

使用说明书

编号: A5E37066728A

中 文

	注 意 危险的高电压会引起触电和起火。 安装, 维修前请先切断电源。
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安装

安装尺寸见图I (单位: mm)

允许安装位置见图 II

应避免剧烈的冲击或长时间的振动。

卡装在75mm标准安装轨 (DIN EN50 023) 上。或用4枚螺栓以及垫圈和弹簧垫圈紧固在平面上。

接线

允许的主回路导线截面积:

	3US66	
	...200A	...400A
配接接触器	a)3TS54/55, b)3TS56	3TS56
圆截面导线带 接线头 mm ²	ref. a) 35~185 (...170A) ref. b) 35~240	50~240
铜排 mm ²	20×3	2×30×5
接线螺钉	M8	M10
拧紧力矩Nm lb.in	10~14 89~124	14~24 124~210

允许的辅助回路导线截面积:

硬线或绞合线 mm ²	2 × (0.5~1) / 2 × (1~2.5)
带端套的细绞线 mm ²	2 × (0.5~1) / 2 × (0.75~2.5)
AWG 制导线	2 × (18~12)
拧紧力矩 Nm	0.8 ~ 1.4
lb.in	7 ~ 12

接线端子的位置见图III

主回路导线连接见图IV

接线图见图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。

若需从“H”手动状态转换到“A”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。

继电器分离安装时, 见样本。

脱扣特性曲线见图VII

如图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

(U=最小整定电流, O: 最大整定电流)

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

允许的环境温度	-25°C~+55°C
防护等级	IP 00 (IEC 60529)
主回路	
额定绝缘电压	1000V
额定工作电流	3US66 160 ~ 400 A
短路保护	见铭牌

图 VIII 所示表格

① 整定范围 (A=安培, U= 最小整定电流, o=最大整定电流)

② 进线侧断路器的最大响应电流

③ 按刻度盘的比率值调整额定负载电流

例如: 额定负载电流 = 188 A

最大整定值 = 250 A

比率 (刻度盘的刻度) =188: 250= 0.75

辅助回路

额定绝缘电压

400V

不同电位



690V

同电位



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 6A或10A 快速

微型断路器 3A (C特性)

约定发热电流I_{th} 6A

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: 200 A

环境温度: 70°C

热过载继电器采用: 160~250 A

第一步: 确定允许负载电流值:

最大负载电流: 250 A × 0.82 = 205 A

环境温度70°C时电动机负载电流为200 A 是允许的。

第二步: 计算整定电流:

电动机整定电流: 200A

整定电流校准值: 200A×1.1=220A 所以设定热继电器为220A。

进一步的数据和附件请查阅产品样本。

Instructions

Order No.: **A5E37066728A**

English

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

Installation

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

Permissible installed positions: **Fig. II**

Do not subject to sudden shocks or long-term vibrations.

Snap-on mounting on a standard EN 50 023 rail (75mm), or bolting on a plane surface by four bolts to be secured by washers and spring washers.

Connection

Permissible cable cross-sections for phase conductors:

	3US66	
	...200A	...400A
Mounting on contactors	a)3TS54/55 b)3TS56	3TS56
Round conductor with cable lug mm ²	ref. a) 35 to 185 (...170A) ref. b) 35 to 240	50 to 240
Flat bar mm ²	20×3	2×30×5
Terminal screws	M8	M10
Tightening torque Nm lb.in	10 to 14 89 to 124	14 to 24 124 to 210

Permissible cable cross-sections for auxiliary conductors:

Solid	mm ²	2 × (0.5 to 1) ; 2 × (1 to 2.5)
Finely stranded with end sleeve	mm ²	2 × (0.5 to 1) ; 2 × (0.75 to 2.5)
AWG conductors		2 × (18 to 12)
Tightening torque	Nm lb.in	0.8 to 1.4 7 to 12

For position of connection terminals: **Fig. III**

Connection of the main conductors: **Fig. IV**

Equipment circuit diagram: **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.

Separate installation of the relay, see Catalog.

Tripping characteristics: **Fig. VII**

The characteristics conform to VDE 0165, 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°C).

In the case of hot relays, preloaded with 1×I_E, the tripping times decrease by approx. 25%.

I_E Current setting

t_A Tripping time in seconds (±20%)

① Setting range (U= minimum setting, O= maximum setting)

② Type designation/Order No.

③ PTB (Federal testing Laboratories) Test Report No.

Technical data

Permissible ambient air temperature -25 °C to +55 °C

Degree of protection IP 00 (IEC 60529)

Main circuit

Rated insulation voltage 1000V

Rated operational current 3US66 160 to 400 A

short-circuit protection see nameplate

Table Fig. VIII

① Setting range (A=Ampere; u=minimum, o=maximum setting range)

② Max. response current of the line-side circuit-breakers

③ Commissioning: Set scale so that the ratio corresponds to the rated load current.

Example: Rated load current =188 A
Max. Setting =250 A
Ratio =188:250 =0.75

Auxiliary circuit

Rated insulation voltage:



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			

Short-circuit protection:

NH, NEOZED or DIAZED fuses 6A gG or 10A, fast

Miniature circuit-breaker 3A (C-characteristic)

Continuous thermal current I_{th} 6A

Operating conditions at ambient temperatures >55 °C

At ambient temperatures > 55 °C, 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 °C	1	1
60 °C	0.94	1.08
65 °C	0.88	1.09
70 °C	0.82	1.1

Example:

Motor rated current: 200 A

Ambient temperature: 70 °C

Overload relay fitted: 160 to 250 A

1st Step: Determine the permissible current loading:

Max. Current loading: 250A×0.82=205 A

Loading with motor rated current 200A at 70 °C ambient temperature is permissible.

2nd Step: Calculate the setting current:

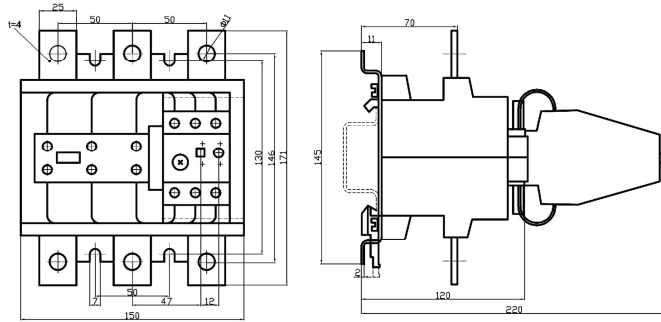
Motor rated current: 200 A

Setting current correction: 200 A×1.1=220 A

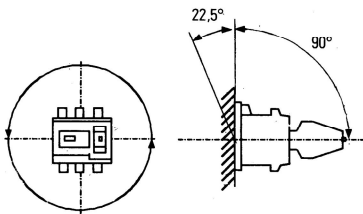
You must set the overload relay to 220 A.

For further information and accessories, see Catalog.

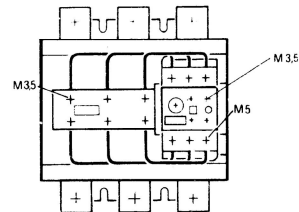
I



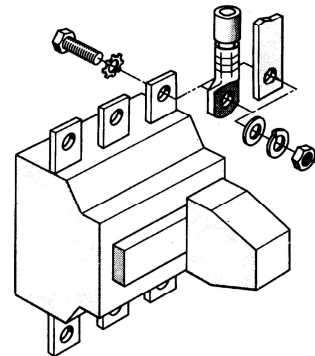
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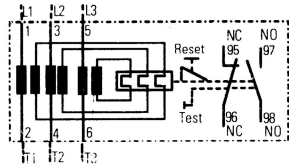
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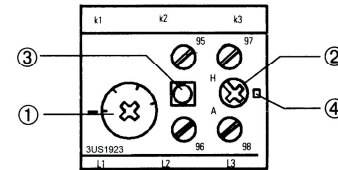
IV



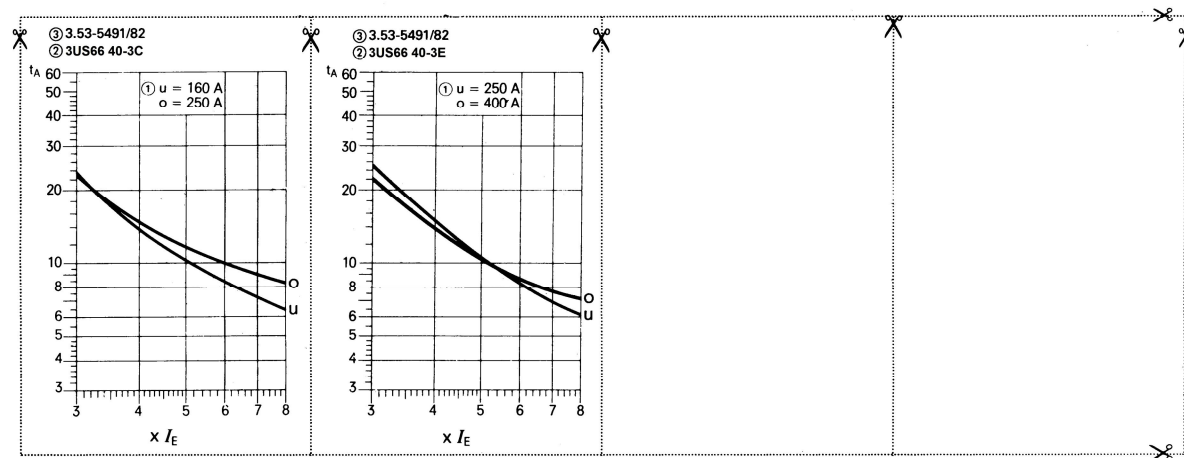
V



VI



VII



VIII

Type	①		②	③				
	u A	o A	A	0,625	0,7	0,8	0,9	1
3US66	160	250	2500	156	175	200	225	250
	250	400	4000	250	280	320	360	400

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