

# Designed to control. Built to last longer.

## Acti 9 iCT 3P+N Contactor



### Unique features

- 3P+N contactor features innovative reinforced neutral pole
- Same advantages as Acti 9 iCT contactor range:
  - Simplicity
  - Flexibility
  - Reliability
  - Compatibility

### Benefits

- Remote control: ideal for single-phase group control applications
- Helps extend operational lifespan and protect loads: ideal for LED lighting applications
- Plug-and-play connectivity: supports a reliable control architecture
- Simple to order: two current ratings, NO and NC versions
- Compliant with IEC 61095

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# End of life for contactors puts your loads at risk

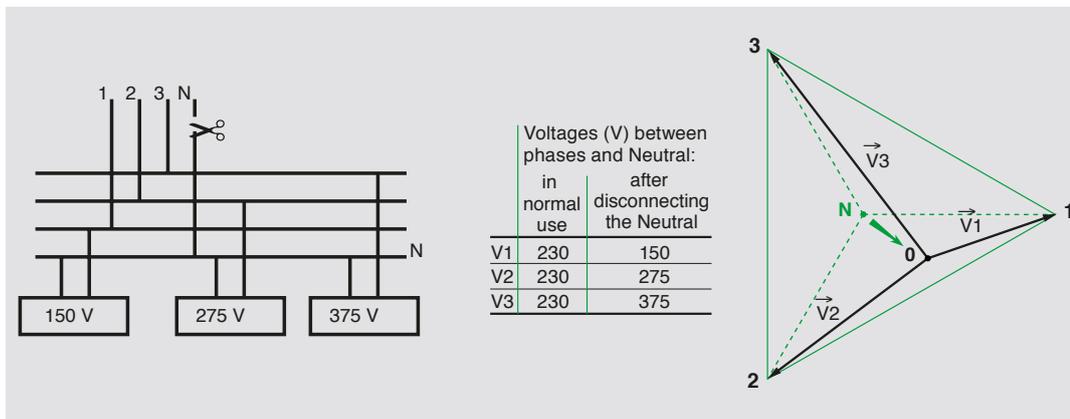
Electrical contactors are used in a wide variety of control applications, and there are many models and ratings to choose from to meet your applications. However, the conditions that contactors operate in are often more harsh than the ratings account for.

## What happens at the end of life of a contactor

As contactors repeatedly perform open-to-close cycles, the individual metal contacts of each pole are progressively etched and eroded from electrical arcing and heat. This deterioration determines the service life of a contactor. At the end of life, failure typically occurs when a set of contacts:

- No longer makes contact, causing the circuit to remain always open. This is usually the result of a combination of chemical pollution and harsh temperature.
- Creates permanent bonds, causing the circuit to remain always closed. This is the result of small parts of metal being ripped from the contacts causing the surface area to be reduced and triggering increased heat to bond the contacts.

Typically, the poles on each side of a contactor are susceptible to faster degradation, including the neutral pole. **This is a critical risk for loads.** In a 3-phase system, if the neutral contact fails it will cause an open neutral condition that can produce up to 400 Vac between phases.



Consequences of disconnecting an evenly balanced Neutral conductor only in an installation when the single-phase loads are unevenly balanced.

## When 4P contactors have limits

If you are using a standard 4-pole contactor to control a group of single-phase loads, 400 Vac can cause sensitive loads to fail. **LED and compact fluorescent lighting loads are especially sensitive to overvoltage.** But so are other electronic loads, including smartphone chargers, tablets, computers, TVs, and fridges.

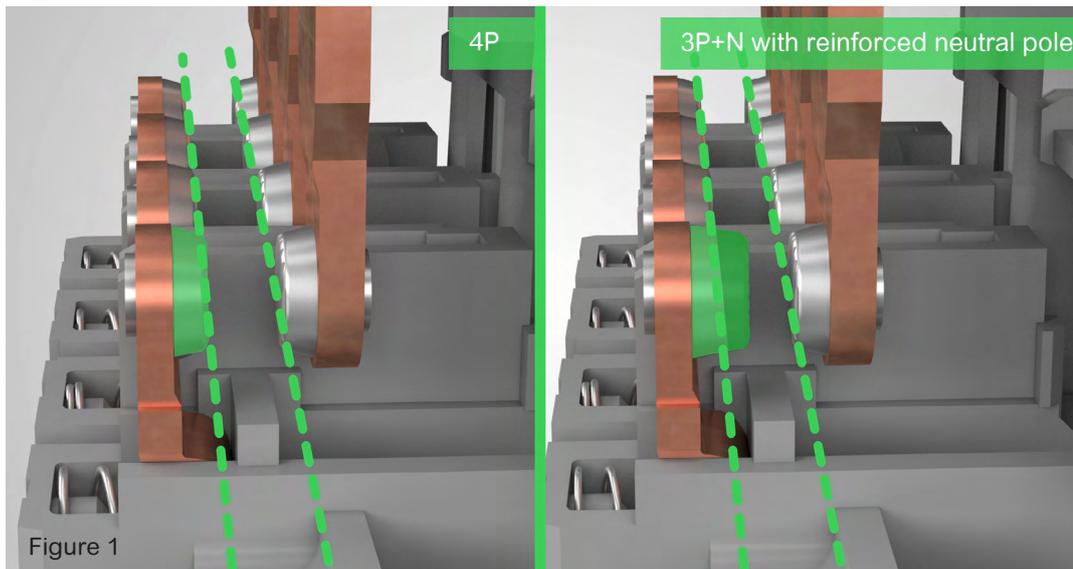
In addition, the startup current for LED luminaires can be very large. And tests have shown that lighting system can generate significant levels of harmonics in addition to the fundamentals signal. These conditions can put further stress on the contactor's neutral pole.

Schneider Electric has the solution.

# The next step in contactor reliability

## 3P+N Contactor: Reinforced Neutral Pole

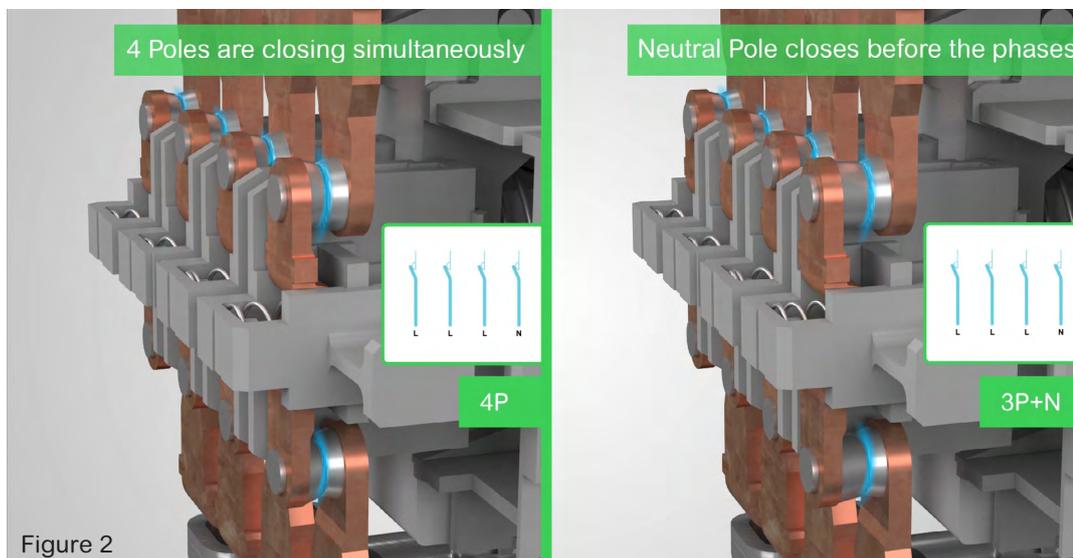
Schneider Electric cares about the products we make, over their entire lifespan. That's why we have introduced the **3P+N contactor with reinforced neutral pole**. As part of the Acti 9 ICT contactor range, this innovation is designed to bring robustness to the control of 3-phase loads or single-phase loads requiring group control, see Figure 1.



The neutral pole chip is reinforced, as compared to a standard 4P contactor.

## Difference between a 3P+N and 4P Contactor: Desynchronizing the neutral conductor

By desynchronizing the neutral conductor, the unique 3P+N contactor allows improved performance and reduced risks (failure, degradation) for applications such as LED lighting. The reinforced contacts will keep the neutral circuit operating more reliably for a longer life cycle. This will help **avoid a neutral break condition, protecting your LED lighting or other sensitive loads**, see Figure 2.



On the 3P+N product, the Neutral pole will close before the phases and open after them.

# Easy to order. Easy to connect.

## Available in 40A and 63A Ratings

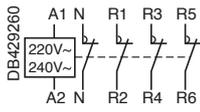
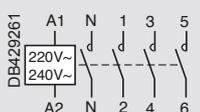
The 3P+N contactor is easy to order and inventory. There is a choice of two ratings: 40A and 63A, each with a choice of NO or NC operation. The product is compliant with the IEC 61095:2009 standard for electromechanical contactors.

Installation is straightforward, with direct compatibility with the Acti 9 comb busbar system.

And as part of the Acti 9 range, the 3P+N can be combined with a variety of auxiliary control, protection and indication functions. It can be integrated into an automation scheme with plug-and-play simplicity. For example, combine with the Acti 9 iACT24 auxiliary to connect to a Smartlink SL B for remote control and monitoring of loads.



# Specifications

Acti 9 ICT contactors - 50 Hz						
Type	Rating (In) AC7a	AC7b	Control voltage (V AC) (50 Hz)	Contact	Catalog Number	Width in 9mm modules
3P+N						
	40A	15A	220...240	4NO	A9C24740	6
			220...240	4NC	A9C22740	6
	63A	20A	220...240	4NO	A9C24763	6
			220...240	4NC	A9C22763	6
Comb busbar						
	3P+N				A9XCT712	

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Schneider Electric Industries SAS  
35, rue Joseph Monier - CS 30323  
F92506 Rueil-Malmaison Cedex