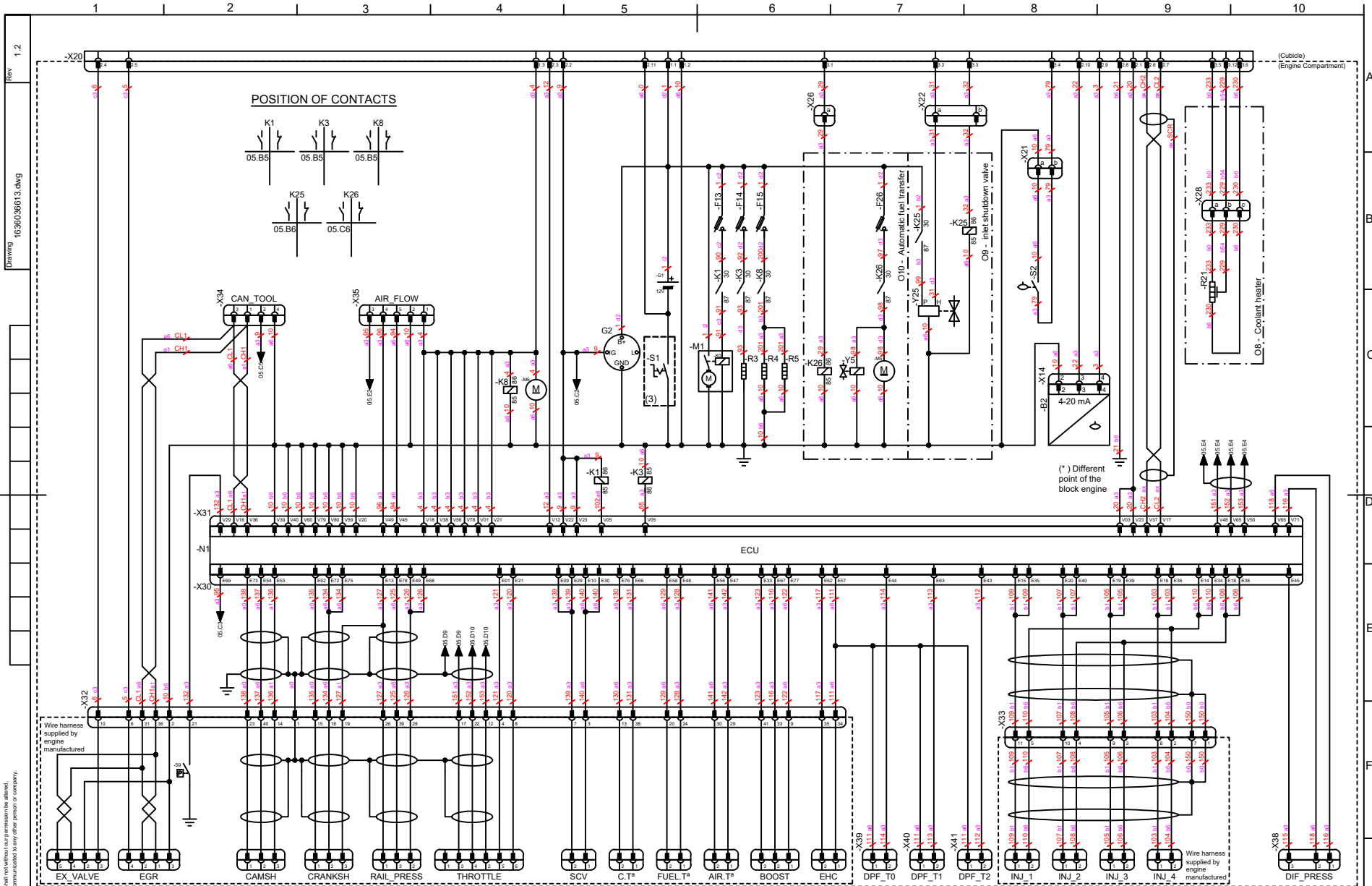
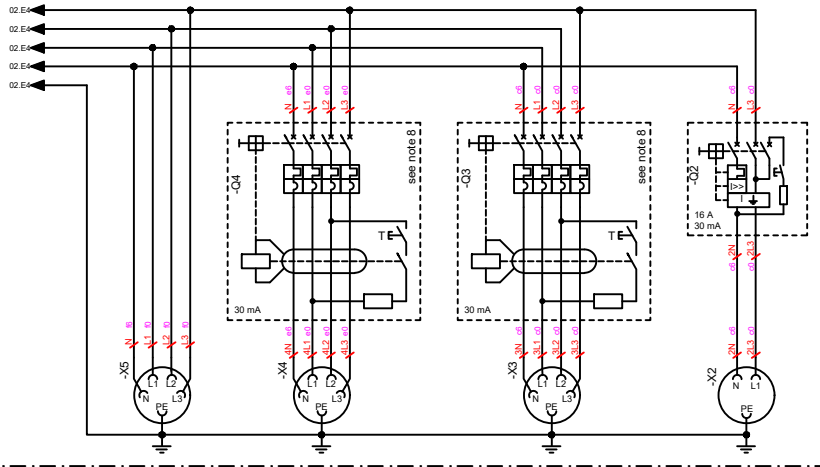




Drawing 1636036613.dwg  
Rev 1.2

O12- Sockets

Sockets config 1

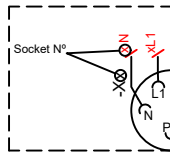


NOTES

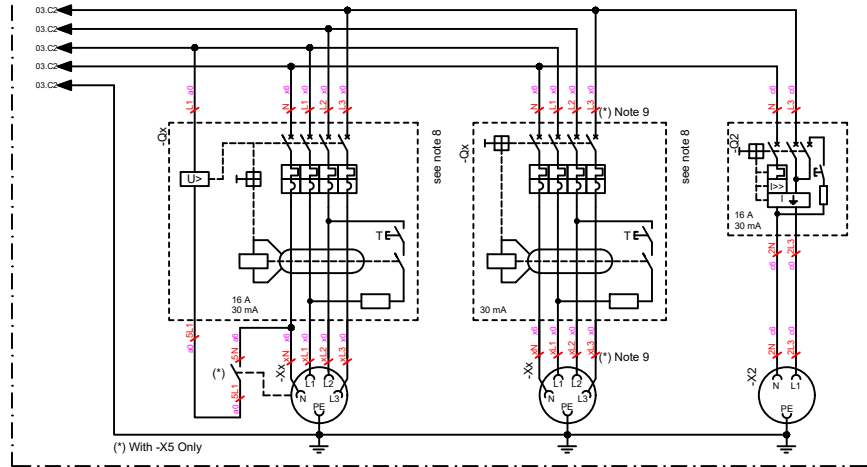
Note 8: Two types of circuit breakers might be selected: magnet-thermal circuit breaker or earth leakage (ELCB) circuit breaker. With 1PH sockets only ELCB can be mounted. With 63A an earth leakage add-on block is used when ELCB type is selected.

| Config N° | Name                            | X5        | X4     | X3     | X2     |
|-----------|---------------------------------|-----------|--------|--------|--------|
| Config 1  | Sockets 5P 63-32-16A+DS         | 5P 63A    | 5P 32A | 5P 16A | 3P 16A |
|           | Sockets 5P 63-32-32A+DS         | 5P 63A    | 5P 32A | 5P 32A | 3P 16A |
|           | Sockets 5P 63A ELP(A) 32-16A+DS | 5P 63A    | 5P 32A | 5P 16A | 3P 16A |
| Config 2  | Sockets 5P ELP(A) 63(P)-32A+DS  | 5P 63(P)A | 5P 32A | -      | 3P 16A |
|           | Sockets 5P ELP(A) 32-16A+DS     | -         | 5P 32A | 5P 16A | 3P 16A |
| Config 3  | Sockets 5P 63A ELP(B) 32-16A+DS | 5P 63A    | 5P 32A | 5P 16A | 3P 16A |

| Socket wire cross section legend |      |                    |                       |
|----------------------------------|------|--------------------|-----------------------|
| Socket                           | Size | Cross section      | Wire Type             |
| 5P 16A                           | d    | 4 mm <sup>2</sup>  | H07 V-K               |
| 5P 32A                           | e    | 6 mm <sup>2</sup>  | H07 V-K               |
| 5P 63A                           | f    | 10 mm <sup>2</sup> | NSGAFOEU 1,8/3 KV CPR |

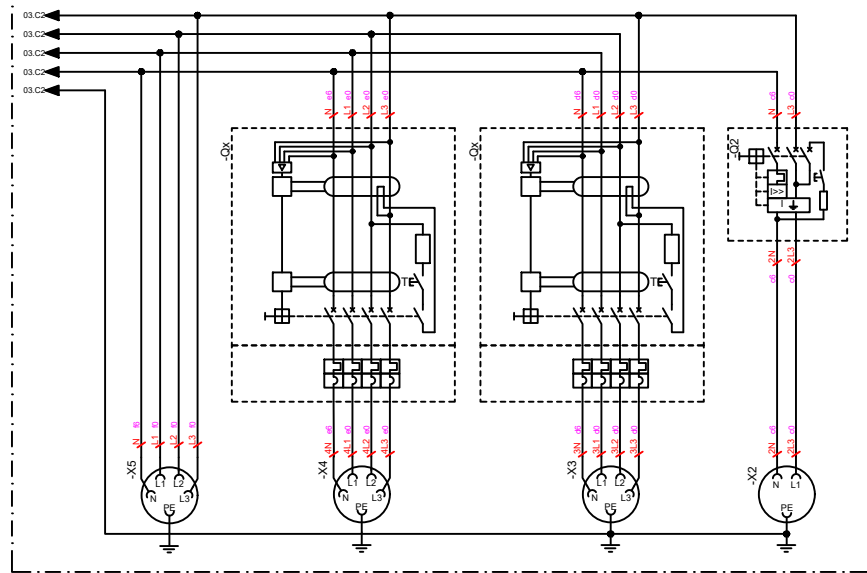


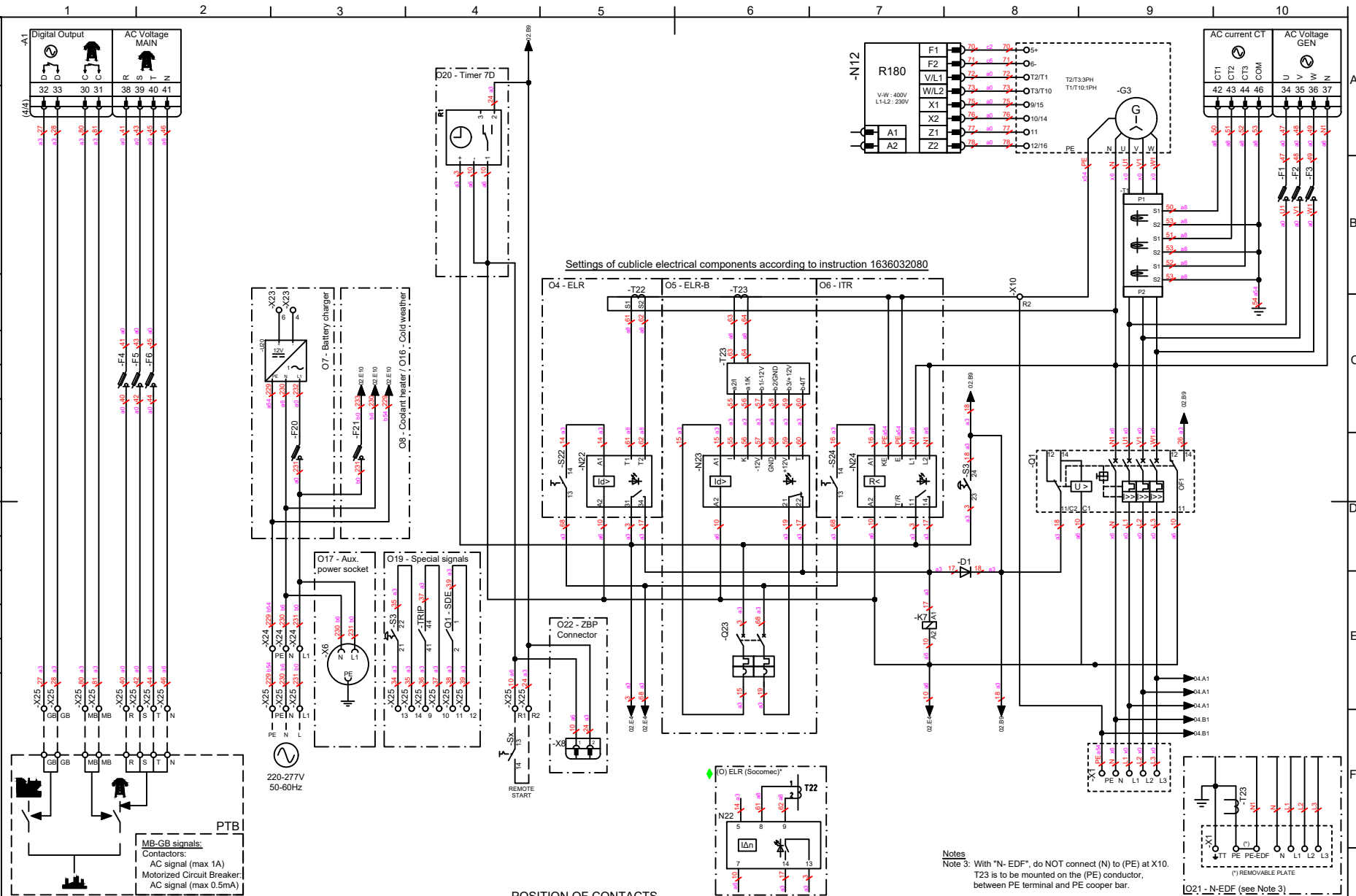
Sockets config 2



(\*) With -X5 Only

Sockets config 3



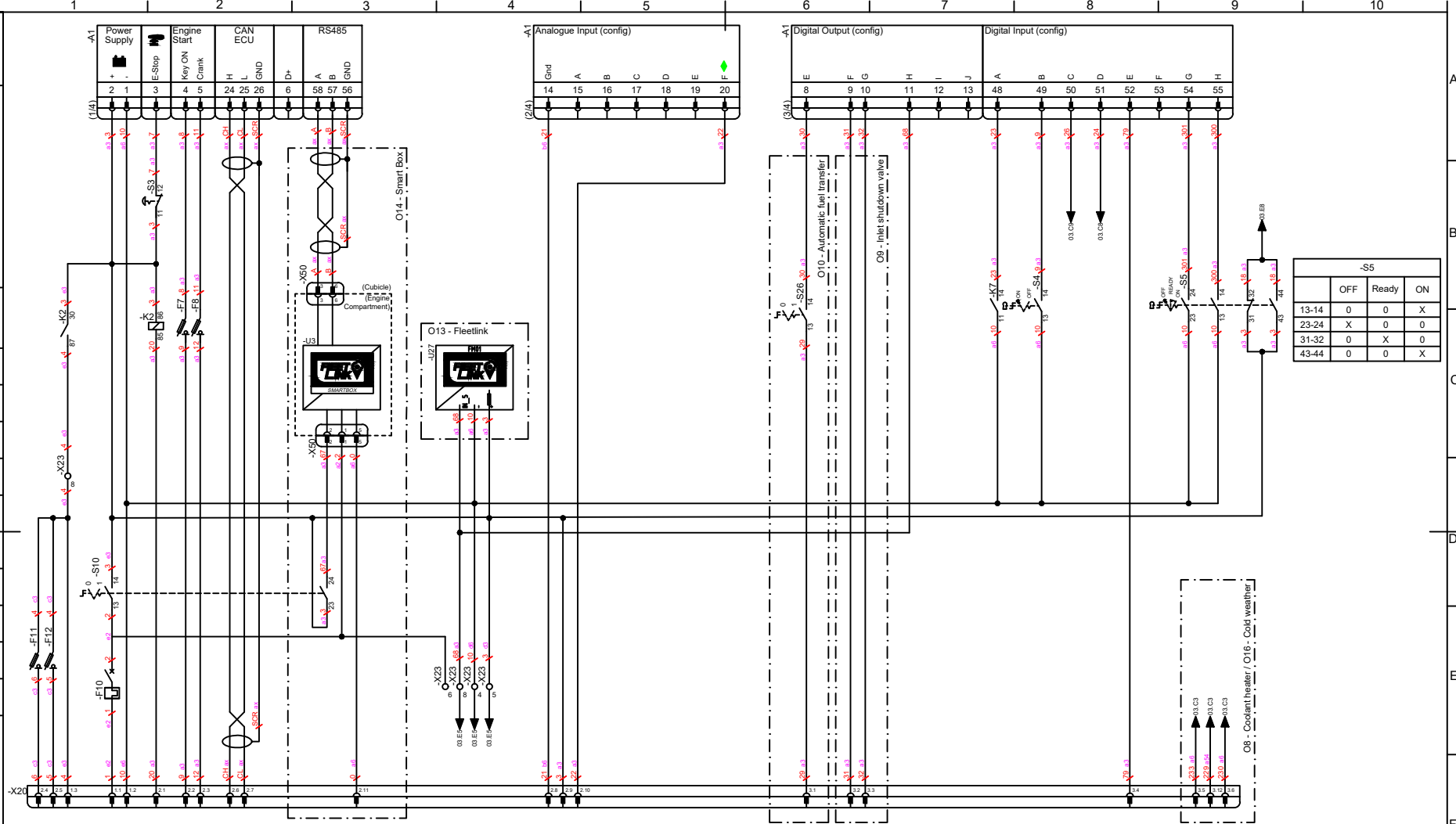


POSITION OF CONTACTS



| Rev | Modification               | Date       | Modified by |
|-----|----------------------------|------------|-------------|
| 1   | Opt. ELR Socomec Added     | 2022-03-30 | RGarcia     |
| 0   | DSE Inputs, Wire Numbering | 2022-01-13 | LMiranda    |

|                                               |                   |                             |                    |                                      |
|-----------------------------------------------|-------------------|-----------------------------|--------------------|--------------------------------------|
| Drawing Owner<br>ACD                          | Approved By<br>A3 | Approved Date<br>2022-04-12 | Status<br>Released | Secrecy Class<br>1102 K/CONFIDENTIAL |
| Compare                                       |                   |                             |                    | Replaces<br>1636035596               |
| Designation                                   |                   |                             |                    | Sheet 3 / 5                          |
| <b>DIAGRAM CIRCUIT</b><br>QAS 45 KD S5 Qc2212 |                   |                             |                    | <b>1636036613</b>                    |



POSITION OF CONTACTS



|                                                                                                  |  |     |  |                                                           |  |         |  |               |  |            |  |        |  |             |  |                |  |                     |  |
|--------------------------------------------------------------------------------------------------|--|-----|--|-----------------------------------------------------------|--|---------|--|---------------|--|------------|--|--------|--|-------------|--|----------------|--|---------------------|--|
| Drawing Owner                                                                                    |  | ESF |  | Approved By                                               |  | OArranz |  | Approval Date |  | 2022-04-12 |  | Status |  | Released    |  | Security Class |  | 1102 K/CONFIDENTIAL |  |
| ACD                                                                                              |  | A3  |  | <div>DIAGRAM CIRCUIT</div> <div>QAS 45 KD S5 Qc2212</div> |  |         |  |               |  |            |  |        |  | Compare     |  | Replaces       |  | 1636035596          |  |
| <div></div> |  |     |  |                                                           |  |         |  |               |  |            |  |        |  | Designation |  | Sheet 2 / 5    |  | 1636036613          |  |

(\*) Coolant heater (O8) is already included in the Cold Weather Option (O16). However, it can also be mounted independently.

| Table 4 - Optional equipment |                               |
|------------------------------|-------------------------------|
| Option                       | Description                   |
| O1                           | Battery switch                |
| O4                           | Earth leakage relay           |
| O5                           | Earth leakage relay Type B    |
| O6                           | Insulation monitoring relay   |
| O7                           | Battery charger               |
| O8                           | Coolant heater (*)            |
| O9                           | Inlet shutdown valve (ISV)    |
| O10                          | Automatic fuel transfer (AFT) |
| O12                          | Sockets                       |
| O13                          | Fleetlink                     |
| O14                          | Smart Box                     |
| O17                          | Auxiliary power Socket        |
| O18                          | AMF Relay                     |
| O19                          | Especial signals              |
| O20                          | Timer 7D Remote ON            |
| O21                          | Terminal board N-EDF          |
| O22                          | ZBP Connector                 |

| Table 2 - Cross-section legend |               |                       |
|--------------------------------|---------------|-----------------------|
| Size                           | Cross section | Wire Type             |
| aa                             | 0.5 mm²       | H05 V-K               |
| a                              | 1 mm²         | H05 V-K               |
| b                              | 1.5 mm²       | H07 V-K               |
| c                              | 2.5 mm²       | H07 V-K               |
| d                              | 4 mm²         | H07 V-K               |
| e                              | 6 mm²         | H07 V-K               |
| f                              | 10 mm²        | NSGAFOEU 1,8/3 KV CPR |
| g                              | 16 mm²        | NSGAFOEU 1,8/3 KV CPR |
| h                              | 25 mm²        | NSGAFOEU 1,8/3 KV CPR |
| i                              | 35 mm²        | NSGAFOEU 1,8/3 KV CPR |
| j                              | 50 mm²        | NSGAFOEU 1,8/3 KV CPR |
| k                              | 70 mm²        | NSGAFOEU 1,8/3 KV CPR |
| l                              | 95 mm²        | NSGAFOEU 1,8/3 KV CPR |
| ax                             | 0.75 mm²      | CAN BUS 1x2x0.75MM    |

| Table 3 - Wire colour legend |        |
|------------------------------|--------|
| Size                         | Colour |
| 0                            | Black  |
| 1                            | Brown  |
| 2                            | Red    |
| 3                            | Orange |
| 4                            | Yellow |
| 5                            | Green  |
| 6                            | Blue   |
| 7                            | Purple |
| 8                            | Grey   |
| 9                            | White  |

| Table 6 - Controller inputs |                         |
|-----------------------------|-------------------------|
| Terminal                    | Description             |
| 20                          | Fuel level sensor       |
| 48                          | ELR / ITR alarm         |
| 49                          | Regeneration inhibit    |
| 50                          | CGB status              |
| 51                          | Remote start            |
| 52                          | Spillage free sensor    |
| 53                          | Not used                |
| 54                          | Parked regeneration OFF |
| 55                          | Parked regeneration ON  |

| Table 7 - Controller outputs |                         |
|------------------------------|-------------------------|
| Relay                        | Description             |
| 3                            | Emergency stop          |
| 4                            | Key ON                  |
| 5                            | Crank                   |
| 8                            | Automatic fuel transfer |
| 9                            | ISV Pull signal         |
| 10                           | ISV Hold signal         |
| 11                           | Auxiliary Key-ON        |

| Table 8 - Component list |                                                   |             |
|--------------------------|---------------------------------------------------|-------------|
| Tag                      | Description                                       | Location *  |
| -A1                      | Control unit                                      | 02.A2       |
| -B2                      | Fuel level sensor                                 | 05.C8       |
| -D1                      | Diode                                             | 03.C7       |
| -F1                      | Fuse - 2A                                         | 03.B10      |
| -F2                      | Fuse - 2A                                         | 03.B10      |
| -F3                      | Fuse - 2A                                         | 03.B10      |
| -F4                      | Fuse - 2A                                         | 03.D3       |
| -F5                      | Fuse - 2A                                         | 03.D3       |
| -F6                      | Fuse - 2A                                         | 03.D3       |
| -F7                      | Fuse - 5A                                         | 02.E3       |
| -F8                      | Fuse - 5A                                         | 02.E3       |
| -F10                     | Circuit breaker - 20A                             | 02.E2       |
| -F11                     | Fuse - 5A                                         | 02.E1       |
| -F12                     | Fuse - 5A                                         | 02.E2       |
| -F13                     | Fuse - 50A                                        | 05.B5       |
| -F14                     | Fuse - 50A (O7)                                   | 05.B5       |
| -F15                     | Fuse - 50A (O7)                                   | 05.B5       |
| -F20                     | Fuse - 2A (O7)                                    | 03.D1       |
| -F21                     | Fuse - 6A (O8) (O16)                              | 03.D2       |
| -F26                     | Fuse - 25A                                        | 05.B6       |
| -F27                     | Fuse - 2A (O13-FleetLink Basic)                   | 02.C4       |
| -G1                      | Battery                                           | 05.B5       |
| -G2                      | Alternator battery charger                        | 05.C4       |
| -G3                      | Alternator                                        | 03.A9       |
| -K0                      | Starter solenoid                                  | 05.C5       |
| -K1                      | Start relay                                       | 05.E9       |
| -K2                      | Relay 12V 1CO - Main relay                        | 02.C2       |
| -K3                      | Relay 12V 1CO - Preheat relay                     | 05.D5       |
| -K7                      | Relay 12V 1CO - ELR/ITR trip                      | 03.D5       |
| -K8                      | Relay 12V 1CO - CCV heaters relay                 | 05.C4       |
| -K25                     | Relay 12V 1CO - Inlet shutdown valve control (O9) | 05.B7       |
| -K26                     | Relay 12V 1CO - Automatic fuel transfer (O16)     | 05.C6       |
| -M0                      | Starter motor                                     | 05.C5       |
| -M5                      | Automatic fuel transfer pump                      | 05.C6       |
| -M6                      | Fuel pump                                         | 05.C4       |
| -N1                      | ECU                                               | 05.D2       |
| -N2                      | AVR                                               | 03.A7       |
| -N22                     | Earth leakage relay (O4)                          | 03.C5       |
| -N23                     | Earth leakage relay Type B (O5)                   | 03.C6       |
| -N24                     | Insulation monitoring relay (O6)                  | 03.C7       |
| -Q1                      | Main Circuit breaker                              | 03.D8       |
| -Q2                      | Circuit breaker sockets - 2P 16A                  | 04.XX       |
| -Q3                      | Circuit breaker sockets - 3P 16A (*)              | 04.XX       |
| -Q4                      | Circuit breaker sockets - 3P 32A                  | 04.XX       |
| -R1                      | 7D Timer relay                                    | 03.A4       |
| -R3                      | Glow plugs system                                 | 05.C5       |
| -R4                      | CCV heater                                        | 05.C5       |
| -R5                      | CCV heater                                        | 05.C5       |
| -R21                     | Coolant heater - 500W (O8)                        | 02.F10      |
| -R27                     | Wire heater (O16)                                 | 02.C7       |
| -RB                      | AMF Relay                                         | 03.A3       |
| -S1                      | Battery switch (O1)                               | 05.C5       |
| -S2                      | Spillage sensor (O3)                              | 05.C8       |
| -S3                      | Emergency stop - Cubicle                          | 02.B2/03.D8 |
| -S4                      | Regeneration inhibit                              | 02.B8       |
| -S5                      | Parked regeneration                               | 02.B8       |
| -S10                     | Switch ON/OFF                                     | 02.C2       |

| Table 8 - Component list |                                              |             |
|--------------------------|----------------------------------------------|-------------|
| Tag                      | Description                                  | Location *  |
| -S21                     | Switch - AMF Relay                           | 03.B3       |
| -S22                     | Switch - ELR (O4)                            | 03.D5       |
| -S23                     | Switch - RCMA420 (O5)                        | 03.D6       |
| -S24                     | Switch - IR423 (O5)                          | 03.D7       |
| -S26                     | Automatic Fuel Transfer ON/OFF               | 02.C7       |
| -T1                      | Current transformer                          | 03.B9       |
| -T22                     | Earth leakage relay torus (O4)               | 03.B5       |
| -T23                     | RCMA 420 torus (O5)                          | 03.B6       |
| -U20                     | Battery charger (O7)                         | 03.C1       |
| -U27                     | Fleetlink (O13)                              | 02.C4       |
| -X1                      | Terminal board                               | 03.F9       |
| -X2                      | Socket 1PH - 16A                             | 04.XX       |
| -X3                      | Socket 3PH - 16A (*)                         | 04.XX       |
| -X4                      | Socket 3PH - 32A                             | 04.XX       |
| -X5                      | Socket 3PH - 63A                             | 04.XX       |
| -X6                      | Auxiliary power Socket - 1PH - 16A           | 05.E2       |
| -X8                      | ZBP Connector                                | 03.F5       |
| -X10                     | Insulator (PE-N)                             | 03.B8       |
| -X14                     | Connector - Fuel level sensor                | 05.C8       |
| -X20                     | Connector - Cubicle-engine wire harness      | C5.A1/02.F1 |
| -X21                     | Connector - Spillage Sensor                  | 05.B7       |
| -X22                     | Connector - Inlet shutdown valve             | 05.B7       |
| -X23                     | Terminal strip - Control cubicle connections | 05.E4       |
| -X25                     | Terminal strip - Customer terminals          | 03.F1       |
| -X26                     | Connector - Automatic fuel transfer          | 05.A6       |
| -X28                     | Connector - Coolant heater                   | 05.B9       |
| -X29                     | Connector - Wire heater                      | 05.B10      |
| -X30                     | Connector ECU-1                              | 05.E2       |
| -X31                     | Connector ECU-2                              | 05.D2       |
| -X32                     | Connector A                                  | 05.F1       |
| -X33                     | Connector B                                  | 05.F7       |
| -X34                     | Service tool connector                       | 05.C2       |
| -X35                     | Air Flow connector                           | 05.C3       |
| -X38                     | Differential pressure connector              | 05.G6       |
| -X39                     | DPF T0                                       | 05.G6       |
| -X40                     | DPF T1                                       | 05.G7       |
| -X41                     | DPF T2                                       | 05.G7       |
| -Y25                     | Inlet shutdown valve (O9)                    | 05.C6       |

\* 04.D8  
Sheet  
Row  
Column

(\*) -X3 socket and -Q3 circuit breaker could be 32A if "UK sockets option" is choosed.

| Rev | Modification               | Date       | Modified by |
|-----|----------------------------|------------|-------------|
| 1   | Opt. ELR Socomec Added     | 2022-03-30 | RGarcia     |
| 0   | DSE Inputs, Wire Numbering | 2022-01-13 | LMiranda    |

|                                                                                                  |  |             |  |                                                           |  |         |  |               |  |            |  |        |  |             |  |               |  |                     |  |
|--------------------------------------------------------------------------------------------------|--|-------------|--|-----------------------------------------------------------|--|---------|--|---------------|--|------------|--|--------|--|-------------|--|---------------|--|---------------------|--|
| Drawing Owner                                                                                    |  | ESF         |  | Approved By                                               |  | OArranz |  | Approval Date |  | 2022-04-12 |  | Status |  | Released    |  | Secrecy Class |  | 1102 K/CONFIDENTIAL |  |
| ACD                                                                                              |  | A3          |  | <div>DIAGRAM CIRCUIT</div> <div>QAS 45 KD S5 Qc2212</div> |  |         |  |               |  |            |  |        |  | Compare     |  | Replaces      |  | 1636035596          |  |
| <div></div> |  | Designation |  |                                                           |  |         |  |               |  |            |  |        |  | Sheet 1 / 5 |  | 1636036613    |  |                     |  |

Atlas Copco

DIAGRAM CIRCUIT  
QAS 45 KD S5 Qc2212