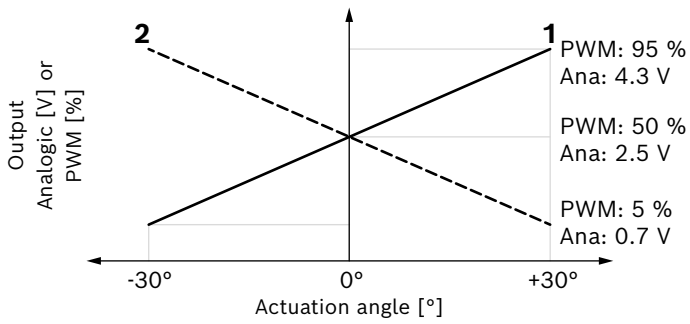


**Cross check to be done externally.**  
Can be done by the 4THE5  
CAN-D joystick.

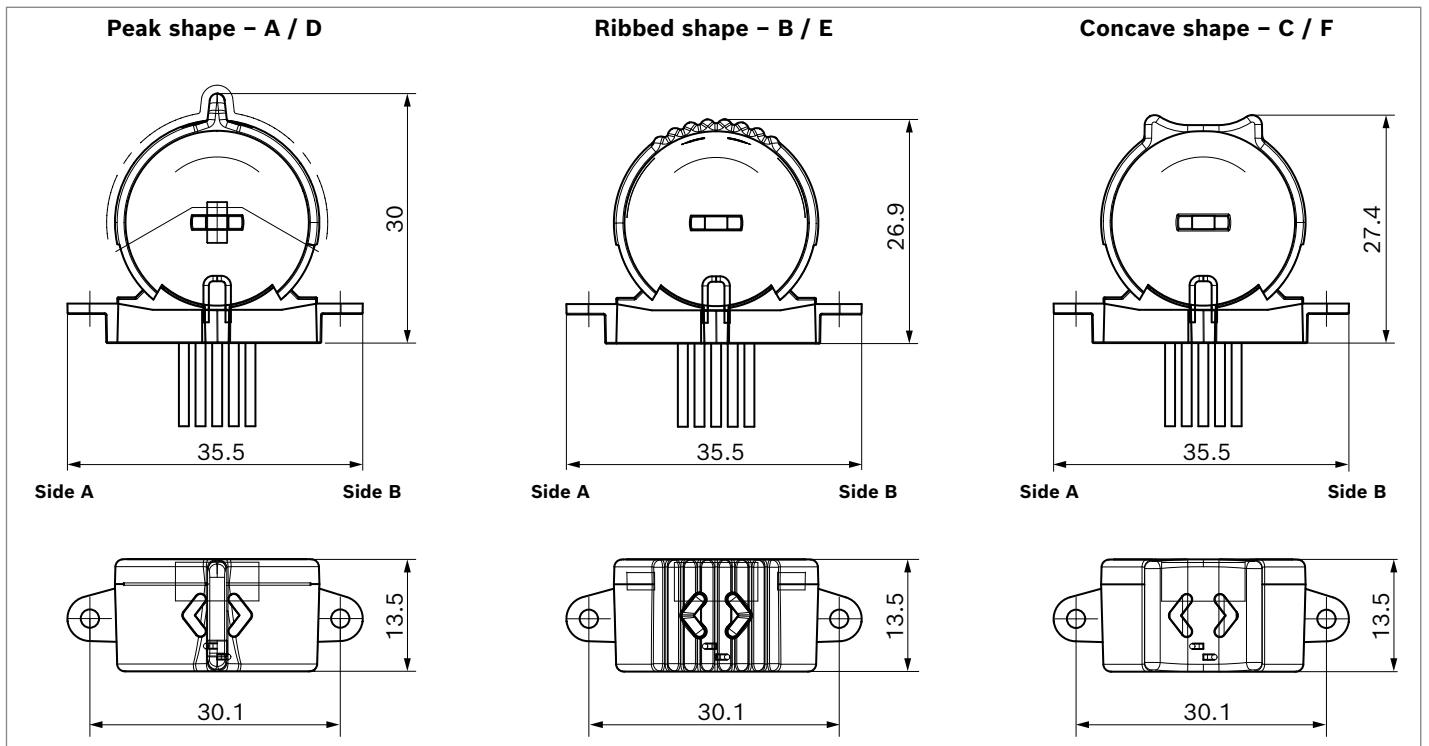
## Technical data

<b>General</b>			
Environmental protection		IP65 (IP69K when installed in control grip)	
Max. permissible force on the electrical functions	N	50	
Actuation angle	°	±30°	
Design life according to wiring recommendations	Cycles	2 Mio	
Diameter of the insulation of each conducting cable	mm	1.45	
Section of each conducting cable	mm <sup>2</sup>	0.25	
Electromagnetic compatibility (EMC)		Qualified to standards ISO 13766 rev. 2 (2018)	
Performance level according to ISO 13849	Single channel	Designed to be implemented in PLC machine functions	
	Double channel (redundancy)	Designed to be implemented in PLd machine functions	
<b>Analogic ratiometric output</b>			
Supply voltage	V	5±5 %	
Drawn current on supply line	Single output	mA	10
	Dual output	mA	20
Output voltage	Minimum	V	0.7
	Neutral	V	2.5
	Maximum	V	4.3
Signal precision	mV	±200	
Maximum output current	mA	2.5	
Wiring recommendations (resistor)	Pull-up	kΩ	One 1 kΩ
	Pull-down	kΩ	One 1 to 5.6 kΩ
Maximum load capacity	nF	42	
<b>PWM output</b>			
(Not applicable for 4THE5 CAN Electronic joystick control grip data processing)			
Supply voltage	V	5±5 %	
Output pulses frequency	Hz	500±50	
Drawn current on supply line	Single output	mA	10
	Dual output	mA	20
Output PWM duty cycle	Minimum	%	5
	Neutral	%	50
	Maximum	%	95
Signal precision	%	±5	
Maximum output current	mA	20	
Maximum load capacity	nF	1000	
Wiring recommendations (resistor)	kΩ	Min. 4.5	

### Characteristic curves



### Dimensions



### Cleaning guidelines

- ▶ Never use solvents or aggressive cleaning agents like bleach. Clean the control grip using only water and a plastic cleaning agent if necessary.

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