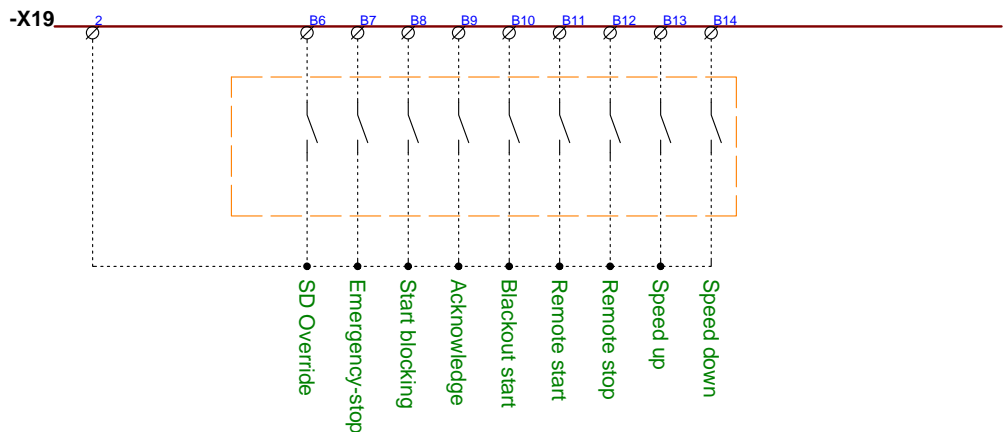


| | | | |
|--|---|---|-----------------------|
| | Customer/Shipyard: | File Name: SEM-140423-01A | Drawing no. |
| | Hull No: | Drawn by: RJ | SEM-140423-01A |
| | Engine: D13 HE/ KC AUX Electrical Starter | Based on software: 21652318_P01 | Project no. |
| | Page Title: Single line diagram - System layout | Date For Last Change: 2012-02-24 09:01:08 | Page 1 of 8 |

Customer Interface

Inputs



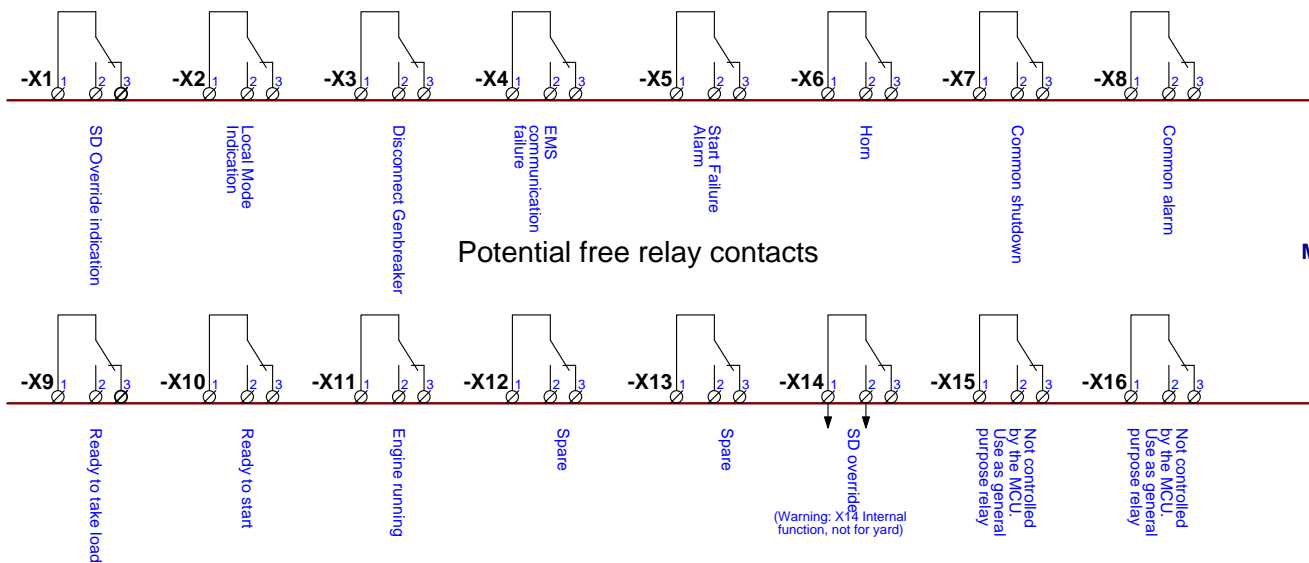
Optional rpm signals from load sharing and synchron. units. Implemented by Volvo Penta on request

Contacts for speed up and down (default)
Voltage: ±1V
Resistance: 0-250 Ohm, 0-2.4 kOhm
Current: ±20 mA

Shutdown override function

All shutdown's (SDU input's S1-S5) possible to override except overspeed shutdown, which are not possible to override

Outputs



Potential free relay contacts

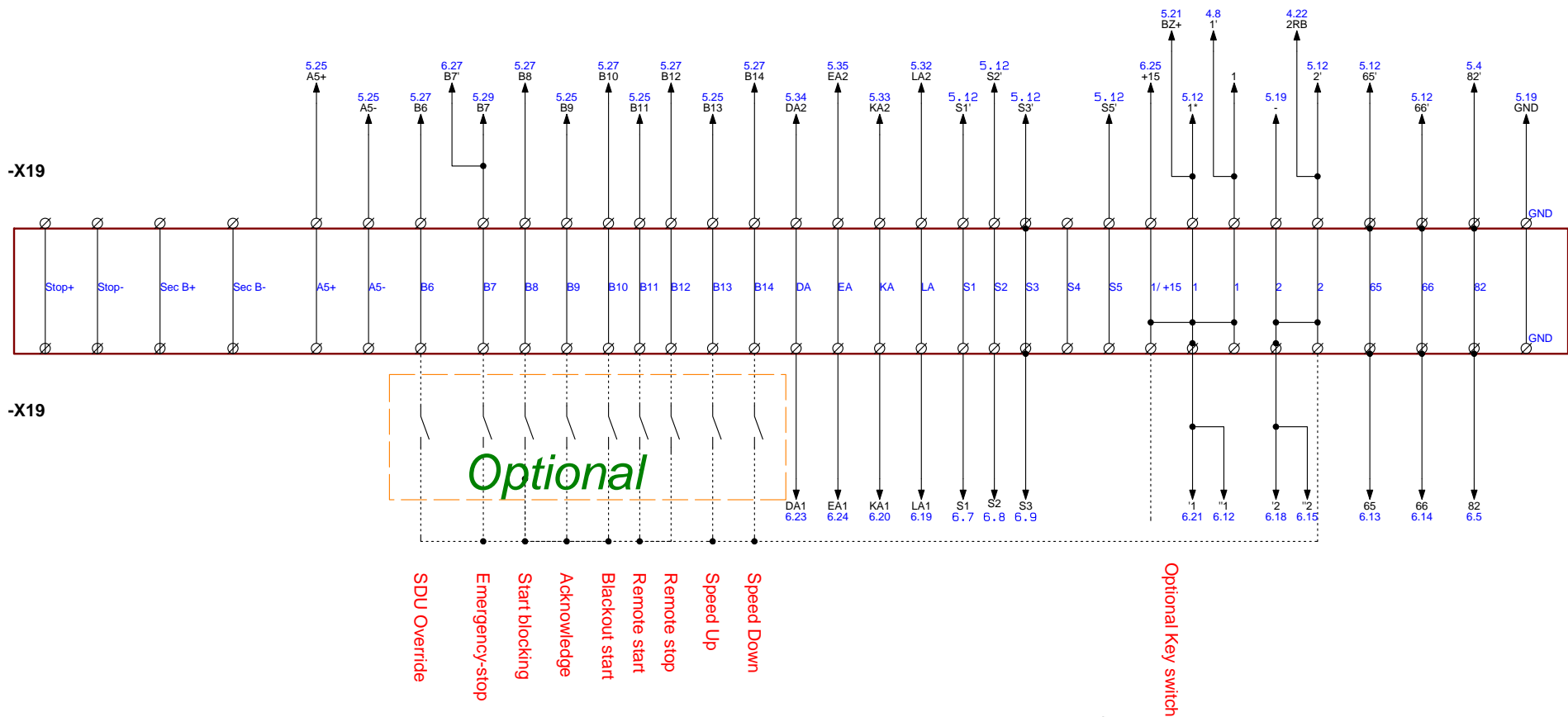
Max 24VDC, 230VAC not allowed, on relay contacts



| | | |
|---|---|-----------------------|
| Customer/Shipyard: | File Name: SEM-140423-01A | Drawing no. |
| Hull No: | Drawn by: RJ | SEM-140423-01A |
| Engine: D13 HE/ KC AUX Electrical Starter | Based on software: 21652318_P01 | Project no. |
| Page Title: Customer Interface | Date For Last Change: 2012-12-19 11:47:22 | Page 2 of 8 |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

System Connection Box

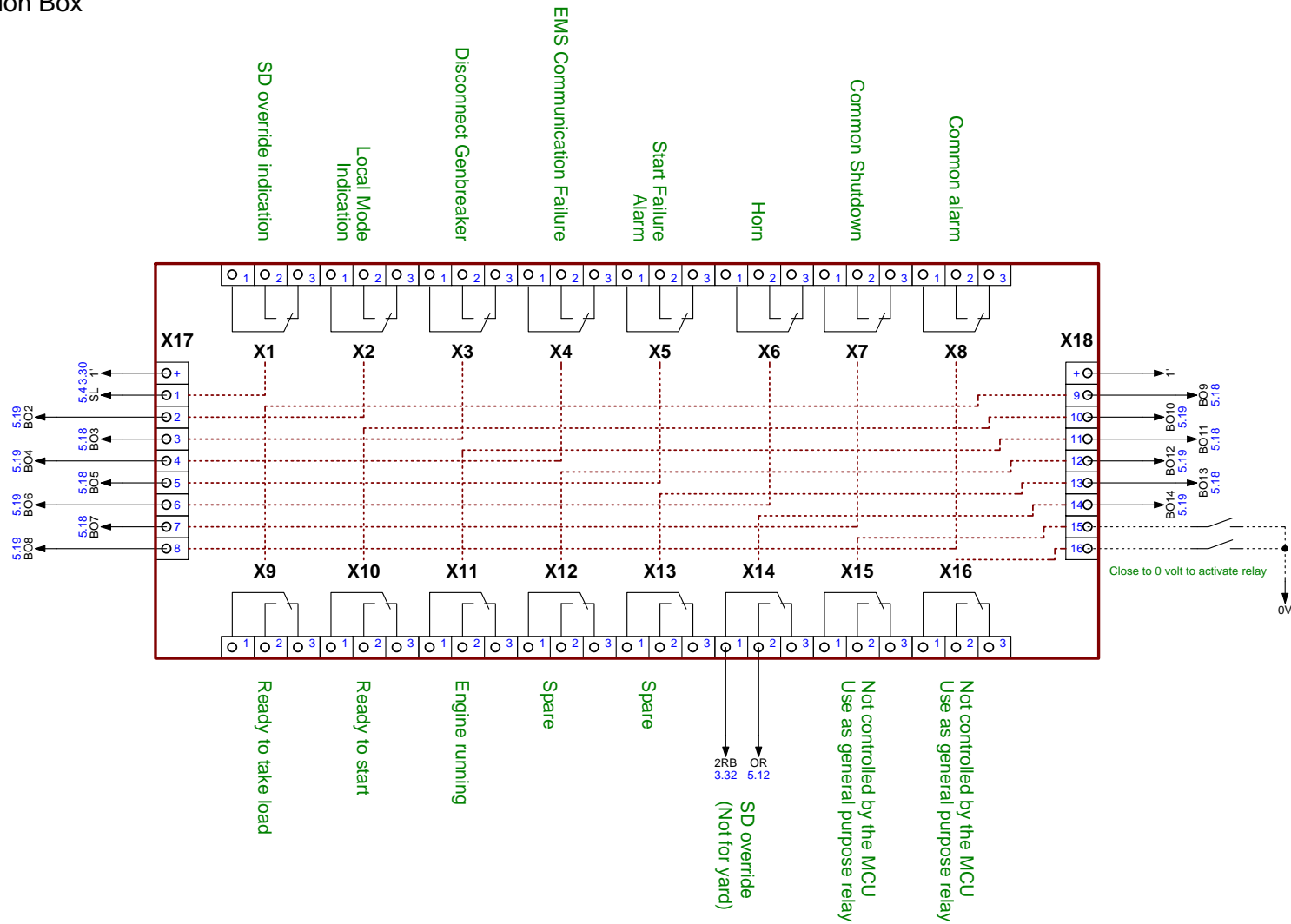


Customer/Shipyard:
Hull No:
Engine: D13 HE/ KC AUX Electrical Starter
Page Title: User inputs , -X19 terminals

File Name: SEM-140423-01A
Drawn by: RJ
Based on software: 21652318_P01
Date For Last Change: 2012-12-19 08:29:06

Drawing no. SEM-140423-01A
Project no.
Page 3 of 8

System Connection Box

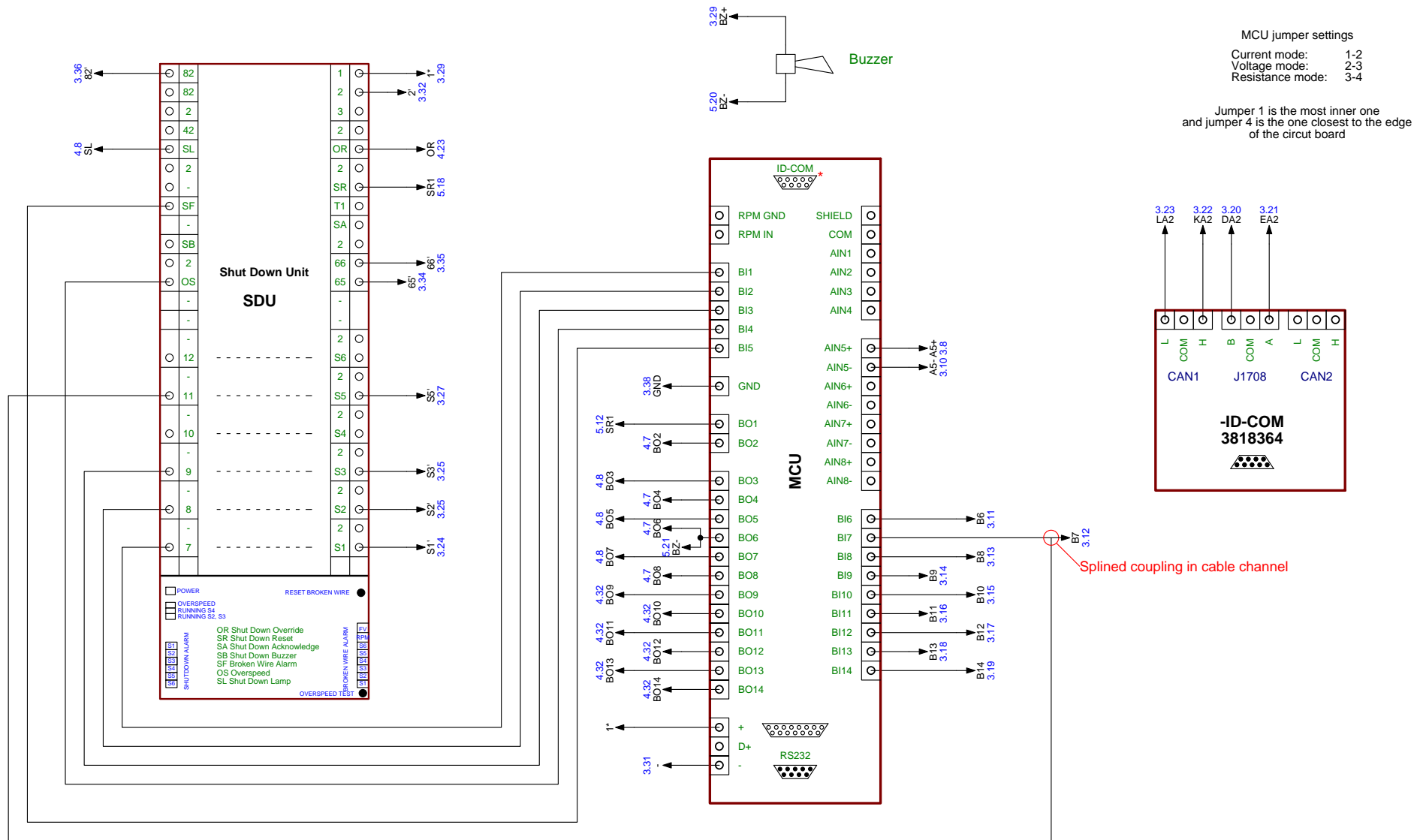


Customer/Shipyard:
 Hull No:
 Engine: D13 HE/ KC AUX Electrical Starter
 Page Title: Potential free contacts

File Name: SEM-140423-01A
 Drawn by: RJ
 Based on software: 21652318_P01
 Date For Last Change: 2012-02-27 09:42:38

Drawing no.
SEM-140423-01A
 Project no.
 Page 4 of 8

System Connection Box

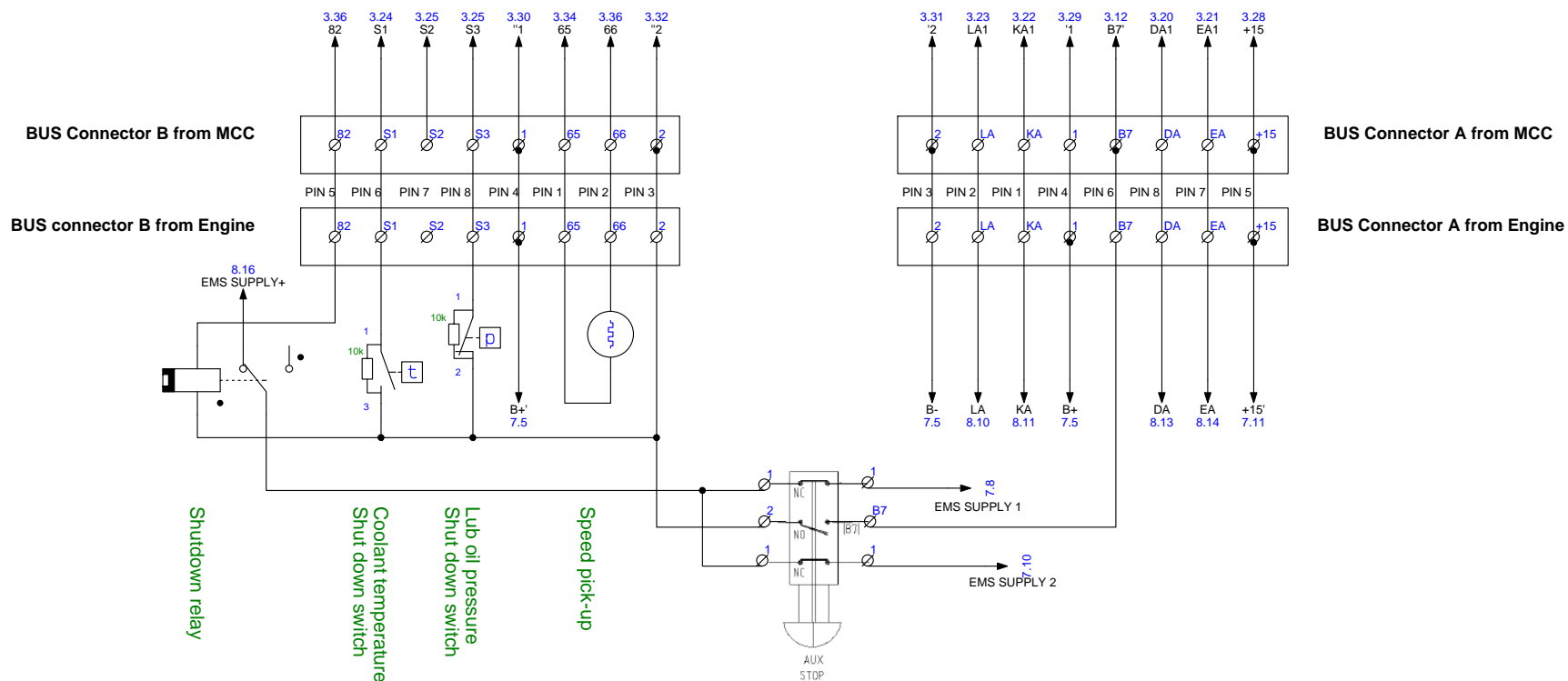


Customer/Shipyard:
 Hull No:
 Engine: D13 HE/ KC AUX Electrical Starter
 Page Title: MCU, SDU and ID-COM

File Name: SEM-140423-01A
 Drawn by: RJ
 Based on software: 21652318_P01
 Date For Last Change: 2014-04-23 16:04:36

Drawing no. **SEM-140423-01A**
 Project no.
 Page 5 of 8

Engine Connection

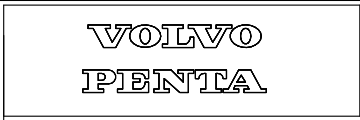
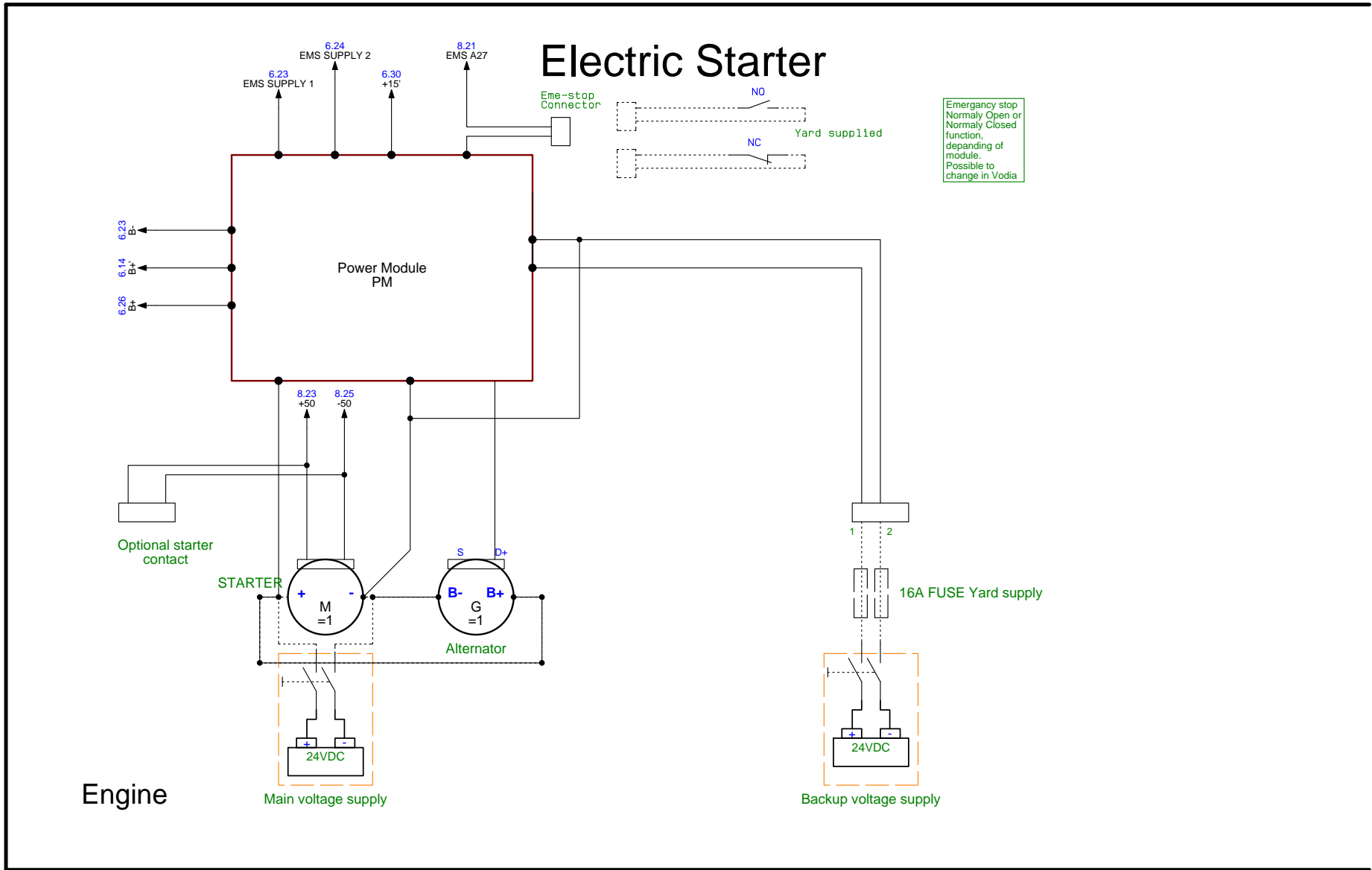


VOLVO
PENTA

Customer/Shipyard:
Hull No:
Engine: D13 HE/ KC AUX Electrical Starter
Page Title: Engine Connection

File Name: SEM-140423-01A
Drawn by: RJ
Based on software: 21652318_P01
Date For Last Change: 2012-02-24 13:50:50

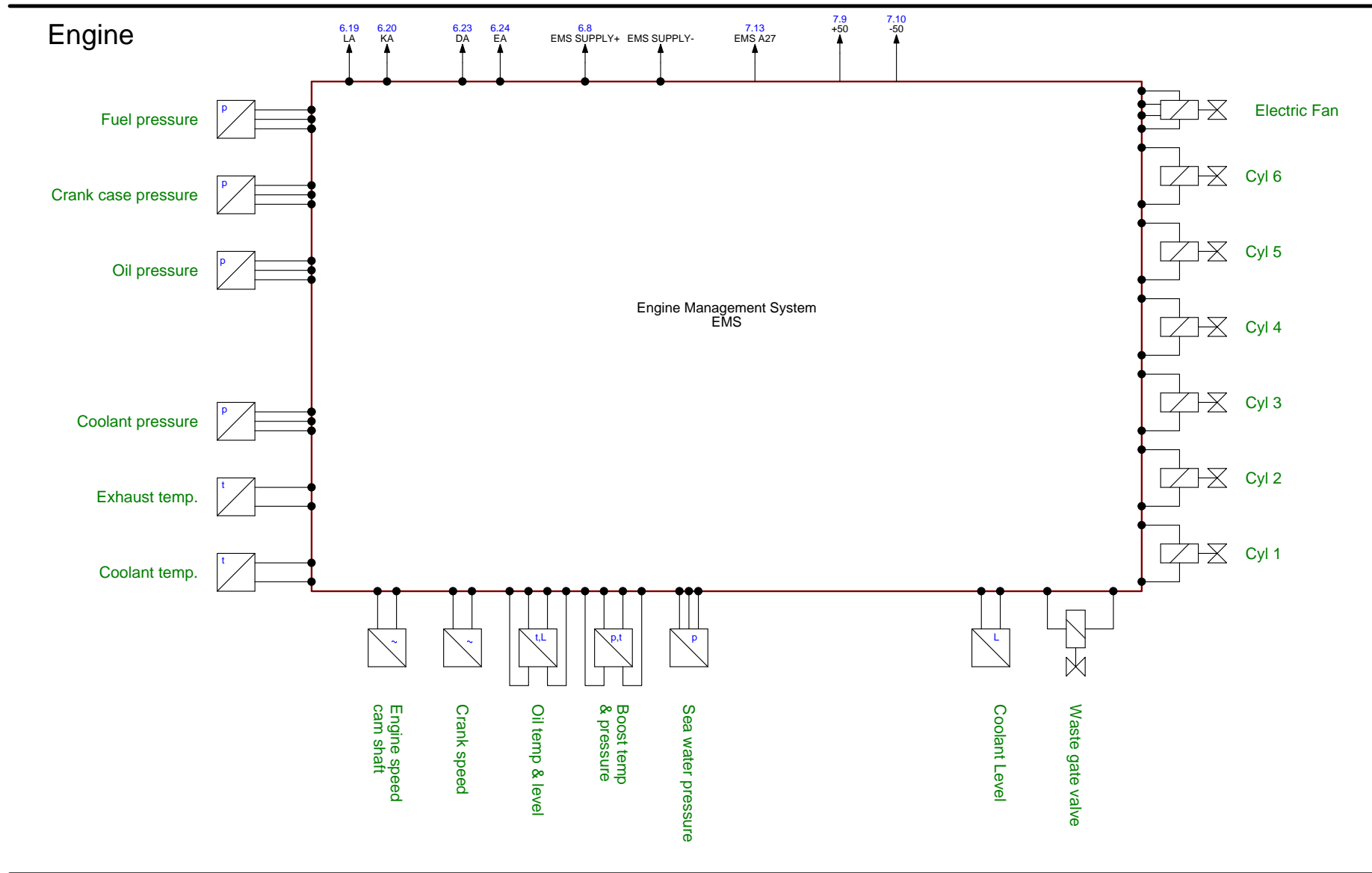
Drawing no.
SEM-140423-01A
Project no.
Page 6 of 8



Customer/Shipyard:
 Hull No:
 Engine: D13 HE/ KC AUX Electrical Starter
 Page Title: Voltage supply, Electric Starter

File Name: SEM-140423-01A
 Drawn by: RJ
 Based on software: 21652318_P01
 Date For Last Change: 2014-05-23 15:13:30

Drawing no. **SEM-140423-01A**
 Project no.
 Page 7 of 8



Customer/Shipyard:
 Hull No:
 Engine: D13 HE/ KC AUX Electrical Starter
 Page Title: Engine sensors and EMS

File Name: SEM-140423-01A
 Drawn by: RJ
 Based on software: 21652318_P01
 Date For Last Change: 2014-04-23 16:19:38

Drawing no. **SEM-140423-01A**
 Project no.
 Page 8 of 8