Technical specifications

Type 3TH42/3TH43 Contactor Permissible mounting position AC operation The contactors are designed for operation on a vertical mounting ++++ surface. ++|++ NSB0 00073a DC operation AC and DC operation Upright mounting position NSB0 00477a Special version required

Positively-driven operation in contactor relays with 8 and 10 contacts

3TH42/3TH43:

Yes, the contactor relays comply with the conditions for positively-driven operation according to:

- ZH 1/457
- EN 60947-5-1, Appendix L
- SUVA

Explanations:

There is positively-driven operation if it is ensured that the NC and NO contacts cannot be closed at the same time

ZH1/457

Safety rules for control units on power-operated presses in the metal-working industry.

EN 60947-5-1, Appendix L

Low-voltage controlgear, control equipment, and switching elements. Special requirements for positively-driven contacts

SUVA

Accident prevention regulations of the "Schweizer Unfallverhütungsanstalt" (Swiss Institute for Accident Insurance)

3RH, 3TH Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Contact endurance for AC-15/AC-14 and DD-13 utilization actingories. The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are selected randomly, i.e. not experimentated with the phase angle of the supply system. Secondary of the phase angle of the supply system are reserved to protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures for the land circulas are necessary. Consideration and fraewheel diodes would be suitable as protective measures. Consideration and fraewheel diodes would be suitable as protective fraewheel diodes would be suitable as protection and fraewheel diodes would be suitable as protective fraewheel diodes would be suitable as protection at fraewheel				
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(weld-free protection at $I_k \ge 1$ kA) • Fuse links, gL/gG operational class LV HRC Type 3NA A 16 DIAZED Type 5SB A 16 NEOZED Type 5SE, quick A 20 • Miniature circuit breakers Characteristic C A 16	Finely stranded with end sleeve			
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	(weld-free protection at $I_k \ge 1$ kA) • Fuse links, gL/gG operational class	DIAZED Type 5SB	Α	16
	Miniature circuit breakers			

¹⁾ If two different conductor cross-sections are connected at one clamping point, then the two cross-sections must lie within the range quoted. If identical cross-sections are used, this restriction does not apply.

3RH, 3TH Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Contactor	Туре		3TH42/3TH43
Control	Alexander van		
Magnetic coil opera AC operation	lung range		0.8 1.1 x U _s ¹⁾
DC operation (excep	nt 24 V)		0.8 1.1 x U _s
• At 24 V DC	(21 •)		0.8 1.2 x U _s
Power consumption	n of the magnetic coils (when coil is cold and 1.0) x <i>U</i> _s)	
AC operation, 50 Hz,	standard version	MA In f	00/0.00
ClosingClosed		VA/p.f. VA/p.f.	68/0.82 10/0.29
AC operation, 50/60	Hz, standard version		
Closing, 50 HzClosed, 50 Hz		VA/p.f. VA/p.f.	77/0.81 11/0.28
 Closing, 60 Hz 		VA/p.f.	71/0.75
Closed, 60 Hz		VA/p.f.	9/0.27
AC operation, 50 Hz,Closing	, USA/Canada	VA/p.f.	68/0.82
• Closed		VA/p.f.	10/0.29
AC operation, 60 Hz,	, USA/Canada	\/\/ £	75/0.70
ClosingClosed		VA/p.f. VA/p.f.	75/0.76 9.4/0.29 0.3
AC operation, 50 Hz,	standard version	71-	
ClosingClosed		VA/p.f.	80/0.8 10.7/0.29
 Closed AC operation, 60 Hz, 	standard version	VA/p.f.	10.1/0.28
 Closing 	Standard Version	VA/p.f.	75 90/0.73
• Closed		VA/p.f.	8.5 10.7/0.29 0.3
DC operation up to 2	2	W	6.2
For AC operation	al current of the electronics (with 0 signal)		≤ 8 mA x (220 V/U _s)
For DC operation			\leq 6 11/A x (220 V/U _S) \leq 1.25 mA x (220 V/U _S)
Operating times ²⁾ Total break time = op including 20 % unde cold state and at ope	ening time + arcing time (the values apply up to an rvoltage, 10 % overvoltage, and with the coil in the erating temperature)	nd e	
AC operation			
ClosingON-delay NOOFF-delay NC		ms ms	8 35 6 20
OpeningOFF-delay NOON-delay NC		ms ms	4 18 5 30
Arcing time		ms	10
DC operation			
Closing		_	00 470
ON-delay NOOFF-delay NC		ms ms	20 170 18 110
Opening		*	
OFF-delay NOON-delay NC		ms ms	10 25 15 30
Arcing time		ms	10
Operating times ²⁾ a	t 1.0 x <i>U</i> _s	5	
AC operation	5		
Closing			
ON-delay NOOFF-delay NC		ms ms	10 25 7 20
Opening		5	
 OFF-delay NO 		ms	518
 ON-delay NC DC operation 		ms	7 20
Closing			
ON-delay NO OFF-delay NC		ms ms	30 70 28 65
Opening		ma	10 20
OFF-delay NOON-delay NC		ms ms	10 20 15 25
4)			

 $^{^{1)}}$ Coils for USA, Canada and Japan: 0.85 \dots 1.1 $\it U_{\rm S}$ at 60 Hz.

²⁾ The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 9 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).

3RH, 3TH Contactor Relays

3TH4 contactor relays, 8- and 10-pole

		_	
Contactor	Туре		3TH42/3TH43
Load side			
Rated operational cur	rents I _e		10
AC-12 AC-15/AC-14 for rated	operational voltage //	А	16
AC-15/AC-14 for faled	operational voltage <i>o</i> _e 230 V	Α	10
	400 V	Α	6
	500 V 690 V	A A	4 2
DC-12, for rated operat			
 1 conducting path 	up to 48 V	A	10
	110 V 220 V	A A	2.1 0.8
	440 V	A A	0.6
2 conducting paths in	600 V	A	0.6
- 2 conducting patris ii	up to 48 V	Α	10
	110 V	Α	10
	220 V 440 V	A A	1.6 0.8
	600 V	Α	0.7
3 conducting paths in			40
	up to 48 V 110 V	A A	10 10
	220 V 440 V	A A	10 1.3
	600 V		1
DC-13, for rated operat	ional voltage U_{e}		
 1 conducting path 	2414		in the second se
	24 V 48 V	A A	10 5
	110 V	Α	1
	220 V 440 V	A A	0.45 0.25
	600 V	Α	0.2
2 conducting paths in		٨	10
	24 V 48 V	A A	10 10
	110 V 220 V	A A	2.5 0.75
	440 V	Α	0.5
• O conduction and	600 V	Α	0.4
3 conducting paths in	n series 24 V	А	10
	48 V	Α	10
	110 V 220 V	A A	10 2
	440 V	Α	0.9
Rated power of induct	600 V	A	0.8
According to utilization	category AC-2 and AC-3, 50 Hz		
	230/220 V 400/380 V	kW kW	2.4 4
	500 V	kW	4
Custohing for succession	690/660 V	kW	4
Switching frequency a			
Operating cycles per h during normal duty	AC-12/DC-12	h ⁻¹	1000
for utilization category	AC-2	h ⁻¹	500
	AC-3 AC-15/AC-14	h ⁻¹ h ⁻¹	1000 3600
	DC-13	h ⁻¹	3600
	No-load switching frequency	h ⁻¹	10000

Dependence of the switching frequency z' on the operational current I' and operational voltage U: $z' = z \cdot I_e / I' \cdot (U_e / U')^{1.5} \cdot 1/h$.