

SIRIUS



Call to Order: 717-209-7100

3TF68 and 3TF69 vacuum contactors, 3-pole

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Design

EN 60 947-4-1
(VDE 0660 Part 102).

The 3TF contactors are suitable for use in any climate. They are safe from touch according to DIN VDE 0106 Part 100. Terminal covers (see accessories) may have to be fitted onto the connecting bars, depending on the configuration with other devices.

Main contacts**Contact erosion indication with 3TF68/69 vacuum contactors**

The contact erosion of the vacuum interrupters can be monitored in the closed position by means of three white double slides on the contactor base.

The vacuum interrupter must be replaced if the distance indicated by one of the double slides is less than 0.5 mm while the contactor is in the closed position.

It is advisable to replace all three interrupters in order to ensure maximum reliability.

Auxiliary contacts

The terminal designations comply with EN 50 012.

When the contactors are energized, the NC contacts open before the NO contacts close.

Contact reliability

The auxiliary contacts are extremely reliable and as such are suitable for electronic circuits

- with currents ≥ 1 mA,
- at voltages greater than 17 V.

Surge suppression**Control circuit**

Protection of the coil circuits against surges:

AC operation

- fitted with varistors as standard.

DC operation

Retrofitting options:

- varistors.

Electromagnetic compatibility (EMC)

3TF68/69...C contactors for AC operation are equipped with an electronically controlled solenoid mechanism with a high level of immunity to interference (see table opposite).

Note:

In operation in installations where it is not possible to observe the emitted interference limits, e.g. as an output contactor in static frequency changers, use of 3TF68/69...Q contactors (NS E catalogue, available in German) is recommended, without a main conductor path circuit (for further information refer also to the description below).

Contactors Type	Rated control supply voltage U_s	Overvoltage type (IEC 60 801)	Severity to IEC 60 801	Surge strength
3TF68 44-.C.., 3TF69 44-.C..	110 V ... 132 V	Burst	3	2 kV
	200 V ... 276 V	Surge	4	6 kV
	380 V ... 600 V	Burst	4	4 kV
		Surge	4	5 kV
		Burst	4	4 kV
		Surge	4	6 kV

Circuit of the main conducting paths

An integrated RC varistor circuit in the main conducting paths of the contactors damps the rate of rise of switching overvoltages to uncritical values. Multiple restriking of the switching arcs is thereby prevented.

The operator of an installation can thus assume that the danger to the motor winding arising from switching overvoltages with a high rate of rise is ruled out.

The contactors can therefore be used without reservation for all AC switching applications, including three-phase motors with the demanding AC-4 utilization category.

Important note

The surge suppression circuit is not necessary when 3TF68/69 contactors are used in circuits with e.g. d.c. choppers, frequency converters or variable-speed drives.

It might be damaged by the voltage peaks and harmonics generated. This may also cause phase-to-phase short-circuits in the contactors.

Remedy: Order the special contactor design without surge suppression. In this case the Order No. must be supplemented with "-Z" and the order code "A02". No additional charge is made.

Short-circuit protection of contactors

For assembling fuseless load feeders, please select a circuit-breaker/contactor combination according to the brochure entitled "Verbraucherabzweige in sicherungsloser Bauweise", Order No. E20001-P285-A726 (available in German only).