- X101-3, X101-2, X101-1
- D101, SS14
- 24V_AUX/4.2B, GND/2.3B
- SV101

Connector SV101 pin labels (left side):
- 1 CURRENT_C/7.4B
- 3 CURRENT_B/7.4B
- 5 CURRENT_A/7.4A
- 7 -15V/4.3D
- 9 +15V/4.3C
- 11 AGND/4.3D
- 13 GND/2.3B
- 15 +12V_OR_+5V/2.4C
- 17 BR_RESISTOR/2.3B R101 BR_R
- 19 CHARGE_RELAY/2.3D

Connector SV101 pin labels (right side):
- 2 CURRENT_MOTOR/7.4C
- 4 N$27
- 6 VBUS/7.4D
- 8 -15V/4.3D
- 10 +15V/4.3C
- 12 AGND/4.3D
- 14 GND/2.3B
- 16 +12V_OR_+5V/2.4C
- 18 PWM1_H R102 MCU_G1/6.1A
- 20 PWM2_H R103 MCU_G3/6.3A
- 22 PWM3_H R104 MCU_G5/6.5A
- 24 PWM1_L R105 MCU_G2/6.1C
- 26 PWM2_L R106 MCU_G4/6.3C
- 28 PWM3_L R107 MCU_G6/6.5C
- 21, 23, 25, 27
- 29, 31, 33
- 30, 32, 34

| G1 | G3 | G5 |
| G2 | G4 | G6 |

Bottom connectors:
- X102-1 L/2.1A
- X102-2 N/2.1B
- X102-3 PE
- X103-1 DC+/2.6A
- X103-2 CAP_DC-/2.1D
- X103-3 PE
- X104-1 DC+/2.6A
- X104-2 RB-/2.5B
- X104-3 PE
- X105-1 MOTOR_U/3.2B   RED
- X105-2 MOTOR_V/3.4B   WHITE
- X105-3 MOTOR_W/3.6B   BLACK
- X105-4 PE   GREEN

main
16.12.2017
Sheet: 1/7

R201
470*

B201
K201
S
P

L/1.3C
AC1
AC2

N/1.3C

C201
330uF/400V

C202
>=100uF

C203
>=100uF

R206
20K*

+15V_G456/5.4C

IC201

BR_RESISTOR/1.3B

1
2
3
4
8
7
6
5

GND

R204
56R0*

D202
SS14

C204
100nF

R208
10K

D203
18V

C205

D201

RB-/1.4C

Q201
SPA07N60C3

DC+/3.1A

R202
68K*

R203
68K*

R205
68K*

R207
100

1
2
3

HV_VBUS/7.2D

R209
0R1/2W*

DC-/3.1C

CAP_DC-/7.2C

+12V

K201
G5LE

D204
1N5817-B

1
2

+15V_G456/5.4C

+15V_G456/5.4C

C206

CAP_DC-/1.3C

CAP_DC-/7.2C

CHARGE_RELAY/1.3B

R210
5.1K

Q202
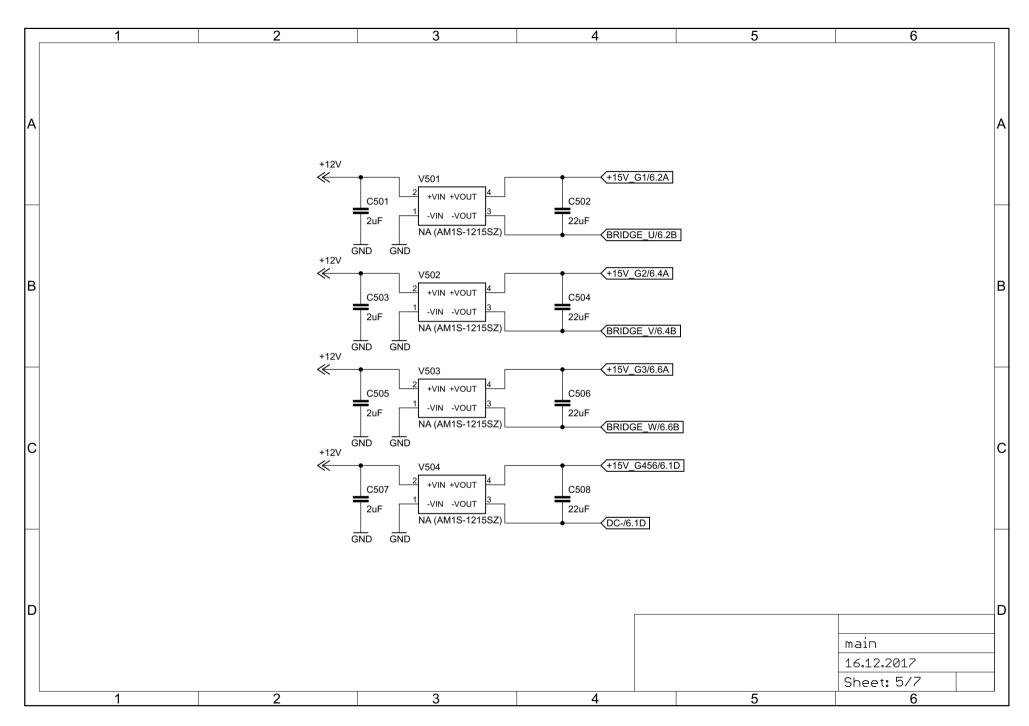BC847B

R211
10K

GND

GND

main

16.12.2017

Sheet: 2/7

16.12.2017 г. 00:35:48 ч. D:\Developments\Elektronika\Motor Control\Projects\FOC Servo\Scheme and Board\Power Stage\v.0.0.1\main.sch (Sheet: 2/7)
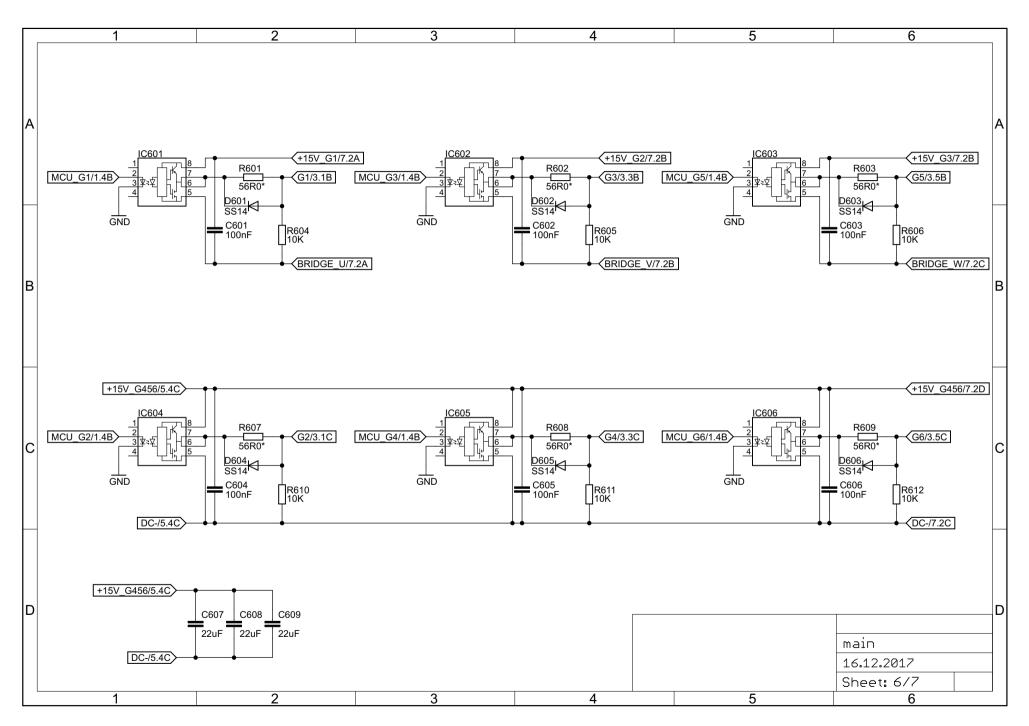
Q301
SPA07N60C3

G1/6.2A

D301
18V

C301

R301
0R1/2W*

BRIDGE_U/5.4B

MOTOR_U/7.2A

BRIDGE_U/5.4B

Q304
SPA07N60C3

G2/6.2C

D304
18V

C304

DC-/2.6C

Q302
SPA07N60C3

G3/6.4A

D302
18V

C302

R302
0R1/2W*

BRIDGE_V/5.4B

MOTOR_V/7.2B

BRIDGE_V/5.4B

Q305
SPA07N60C3

G4/6.4C

D305
18V

C305

Q303
SPA07N60C3

G5/6.6A

D303
18V

C303

R303
0R1/2W*

BRIDGE_W/5.4C

MOTOR_W/7.2B

BRIDGE_W/5.4C

Q306
SPA07N60C3

G6/6.6C

D306
18V

C306

DC+/2.6A

main

16.12.2017

Sheet: 3/7

IC401
LM2675

FB
V_{IN} CB   1
ON/$\overline{OFF}$ V_{SW}
GND

24V_AUX/1.3A

C401
10nF

L401
68uH

+12V

C402
100nF

C403
100uF/25V

D401
SS14

C404
100uF/25V

C405
100nF

R401
15K

R402
1.3K

GND   GND   GND   GND   GND   GND   GND

V401

+12V   1   +VIN   +VOUT   7   +15V

COM   6   AGND

2   -VIN   -VOUT   5   -15V

GND   TMA1215D   -15V

+12V

V501
| 2 | +VIN | +VOUT | 4 |
| 1 | -VIN | -VOUT | 3 |
NA (AM1S-1215SZ)

C501
2uF

GND   GND

C502
22uF

+15V_G1/6.2A

BRIDGE_U/6.2B

+12V

V502
| 2 | +VIN | +VOUT | 4 |
| 1 | -VIN | -VOUT | 3 |
NA (AM1S-1215SZ)

C503
2uF

GND   GND

C504
22uF

+15V_G2/6.4A

BRIDGE_V/6.4B

+12V

V503
| 2 | +VIN | +VOUT | 4 |
| 1 | -VIN | -VOUT | 3 |
NA (AM1S-1215SZ)

C505
2uF

GND   GND

C506
22uF

+15V_G3/6.6A

BRIDGE_W/6.6B

+12V

V504
| 2 | +VIN | +VOUT | 4 |
| 1 | -VIN | -VOUT | 3 |
NA (AM1S-1215SZ)

C507
2uF

GND   GND

C508
22uF

+15V_G456/6.1D

DC-/6.1D

main

16.12.2017

Sheet: 5/7

16.12.2017 г. 00:35:48 ч. D:\Developments\Elektronika\Motor Control\Projects\FOC Servo\Scheme and Board\Power Stage\v.0.0.1\main.sch (Sheet: 5/7)
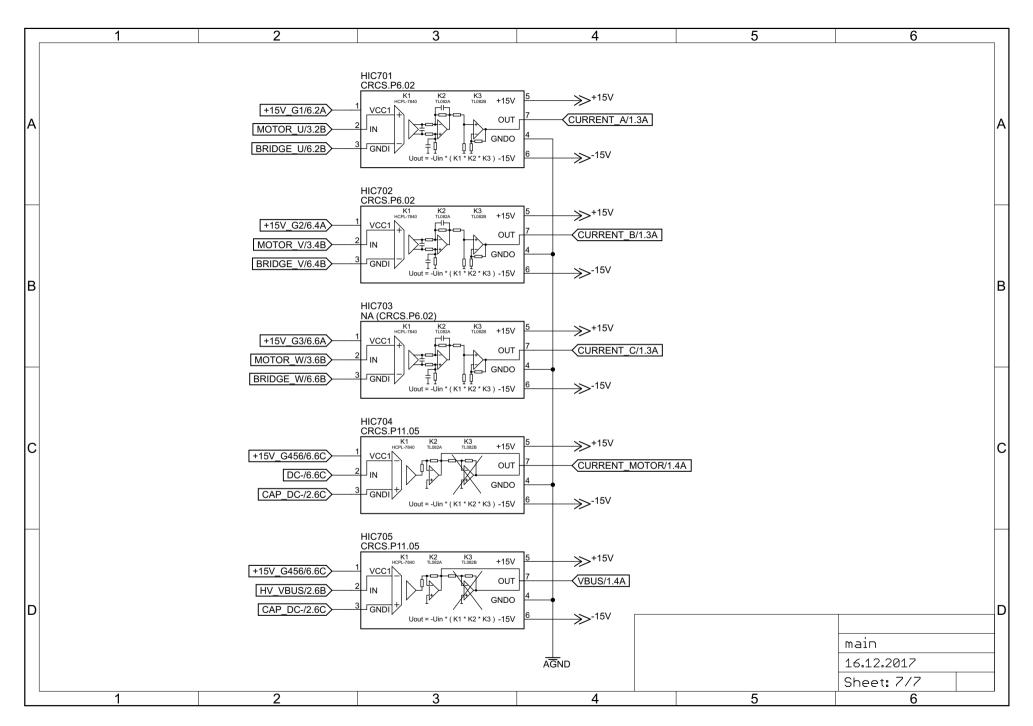
Grid columns: 1 2 3 4 5 6 — Rows: A B C D

Row A/B (top section):

MCU_G1/1.4B — IC601 — R601 56R0* — +15V_G1/7.2A / G1/3.1B
GND — D601 SS14 — C601 100nF — R604 10K — BRIDGE_U/7.2A

MCU_G3/1.4B — IC602 — R602 56R0* — +15V_G2/7.2B / G3/3.3B
GND — D602 SS14 — C602 100nF — R605 10K — BRIDGE_V/7.2B

MCU_G5/1.4B — IC603 — R603 56R0* — +15V_G3/7.2B / G5/3.5B
GND — D603 SS14 — C603 100nF — R606 10K — BRIDGE_W/7.2C

Row C (middle section):

+15V_G456/5.4C — +15V_G456/7.2D

MCU_G2/1.4B — IC604 — R607 56R0* — G2/3.1C
GND — D604 SS14 — C604 100nF — R610 10K

MCU_G4/1.4B — IC605 — R608 56R0* — G4/3.3C
GND — D605 SS14 — C605 100nF — R611 10K

MCU_G6/1.4B — IC606 — R609 56R0* — G6/3.5C
GND — D606 SS14 — C606 100nF — R612 10K

DC-/5.4C — DC-/7.2C

Row D (bottom section):

+15V_G456/5.4C — C607 22uF — C608 22uF — C609 22uF
DC-/5.4C

main
16.12.2017
Sheet: 6/7