SIEMENS

交流接触器 3TF48，3TF49

Q/SMS 003，GB14048.4，DIN VDE 0660，IEC 60947-4-1

A001253 **XK06-201 0025**

使用说明书 编号： 4NEB 524 4680-10 f4 **中 文**

	⚠ 注 意
	危险电压会引起触电和燃烧。 **调整、维修前请先切断电源。**

⚠ 防止触及限定保护的带电部分

保护等级 IP 00 按 IEC 60529

触指安全性符合 DIN VDE 0106 第100部分。调整、维修应由专业人员才能担任，并严格按照使用说明书。

经济型直流操作接触器使用说明书见4NEB 526 4590-10。

安装

外形尺寸见图Ⅰ（单位：mm）。

接触器用2只M5螺钉安装在平面上，螺钉的最大紧固力矩是6.2Nm。用螺钉安装时，一定要用平垫圈和弹簧垫圈。在安装时要防止外来颗粒，例如防止细铁屑进入里面。如果接触器暴露于灰砂、粉尘及腐蚀性环境中，应加装防护罩。

允许的安装位置见图Ⅱ。

接线

紧固所有的接线螺钉，即使不用的螺钉也得紧固。

允许的接触器主电路导线截面积

具有接线盒的

按照 DIN EN50027 见图ⅢA			
具有套筒端的多股导线[1] (mm^2)	6~35	2.5~35	最大 2 ×25
没有套筒端的多股导线[1] (mm^2)	10~35	2.5~35	最大 2 ×25
实心导线，绞合线 (mm^2)	6~50	2.5~50	最大 2 ×35
AWG制导线（绞合线）	10~1/0	18 ~1/0	最大 2 ×1/0
剥线长度	18~20 mm / $\frac{3}{4}$in		
紧固力矩	4~6 Nm / 36~52 lb.in		

[1] 未绞合导线末端必须被捻合或装上 18 mm长的金属箍，按标准 DIN 46228 中的第一部分。

在安装接线盒前（见图Ⅲ b），必须移开灭弧室（见图Ⅶ/1,2,3）

不带接线盒的

见图Ⅲc 一或二根导线能被连接	3TF48/3TF49
具有接线片的细绞合线[2]	10~35mm^2
具有接线片的细绞合线[2]	10~50mm^2
接线棒	12×3
AWG 制导线（绞合线和实心线）	7~1/0
接线螺钉	M6×20
紧固力矩	4~6 Nm / 36~52 lb.in

[2] 将罩3TX7 466-0A用于超过尺寸的电缆接线片，安装情况见图Ⅲ d/e

允许的接触器辅助电路导线截面积

实心导线	2×0.5~1；2×1~2.5；1×4mm^2
具有套筒端的多股导线	2×0.5~1；2×0.75~2.5 mm^2
柱状接线头根据DIN 46231	2×1~1.5 mm^2
推进式插座B2.8	2×0.3~1.5 mm^2
AWG制导线（绞合线和实心线）	2×18~12
剥线长度	10mm / 0.4in
紧固力矩	0.8~1.4Nm / 7~12lb.in

辅助接线端子 3TX7 500-0A（附件）的安装见图Ⅲ a。

接线端子的电路图及位置见图Ⅳ。

图Ⅳa 2NO+2NC 图Ⅳ b 4NO+4NC

仅采用75℃铜线

操作

遵守控制电压（见线圈标牌）

接触器操作状态显示位置见图Ⅴ。

短路后必须检查主触头和灭弧室。

维修保养

下列零部件可以更换：主触头、灭弧室、线圈、辅助触头组。

订货号见产品样本。

只有用本来的备用件才能保证接触器的安全可靠。

危险电压会引起触电和燃烧。

调整、维修前请先切断电源。

清洁

用吸尘器除尘。

辅助触头组

更换情况见图Ⅵ/1，2，3；扩展情况见图Ⅵ/4，5，6。

灭弧室和主触头

移开灭弧室（图Ⅶ/1，2，3），检查主触头（图Ⅶ/4）。如果有必要应用螺丝刀轻轻地分开烧焊的触头。氧化的或不平的触头仍有用，不要修光或擦拭它们。如果触头表面被电蚀到露出基体材料，则必须更换触头。

触头更换情况见图Ⅶ/5，6，7。

没有必要拆卸主触头，如有必要要检查和更换灭弧室。

在移开灭弧室时，接触器被机械联锁，在此情况下线圈不允许激励。

线圈

线圈的更换见图Ⅷ。

确保线圈电极表面清洁，不要用润滑油或尖物清洁线圈。

技术数据

重量	约 2.3 kg
允许的环境温度	
工作时	-25℃~+55℃
贮存时	-50℃~+80℃

主回路

额定绝缘电压Ui		AC	1000V	
额定功率AC-3			3TF48	3TF49
在 - 230V		kW	22	26
- 240V		kW	24	28
- 400V		kW	37	45
- 415V		kW	42	49
- 500V		kW	50	59
- 690V		kW	67	67
- 1000V		kW	39	39
额定工作电流			3TF48	3TF49
Ie/AC-1（55℃）至690V		A	100	100
Ie/AC-3	至500V	A	75	85
Ie/AC-3	在690V	A	75	75
短路保护				
保护等级按DIN VDE 0660, 102A部分/IEC 60947-4-1 **			熔断器 gL(gG) 3TF48	3TF49
- 配合类型1		A	250	250
- 配合类型2		A	160	160
- 不熔焊I_K<100×Ie		A	100	100
- 不熔焊I_K≥100×Ie		A	125	125

辅助回路

额定工作电流Ie/AC-15/AC-11		在AC 230V时 5.6A
短路保护：		
- 熔断器	NEOZED 和DIAZED	gL(gG),16A
- 小型断路器	C特性	10A
	B特性	16A

其他数据和附件见产品样本

** 备注：按照IEC 60947/ VDE 0660 ，配合类型表示：

“配合类型1”：短路电流可引起接触器损坏，如有必要接触器必须更换。

“配合类型2”：允许触头有可以容易地分开的熔焊。

SIEMENS

Contactor

3TF48，3TF49

Q/SMS 003，GB14048.4，DIN VDE 0660，IEC 60947-4-1

A001253 **XK06-201 0025**

Instructions Order No.： 4NEB 524 4680-10 f4 **English**

⚠ WARNING

Hazardous voltage
can cause electrical shock and burns.
Disconnect power before proceeding
with any work on this equipment.

⚠ Limited protection against contact with live parts

Degree of protection IP 00 to IEC 60529.
Safe from finger touch to DIN VDE 0106, Part 100.
Commissioning and maintenance by qualified personnel only.
Follow the operating instructions.
For DC operation (DC economy connection) see operating instructions 4NEB 526 4590-10

Installation

For dimension drawings see **Fig. I** (dimensions in mm).
Fix on a plain surface with two M5 screws –max. tightening torque 6.2 Nm.
Always use plain washers and spring washers.
Cover the contactors during installation if foreign particles, such as swarf, can fall onto them. Install contactors in a housing if they are exposed to dirt, dust or aggressive atmospheres.
For permissible mounting positions see **Fig. II**.

Connection

Tighten all terminal screws even if not used.

Permissible conductor cross-sections for main terminals:

With box terminal

According to DIN EN 50 027 -- see **Fig. III** a			
Finely stranded with end sleeve (mm^2) [1]	6 to 35	2.5 to 35	max. 2×25
Finely stranded without end sleeve (mm^2) [1]	10 to 35	2.5 to 35	max. 2×25
Solid, stranded (mm^2)	6 to 50	2.5 to 50	max. 2×35
AWG wires, stranded	10 to 1/0	18 to 1/0	max. 2×1/0
Stripped length	18 to 20 mm / $\frac{3}{4}$ in		
Tightening torque	4 to 6 Nm / 36 to 52 lb.in		

[1] The ends of non-stranded cables must be twisted or 18mm long ferrules to DIN 46228 Part 1 must be used.
Crimping tools PZ16 and PZ35 from Weidmuller are recommanded for the end sleeves.
Before mounting the box terminals (see **Fig. III** b) ,the arc chute must be removed (see **Fig. VII**/ 1,2,3).

Without box terminal

-see **Fig.III** c

1or 2 conductors can be connected	3TF48/3TF49
Finely stranded (mm^2) with terminal pin [2]	10 to 35
Stranded (mm^2) with terminal pin [2]	10 to 50
Terminal bars	12×3
AWG wires, stranded and solid	7 to 1/0
Terminal screws	M6×20
Tightening torque	4 to 6 Nm / 36 to 52 lb.in

[2] Use cover 3TX7 466-0A for oversized cable lugs installation see **Fig. III** d/e.

Permissible conductor cross-sections for auxiliary terminals:

Solid	2×0.5 to 1; 2×1 to 2.5; 1×4 mm^2
Finely stranded with end sleeve	2×0.5 to 1; 2×0.75 to 2.5 mm^2
Terminal pin in accord. with DIN46231	2×1 to 1.5 mm^2
Push-on receptacle B2.8	2×0.3 to 1.5 mm^2
AWG wires, stranded and solid	2×18 to 12
Stripped length	10mm / 0.4 in
Tightening torque	0.8 to 1.4Nm / 7 to 12 lb.in

Installation of auxiliary conductor terminal 3TX7 500-0A (accessory) see **Fig. III** a.
For circuit diagram and position of connection terminals see **Fig. IV**.
Fig. IV a 2NO+2NC; Fig. IV b 4NO+4NC
Use 75℃ copper wire only.

Operation

Observe operating voltage (see rating plate of magnet coil).
The operating state of the contactor is shown at the position indicator; see **Fig. V**.
After a short circuit the main contacts and the arc chute must be checked.

Maintenance

The following components can be replaced: main contacts, arc chute, magnet coil, auxiliary contact blocks. For Order No. see Catalog.
Only use of original spare parts ensures the operational safety of the contactors.

Hazardous voltage can cause electrical shock and burns.
Disconnect power before proceeding with any work on this equipment.

Cleaning

Remove dust by suction.

Auxiliary contact block

For replacement see **Fig. VI** /1,2,3; for extension see **Fig. VI** /4,5,6.

Arc chute and main contacts

Remove arc chute (**Fig. VII**/1,2,3). Check main contacts (**Fig. VII**/4). If necessary separate slightly welded contacts with a screwdriver.
Dark or tough contacts can still function. Do not refinish or grease them. If the contact facings are eroded so that the carrier material becomes visible (**Fig.VII**/4a), all contacts must be replaced.
For replacement of contacts see **Fig.VII**/5,6,7. It is not necessary to disconnect the main conductors. Check the arc chute and replace it if necessary.
With the arc chute removed, the contactor is mechanically interlocked. Coil excitation is not permitted under these conditions.

Magnet coil

For coil replacement see **Fig. VIII**.
Ensure that the pole faces of the magnet coil are clean. Do not use grease solvents or sharp objects for cleaning.

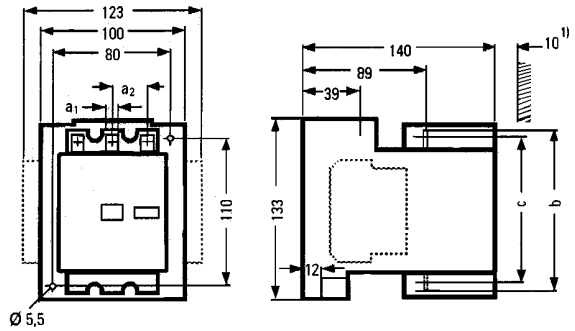
Technical Data

Weight	approx. 2.3 kg		
Permissible ambient temperature			
- Operation	-25℃ to +55 ℃		
- Storage	-50℃ to +80 ℃		
Main circuit			
Rated insulation voltage Ui	AC 1000V		
Rated output AC-3		3TF48	3TF49
at -230V	kW	22	26
-240V	kW	24	28
-400V	kW	37	45
-415V	kW	42	49
-500V	kW	50	59
-690V	kW	67	67
-1000V	kW	39	39
Rated operating current		3TF48	3TF49
Ie/AC-1(55℃) to 690V	A	100	100
Ie/AC-3 to 500V	A	75	85
Ie/AC-3 at 690V	A	75	75
Short-circuit protection			
Degree of protection to DIN VDE 0660, Part 102A/IEC 60947-4-1 **		Fuse-links, gL(gG) 3TF48	3TF49
-Assignment type 1	A	250	250
-Assignment type 2	A	160	160
-non-welding $I_K < 100 \times Ie$	A	100	100
-non-welding $I_K \geq 100 \times Ie$	A	125	125
Auxiliary circuit			
Rated operating current Ie/AC-15/AC-11		5.6A at AC 230V	
Short-circuit protection:			
- Fuse-links	NEOZED and DIAZED	gL (gG), 16A	
- Circuit-breaker		C,10A;B,16A	

For further data and accessories see Catalog

* *Footnote: According to IEC 60947 / VDE 0660,the types of protection mean:
"Assignment type 1 ": Short circuits can cause damage to the contactors making replacement of the equipment necessary.
"Assignment type 2 ": Easily separable contact welding but no other damage.

I



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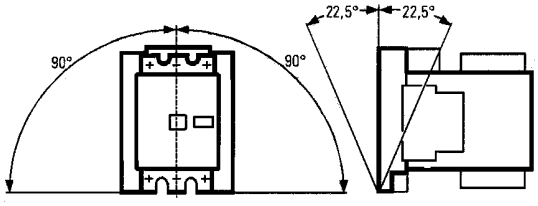
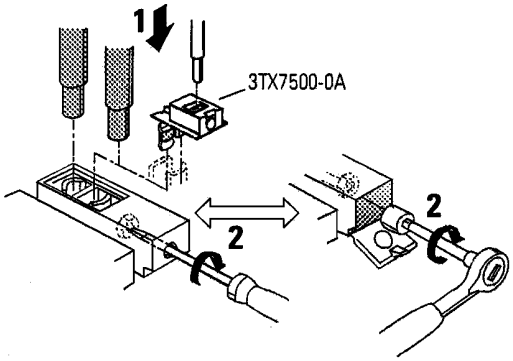


	a_1	a_2	b	c
3TF48	10.5	26.5	127	116
3TF49	10.5	26.5	127	116

注 1）对接地部件的最小距离10 mm
Minimum clearances from earthed parts 10 mm

III a



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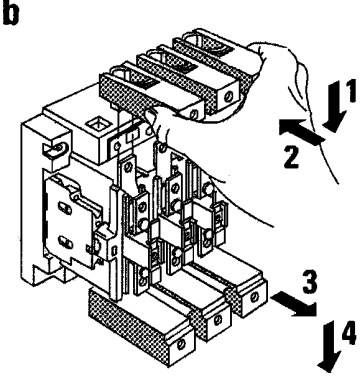

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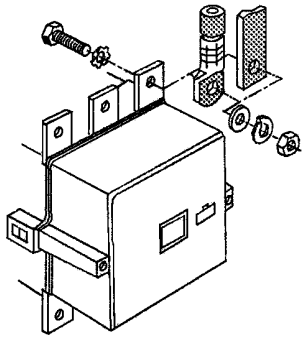

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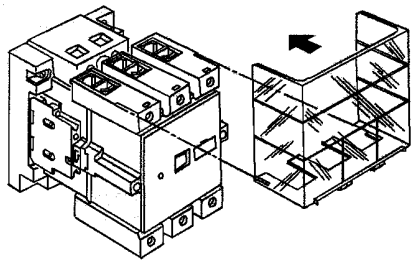

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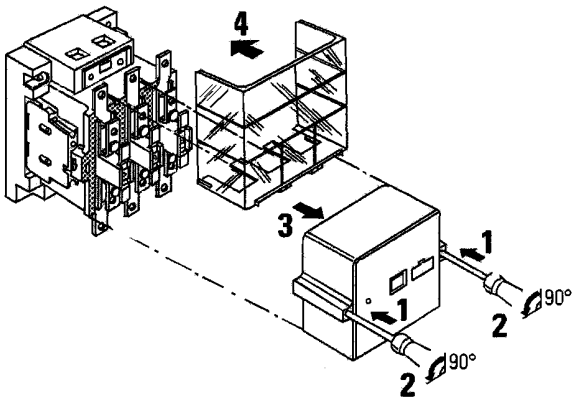
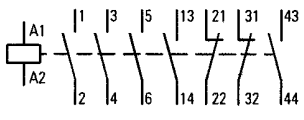
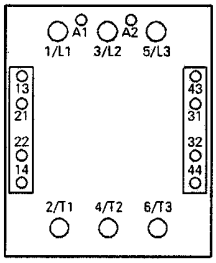


IV a





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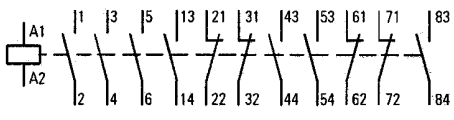

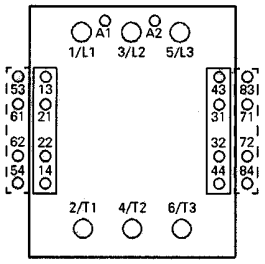

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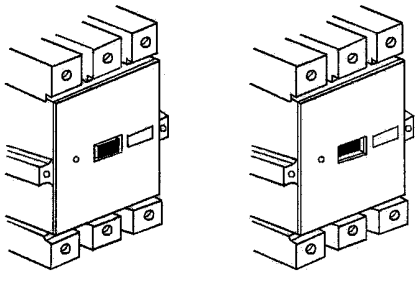

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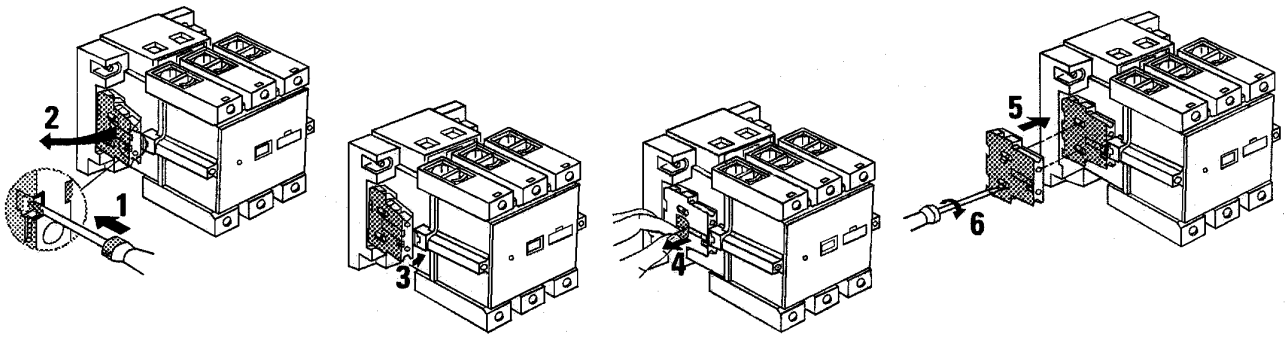
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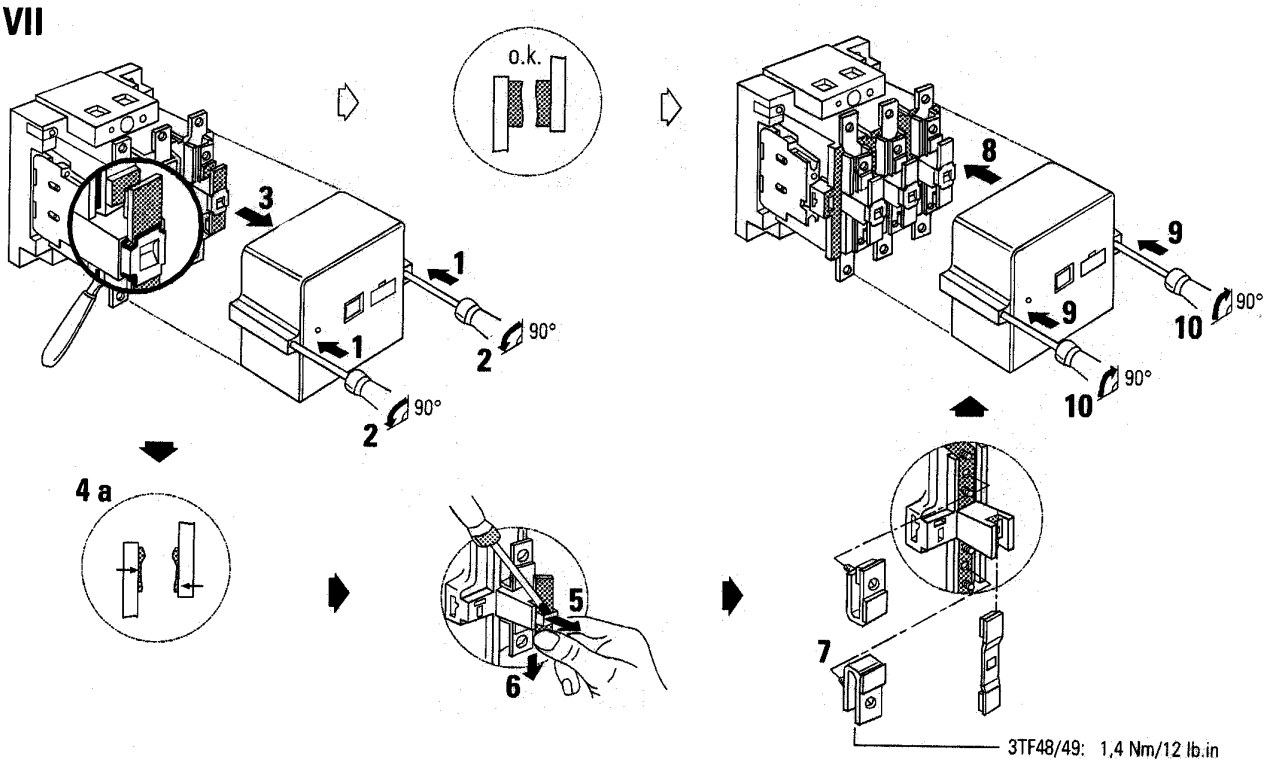
VII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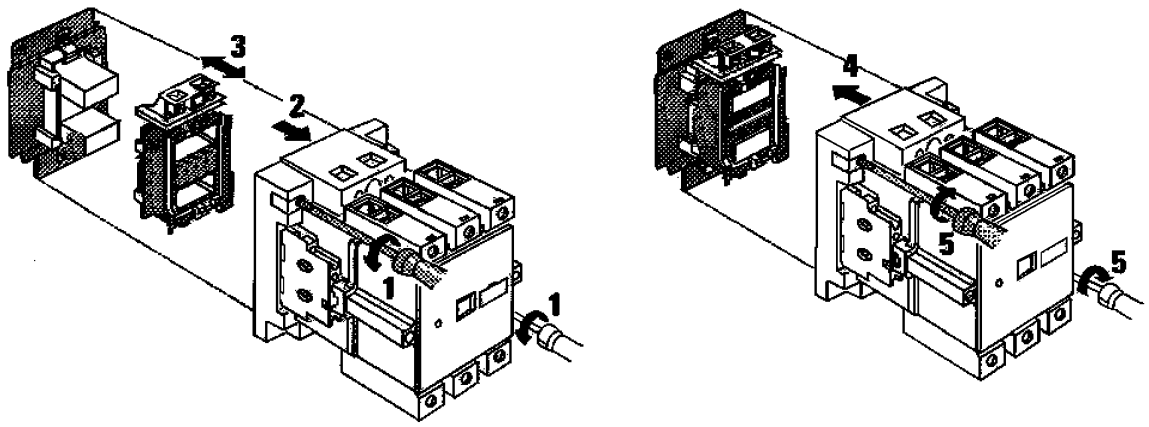
3TF48/49: 1,4 Nm/12 lb.in

VIII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