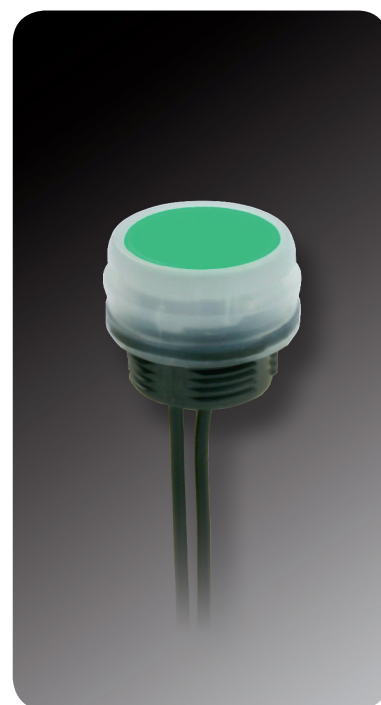


# Nano push button

145NTG.....

Miniature size, sets new standards in Reed switching technology

- + minimal design for maximum switching reliability
- + exceptional tactile performance throughout entire lifetime
- + patented design principle with IP67 encapsulated switch housing
- + function and night illumination
- + resistant to shock and vibrations according to DIN IEC 68 Part 2
- + operating temperature range from -40 °C to +85 °C (-40 °F to +185 °F)
- + lifetime > 2 million switching operations
- + Namur wiring available



## Use

Thanks to its compact design, the Nano push button can be used in many applications such as control panels, keyboards, etc,... Its miniature size, combined with maximum functionality makes the 145NT ideal for applications in vehicle construction such as joystick controllers.



Space-saving installation situation in multi function levers

## Colour, symbol and illumination options



A wide selection of colours for the actuator caps

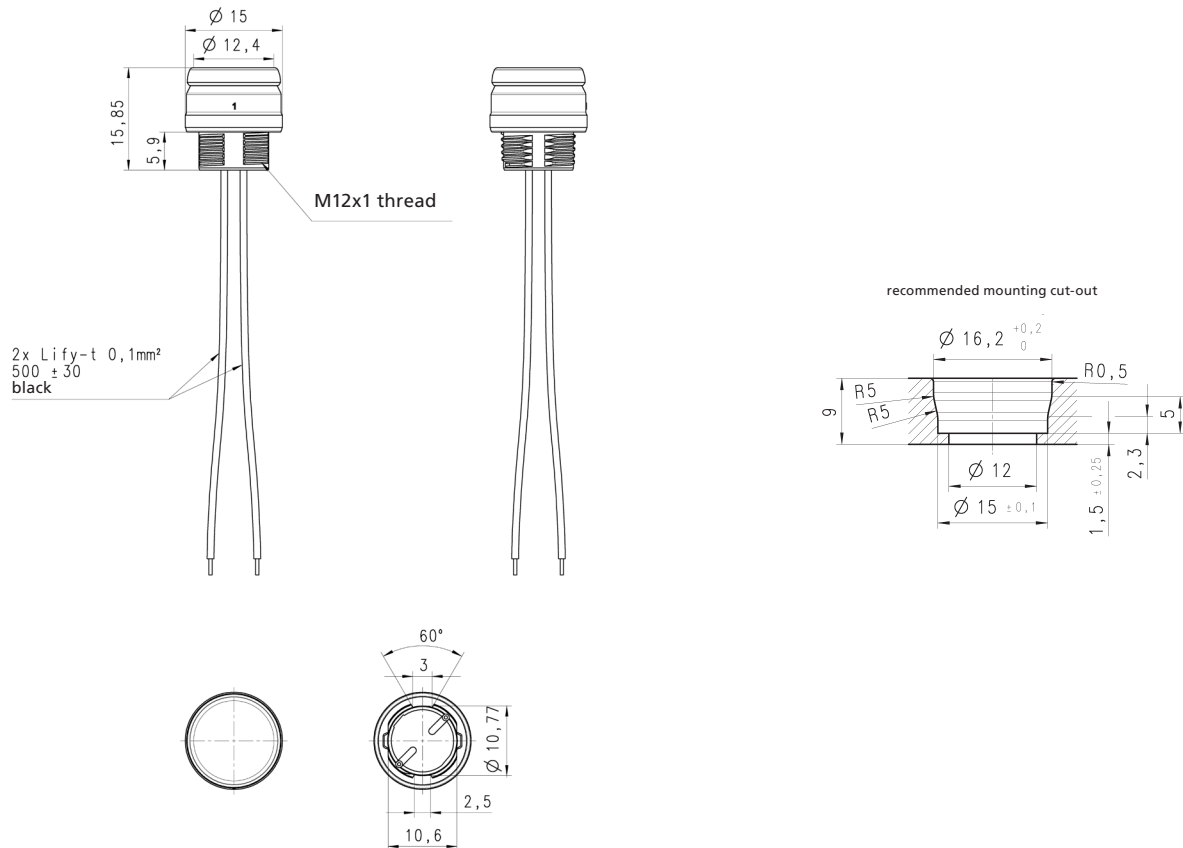


Customised symbol printing available



With function and night illumination

## Mechanical assembly



## Installation dimensions

Mounting cut-out	mounting hole $\varnothing$ 12 mm
Mounting	M12x1 thread with locking nut
Height	15.85 mm (housing with actuator cap)

## Key mechanical data

Technology	magnetically actuated Reed switch
Life time	> 2 million switching operations
Actuation force	$5 \pm 2$ N
Actuation travel	$2^{+0.2}$ mm
Nut tightening torque	0.5 Nm
Material	sealed 2k silicon housing / PA (polyamide)
Operating temp. range	-40 °C to +85 °C (-40 °F to +185 °F)
International protection - electronics	IP67 DIN EN 60529
Shock / vibration	resistant according to DIN IEC 68 Part 2
UV resistance	according to IEC 60068-2-5
Wires	Lify, 500 mm $\pm$ 30 mm, $\varnothing$ 0.1 mm <sup>2</sup>

## Illumination

Several types of illumination are available:

With function and night illumination	2 LEDs can be controlled
Function illumination	1 LED can be controlled
No illumination	without LED



For example:  
red function  
illumination

Illumination colours available:

<input checked="" type="checkbox"/> red	<input checked="" type="checkbox"/> green	<input type="checkbox"/> white
<input checked="" type="checkbox"/> blue	<input checked="" type="checkbox"/> yellow	

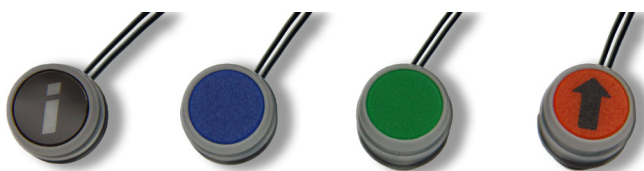


For example:  
white night  
illumination

## Colours and symbols of actuator caps

The following actuator colours are available in the standard range. Other colours are also available on request.

Colour	Colour number
<input checked="" type="checkbox"/> traffic red	RAL3020
<input checked="" type="checkbox"/> signal blue	RAL5005
<input checked="" type="checkbox"/> traffic green	RAL6024
<input checked="" type="checkbox"/> pastel orange	RAL2003
<input checked="" type="checkbox"/> ochre brown	RAL8001
<input checked="" type="checkbox"/> traffic yellow	RAL1023
<input type="checkbox"/> signal white	RAL9003
<input checked="" type="checkbox"/> signal black	RAL9004
<input checked="" type="checkbox"/> slate grey	RAL7015
<input checked="" type="checkbox"/> traffic grey A	RAL7042
transparent	
transparent-diffused	luminous
stainless steel	



Customised symbols can also be printed.

As the label is printed on the back, the symbol is resistant to abrasion. The illuminated diameter of the actuator cap is 10 mm.

Here are a few examples of symbols:

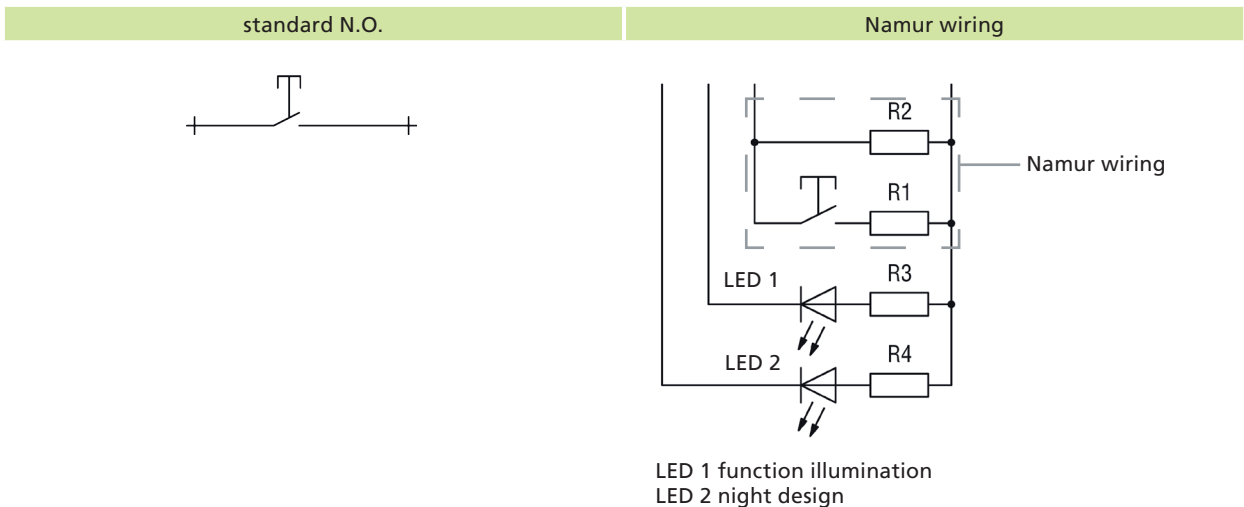


## Key electrical data

Contact system	1 N.O., optional Namur wiring
Switching voltage	max. 48 V AC/DC
Switching current	max. 0.3 A / DC
Switching capacity	max. 5 W/VA (for Namur wiring, depending on the resistance values)
Operating voltage LEDs	depends on the integrated series resistor

Standard Namur wiring	
R2	18 kΩ
R1	3.6 kΩ

## Connection



## Connection type

Lify-t Ø 0.1 mm<sup>2</sup> wires, length 500 mm ± 30 mm  
 Number of wires depends on button assembly:

No LED	2 wires
1 LED	3 wires
2 LEDs	4 wires

Wires can be attached to all standard connector types, such as Molex or AMP. Please ask your sales contact for more information.



## Chemical resistance

+ transmission oil	+ engine oil	+ diesel
+ biodiesel	+ battery acid	+ cleaning agent
+ petrol	+ coolant	+ common drinks

## Part number

145NT . . . ..		
G		thread housing
	0	without LED
	1	one LED
	2	two LEDs
	0	standard N.O.
	1	Namur wiring
	DF	labelling cap - diffused
	TR	transparent labelling cap
	WE	signal white labelling cap
	RT	traffic red labelling cap
	BL	signal blue labelling cap
	GN	traffic green labelling cap
	GE	traffic yellow labelling cap
	SW	signal black labelling cap
	BR	ochre brown labelling cap
	OR	pastel orange labelling cap
	HG	traffic grey A labelling cap
	DG	slate grey labelling cap
	VA	stainless steel labelling cap
	01	sequence number (button and symbol)
	02	sequence number (button and symbol)

### Ordering example

145NTG21VA01	Nano push button with thread, two LEDs, Namur wiring and stainless steel labelling cap
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## Specifications of your Nano push button

### Actuation cap colour

Colour	Colour number
<input type="checkbox"/> traffic red	RAL3020
<input type="checkbox"/> signal blue	RAL5005
<input type="checkbox"/> traffic green	RAL6024
<input type="checkbox"/> pastel orange	RAL2003
<input type="checkbox"/> ochre brown	RAL8001
<input type="checkbox"/> traffic yellow	RAL1023
<input type="checkbox"/> signal white	RAL9003
<input type="checkbox"/> signal black	RAL9004
<input type="checkbox"/> slate grey	RAL7015
<input type="checkbox"/> traffic grey A	RAL7042
<input type="checkbox"/> transparent	
<input type="checkbox"/> transparent-diffused	luminous
<input type="checkbox"/> stainless steel	

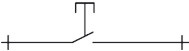


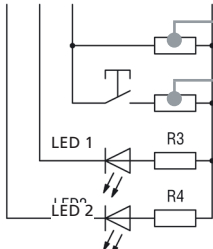
### Connection type

- wires connection without connector
- wires connection with connector
  - Molex
  - AMP
  - other\*: \_\_\_\_\_

\* Connector must be suitable for the existing cross section of the wires (Ø 0.1 mm<sup>2</sup>)

### Connection

- standard N.O. 
- standard Namur wiring
 

R2 =	18	kΩ
R1 =	3,6	kΩ
- customised Namur wiring
 

R2 =		kΩ
R1 =		kΩ

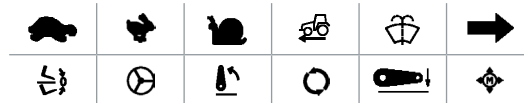
Technical data and content subject to change without notice.

**Symbol**

- no symbol
- with symbol

sketch here:

Examples:



file available in \*.dxf format  yes  no

**Illumination**

- without
- function illumination
- with function and night illumination

Colour LED function illumination				Colour LED night illumination							
<input type="checkbox"/>	<input type="checkbox"/>	red	<input type="checkbox"/>	<input type="checkbox"/>	yellow	<input type="checkbox"/>	<input type="checkbox"/>	red	<input type="checkbox"/>	<input type="checkbox"/>	yellow
<input type="checkbox"/>	<input type="checkbox"/>	blue	<input type="checkbox"/>	<input type="checkbox"/>	white	<input type="checkbox"/>	<input type="checkbox"/>	blue	<input type="checkbox"/>	<input type="checkbox"/>	white
<input type="checkbox"/>	<input type="checkbox"/>	green				<input type="checkbox"/>	<input type="checkbox"/>	green			

