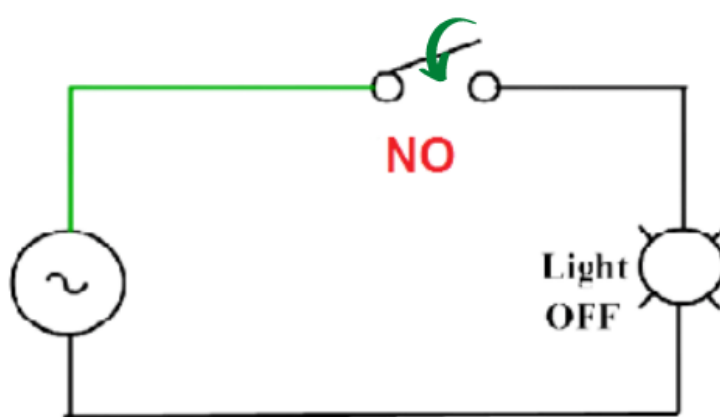


# Why choose a switch with normally closed/normally open electrical function?

To explain the benefit of choosing the normally closed/normally open function, it is important to first look at the two functions separately.

## NORMALLY OPEN CIRCUIT:



Normally function that there is no current flowing through the switch when not activated.

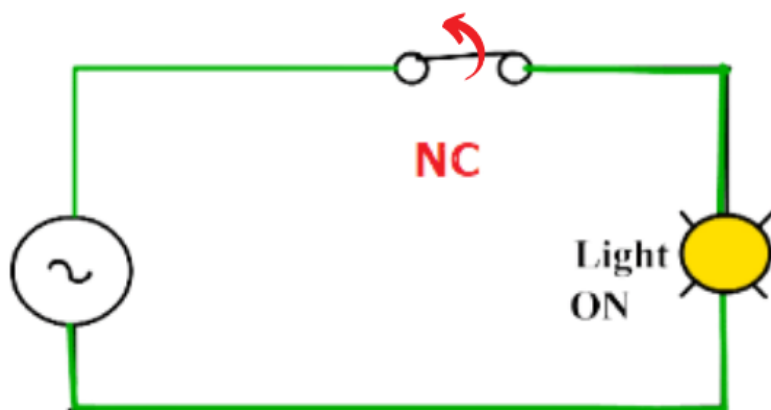
Once the switch is activated the contact closes and allows the current to flow through

It is a good choice when a simple activation of something is required.

There are endless application possibilities from: Turning on your computer to Starting a production line.



## NORMALLY CLOSED CIRCUIT:



Normally closed function is the opposite.

There is a constant current going through the switch when not activated.

Once the switch is activated the flow of current breaks.

This function is excellent when constant confirmation that the switch is still working is required.

For example, in a nurse call system.



## **NORMALLY CLOSED/NORMALLY OPEN CIRCUIT – NC/NO:**

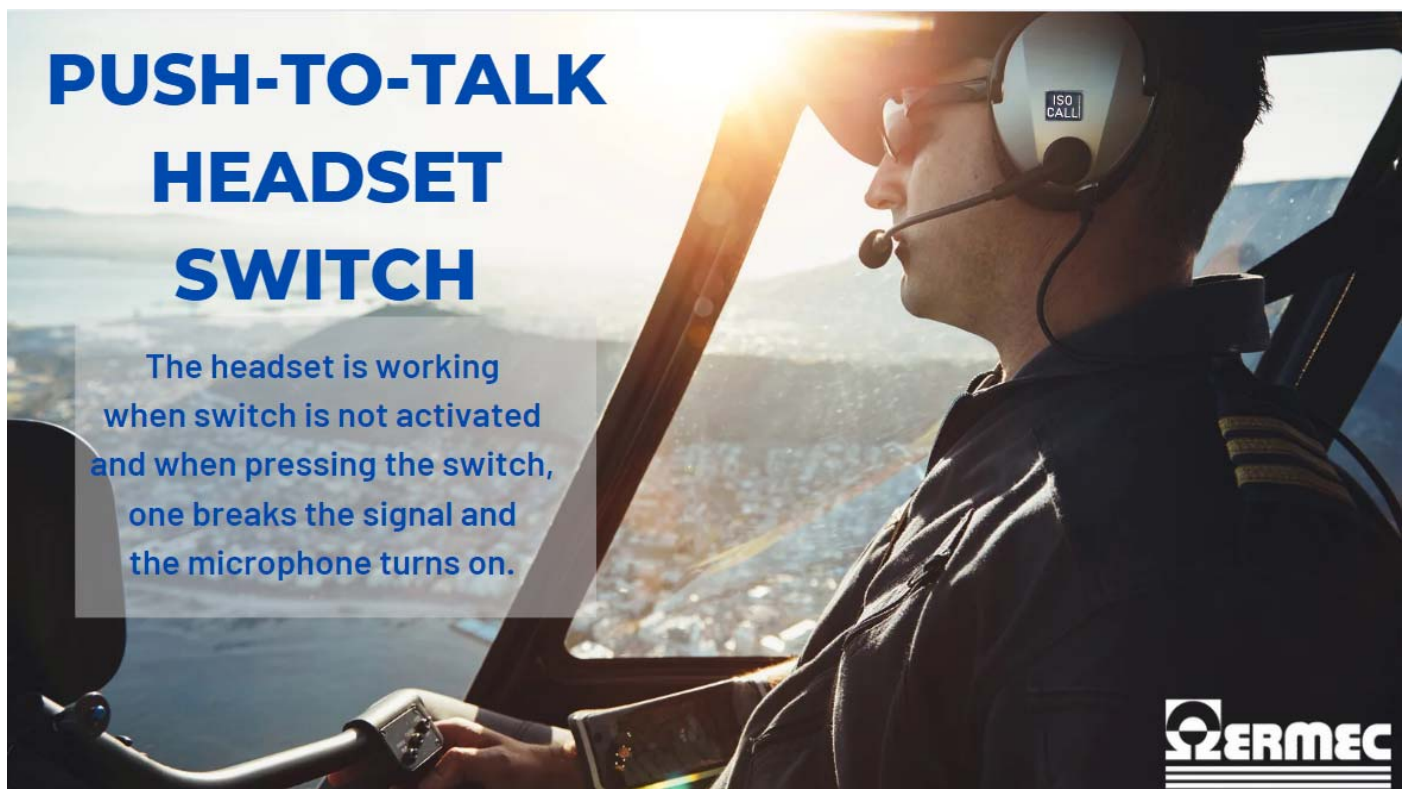
With the NC/NO function the switch becomes multifunctional with one or two inputs and two outputs.

The switch breaks a contact and makes a contact with one activation.

There are two main reasons to choose this multifunctionality:

### **1) Change over function**

NC/NO function is good choice when you temporarily need to switch over from one function to another, like in a push-to-talk headset.



This is because when the switch is not activated the headphones are active and you can hear what the others are saying.

By activating the switch, you turn the headphones off and activate the microphone allowing you to communicate information without being distracted by the sounds from the headphones.

One single switch controls two functions.

## 2) Safety with double confirmation

NC/NO is a smart choice in safety critical applications and when the performance level of your machine needs to be increased with accordance of ISO13849.



This is because NC/NO function allows the verification of the switch while also making a new contact.

This double confirmation can provide extra security.

For example, in parking brakes on a forklift.

The system gets constant confirmation that the switch is functioning from the normally closed circuit.

However, having only the NC function can be dangerous as a malfunction could activate the brakes.

With NC/NO function, it takes both breaking a contact and making a new one to activate the parking brakes.

## One activation, double confirmation.

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