ANTRIEBSTECHNIK
tae

TA-05 SB/S

Instruction and Operation Manual

26V

Caution:

There is always a risk involved in the handling of electrical machinery!
Therefore mounting and maintenance should only be done by authorized personnel.

Pikatron GmbH • division TAE Antriebstechnik • Raiffeisenstrasse 10 • D-61250 Usingen
http://www.tae-antriebstechnik.de TAE_BA TA-05C SBS 26V_EN.PDF
The German text applies in cases of doubt

Read these instructions carefully before installation, adjustment and operating of the drive control.

1. Technical Data

Measurements	Refer to drawing TA-05 SB/S Nr. 100 68 M 1
Line Voltage	26 V a.c. , 50/60 Hz
Power	100 W
Armature Voltage	20 V d.c.
Armature Current	6 A max.
Ambient Temperature	0°C to +40°C
Speed Accuracy	1% with reference to maximum speed

Semicontolled single phase bridge, inner loop current regulator, acceleration integrator, delayed drive release.

2. Connection of the drive control

Ensure that your a.c. line voltage corresponds with the line voltage indicated on the type marking of the unit.

Terminal Strip KL 1

2 ac - 6 ac	a.c. input. Voltage according to type marking on unit. Frequency 50 Hz or 60 Hz. Terminal 2 ac = phase, terminal 6 ac = neutral.
10 ac - 14 ac	Armature connection; Terminal 10 ac = positive, terminal 14 ac = negative.
26 c - 28 c	d.c. tachometer; Terminal 26 c = common, terminal 28 c = negative (approx. 17 v at rated motor speed.
24 a - 22 a - 20 a	Speed potentiometer. Connect center to terminal 22 a, start to terminal 24 a and end to terminal 20 a. This potentiometer enables an infinite variable adjustment of the motor from minimum to maximum speed.

3. Indicators

The following functions are indicated by light emitting diodes (LED's):

a) Power ON	green	LED 1
b) Current limit / Overspeed	red	LED 2
c) Drive release	yellow	LED 3

4. Functional tests and preliminary adjustments before operating

1. Check all connections with an Ohm-meter for grounds.
2. Check if your a.c. line voltage corresponds to the marking on the unit.
3. Switch on line voltage. The green diode LED 1 must now light up.

   The yellow diode LED 3 (drive release will light up approx 0,2 sec after the line voltage is switched on.
4. Measure the the voltage at the potentiometer between terminals 22 a and 26 c (should read +15 V). If the speed potentiometer is turned in clockwise direction the armature voltage and the motor speed respectively must increase. If the potentiometer is turned fully clockwise the max. motor speed is obtained. Setting the control fully counter clockwise the speed will be approx 15% of the maximum speed.

5. Troubleshooting

For fast and effective troubleshooting proceed as follows:

1. Check drive for:
   a) intermittent or loose connections
   b) defective insulation of connecting leads
   c) defective motor (brushes etc.)
2. To check the proper function of the drive control the following measurements can be performed:

   CAUTION ! : All measurements between common terminal of electronic circuit (terminal 26 c) and terminals of the plug-in frame.
   DO NOT USE ANY MEGOHM-METER, BUZZER OR SIMILAR TEST INSTRUMENT.
   The test instrument must be galvanically seperated from groung since the electronic circuit carries a voltage potential against ground!

   Measuring points:

a) 16 a	+ 24 V
b) 16 c	- 27 V
c) 30 a	+ 15 V
d) 30 c	- 15 V
e) 32 a	Triggering of Unijunction Transistor

f) 18 a	Synchronisation of triggering point
g) 26 c	Electronic common

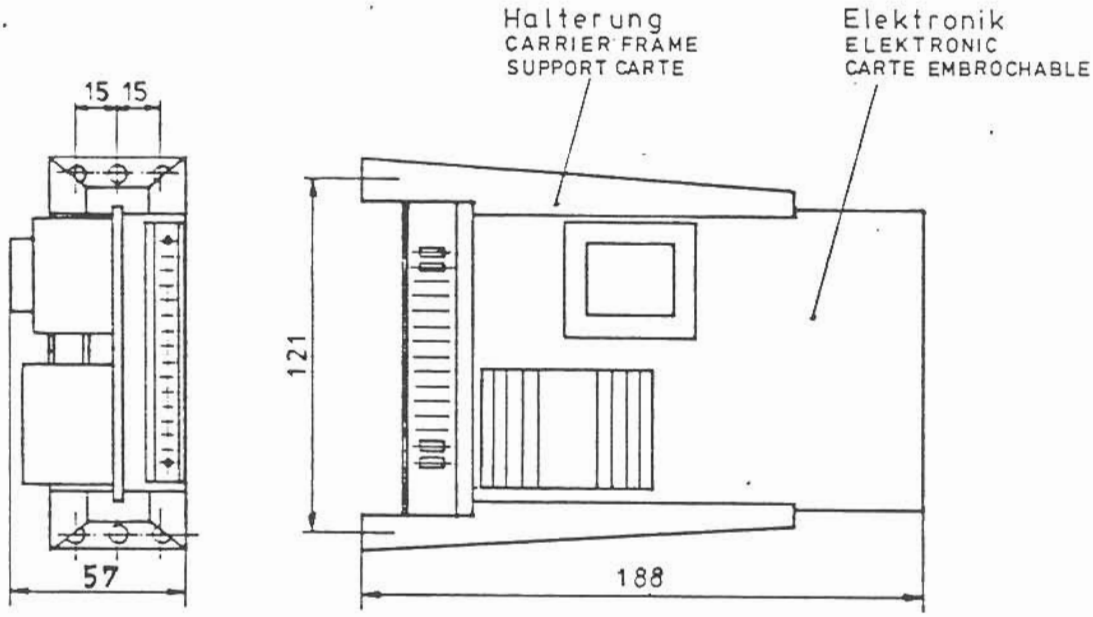
Measurements of points e) and f) can only be performed with the use of an Oscilloscope. (also refer to drawing of connectionc).

Fault location

Sympton	Possible causes
Relay d 1 not operative, yellow diode LED 3 does not light up	a) Control voltage + 24 V missing check power supply. LED 1 (Power ONN) does not light up. b) Defectife fuse Si (10 A FF). c) Defective relay d 1.
Output voltage does not increase when speed potentiometer is turned up.	a) Motor load is too high. b) Defective speed potentiometer.
Drive operates unstable	a) Defective tachometer or defective tachometer leads.
Speed varies without change of setting of speed potentiometer.	a) Motor load is too high; mechanical defect (LED 2 , current limit, lights up. b) Wrong or missing supply voltage for electronic circuit (+/- 15 V). c) One Thyristor inoperative; Defective Thyristor-bridge. d) Defective tachometer or defective tachometer leads. e) Defective speed potentiometer.

Main fuse blows	a) Grounded or shorted armature connections. b) Defective Thyristor bridge. c) Defective motor or armature.
Drive does not run	a) Defective power supply. b) Check relay (drive release) and relay supply. c) Defective speed potentiometer. d) Check motor and motor brushes. e) Defective fuse Si (10 A FF).
Drive runs at maximum speed however speed potentiometer is set at low speed	a) Defective tachometer or intermittent tachometer feedback.
Drive runs at maximum speed independent of setting of speed potentiometer	a) Intermittent speed potentiometer or intermittent connection from terminal 24 a to speed potentiometer.

This concludes the preliminary adjustment and preparation before operating of the Thyristor Drive Control Type TA-05 SB/S.



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			Norm			
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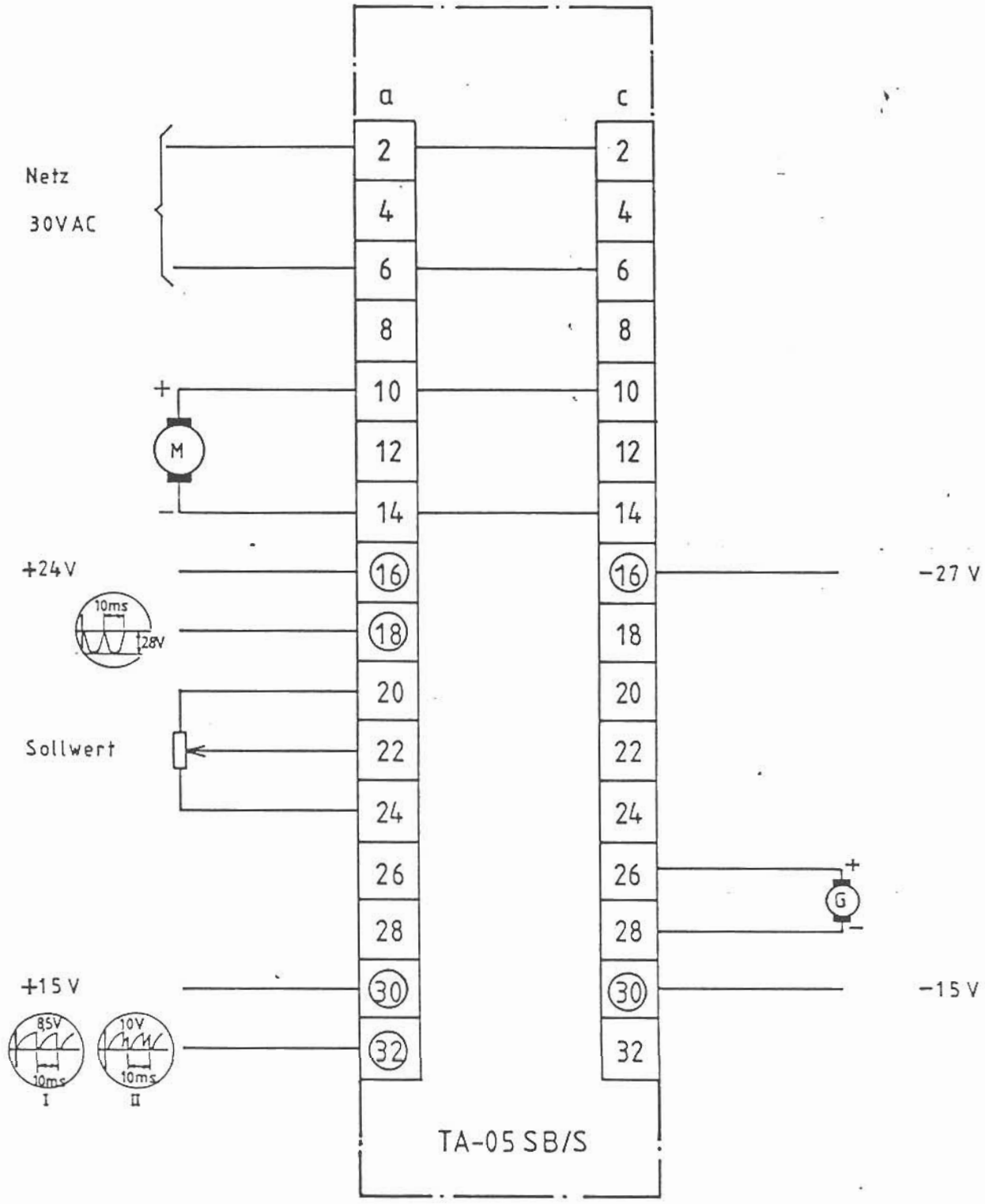

Meßpunkte

				Datum	Name	
			Bearb.	24.9.85		TAE Antriebstechnik
			Gepr.			
			Norm			
			Maßstab	Benennung		Zeichnungs-Nr. (Kommissions-Nr.)
			—	TA 05 SB/S Anschlußbild		100 68 A1
00001	24.9.85					Blatt / Blätter
And.-Nr.	Datum	Name				