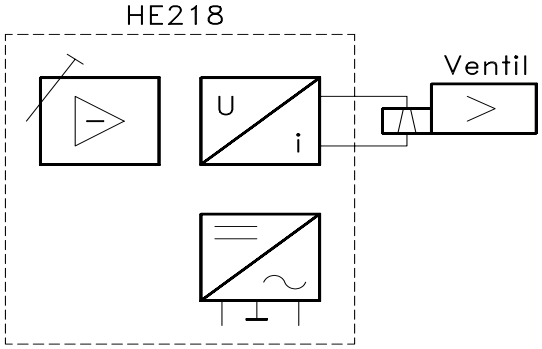
SCHNEIDER SERVOHYDRAULIK

Power amplifier Type : HE 218 - ...

- easy,
- economic
- for all Schneider Servo valves
- adjustable rated current
- European size card 100 x 160 mm
- male connector DIN 41612-F32 row z b
- front plate 8TE (40mm) with
  test points 2 mm and trimmer potentiometers
- included power-supply +15V and -15V
- included adjustable dither generator
- current source up to ±1000mA



Technical data

Supply:

supply voltage	2 x 18 ... 24 Volt AC with reference to common GND (internal supplies ±24V and ± 15V DC)

Inputs:

P-controller and current booster

Analogue inputs:	0... ± 10V (±5V)
one input with low pass filter	100 Hz
input resistance	100 kohm

Outputs:

P-controller:

Output voltage:	0 ... ±10 Volt (connected internal to current booster input)
P-gain	0,5 ... 20 V/V

Current booster:

output current (controlled)	0 ... ± 200 mA ±300 mA ±400 mA ±650mA or ±1000mA

rated current for 10V input adjustable with internal potentiometer

output voltage	ca. 0 ... ± 24Volt
external load resistance	4 ... 150 ohm
external load inductivity	0 ... 160 mH

not short circuit proof, useful for resistance and inductive loads (valve coils)

power	0 ... 15 W
dither generator	
amplitude	0 ... 20% from rated current
frequency	30 ... 450 Hz

Internal power supply:

output voltage non regulated:	+24 V DC max ca. 300mA -24V DC max ca. 300mA
output voltage regulated:	+15 V DC (± 0,4V) max ca. 100mA -15 V DC (± 0,4V) max ca. 100mA

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Mechanical data's:

dimensions:	European size card 100 x 160 mm Front plate 40 mm (8 TE) 3 HE
Male connector:	DIN 41612 F 32 polig
Potentiometer	19-turn spindle trimmer
weight	300 g

environment:

permissible ambient temperature	–20 ... +60 °C
max storage temperature	–40 ... +85 °C
permissible humidity	30 ... 75 % not condensed
shock resistance	< 2g sinus form 10 ... 100Hz
EMC level	3 according to EN 50082-2

(only if the board is mount in a EMC protected rack)

Additional parts:

For power supply	HE 236 power unit with transformer Torodial transformer 50VA 2x 18V
For to mount	card holder DIN41612-F32pin row z and b
For to mount in 19zoll racks	female connector DIN41612-F32pin row z and b for soldering or WW connection

model type and order codes:

	Type	Schneider order no.
stock type:	HE 218 – 0 XXX – 0 1 – 0 0 1 – 2B	39155

Schneider Type

controller release
0 = without
1 =
2 = normal closed relay

rated current
xxx = stock type calibrated on 300mA
200 = 200mA
400 = 400mA
650 = 650 mA
999 = 1000mA

resistance for current limiting
0 = Standard = without
1 = R42/R43 = 30R/7W
2 = R42/R43 = 68R/7W

male connector
0 = DIN 41612-C32 a,c (option)
1 = DIN 41612-F32 b,z (standard)
2 = DIN 41617 31pol

construction level
0A = up to 6/86
1A = up to 10/90
2B = from 1998

Front plate
0 = without
1 = Vero
2 = Siemens "Teleperm C"
3 = Schroff

supply
0 = 2 x 18V AC (Standard)
1 = 2 x 18V AC and +15V DC and –15V DC

Options
0 = Standard
1 ... 9 customer type

possible types:	order no.	remarks
HE 218-0XXX-01-001-2A	39155	stock type
HE 218-0xxx-00-001-2A	37517	C32 pol
HE 218-0xxx-02-001-2A	39582	31-pol
HE 218-0700-01-103-2A	24960	with Schroff plate
HE 218-0xxx-01-001-2A-DA	41821	with LED indication

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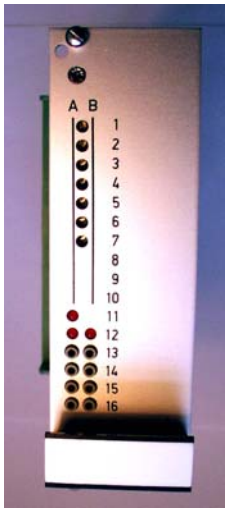
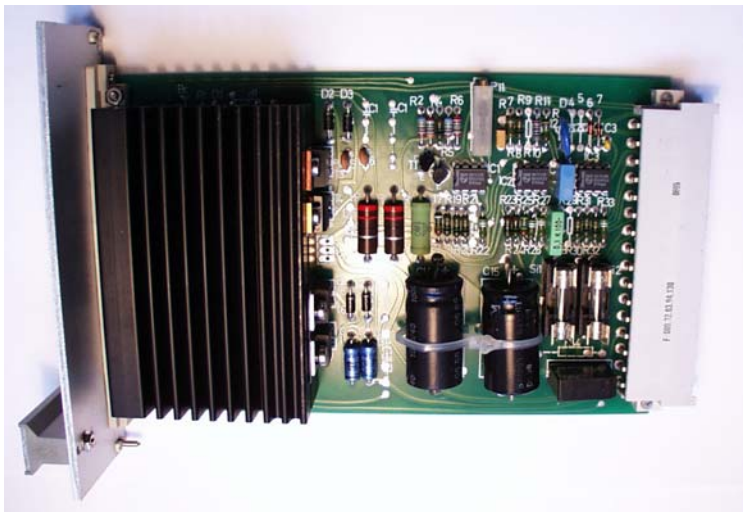
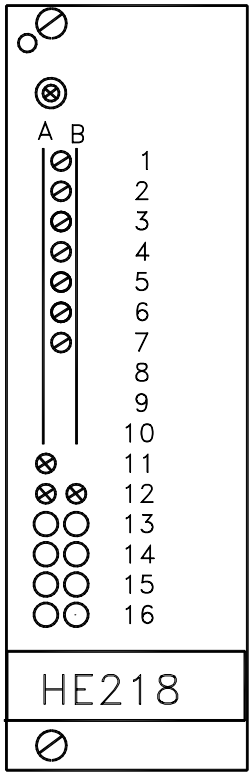
Front view and side view





Adjustment pots and test points



Potentiometer

gain 0,5...20
dither ampl.
offset controller
spare (I–contr.)
dither frequency
nominal valve current
Offset feedback –3,5V

Testpoint A

spare release contr.
LED +15V
input U/I
controller out
+15V
GND

Testpoint B

LED –15V
input contr.
valve current
–15V
GND

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Commissioning highlights

1) Connect with reference to connection diagram

Connect the three separate ground lines from the card HE218 pin b32, z32 and pin z18 with separate line on the transformer middle point (GND) together. Connect external reference ground for setpoint value to transformer, too. If necessary for noise reduction, connect electronic ground
(which is transformer middle point) to earth.

2) Switch on and test external power supply

check the alternating voltage from 18 to 24 V AC on Pin b20 and Pin b24 with reference to GND
Test the internal regulated power + 15V(±0,5V) on test point A15
- 15V(±0,5V) on test point B15
reference point for all measures (GND) are the test points A16 or B16
The LEDs A12 and B12 are on.

3) Input voltage

Give a input voltage of 0...10V to any input terminal, which is pin b14, b22, z10, b10, b8 or pin b6 look for the inverting voltage at test point A14. You can read your input voltage on test point B13, if you connect your input voltage to pin b14.

4) test and adjusting rated valve current

For rated valve current (200mA, 300mA, 650mA) and correct connection of coils (i.e.. parallel) look to the valve data sheet. The factory setting is 300mA for 10V input. The valve current is checking with a 1-ohm-resistance at test point B14 (300mA = 300mV). You can adjust the rated valve current with P6 when 10V is on A14.

5) Adjust dither amplitude

with P2 to 2 ... 5% of rated valve current. This improves the hysteresis and sensitivity of valve.
For noisy reduction you can adjust the dither frequency as well with P5 (70 ... 300 Hz) The factory setting is 200 Hz

6) use HE 218 only as current amplifier

adjust P1 for gain is = -1, that mean +10V on one input is -10Volt on A14 and the rated valve current.

7) use HE 218 as P-controller

setpoint input 0 ... +10V
feedback input 0 ... -10V
(it is important that the polarity from setpoint and feedback is inverse)
adjust P1 for good response time and stable feedback (ranch 0,5 ... 20)

8) Option release control

With the option –release controller- see model code the board is fitted with a relay. If the relay is present, you must to energize it, for to get current. Supply 24V to pin z20 and GND to pin z26 for to energize the relay and lighting the LED A11.

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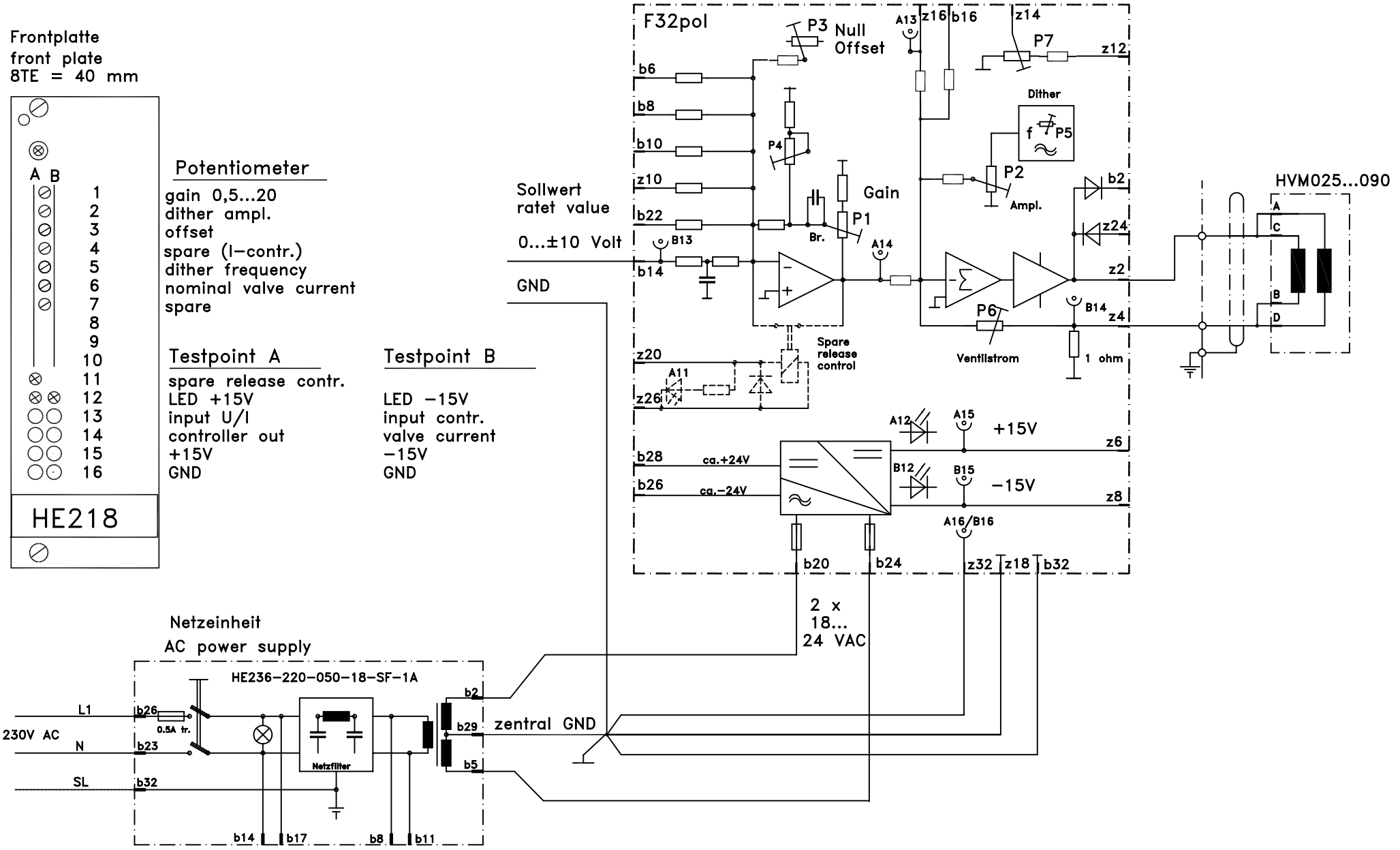
HE 218-0XXX-01-001-2B



	File: HE218-AN Lay: SV1 F32pol				Datum	Name	Fuer diese Vorlage techn. Art behalten wir uns alle Rechte vor (vgl. DIN 34)	Schneider Kreuznach Feinwerktechnik	Benennung Anschlussplan connection diagram for servo valves	Zeichnungsnummer HE218	
				gez.	15.07.94	ei				F32pol	Blatt
				gepr.	11/95	Ei					BL.
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