SIEMENS

断相保护热过载继电器　　3UA50，3UA52

GB14048.4，DIN VDE0660 第102部分，IEC 60947-4-1

A001253　CE　**Q/SMS 001，XK06-201 0023**

使用说明书　　编号： 4NEB 601 1482-30 *5　　**中　文**

⚠有限地防止触及带电部件!

防护等级按IEC 60529为IP20级。

触指安全性符合GB4942.2和DIN VDE0106 第100部分。

调试维修应由专业人员按本使用说明书进行。

图I　3UA50：与3TD40/41，3TE40，3TF30/31/40/41，3TW10/12/40/41，3TB40/41接触器组合安装。配用附件3UX1418也可单独安装。

3UA52：与3TD42/43，3TE42，3TF32/33/42/43，3TW13/42/43，3TB42/43接触器组合安装。配用附件3UX1420也可单独安装。

安装

安装尺寸见图II（单位：mm）

a 3UA50：配用附件3UX1418单独安装。
3UA52：配用附件3UX1420单独安装。

b 3UA50：与3TF30/31接触器组合安装。

c 3UA50：与3TF40/41接触器组合安装。
（I：带有1NO或1NC辅助触点的接触器。
II：带有1NO+1NC或2NO+2NC辅助触点的接触器。）

d 3UA52：与3TF32/33接触器组合安装。

e 3UA52：与3TF42/43接触器组合安装。

注：[1] 至接地部件的最小距离。
[2] 卡装在 标准安装轨（按DIN EN50 022）上。
[3] 到方形试验按钮（行程3mm）的距离。
到圆形复位按钮（行程2.5mm）的距离要小2.5mm。
[4] 辅助触头组。

允许安装位置见图 III

a 热过载继电器与接触器组合安装。

b 热过载继电器单独安装。

应避免剧烈的冲击或长时间的振动。

安装：

卡装在35mm标准安装轨（DIN EN50 022）上。或用2枚螺钉以及平垫圈和弹簧垫圈紧固在平面上。

接线

接线图见图 IV

允许的导线截面积见图 V

在单相负载的情况下必须将主回路三相串联起来。

调试

参见图 VI

①按照负载的额定电流调整刻度盘

②复位按钮（蓝色）
在投入运行前和脱扣后，按一下本按钮使继电器处于待工作状态。
出厂时本按钮被置于“H”即手动复位状态。若需转换到“A”即自动复位状态，按下本按钮并逆时针方向从H转到A即可。

③试验按钮（红色）
当按下本按钮后，动断触头打开，动合触头闭合，即动断、动合触头的试验功能（模拟过载脱扣）。
在手动复位状态，再按下蓝色按钮时继电器复位。
在自动复位状态，当放开本按钮时继电器即复位。

④脱扣指示件（绿色）
在手动复位状态，当继电器脱扣时本指示件将从面罩上伸出，表示继电器已脱扣，在自动复位状态则无此显示。

⑤接触器线圈接线端子 A2。

脱扣特性曲线见图 VII

这些特性曲线符合VDE0165，VDE0170/0171，适用于增安型电机。图所示为三相负载从冷态（环境温度+20°C）开始的脱扣时间，若继电器以1×I_E 电流预热，脱扣时间将减少大约25%。

I_E: 整定电流

t_A: 脱扣时间（单位：秒）（±20%）

① 整定范围
（I：最小整定电流I_E，II：最大整定电流I_E）

② 型号和订货号

③ PTB（德国联邦实验室）试验报告编号

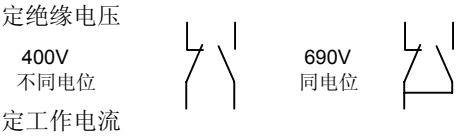
技术参数

主回路

额定绝缘电压	690V
额定工作电流	3UA50：0.1~14.5A 3UA52：0.1~25A
允许的环境温度	-25°C~+55°C
短路保护	见名牌

辅助回路

额定绝缘电压



额定工作电流

AC-15/Ue	V	24	60	125	230	400	500	690
AC-15/Ie	A	2	1.5	1.25	1.15	1.1	1	0.8
DC-13/Ue	V	24	60	110	220			
DC-13/Ie	A	2	0.5	0.3	0.2			

短路保护

NH、NEOZED或DIAZED熔断器	6AgG或10A 快速
微型断路器	3A（C特性）

工作条件环境温度>55°C时，必须

1. 降低热过载继电器的负载电流。
2. 为避免电动机在额定电流下发生脱扣，可适当调高整定电流值修正系数：

环境温度	负载电流折合成刻度盘值	整定电流校准值
55°C	1	1
60°C	0.94	1.08
65°C	0.88	1.09
70°C	0.82	1.1

例如： 电动机负载电流： 10A
环境温度： 70°C
热过载继电器采用：8~12.5A

第一步：确定允许负载电流值：
最大负载电流：12.5A × 0.82 = 10.25A
环境温度70°C时电动机负载电流为10A 是允许的。

第二步：计算整定电流：
电动机整定电流：10A
整定电流校准值：10A ×1.1= 11A。所以设定热继电器为11A。

进一步的数据和附件请查阅产品样本。

SIEMENS

Overload Relay with Phase-Failure Sensitivity 3UA50，3UA52

GB14048.4，DIN VDE0660，Part 102，IEC 60947-4-1

A001253 **Q/SMS 001，XK06-201 0023**

Instructions Order No.： 4NEB 601 1482-30 *5 **English**

⚠ **Limited protection against contact with live parts.**
Degree of protection IP 20 to IEC 60529.
Safe from finger touch to DIN VDE 0106,Part 100.
Commissioning and maintenance by qualified personnel only.
Follow the operating Instructions!

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

Fig. I 3UA50: For mounting on contactors 3TD40/41, 3TE40, 3TF30/31/40/41, 3TW10/12/40/41;
Individual mounting possible with assembly kit 3UX14 18.
3UA52: For mounting on contactors 3TD42/43, 3TE42, 3TF32/33/42/43, 3TW13/42/43;
Individual mounting possible with assembly kit 3UX14 20.

Installation

Dimension drawings (dimensions in mm): **Fig. II**

a 3UA50: for individual mounting with assembly kit 3UX14 18
3UA52: for individual mounting with assembly kit 3UX14 20
b 3UA50: for mounting on contactor 3TF30/31
c 3UA50: for mounting on contactor 3TF40/41
I=contactor with 1 NO or 1 NC
II=contactor with 1NO + 1NC or 2NO + 2NC
d 3UA52: for mounting in contactor 3TF32/33
e 3UA52: for mounting in contactor 3TF42/43
1) Minimum distance from earthed components
2) For snap-on mounting on a standard sectional rail to DIN EN 50022.
3) Dimension for square OFF button (stoke 3mm).
4) Dimension for round RESET button (stroke 2.5mm) dimension minus 2.5mm.

Permissible installed positions: **Fig. III**

a Overload relay with contactor
b Overload relay for individual mounting
Do not subject to sudden shocks or long-term vibrations.
Mounting:
Snap-on mounting on a standard sectional rail (35mm) to EN 50 022 or bolting on a plane surface by two bolts to be secured by washers and spring washers.

Connection

Equipment circuit diagram: **Fig. IV**
Permissible cable cross-sections: **Fig. V**
In the case of several single-phase loads, the three main circuits must be connected in series.

Commissioning

Instructions: **Fig. VI**

① Set the scale to the rated current of load.
② Reset button (blue)
Push this button before commissioning and after tripping to make relay ready for operation.
In the as-delivered condition, the auxiliary contact is set to H=Manual resetting.
To change from H=Manual to A=Automatic, press and turn the button counter-clockwise from H to A.
③ Test button (red)
When this button is actuated, the NC contact opens and the NO contact closes, i.e. a test function for NC and NO contacts (simulation of overload tripping).
In the "Manual" position, the relay is reset when the blue button is pressed.
In the "Automatic" position, the relay is reset automatically when the red button is released.
④ TRIPPED indication (green)
In the H setting, a green pin protrudes from the front plate to indicate the TRIPPED condition. In the A setting, this condition is not indicated.
⑤ Terminal for contactor coil, A2.

Tripping characteristics: Fig. VII

The characteristics conform to VDE0165, VDE 0170/0171 for machines with type of protection E Ex e.
Tripping times are shown for a three-phase load from the cold state (ambient temperature +20 ℃). In the case of hot relays, preloaded with $1\times I_E$, the tripping times decrease by approx. 25%.

I_E Current setting
t_A Tripping time in seconds (±20%)
① Setting range
(I= lowest value of current setting I_E, II= highest value of current setting I_E)
② Type designation/Order No.
③ PTB (Federal testing Laboratories) Test Report No.

Technical data

Main circuit

Rated insulation voltage	690V
Rated operational current	3UA50: 0.1～14.5 A 3UA52: 0.1～25 A
Permissible ambient air temperature	-25 ℃ to +55 ℃
Short-circuit protection	see nameplate

Auxiliary circuit

Rated operational currents

AC-15/Ue	V	24	60	125	230	400	500	690
AC-15/Ie	A	2	1.5	1.25	1.15	1.1	1	0.8
DC-13/Ue	V	24	60	110	220			
DC-13/Ie	A	2	0.5	0.3	0.2			

Rated insulation voltage:

400V differing potential 
690V same potential 

Short-circuit protection:

NH, NEOZED or DIAZED fuses	6A gG or 10A, fast
Miniature circuit-breaker	3A (C-characteristic)

Operating conditions at ambient temperatures＞55 ℃

At ambient temperatures ＞ 55 ℃, you must
1. Reduce the current loading for the overload relay
2. Upwardly correct the setting current to prevent tripping at motor rated current.
Correction factors:

Ambient temperature	Perm. current loading referred to end-of-scale value	Setting current correction
55℃	1	1
60℃	0.94	1.08
65℃	0.88	1.09
70℃	0.82	1.1

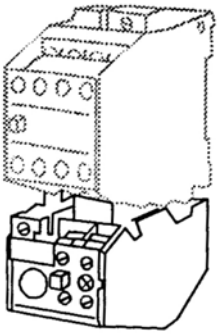
Calculation example:
Motor rated current: 10 A
Ambient temperature: 70 ℃
Overload relay fitted: 8～12.5 A

1st Step: Determine the permissible current loading:
Max. Current loading: 12.5 A × 0.82 =10.25 A
Loading with motor rated current 10 A at 70 ℃ ambient temperature is permissible.

2nd Step: Calculate the setting current:
Motor rated current: 10 A
Setting current correction: 10 A × 1.1=11 A
You must set the overload relay to 11 A.

For further information and accessories, see Catalog.

I



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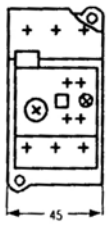

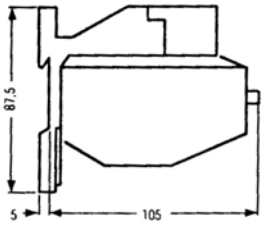

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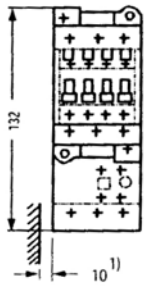

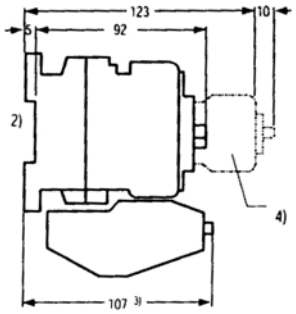

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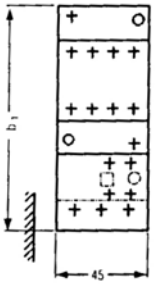
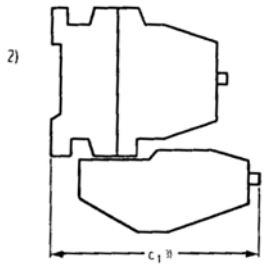
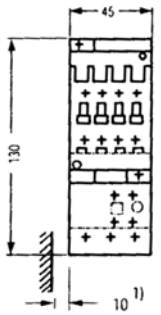
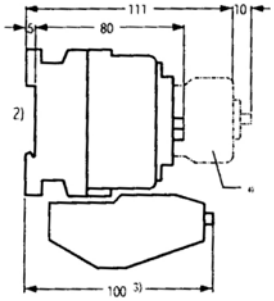




	b_1	c_1
I	125	108
II	130	100

IId





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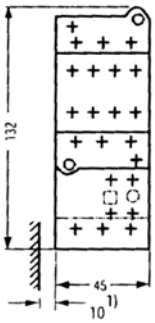

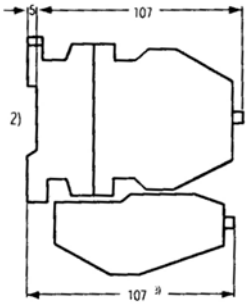

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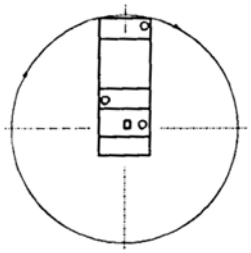

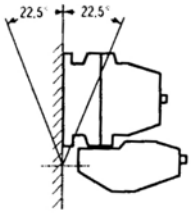

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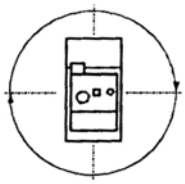

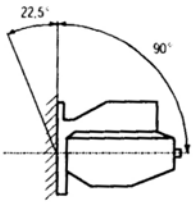

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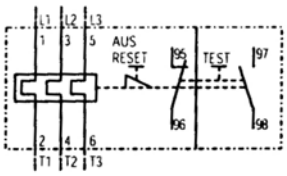
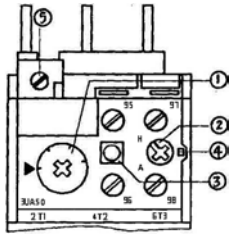


V

	L1 L2 L3 / T1 T2 T3	NO / NC
	1…1,5 Nm 9…13 lb.in	0,8…1,4 Nm 7…12 lb.in
	2×2,5…6 mm^2	2×0,5…1 mm^2 2×1…2,5 mm^2
	2×1,5…4 mm^2	2×0,5…1 mm^2 2×0,75…2,5mm^2
AWG	2×15…4	2×18…12

VI



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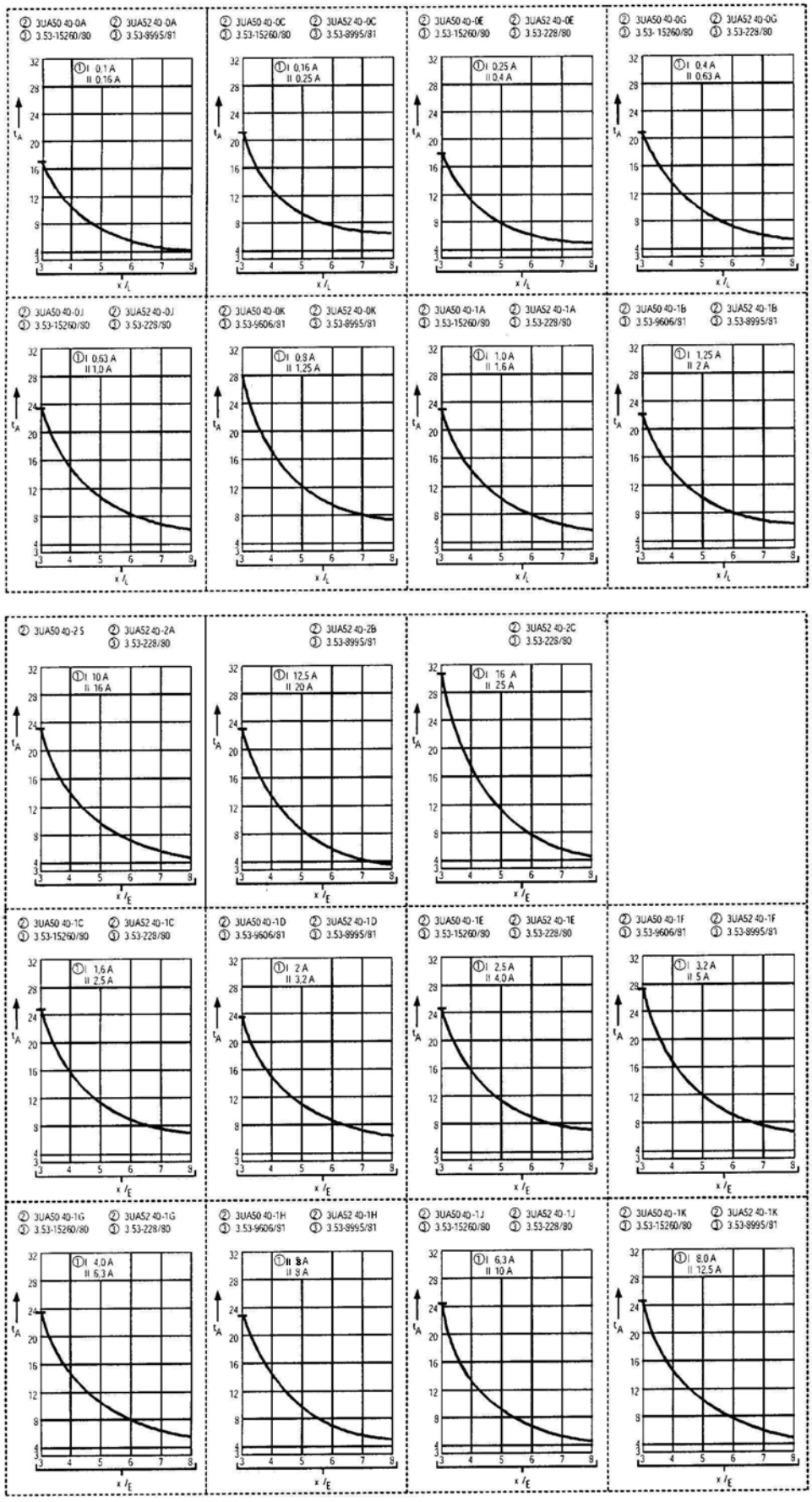
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