



## R&R RR-P-508 / ST106-EX1 motor-control unit

housing	aluminum anodized
w x h x d	approx. 165 x 84 x 38 mm
	housing similar to ST102 drawing DNR19267
weight	approx. 280 g
application	motor desk control unit
	2 keys for movement
	end position shut down by transducer
	potentiometer or digital input
	end positions defined by pre-set potentiometers
power supply	28V ( 20V..34V) fuse 10AT

**Preliminary**

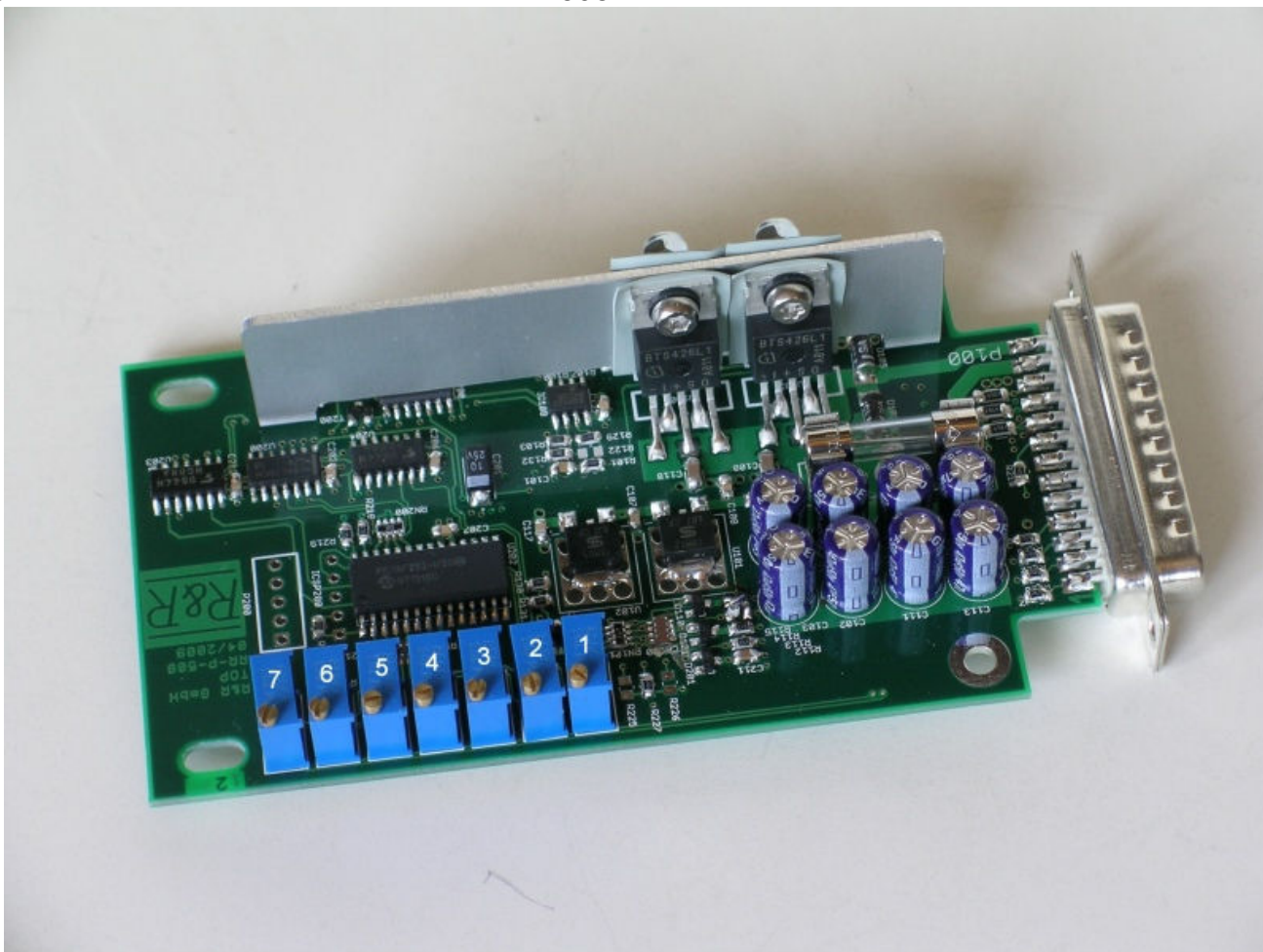
RR-P-508 motor control unit ST106-EX1

Ob der Eck 4· D-78148 Gütenbach · Telefon (07723) 9186-0 · Telefax (07723)9186-30

**DNR19274\_ST106-EX1.DOC 12.10.2010**

PCB

RR-P-508



RR-P-508 potentiometer position RR-P-508 ST106-EX1

potentiometer	description
1	Position A
2	Position B
3	Delay
4	shut down current B
5	shut down current A
6	Speed B
7	Speed A

For example A = table up position, B = table down position.

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## Pin assignment

25pol.Sub-D male plug

pin	signal	Description
1	Speed A	0...5V → pwm 0..100%
14	Speed B	0...5V → pwm 0..100%
2	Current-A	test-point 0..5 volts → 0..7 ampere
15	Current-B	test-point 0..5 volts → 0..7 ampere
3	Delay	test-point 0..5 volts → 0..0.5 seconds
16	Position-A	test-point 0..5 volts
4	Position-B	test-point 0..5 volts
17	0V	reference for test-points / don't connect to power-ground
5	-	not connected / for future extensions
18	Brake-RTN	return line for brake
6	-	not connected / for future extensions
19	+Brake	output for brake, active when motor is running
7	-	not connected / for future extensions
20	+5 volts	poti / reference for analogue-input
8	Wiper	poti / analogue input
21	0V	poti / reference for analogue-input / don't connect to power-ground
9	Key-B	digital – input / switch NO
22	Key-A	digital – input / switch NO
10	Stop-B	digital – input / switch NC
23	Stop-A	digital – input / switch NC
11	over-temp	digital – input / switch NC
24	0V-power	power-supply-ground / reference for digital inputs
12	+28V-DC	power-supply-input
25	+Direction-B	power-output / positive if motor runs in direction B
13	+Direction-A	power-output / positive if motor runs in direction A

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signal	type	description
over-temp	digital – input / switch NC	If this input is logical high or open, the motor is turned off
stop-B	digital – input / switch NC	If this input is logical high or open the motor does not run into direction B
stop-A	digital – input / switch NC	If this input is logical high or open, the motor does not run into direction A
key-A	digital – input / switch NO	If this signal changes from high to low the motor starts running into direction A until the key is released. The motor will stop also when: - stop-A input is high or - position-A is reached *1 The key-B is blocked (2 key lock out)
key-B	digital – input / switch NO	If this signal changes from high to low the motor starts running in direction B until the key is released. The motor will stop also when: - stop-B input is high - or position-B is reached *1 Key-A is blocked (2 key lock out)
Wiper	analogue input	Input for position-sensor( potentiometer) The analogue input is specified for an input voltage range from 0 volts to 5 volts Attention! Take care about the direction: Moving in direction A = rising voltage *1
+28V-DC 0V-power	power-supply-input power-supply-ground	power-supply inputs
+direction-A +direction-B	power-outputs	DC motor
+brake brake-RTN	output +28V return line	active when motor is running

\*1 To disable the position sensing connect the wiper to 0V (PIN21)

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**digital inputs**

$V_{low}$	input < 8 volts	0
	8V < input < 16 V	undefined
$V_{high}$	input > 16 volts	1

All digital inputs have an internal pull up-resistor of 4.7 k $\Omega$  connected to +28V-DC

The reference point for the digital inputs is 0V-power ( Pin 24 of the connector )

**analogue input**

The analogue input is specified for an input voltage range from 0 volts to 5 volts

Connect the potentiometer to the pins 20, 8 and 21.

Potentiometer value 1 k $\Omega$  up to 22 k $\Omega$

Attention!

Take care about the direction:

Moving in direction A = rising voltage

Position sensing is disabled if the wiper voltage is lower as 0.1V !

**power output**

maximum continue current 7A ( low side switch ) adjustable thresholds and delay

current limitation 11A ( short time ) ( high side switch )

current limitation 10A by fuse

**security**

Motor current limiter and delay are done by hardware.

Appendix

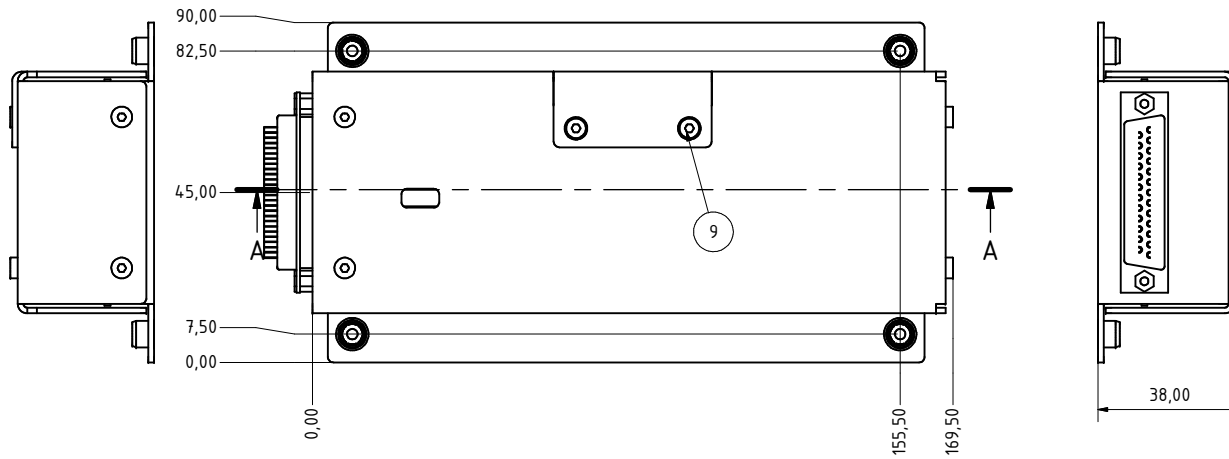
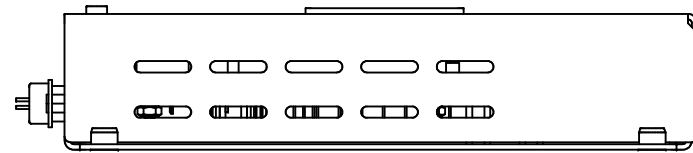
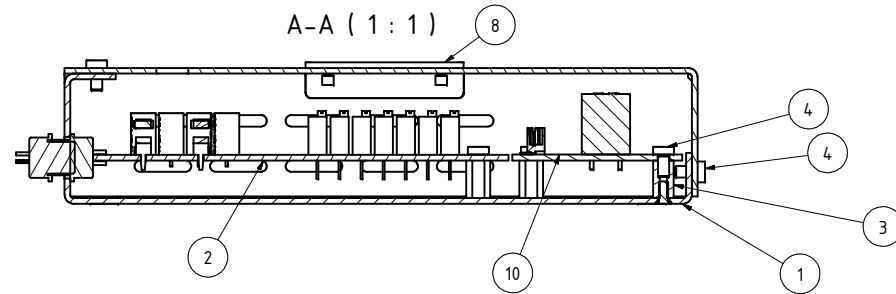
ST106-EX1 Drawing DNR 19267

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TEILELISTE				
OBJEKT	ANZAHL	BAUTEILNUMMER	BESTANDSNUMMER	BESCHREIBUNG
1	1	dnr19265	13763	ST106-EX Gehäuseboden
2	1	dnr18746	12782	RR-P-508 ST106 Baugruppe
3	5	SW55_M3 I 10	1100	Sechskantabstandsbolzen MS M3, Lg 10 2x Innengewinde
4	9	NF E 25-111 - M3x6 Festigkeitsklasse 4.8	11339	Sechslappiger Senkkopf - Produktklasse A - Symbol CZX
5	2	DSUB-Verschraubung_Bolzen	3165	
6	2	DSUB-Verschraubung_Mutter		
7	1	dnr19268	13764	ST106-EX Gehäusedeckel
8	1	dnr18750	12780	RR-P-508 ST106 Potideckel
9	2	NF E 25-107 - M3 x 6	11277	Schrauben, Senkkopf Torx, Produktklasse A, Symbol FX
10	1	dnr19266	13765	RR-P-518 Relais 1-fach abgesägt

Stückliste DR 19438  
LANR 13766

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Ges. f. Rationalisierung und Rechentechnik mbH Ob der Eck 4 78148 Gütenbach		Datum 16.04.2010	Name ps	ST106-EX Baugruppe RR-P-508 + RR-P-518
dnr19267				1
				A2
Status	Änderungen	Datum	Name	