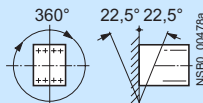



# Technical specifications

Contactor	Type Size	3RT14 46 S3	
General data			
<b>Permissible mounting position</b> The contactors are designed for operation on a vertical mounting surface.	AC and DC operation	 For DC operation and 22.5 °C inclination towards the front, operating range 0.85 ... 1.1 x U <sub>s</sub>	
Upright mounting position:	AC operation	 Special version required.	
	DC operation	--	
<b>Mechanical endurance</b>	Operat- ing cycles	10 million	
<b>Electrical endurance in operating cycles</b> <b>Utilization category AC-1 at I<sub>e</sub></b>	Operati ng cycles	0.5 million	
<b>Rated insulation voltage U<sub>i</sub></b> (degree of pollution 3)	V	1000	
<b>Rated impulse withstand voltage U<sub>imp</sub></b>	kV	6	
<b>Safe isolation</b> between the coil and the main contacts according to EN 60947-1, Appendix N	V	690	
<b>Mirror contacts</b> A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact.	Removable auxiliary switch block Permanently fitted auxiliary switch block	Yes, according to EN 60947-4-1, Appendix F According to Swiss regulations (SUVA) on request	
<b>Permissible ambient temperature</b>	During operation During storage	°C °C	-25 ... +60 -55 ... +80
<b>Degree of protection</b> according to EN 60947-1, Appendix C	IP20 (terminal compartment IP00), AC coil assembly IP40, DC coil assembly IP30		
<b>Touch protection</b> according to EN 50274	Finger-safe		
<b>Shock resistance</b>			
Rectangular pulse	AC and DC operation	g/ms	6.8/5 and 4/10
Sine pulse	AC and DC operation	g/ms	10.6/5 and 6.2/10
<b>Conductor cross-sections</b>	1)		
Short-circuit protection for contactors without overload relays			
<b>Main circuit</b>			
Fuse links, gL/gG operational class, LV HRC, 3NA	Type of coordination "1"	A	250
Fuse links, gR operational class, SITOR 3NE	Type of coordination "2"	A	250
<b>Auxiliary circuit</b>			
Fuse links gL/gG (weld-free protection at I <sub>k</sub> ≥1 kA)		A	10
DIAZED 5SB, NEOZED 5SE or miniature circuit breakers with C characteristic (I <sub>k</sub> < 400 A)		A	10

1) See conductor cross-sections on page 3/96.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

Contactor	Type Size	3RT14 46 S3	
Control			
Magnetic coil operating range		AC/DC	0.8 ... 1.1 x U <sub>s</sub>
Power consumption of the magnetic coils (when coil is cold and 1.0 x U <sub>s</sub> )			
Standard version, AC operation, 50 Hz	• Closing	VA	270
	• P.f.		0.68
	• Closed	VA	22
	• P.f.		0.27
Standard version, AC operation, 50/60 Hz	• Closing	VA	298/274
	• P.f.		0.7/0.62
	• Closed	VA	27/20
	• P.f.		0.29/0.31
For USA and Canada, AC operation, 50 Hz	• Closing	VA	270
	• P.f.		0.68
	• Closed	VA	22
	• P.f.		0.27
For USA and Canada, AC operation, 60 Hz	• Closing	VA	300
	• P.f.		0.52
	• Closed	VA	21
	• P.f.		0.29
DC operation	Closing = Closed	W	15
Operating times for 0.8 ... 1.1 x U <sub>s</sub> <sup>1)</sup>			
Total break time = Opening delay + Arcing time			
• AC operation	Closing delay	ms	17 ... 90
	Opening delay	ms	10 ... 25
• DC operation	Closing delay	ms	90 ... 230
	Opening delay	ms	14 ... 20
• Arcing time		ms	10 ... 15
Operating times for 1.0 x U <sub>s</sub> <sup>1)</sup>			
• AC operation	Closing delay	ms	18 ... 30
	Opening delay	ms	11 ... 23
• DC operation	Closing delay	ms	100 ... 120
	Opening delay	ms	16 ... 20

<sup>1)</sup> 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 (varistor +2 ms to 5 ms, diode assembly: 2 to 6 times).

3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

3RT14 Contactors for Switching Resistive Loads (AC-1)




3-pole, 140 ... 690 A

Contactor	Type	Size	3RT14 46
Main circuit			S3
AC capacity			
Utilization category AC-1, switching resistive loads			
Rated operational currents $I_e$	at 40 °C up to 690 V	A	140
	at 60 °C up to 690 V	A	130
Ratings of AC loads P.f. = 0.95 (at 60 °C)	at 1000 V	A	60
	at 230 V	kW	50
	400 V	kW	86
	500 V	kW	107
	690 V	kW	148
	1000 V	kW	98
Minimum conductor cross-section for loads with $I_e$	at 40 °C	mm <sup>2</sup>	50
	at 60 °C	mm <sup>2</sup>	50
Utilization category AC-2 and AC-3			
with an electrical endurance of 1.3 million operating cycles			
Rated operational current $I_e$	up to 690 V	A	44
Rated power of slipping or squirrel-cage motors at 50 Hz and 60 Hz (at 60 °C)	at 230 V	kW	12.7
	400 V	kW	22
	500 V	kW	29.9
	690 V	kW	38.2
Power loss per conducting path	at $I_e$ /AC-1	W	12.5
Load rating with DC			
Utilization category DC-1, switching resistive loads ( $L/R \leq 1$ ms)			
Rated operational currents $I_e$ (at 60 °C)			
• 1 conducting path	up to 24 V	A	130
	60 V	A	80
	110 V	A	12
	220 V	A	2.5
	440 V	A	0.8
	600 V	A	0.48
• 2 conducting paths in series	up to 24 V	A	130
	60 V	A	130
	110 V	A	130
	220 V	A	13
	440 V	A	2.4
	600 V	A	1.3
• 3 conducting paths in series	up to 24 V	A	130
	60 V	A	130
	110 V	A	130
	220 V	A	130
	440 V	A	6
	600 V	A	3.4
Utilization category DC-3/DC-5			
Shunt-wound and series-wound motors ( $L/R \leq 15$ ms)			
Rated operational currents $I_e$ (at 60 °C)			
• 1 conducting path	up to 24 V	A	6
	60 V	A	3
	110 V	A	1.25
	220 V	A	0.35
	440 V	A	0.15
	600 V	A	0.1
• 2 conducting paths in series	up to 24 V	A	130
	60 V	A	130
	110 V	A	130
	220 V	A	1.75
	440 V	A	0.42
	600 V	A	0.27
• 3 conducting paths in series	up to 24 V	A	130
	60 V	A	130
	110 V	A	130
	220 V	A	4
	440 V	A	0.8
	600 V	A	0.45
Switching frequency			
Switching frequency z in operating cycles/hour			
Contactors without overload relays	No-load switching frequency AC	1/h	5000
	No-load switching frequency DC	1/h	1000
Rated operation	According to AC-1 (AC/DC)	1/h	650
	According to AC-3 (AC/DC)	1/h	1000
Dependence of the switching frequency z' on the operational current I' and operational voltage U: $z' = z \cdot (I_e/I') \cdot (400\text{ V}/U)^{1.5} \cdot 1/\text{h}$ .			

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

Contactor	Type Size	3RT14 46 S3
<b>Conductor cross-sections</b>		
<b>Screw terminals</b> (1 or 2 conductors can be connected) <b>Front clamping point connected</b> 	<b>Main conductors:</b> <u>With box terminal</u> <ul style="list-style-type: none"><li>Finely stranded with end sleeve mm<sup>2</sup></li><li>Finely stranded without end sleeve mm<sup>2</sup></li><li>Solid mm<sup>2</sup></li><li>Stranded mm<sup>2</sup></li><li>Ribbon cable conductors (number x width x circumference) mm</li><li>AWG conductors, solid or stranded AWG</li></ul>	2.5 ... 50 4 ... 50 2.5 ... 16 4 ... 70 6 x 9 x 0.8 10 ... 2/0
<b>Rear clamping point connected</b> 	<ul style="list-style-type: none"><li>Finely stranded with end sleeve mm<sup>2</sup></li><li>Finely stranded without end sleeve mm<sup>2</sup></li><li>Solid mm<sup>2</sup></li><li>Stranded mm<sup>2</sup></li><li>Ribbon cable conductors (number x width x circumference) mm</li><li>AWG conductors, solid or stranded AWG</li></ul>	2.5 ... 50 10 ... 50 2.5 ... 16 10 ... 70 6 x 9 x 0.8 10 ... 2/0
<b>Both clamping points connected</b> 	<ul style="list-style-type: none"><li>Finely stranded with end sleeve mm<sup>2</sup></li><li>Finely stranded without end sleeve mm<sup>2</sup></li><li>Solid mm<sup>2</sup></li><li>Stranded mm<sup>2</sup></li><li>Ribbon cable conductors (number x width x circumference) mm</li><li>AWG conductors, solid or stranded AWG</li><li>Terminal screws - Tightening torque Nm</li></ul>	Max. 2 x 35 Max. 2 x 35 Max. 2 x 16 Max. 2 x 50 2 x (6 x 9 x 0.8) 2 x (10 ... 1/0) M6 (hexagon socket, A/F 4) 4 ... 6 (36 ... 53 lb.in)
<b>Connection for drilled copper bars</b>	Max. width <sup>1)</sup> mm	10
	<b>Main conductors:</b> <u>Without box terminal with cable lugs<sup>2)</sup></u> <ul style="list-style-type: none"><li>Finely stranded with cable lug mm<sup>2</sup></li><li>Stranded with cable lug mm<sup>2</sup></li><li>AWG conductors, solid or stranded AWG</li></ul>	10 ... 50 <sup>3)</sup> 10 ... 70 <sup>3)</sup> 7 ... 1/0
	<b>Auxiliary conductors:</b> <ul style="list-style-type: none"><li>Solid mm<sup>2</sup></li><li>Finely stranded with end sleeve mm<sup>2</sup></li><li>AWG conductors, solid or stranded AWG</li><li>Terminal screws - Tightening torque Nm</li></ul>	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5) acc. to IEC 60947; max. 2 x (0.75 ... 4) 2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5) 2 x (20 ... 16) 2 x (18 ... 14) 1 x 12 M3 0.8 ... 1.2 (7 ... 10.3 lb.in)

<sup>1)</sup> If bars larger than 12 x 10 mm are connected, a 3RT19 46-4EA1 terminal cover is needed to comply with the phase clearance.

<sup>2)</sup> When connecting rails which are larger than 25 mm<sup>2</sup>, the 3RT19 46-4EA1 cover must be used to keep the phase clearance.

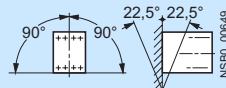
<sup>3)</sup> Only with crimped cable lugs according to DIN 46234. Cable lug max. 20 mm wide.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

### Technical specifications

Contactor	Type Size		3RT14 56 S6	3RT14 66 S10	3RT14 76 S12
<b>General data</b>					
<b>Permissible mounting position</b> The contactors are designed for operation on a vertical mounting surface.					
<b>Mechanical endurance</b>		Operating cycles	10 million		
<b>Electrical endurance</b> Utilization category AC-1 at $I_e$		Operating cycles	0.5 million		
<b>Rated insulation voltage <math>U_i</math></b> (degree of pollution 3)		V	1000		
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>		kV	8		
<b>Safe isolation</b> between the coil and the auxiliary contacts and main contacts according to EN 60947-1, Appendix N		V	690		
<b>Mirror contacts</b> A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact.			Yes, according to EN 60947-4-1, Appendix F		
<b>Permissible ambient temperature</b>		During operation °C During storage °C	-25 ... +60/+55 with AS-Interface -55 ... +80		
<b>Degree of protection</b> according to EN 60947-1, Appendix C			IP00/open, coil assembly IP20		
<b>Touch protection</b> according to EN 50274			Finger-safe with cover		
<b>Shock resistance</b>		Rectangular pulse g/ms Sine pulse g/ms	8.5/5 and 4.2/10 13.4/5 and 6.5/10		
<b>Conductor cross-sections</b>			1)		
<b>Electromagnetic compatibility (EMC)</b>			2)		
<b>Short-circuit protection</b>					
<b>Main circuit</b>					
Fuse links gL/gG	Type of coordination "1"	A	355	500	800
LV HRC 3NA					
Fuse links gR, SITOR 3NE	Type of coordination "2":	A	350	500	710
<b>Auxiliary circuit</b>					
Fuse links gL/gG (weld-free protection at $I_k \geq 1$ kA) DIAZED 5SB, NEOZED 5SE or miniature circuit breakers with C characteristic (short-circuit current $I_k < 400$ A)		A	10		

1) See conductor cross-sections on pages 3/100, 3/101.

2) See Electromagnetic Compatibility (EMC) on page 3/12.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

Contactor	Type Size		3RT14 56 S6	3RT14 66 S10	3RT14 76 S12
Control					
Operating range of the solenoid		AC/DC (UC)	$0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$		
Power consumption of the solenoid (when coil is cool and rated range $U_{s \min} \dots U_{s \max}$ )					
• Conventional operating mechanism					
- AC operation	Closing at $U_{s \min}$	VA/p.f.	250/0.9	490/0.9	700/0.9
	Closing at $U_{s \max}$	VA/p.f.	300/0.9	590/0.9	830/0.9
	Closed at $U_{s \min}$	VA/p.f.	4.8/0.8	5.6/0.9	7.6/0.9
	Closed at $U_{s \max}$	VA/p.f.	5.8/0.8	6.7/0.9	9.2/0.9
- DC operation	Closing at $U_{s \min}$	W	300	540	770
	Closing at $U_{s \max}$	W	360	650	920
	Closed at $U_{s \min}$	W	4.3	6.1	8.5
	Closed at $U_{s \max}$	W	5.2	7.4	10
• Solid-state operating mechanism					
- AC operation	Closing at $U_{s \min}$	VA/p.f.	190/0.8	400/0.8	560/0.8
	Closing at $U_{s \max}$	VA/p.f.	28/0.8	530/0.8	750/0.8
	Closed at $U_{s \min}$	VA/p.f.	3.5/0.5	4/0.5	5.4/0.8
	Closed at $U_{s \max}$	VA/p.f.	4./0.4	5/0.4	7/0.8
- DC operation	Closing at $U_{s \min}$	W	250	440	600
	Closing at $U_{s \max}$	W	320	580	800
	Closed at $U_{s \min}$	W	2.3	3.2	4
	Closed at $U_{s \max}$	W	2.8	3.8	5
PLC control input (EN 61131-2/type 2)			24 V DC/≤ 30 mA power consumption, (operating range 17 ... 30 V DC)		
Operating times (Total break time = Opening delay + Arcing time)					
• Conventional operating mechanism					
- with $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$	Closing delay	ms	20 ... 95	30 ... 95	45 ... 100
	Opening delay	ms	40 ... 60	40 ... 80	60 ... 100
- for $U_{s \min} \dots U_{s \max}$	Closing delay	ms	25 ... 50	35 ... 50	50 ... 70
	Opening delay	ms	40 ... 60	50 ... 80	70 ... 100
• Solid-state operating mechanism, actuated via A1/A2					
- with $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$	Closing delay	ms	95 ... 135	105 ... 145	120 ... 150
	Opening delay	ms	80 ... 90	80 ... 200	80 ... 100
- for $U_{s \min} \dots U_{s \max}$	Closing delay	ms	100 ... 120	110 ... 130	125 ... 150
	Opening delay	ms	80 ... 90	80 ... 100	80 ... 100
• Solid-state operating mechanism, actuated via PLC input					
- with $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$	Closing delay	ms	35 ... 75	45 ... 80	60 ... 90
	Opening delay	ms	80 ... 90	80 ... 100	80 ... 100
- for $U_{s \min} \dots U_{s \max}$	Closing delay	ms	40 ... 60	50 ... 65	65 ... 80
	Opening delay	ms	80 ... 90	80 ... 100	80 ... 100
• Arcing time			10 ... 15	10 ... 15	10 ... 15
Main circuit					
AC capacity					
Utilization category AC-1, switching resistive loads					
Rated operational currents $I_e$	at 40 °C up to 690 V A		275	400	690
	at 60 °C up to 690 V A		250	380	650 <sup>1)</sup>
	at 1000 V A		100	150	250
Rated power for AC loads <sup>2)</sup> P.f. = 0.95 (for 60 °C)	at 230 V kW		95	145	245
	400 V kW		165	250	430
	500 V kW		205	315	535
	690 V kW		285	430	740
	1000 V kW		165	247	410
Minimum conductor cross-section for loads with $I_e$	at 40 °C mm <sup>2</sup>		2 x 70	240	2 x 240
	at 60 °C mm <sup>2</sup>		120	240	2 x 240
Power loss per conducting path		at $I_e$ /AC-1 W	20	27	55
Utilization category AC-2 and AC-3 for an electrical endurance of 1.3 million operating cycles					
Rated operational current $I_e$	up to 690 V A		97	138	170
Rated power of slipring or squirrel-cage motors at 50 Hz and 60 Hz (at 60 °C)	at 230 V kW		30	37	55
	400 V kW		55	75	90
	500 V kW		55	90	110
	690 V kW		90	132	160

1) 600 A for 3RT14 76-N contactor.

2) Industrial furnaces and electric heaters with resistance heating, etc.  
increased power consumption on heating up taken into account).

3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

3RT14 Contactors for Switching Resistive Loads (AC-1)

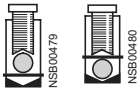

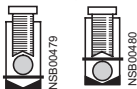
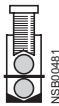
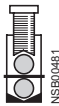
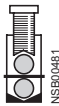
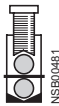
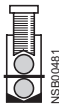
3-pole, 140 ... 690 A

Contactor	Type Size		3RT14 56 S6	3RT14 66 S10	3RT14 76 S12	
Main circuit						
Load rating with DC						
Utilization category DC-1, switching resistive loads ( $L/R \leq 1$ ms)						
Rated operational current $I_e$ (at 60 °C)						
• 1 conducting path	up to 24 V	A	250	380	500	
	60 V	A	250	380	500	
	110 V	A	18	33	33	
	220 V	A	3.4	3.8	3.8	
	440 V	A	0.8	0.9	0.9	
	600 V	A	0.5	0.6	0.6	
• 2 conducting paths in series	up to 24 V	A	250	380	500	
	60 V	A	250	380	500	
	110 V	A	250	380	500	
	220 V	A	20	380	500	
	440 V	A	3.2	4	4	
	600 V	A	1.6	2	2	
• 3 conducting paths in series	up to 24 V	A	250	380	500	
	60 V	A	250	380	500	
	110 V	A	250	380	500	
	220 V	A	250	380	500	
	440 V	A	11.5	11	11	
	600 V	A	4	5.2	5.2	
Utilization category DC-3/DC-5						
Shunt-wound and series-wound motors ( $L/R \leq 15$ ms)						
Rated operational current $I_e$ (at 60 °C)						
• 1 conducting path	up to 24 V	A	250	380	500	
	60 V	A	7.5	11	11	
	110 V	A	2.5	3	3	
	220 V	A	0.6	0.6	0.6	
	440 V	A	0.17	0.18	0.18	
	600 V	A	0.12	0.125	0.125	
• 2 conducting paths in series	up to 24 V	A	250	380	500	
	60 V	A	250	380	500	
	110 V	A	250	380	500	
	220 V	A	2.5	2.5	2.5	
	440 V	A	0.65	0.65	0.65	
	600 V	A	0.37	0.37	0.37	
• 3 conducting paths in series	up to 24 V	A	250	380	500	
	60 V	A	250	380	500	
	110 V	A	250	380	500	
	220 V	A	250	380	500	
	440 V	A	1.4	1.4	1.4	
	600 V	A	0.75	0.75	0.75	
Switching frequency						
Switching frequency $z$ in operating cycles/hour						
Contactors without overload relays	No-load switching frequency	$h^{-1}$	2000			
		AC-1	$h^{-1}$	600		
		AC-3	$h^{-1}$	1000		
Dependence of the switching frequency $z'$ on the operational current $I'$ and operational voltage $U'$ : $z' = z \cdot (I_e/I') \cdot (400\text{ V}/U')^{1.5} \cdot 1/h$						

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

Contactor	Type Size	3RT14 56 S6
<b>Conductor cross-sections</b>		
<b>Screw terminals</b>	<b>Main conductors:</b> <u>With 3RT19 55-4G box terminal</u>	
<b>Front or rear clamping point connected</b> 	• Finely stranded with end sleeve	mm <sup>2</sup> 16 ... 70
	• Finely stranded without end sleeve	mm <sup>2</sup> 16 ... 70
<b>Both clamping points connected</b> 	• Stranded	mm <sup>2</sup> 16 ... 70
	• Ribbon cable conductors (number x width x circumference)	mm 3 x 9 x 0.8 ... 6 x 15.5 x 0.8
	• AWG conductors, solid or stranded	AWG 6 ... 2/0
<b>Front or rear clamping point connected</b> 	<b>Main conductors:</b> <u>With 3RT19 56-4G box terminal</u>	
<b>Both clamping points connected</b> 	• Finely stranded with end sleeve	mm <sup>2</sup> 16 ... 120
	• Finely stranded without end sleeve	mm <sup>2</sup> 16 ... 120
<b>Both clamping points connected</b> 	• Stranded	mm <sup>2</sup> 16 ... 120
	• Ribbon cable conductors (number x width x circumference)	mm 3 x 9 x 0.8 ... 10 x 15.5 x 0.8
	• AWG conductors, solid or stranded	AWG 6 ... 250 kcmil
<b>Screw terminals</b>	<b>Main conductors:</b> <u>Without box terminal/rail connection <sup>1)</sup></u>	
<b>Both clamping points connected</b> 	• Finely stranded with cable lug	16 ... 95
	• Stranded with cable lug	25 ... 120
<b>Both clamping points connected</b> 	• AWG conductors, solid or stranded	4 ... 250 kcmil
	• Connecting bar (max. width)	17
	• Terminal screw - Tightening torque	M8 x 25 (A/F 13) Nm 10 ... 14 (90 ... 110) lb.in
<b>Auxiliary conductors:</b>		
<b>Both clamping points connected</b> 	• Conductor cross-section - Solid	2 x (0.5 ... 1.5) <sup>2)</sup> ; 2 x (0.75 ... 2.5) <sup>2)</sup> according to IEC 60947; max. 2 x (0.75 ... 4)
	- Finely stranded with end sleeve - Solid or stranded AWG (2 x)	2 x (0.5 ... 1.5) <sup>2)</sup> ; 2 x (0.75 ... 2.5) <sup>2)</sup> 2 x (18 ... 14)
	• Terminal screw - Tightening torque	M3 (PZ 2) Nm 0.8 ... 1.2 (7 ... 10.3) lb.in

<sup>1)</sup> When connecting cable lugs according to DIN 46235, use the 3RT19 56-4EA1 terminal cover for conductor cross-sections from 95 mm<sup>2</sup> to ensure phase spacing.




<sup>2)</sup> 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.



# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

Contactor	Type Size	3RT14 66 S10	3RT14 76 S12
<b>Conductor cross-sections</b>			
<b>Screw terminals</b> (1 or 2 conductors can be connected) <b>Front clamping point connected</b>  NSB00479	<b>Main conductors:</b> <u>With 3RT19 66-4G box terminal</u>		
	• Finely stranded with end sleeve	mm <sup>2</sup>	70 ... 240
	• Finely stranded without end sleeve	mm <sup>2</sup>	70 ... 240
<b>Rear clamping point connected</b>  NSB00480	• Stranded	mm <sup>2</sup>	95 ... 300
	• AWG conductors, solid or stranded	AWG	3/0 ... 600 kcmil
	• Ribbon cable conductors (number x width x circumference)	mm	min. 6 x 9 x 0.8, max. 20 x 24 x 0.5
<b>Both clamping points connected</b>  NSB00481	• Finely stranded with end sleeve	mm <sup>2</sup>	120 ... 185
	• Finely stranded without end sleeve	mm <sup>2</sup>	120 ... 185
	• Stranded	mm <sup>2</sup>	120 ... 240
<b>Screw terminals</b>	• AWG conductors, solid or stranded	AWG	250 ... 500 kcmil
	• Ribbon cable conductors (number x width x circumference)	mm	Min. 6 x 9 x 0.8, max. 20 x 24 x 0.5
	• Terminal screws - Tightening torque	Nm	Min. 2 x 50, max. 2 x 185 Min. 2 x 50, max. 2 x 185 Min. 2 x 70, max. 2 x 240 Min. 2 x 2/0, max. 2 x 500 kcmil Max. 2 x (20 x 24 x 0.5) M12 (hexagon socket, A/F 5) 20 ... 22 (180 ... 195 lb.in)
<b>Screw terminals</b>	<b>Main conductors:</b> <u>Without box terminal/rail connection <sup>1)</sup></u>		
	• Finely stranded with cable lug	mm <sup>2</sup>	50 ... 240
	• Stranded with cable lug	mm <sup>2</sup>	70 ... 240
<b>Auxiliary conductors:</b>	• AWG conductors, solid or stranded	AWG	2/0 ... 500 kcmil
	• Connecting bar (max. width)	mm	25
	• Terminal screws - Tightening torque	Nm	M10 x 30 (A/F 17) 14 ... 24 (124 ... 210 lb.in)
<b>Auxiliary conductors:</b>	• Solid	mm <sup>2</sup>	2 x (0.5 ... 1.5) <sup>2)</sup> , 2 x (0.75 ... 2.5) <sup>2)</sup> according to IEC 60947, max. 2 x (0.75 ... 4)
	• Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.5 ... 1.5) <sup>2)</sup> ; 2 x (0.75 ... 2.5) <sup>2)</sup>
	• AWG conductors, solid or stranded	AWG	2 x (18 ... 14)
<b>Auxiliary conductors:</b>	• Terminal screws - Tightening torque	Nm	M3 (PZ 3) 0.8 ... 1.2 (7 ... 10.3 lb.in)

<sup>1)</sup> When connecting cable lugs to DIN 46234, the 3RT19 66-4EA1 terminal cover must be used for conductor cross-sections of 240 mm<sup>2</sup> and more as well as DIN 46235 for conductor cross-sections of 185 mm<sup>2</sup> and more to keep the phase clearance.

<sup>2)</sup> 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.