

## Thumbwheel 175D

Due to its flat, miniature design, illuminated thumbwheel switch 175D is ideal for use in joystick grips and the keypads of mobile machinery.

The thumbwheel can be mounted in our joystick grips 361G / 362G and 341G / 342G, for the control of operational functions, such as those on wheel loaders

### Technical specifications

- Optional LED illumination of various colours
- Ergonomically adaptable by means of various actuator types
- High reliability thanks to shielded, contactless Hall technology
- IP67 electronics protection class
- Deflection:  $\pm 30^\circ$  no-detent,  $\pm 20^\circ$  detent
- For wiring and signal form, select between ratiometric analogue, semi-redundant analogue and redundant analogue or digital

## Technical drawing

IMAGE 1/3

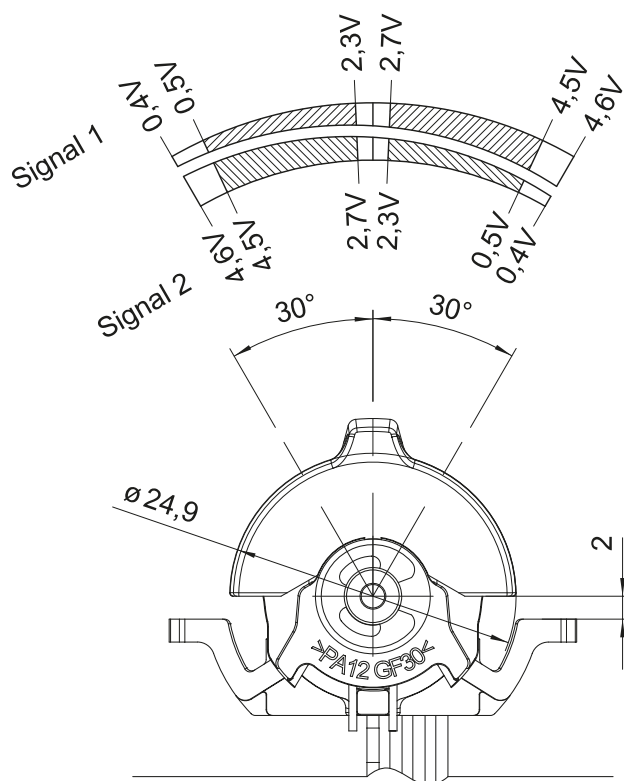
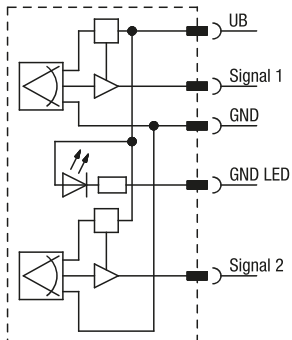


IMAGE 2/3

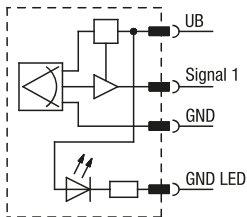
## Standard

### Analogue semi-redundant

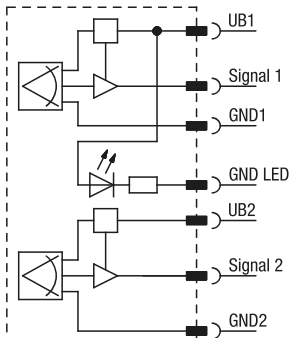


## Optional

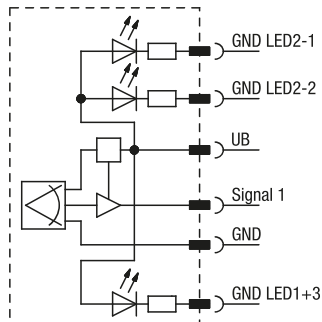
### Analogue



### Analogue redundant



### Analogue multi-colour



### Switching output

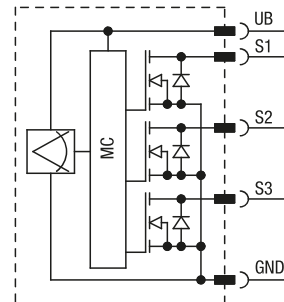
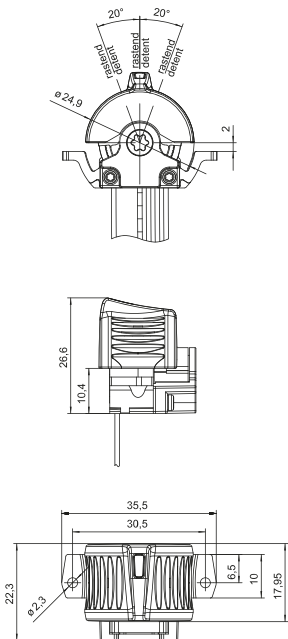


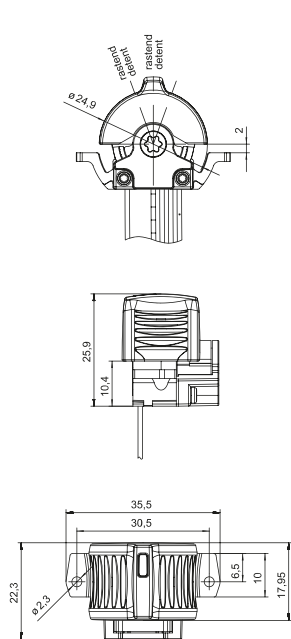
IMAGE 3/3

**Standard**

**Actuator type A**

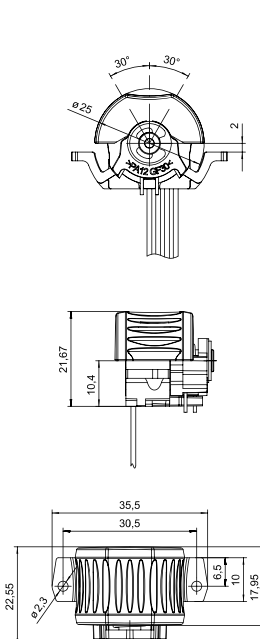


**Actuator type B**

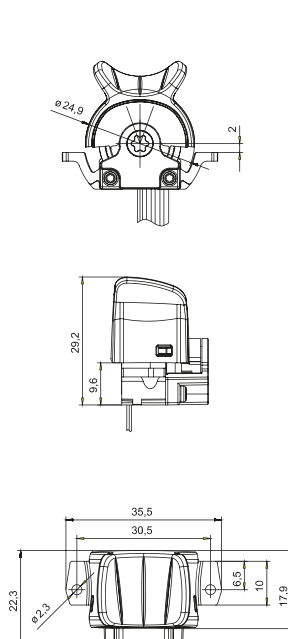


**Optional**

**Actuator type C**



**Actuator type D**



## Product options

IMAGE 1/1

### Illumination

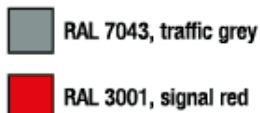
Illumination is generally provided by 3 LEDs. An optional multi-colour LED (red-green) is available for the centre position, which maintains its illumination colour until a signal position change takes place. Optionally also available without illumination.



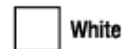
#### Actuator colors Standard



#### Actuator colors Optional



#### Illumination colours LED



#### Illumination colours LED Optional



Red/green for multi-colour LEDs

## Article characteristics

Attribute	175DD...	175DR...	175DT...
Max. switching voltage	24 V DC	-	-
Max. switching current	0.1 A	-	-
Polarity reversal protection	no		
Output signal min.	-	0.5 V DC	
Output signal max.	-	4.5 V DC	
Output signal	open drain	analogue	
Output signal - centre position/zero position	-	2.5 V	
Output polarity	-	opposite	
Operating voltage min.	4.5 V DC		
Operating voltage max.	5.5 V DC		
Current consumption	per Signal max. 15 mA		
Load resistance min.	-	20000 Ohm	
Short-circuit resistance to GND	yes		
Short-circuit resistance to supply	yes		
Technology	Hall		
Deflection	± 30 °	± 20 °	± 30 °
Actuation type	no detent	detent	no detent
Service life, mechanical (Cycles)	2000000		
Protection class, electronic	IP67 DIN EN 60529		
Operating temperature min.	-25 °C		
Max. operating temperature	85 °C		
Min. storage temperature	-40 °C		
Max. storage temperature	85 °C		
Shock resistance (Norm)	Frequency 50 Hz - 100Hz - 50 Hz, Acceleration 5 g, Amplitude 15 mm peak		
Installation	from below		
Cable length	0.75 m		