Goudsmit Magnetic Systems
Petunialaan 19
5582 HA Waalre
The Netherlands
Phone +31 (0)40 - 2213283

| | |
|---|---|
| Customer Name: | Customer Name xxxxx |
| Customer Number: | Customer Number XXXXXX |
| Country: | The Netherlands |
| Language: | English |

| | |
|---|---|
| Project Name: | Control box EM1-3 INCL. VALVE |
| Project Number: | project Number xxxxx |
| Product Description: | SPA-E-CB-NA-PLC-HW-PT1K0 |
| Product Number: | ESBP210001_H |
| Make: | TNR |

| | | | |
|---|---|---|---|
| Designer: | p.hellings | Supply Voltage: | 110-230-400 VAC |
| Design Date: | 12-6-2023 | Nominal Power: | 1.0 kW |
| Edit Date: | 22-9-2025 | Max Supply Current: | 16 A |
| Revision Number: | Rev H | Control Voltage: | 24V DC |
| Revision Status: | | ATEX: | No Atex |

Number of pages 31

# Project overview

| PAGE NUMBERING | |
|---|---|
| 1 | Title page |
| 2 | Project Overview |
| 3 | Revision overview |
| 4 | Page overview |
| 100 | Mains supply |
| 110 | Power supplies |
| 150 | Main circuit |
| 200 | Control Circuit |
| 300 | - |
| 400 | PLC overview |
| 500 | PLC I/O |
| 600 | - |
| 700 | - |
| 800 | Cabinet Layout |
| 900 | Bill of material |
| 920 | Components list |
| 940 | Terminal Plan |
| 990 | Textplates |

| TERMINAL NUMBERING | |
|---|---|
| X0 | Mains supply |
| X1 | Main power |
| X2 | Control Voltage 230VAC |
| X3 | Control Voltage 24 VAC |
| X4 | Control Voltage 24 VDC |
| X5 | Analog Signals (Field) |
| X6 | Digital Signals (Field) |
| X7 | External Signals (Customer) |
| X8 | EEX i |
| X9 | - |

100M1

REFERENCE NUMBER
PART CODE
PAGE NUMBER

| COLOR CODE INTERNAL WIRING | | |
|---|---|---|
| Main voltage 400/230VAC | Phase | Black |
| | Neutral | Lightblue |
| | Earth | Yellow/Green |
| | | |
| Control voltage 230VAC | Phase | Red |
| | Switch wire | Red |
| | Neutral | Red |
| | | |
| Control voltage 24VAC | Phase (L) | Grey |
| | Switch wire | Grey |
| | Neutral (N) | Grey |
| | | |
| Control voltage 24VDC | Phase (+) | Darkblue |
| | Switch wire | Darkblue |
| | Neutral (-) | Darkblue |
| | | |
| Control voltage 12VDC | Phase (+) | White |
| | Switch wire | White |
| | Neutral (-) | White |
| | | |
| Measurement | | Purple |
| | | |
| External signals (potential free contacts) | | Orange |
| | | |
| EEx i | | Blue |
| | | |
| | | |
| | | |

# Revision Overview

| Revision Number | Revision Comment | Engineer | Last Revision Date |
|---|---|---|---|
| F | Schematic converted to ePlan. Extra input for product channel open detection sensor. | mv | 12-06-2023 |
| G | Cable tags added. Omron relays replaced by successor. | mv | 12-08-2024 |
| H | Adaptation of relay type 200T2, 220U2 and 220U4 / adaptation of capacitor type 150C4. | p.hellings | 22-09-2025 |

# Table of contents

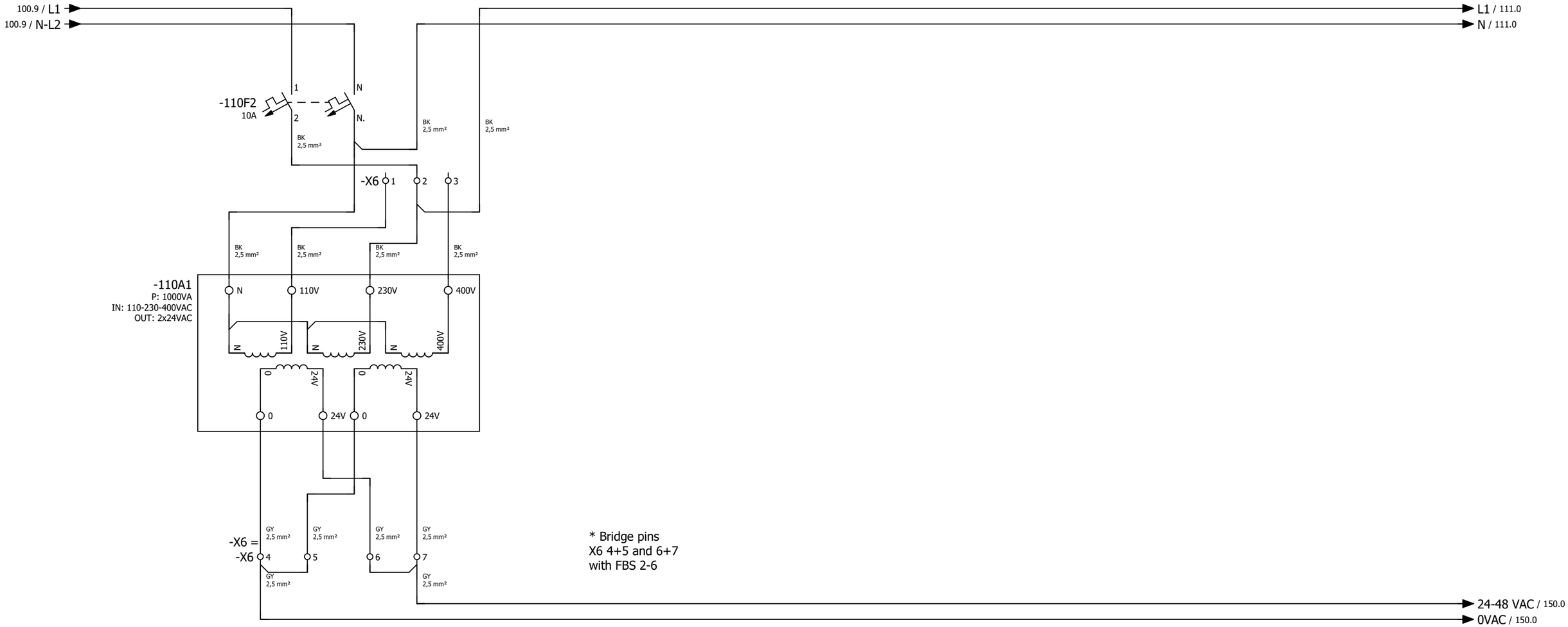
Column X: An automatically generated page was edited


| Page | Page description | Revision | Date | Edited by | X |
|---|---|---|---|---|---|
| /1 | Title Page | Rev H | 22-9-2025 | p.hellings | |
| /2 | Project Overview | Rev H | 22-9-2025 | p.hellings | |
| /3 | Revision Overview | Rev H | 22-9-2025 | p.hellings | |
| /4 | Page Overview | Rev H | 22-9-2025 | p.hellings | X |
| /100 | Mains Power | Rev H | 22-9-2025 | p.hellings | |
| /110 | Power Supplies | Rev H | 22-9-2025 | p.hellings | |
| /111 | Power Supplies | Rev H | 22-9-2025 | p.hellings | |
| /150 | Main Circuit | Rev H | 22-9-2025 | p.hellings | |
| /200 | Control Circuit 24VDC | Rev H | 22-9-2025 | p.hellings | |
| /220 | Control Circuit Temperature | Rev H | 22-9-2025 | p.hellings | |
| /230 | Control Circuit Status | Rev H | 22-9-2025 | p.hellings | |
| /400 | PLC overview | Rev H | 22-9-2025 | p.hellings | |
| /410 | PLC CPU Power | Rev H | 22-9-2025 | p.hellings | |
| /412 | PLC Digital Mix Power | Rev H | 22-9-2025 | p.hellings | |
| /413 | PLC Digital Mix Power | Rev H | 22-9-2025 | p.hellings | |
| /501 | PLC I/O Digital Inputs | Rev H | 22-9-2025 | p.hellings | |
| /502 | PLC I/O Digital Outputs | Rev H | 22-9-2025 | p.hellings | |
| /503 | PLC I/O Digital Inputs | Rev H | 22-9-2025 | p.hellings | |
| /504 | PLC I/O Digital Outputs | Rev H | 22-9-2025 | p.hellings | |
| /800 | Cabinet Layout | Rev H | 22-9-2025 | p.hellings | |
| /900 | Bill of material | Rev H | 22-9-2025 | p.hellings | |
| /901 | Bill of material | Rev H | 22-9-2025 | p.hellings | |
| /920 | Components List | Rev H | 22-9-2025 | p.hellings | |
| /921 | Components List | Rev H | 22-9-2025 | p.hellings | |
| /940 | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /941 | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /942 | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /943 | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /943.a | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /944 | Terminal Plan | Rev H | 22-9-2025 | p.hellings | |
| /990 | Textplates | Rev H | 22-9-2025 | p.hellings | |
| | | | | | |
| | | | | | |

Main Power
110-230-400 VAC + PE / 50-60Hz
Fuse max. 16A



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Mains Power | = |
| | | | Ed. | p.hellings | | | | | | + |
| | | | Appr. | | | | | | | Page 100 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 5 / 31 |




* Bridge pins
X6 4+5 and 6+7
with FBS 2-6

Power Supply 24V AC
Control Circuit

X6:1 FOR MAIN POWER SUPPLY 110V AC
X6:2 FOR MAIN POWER SUPPLY 230V AC
X6:3 FOR MAIN POWER SUPPLY 400V AC



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0 | Power Supplies | = | |
| | | | Ed. | p.hellings | | GOUDSMIT MAGNETICS | ESBP210001_H | | + | |
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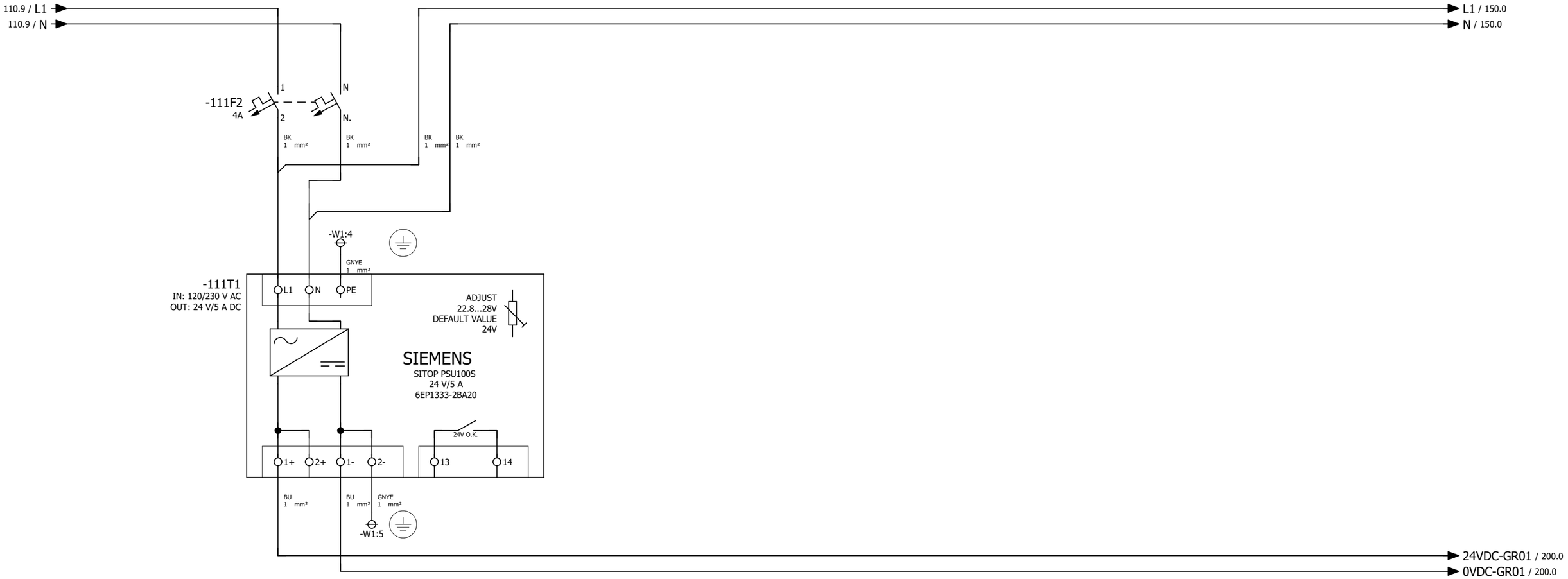


24V DC
Power Supply

110

150

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Power Supplies | = |
| | | | Ed. | p.hellings | | | | | | + |
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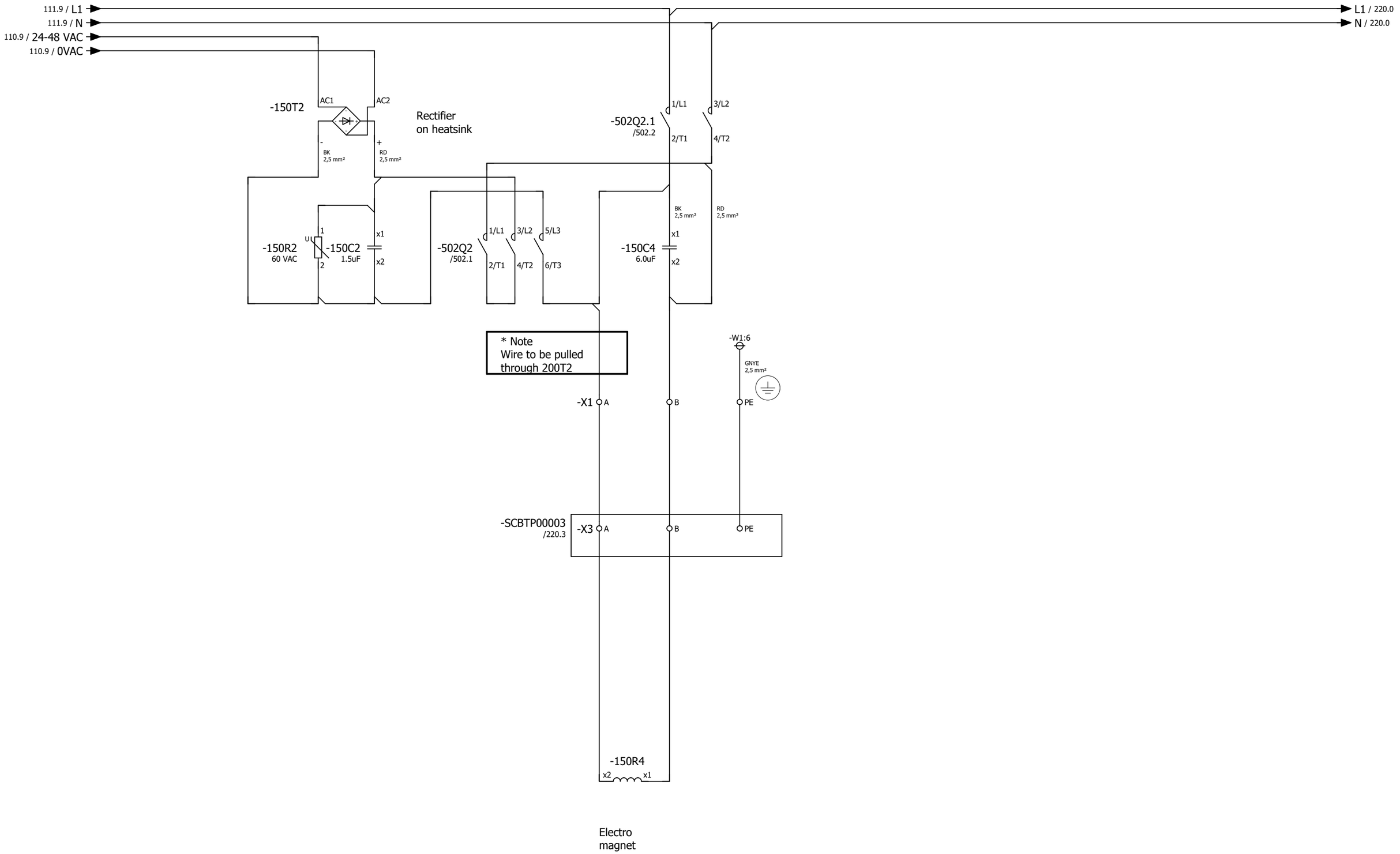


111

200

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0 | Main Circuit | = |
| | | | Ed. | p.hellings | | | GOUDSMIT MAGNETICS | ESBP210001_H | | + |
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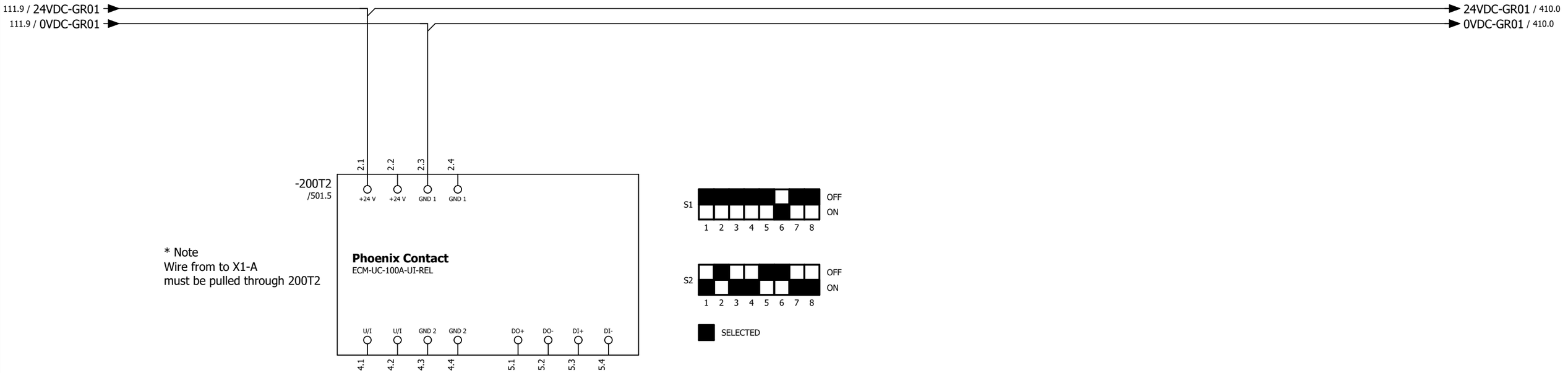


* Note
Wire from to X1-A
must be pulled through 200T2

Current
Relay

150 220

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Control Circuit 24VDC | = |
| | | | Ed. | p.hellings | | | | | + |
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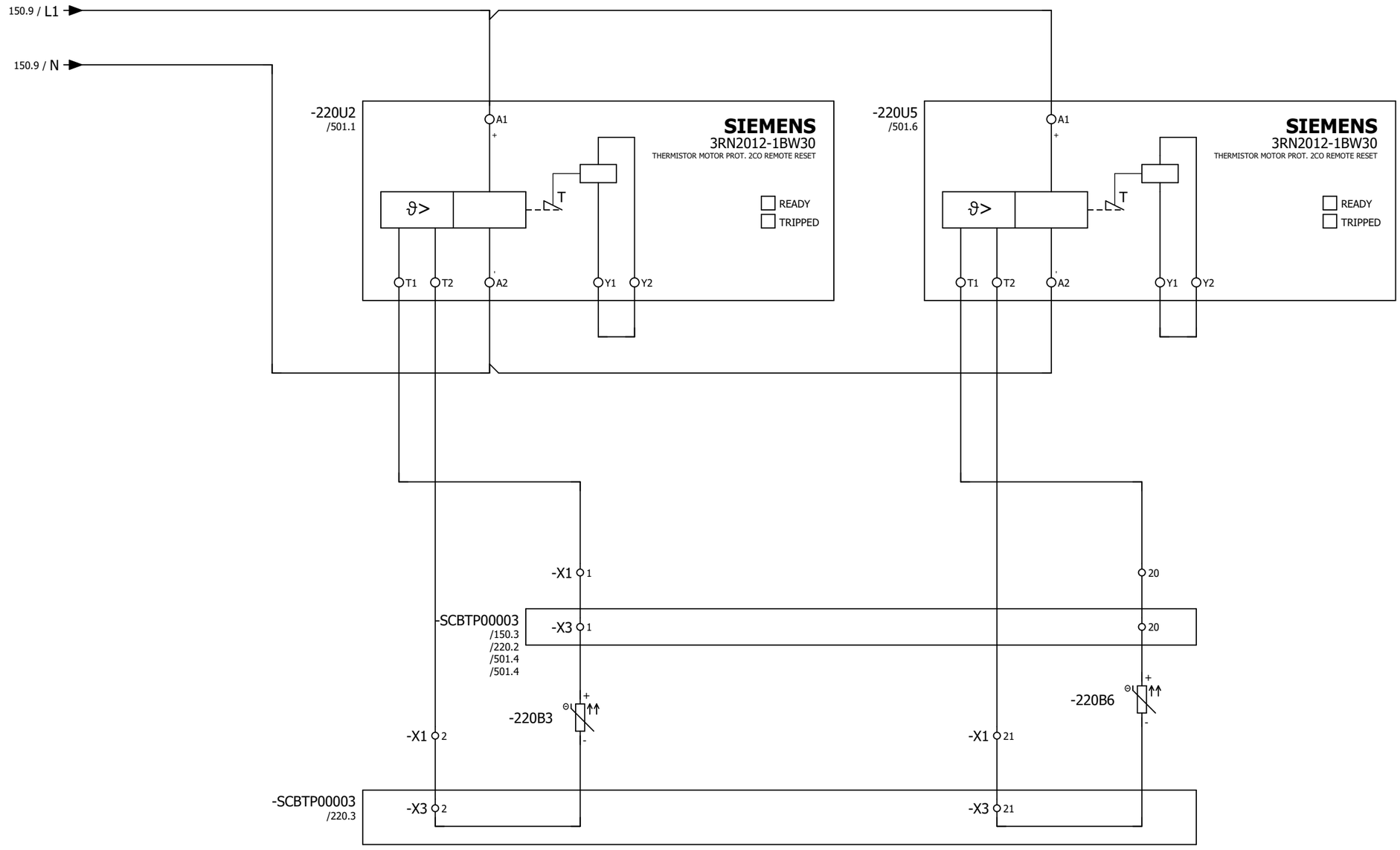


Temperature
Trip

Temperature
Alarm

200

230

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems<br>GOUDSMIT MAGNETICS | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Control Circuit Temperature | = |
| | | | Ed. | p.hellings | | | | | | + |
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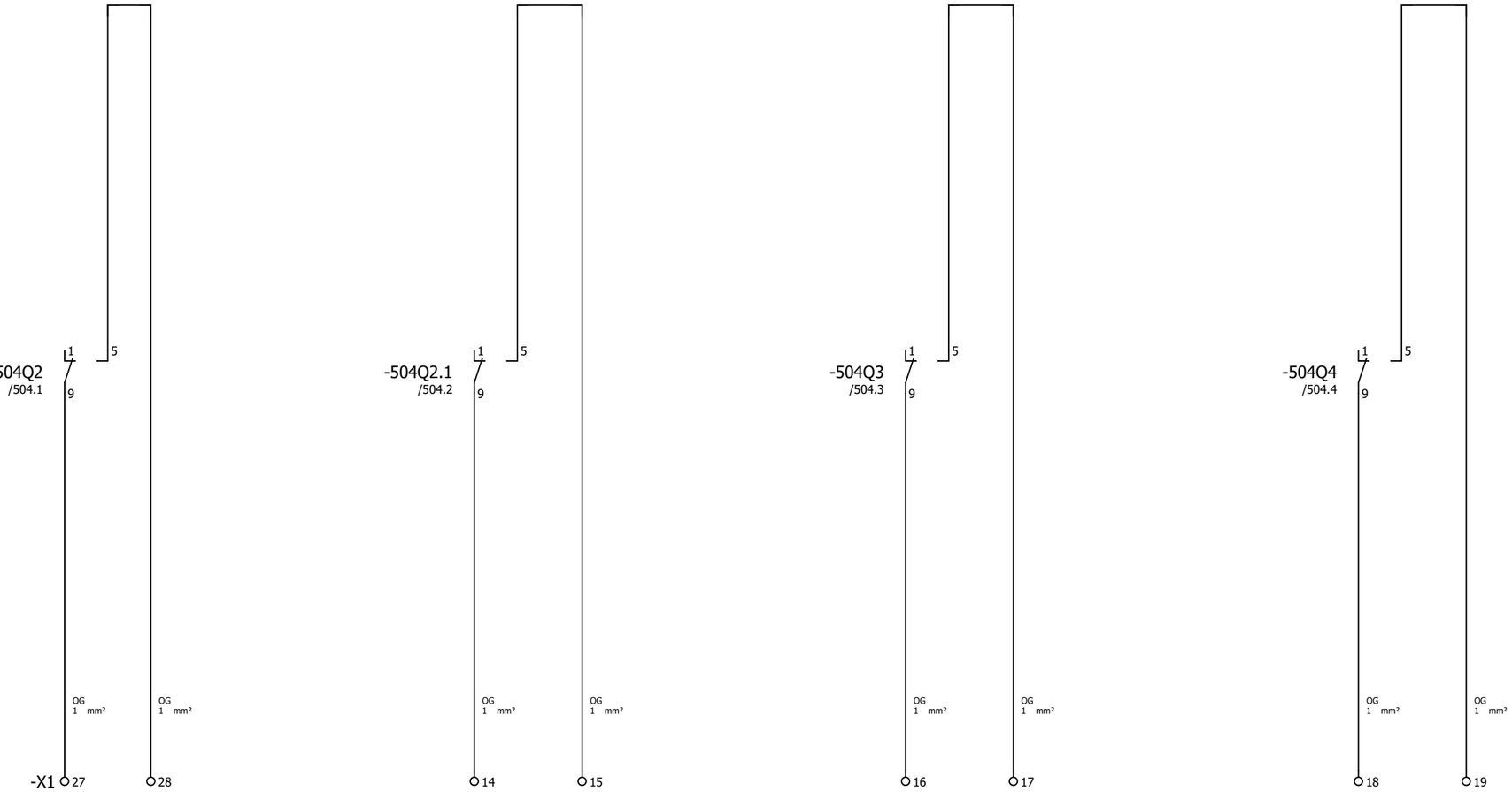
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 10 / 31 |




Product Channel Open
Product feed through

Magnet
On

Customizable
Alarm Output
1

Customizable
Alarm Output
2

220

400

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Control Circuit Status | = | |
| | | | Ed. | p.hellings | | | | | + | |
| | | | Appr. | | | | | | | Page 230 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 11 / 31 |

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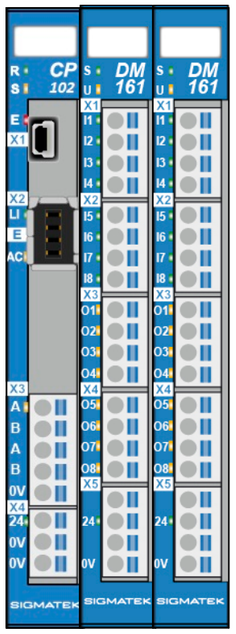


230 410

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC overview | = |
| | | | Ed. | p.hellings | | | GOUDSMIT MAGNETICS | | | + |
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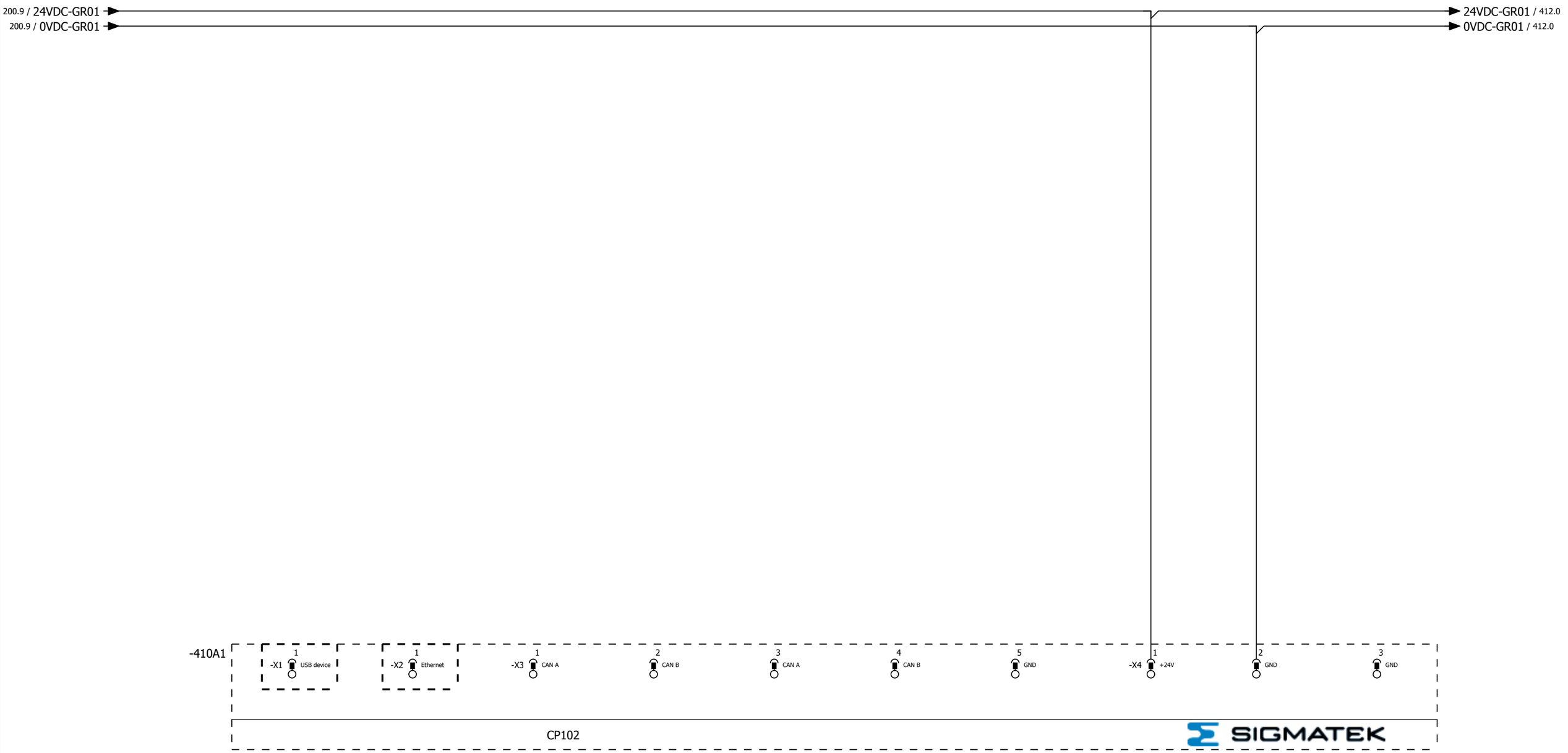




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC CPU Power | = |
| | | | Ed. | p.hellings | | | | | | + |
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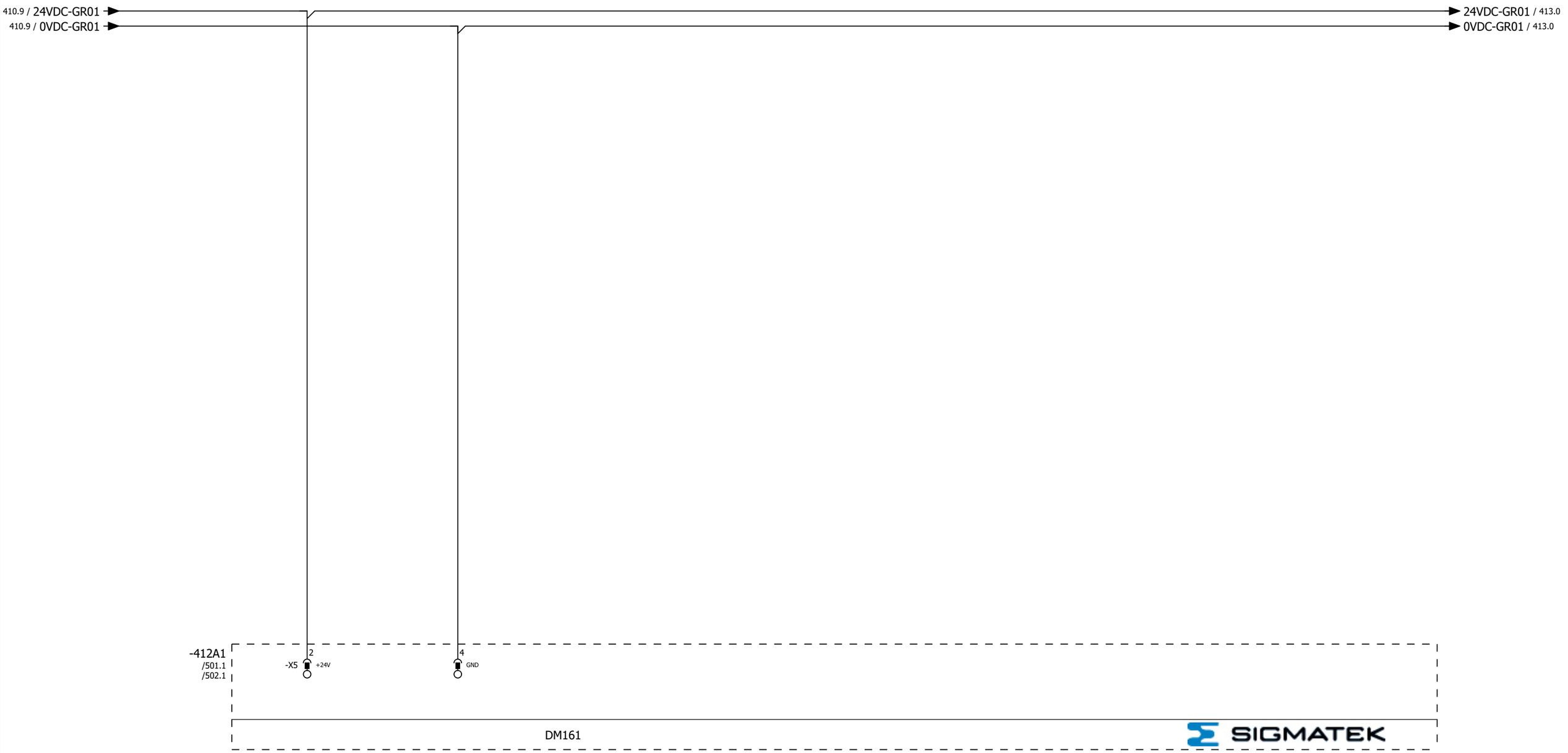




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|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC Digital Mix Power | = |
| | | | Ed. | p.hellings | | | | | + |
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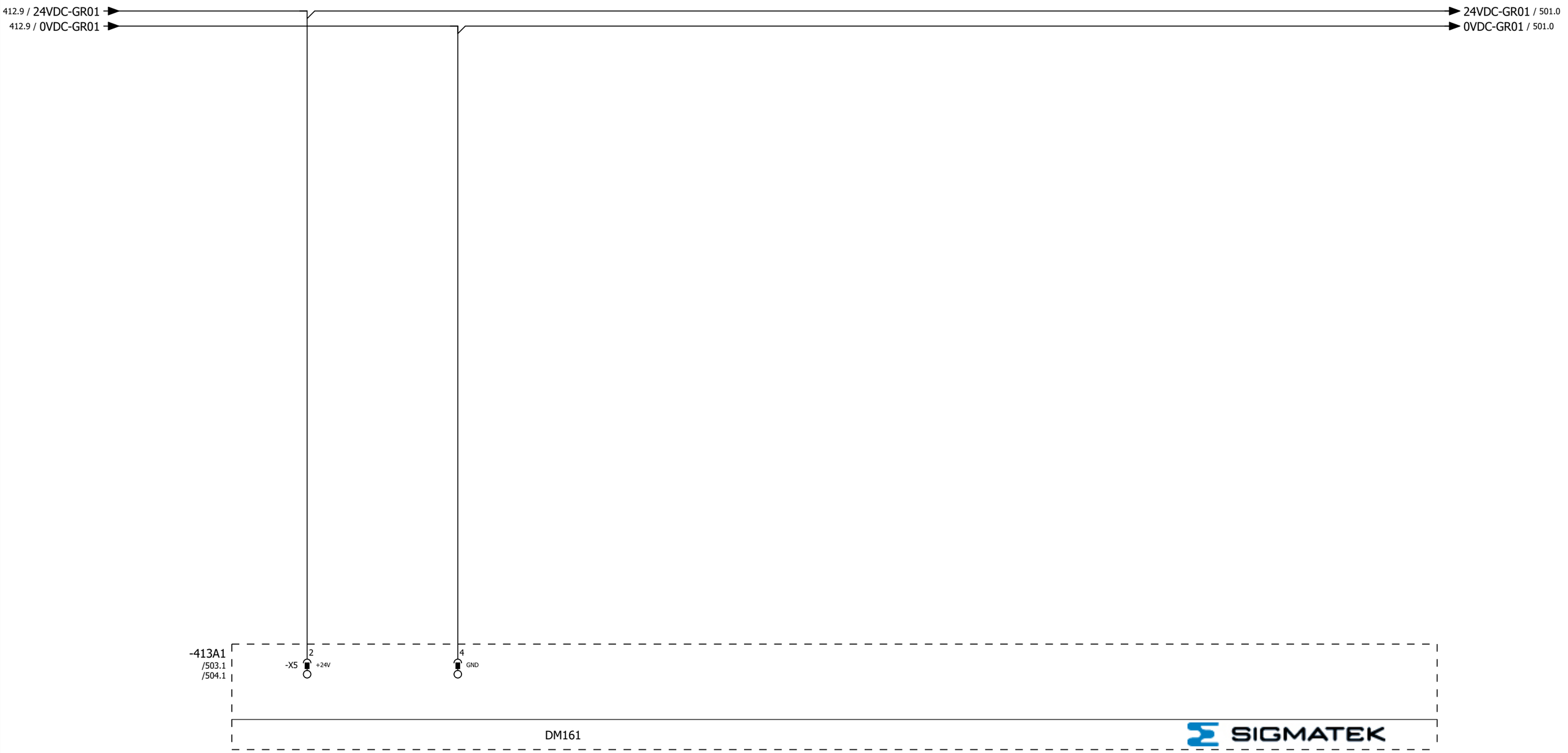
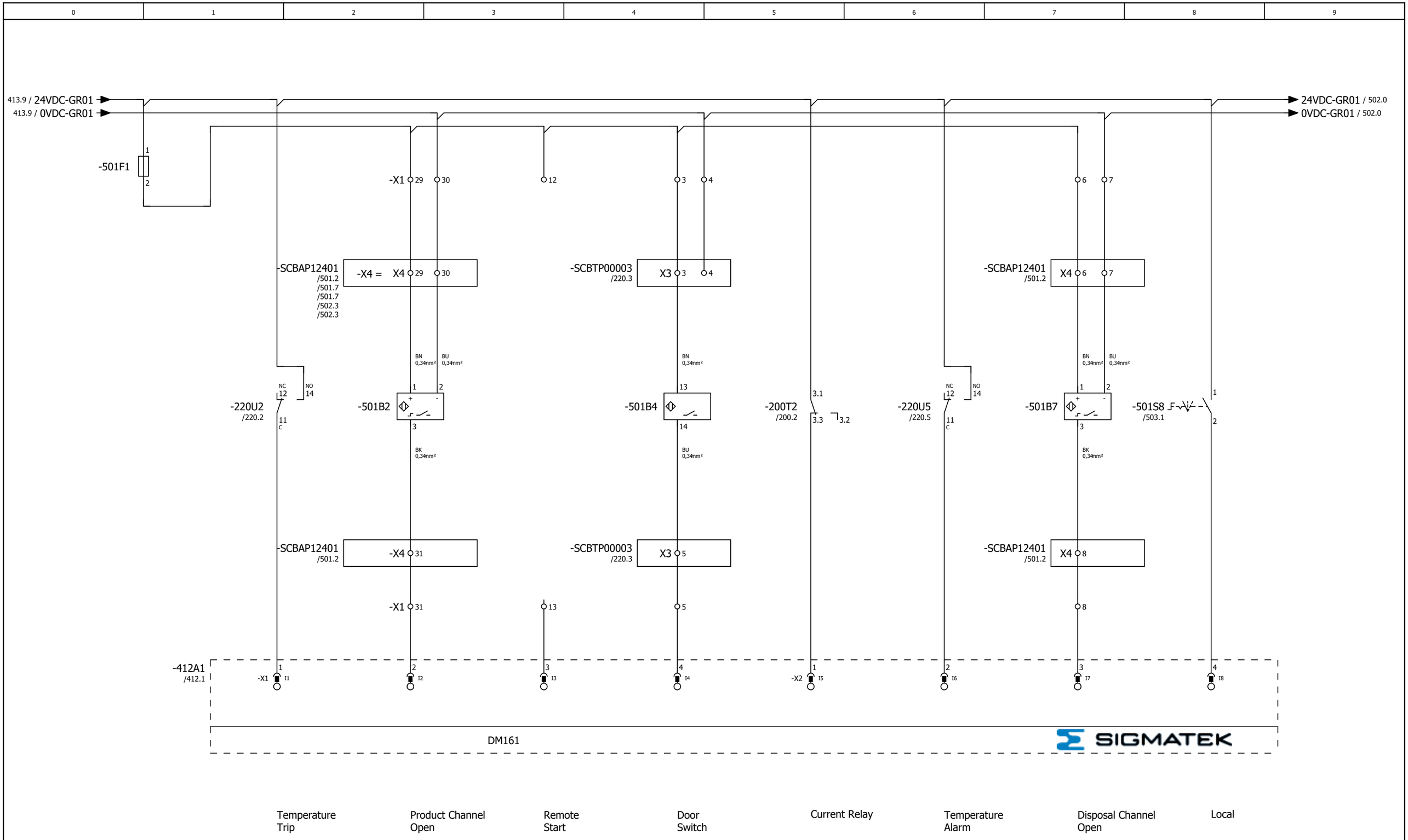
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | Page 14 / 31 |




412

501

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems<br>GOUDSMIT MAGNETICS | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC Digital Mix Power | = |
| | | | Ed. | p.hellings | | | | | | + |
| | | | Appr. | | | | | | | Page 413 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 15 / 31 |




413

502

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0 | PLC I/O Digital Inputs | = |
| | | | Ed. | p.hellings | | | GOUDSMIT MAGNETICS | ESBP210001_H | | + |
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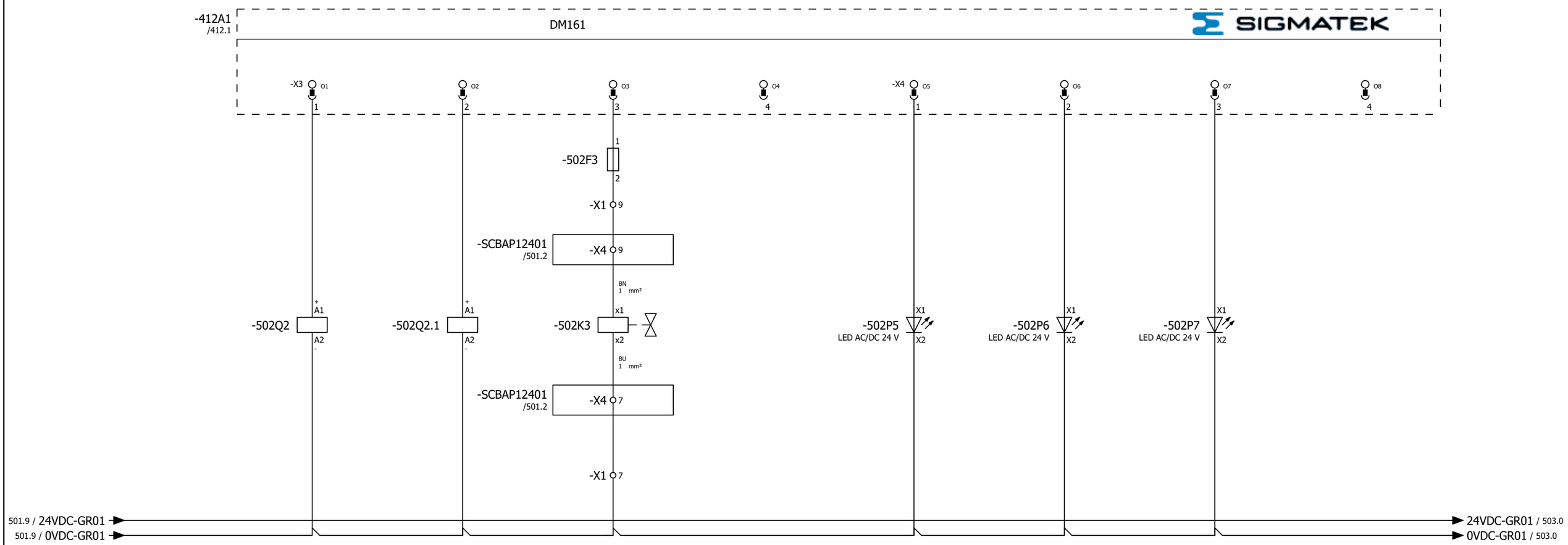
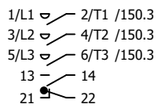
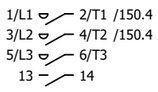
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 16 / 31 |




Magnet




Demagnetize




Valve
Product Channel
Open

Spare

Magnet
On

Magnet
Off

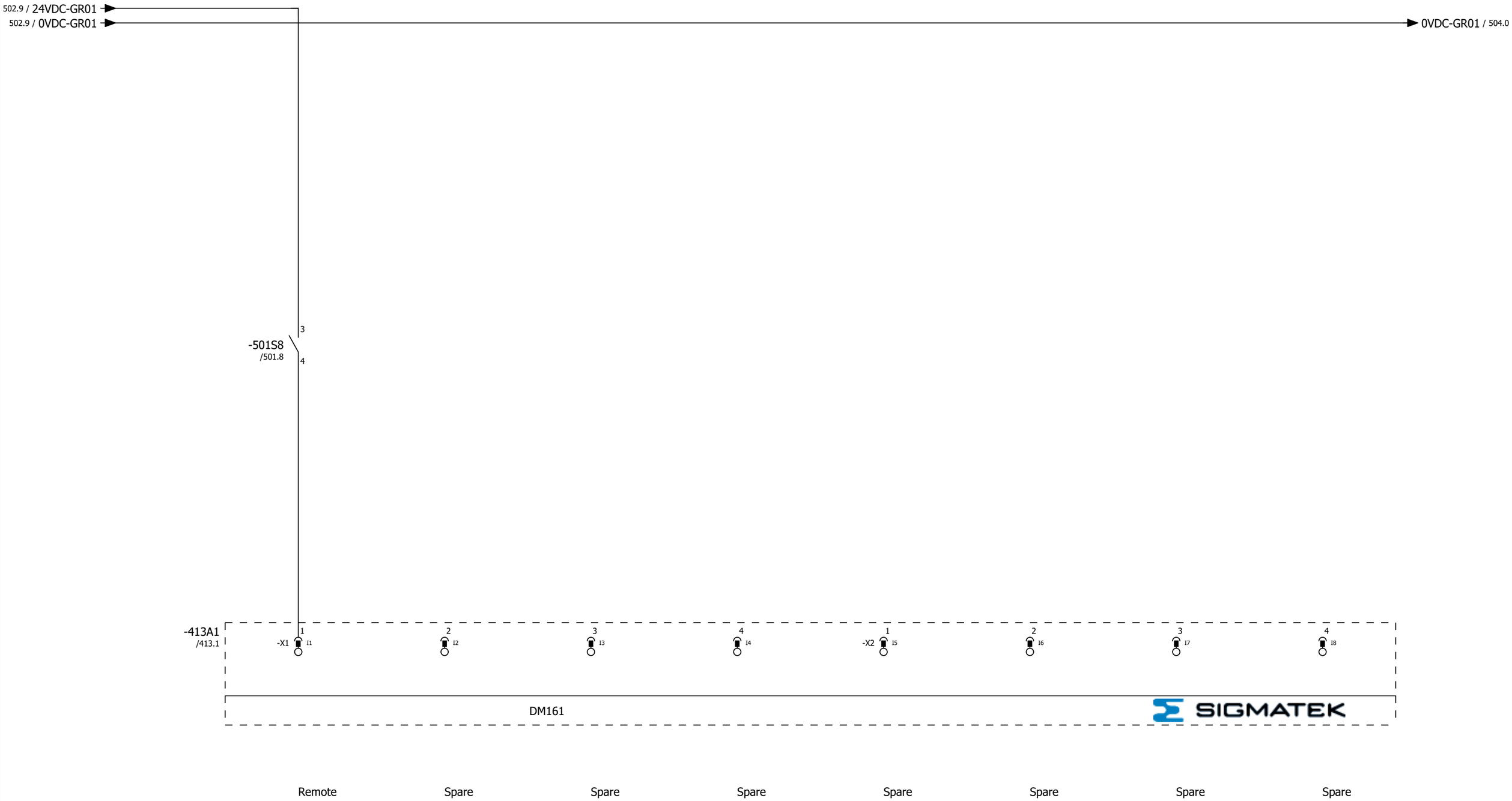
Failure

Spare

501

503

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems<br>GOUDSMIT MAGNETICS | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC I/O Digital Outputs | = |
| | | | Ed. | p.hellings | | | | | | + |
| | | | Appr. | | | | | | | Page 502 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 17 / 31 |



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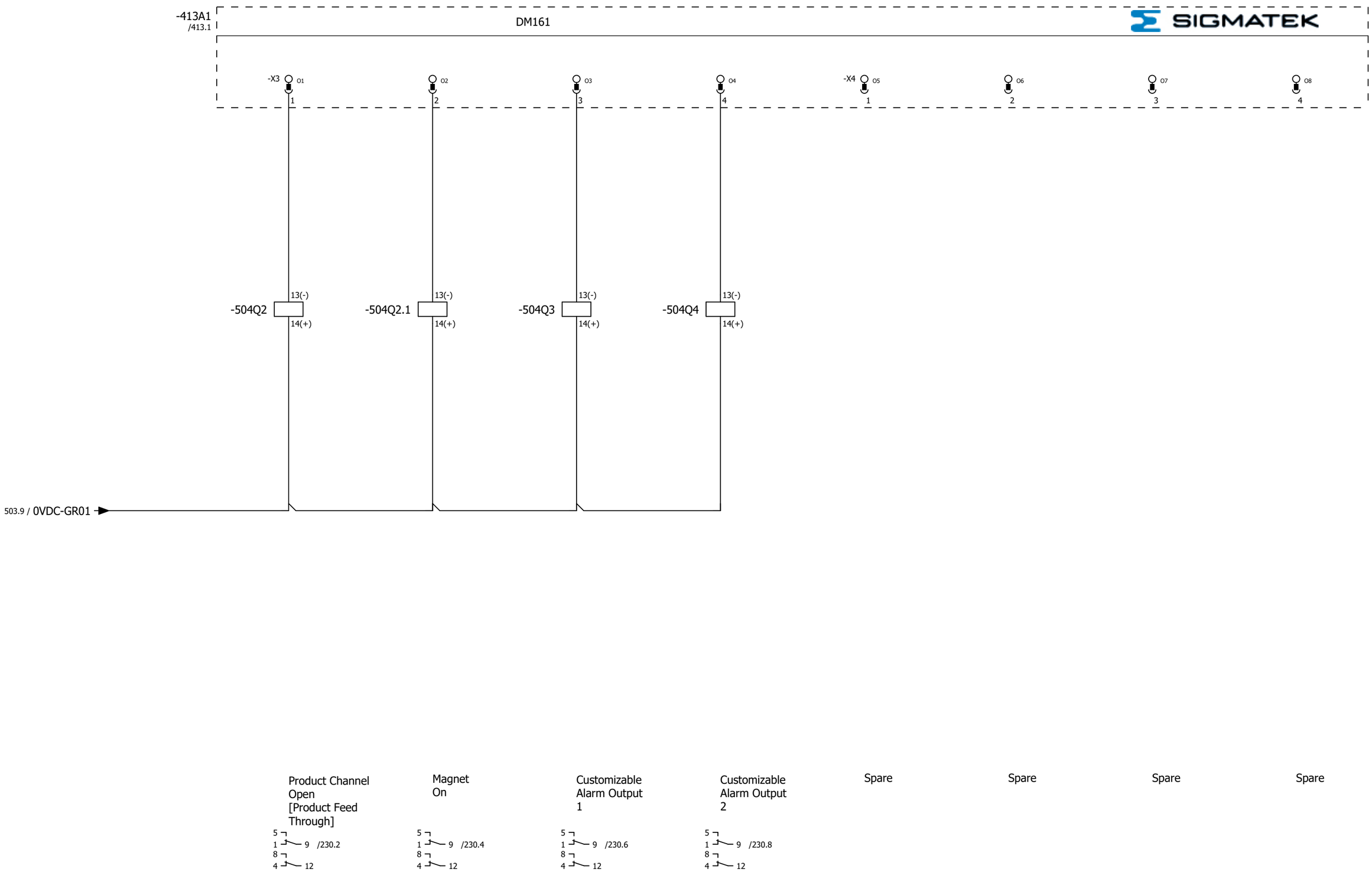
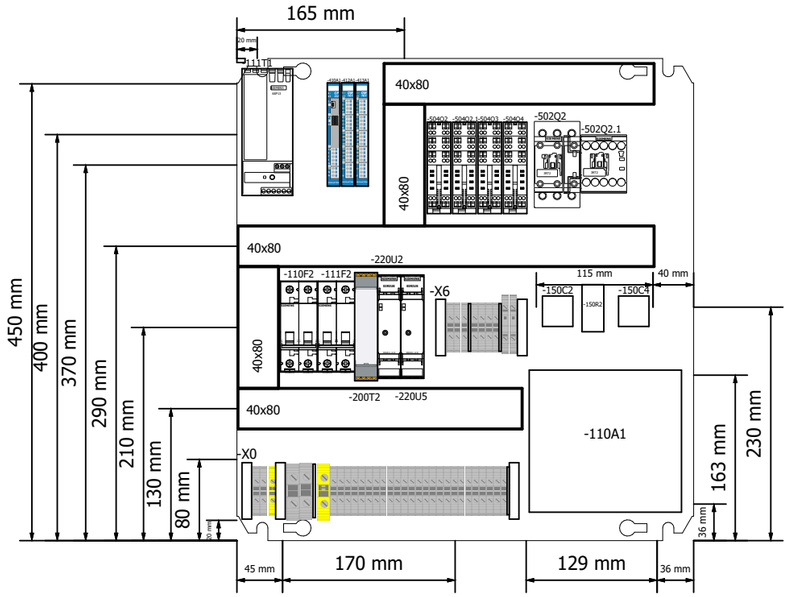
|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | PLC I/O Digital Inputs | = |
| | | | Ed. | p.hellings | | | GOUDSMIT MAGNETICS | | | + |
| | | | Appr. | | | | | | | Page 503 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 18 / 31 |

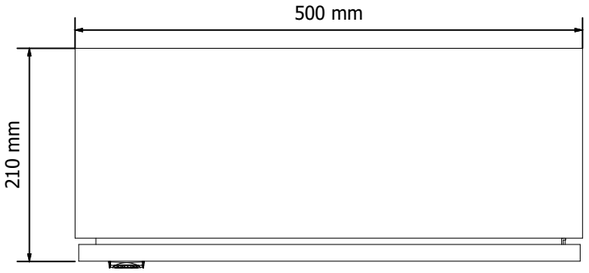


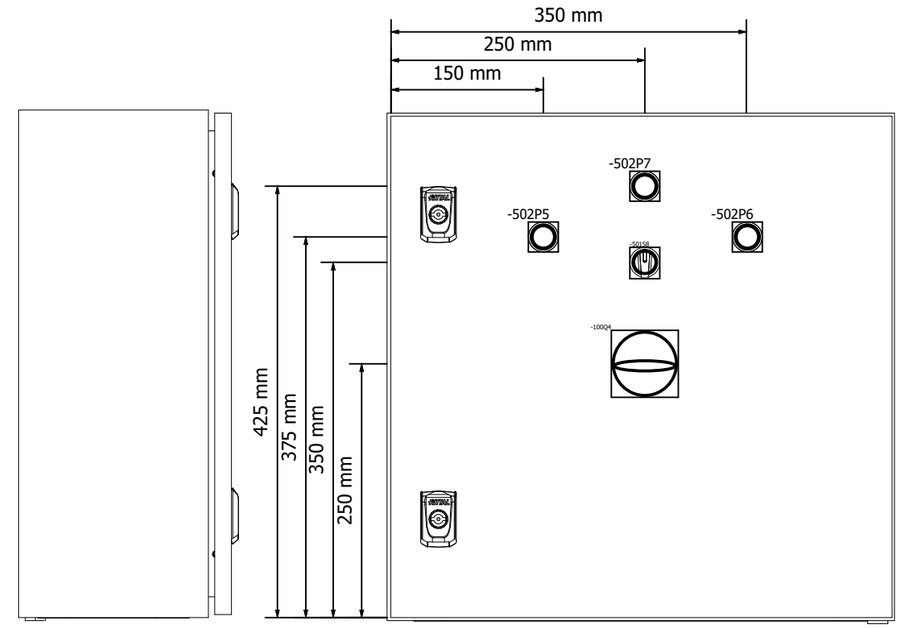

503

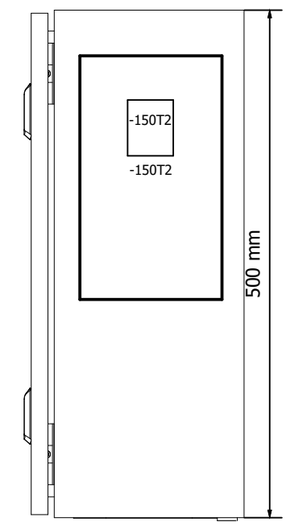
800

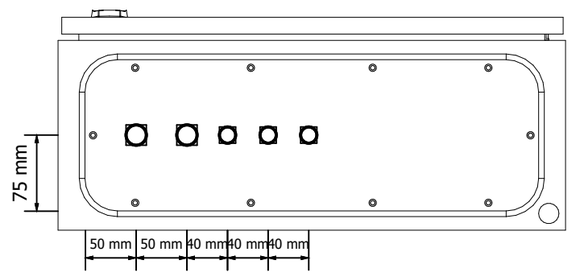
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE project Number xxxxx | | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0 | PLC I/O Digital Outputs | = |
| | | | Ed. | p.hellings | | | | ESBP210001_H | | + |
| | | | Appr. | | | | | | | Page 504 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 19 / 31 |




504

900

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | | Goudsmit Magnetic Systems<br>GOUDSMIT MAGNETICS | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Cabinet Layout | = |
| | | | Ed. | p.hellings | | | | | | + |
| | | | Appr. | | | | | | | Page 800 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 20 / 31 |

# Bill of material

| Quantity | Description | Type number | Part Number | Supplier | Isah Number |
|---|---|---|---|---|---|
| 1 | Compact enclosure AX | AX.1050000 | 1050000 | Rittal | EI1D566403 |
| 1 | VE1.0 1-PHASE TRANSFORMER | VE1.0 | 11191164 | Jaspers Transformatoren | EIJA501K02 |
| 1 | S-DIAS CPU Module | CP102 | 20-004-102 | Sigmatek | E0027409 |
| 2 | S-DIAS Digital Mixed Module | DM161 | 20-008-161 | Sigmatek | E0027373 |
| 1 | CAPACITOR | 450V1.5uF | 450V1.5uF | Unknown brand | EIMB81K500 |
| 1 | Capacitor 6.0uF, 450V AC | MKA 450-6uF | MKA 450-6uF | Comar | EIMB86K301 |
| 1 | CAPACITOR | 450V6.3uF | 450V6.3uF | Unknown brand | EIMB86K300 |
| 1 | CIRCUIT BREAKER 10KA 1+N-POL D10 | 5SY4510-8 | 5SY4510-8 | Siemens | EIHD042005 |
| 1 | CIRCUIT BREAKER 6KA1+N-POL C4 | 5SY6504-7 | 5SY6504-7 | Siemens | E0029964 |
| 2 | Fuse modular terminal block | UT 4-HESI (5X20) GY | 3074169 | Phoenix Contact | EI0J020003 |
| 2 | 5X20mm Fuse 0,5A Slow Acting | MI5T25V0,5 | F219747Q | Ferraz | EIHF610212 |
| 1 | LED MODULE, GREEN | 3SU1401-1BB40-1AA0 | 3SU1401-1BB40-1AA0 | Siemens | EIFD403002 |
| 1 | INDICATOR LIGHT, GREEN | 3SU1001-6AA40-0AA0 | 3SU1001-6AA40-0AA0 | Siemens | EIFC050005 |
| 3 | HOLDER | 3SU1500-0AA10-0AA0 | 3SU1500-0AA10-0AA0 | Siemens | EICH000022 |
| 1 | LED MODULE, YELLOW | 3SU1401-1BB30-1AA0 | 3SU1401-1BB30-1AA0 | Siemens | EIFD403003 |
| 1 | INDICATOR LIGHT, YELLOW | 3SU1001-6AA30-0AA0 | 3SU1001-6AA30-0AA0 | Siemens | EIFC050006 |
| 1 | LED MODULE, RED | 3SU1401-1BB20-1AA0 | 3SU1401-1BB20-1AA0 | Siemens | EIFD403001 |
| 1 | INDICATOR LIGHT, RED | 3SU1001-6AA20-0AA0 | 3SU1001-6AA20-0AA0 | Siemens | EIFC050007 |
| 1 | Base mounting switch, On-Off switch, 90 degree, 20A, 2 pole, padlock, yellow/red | M220-61192-033N4 | M220-61192-033N4 | Salzer | EICB442605 |
| 1 | CONTACTOR,AC3:7,5KW 1NO+1NC DC24V | 3RT2025-1BB40 | 3RT2025-1BB40 | Siemens | EIDB052001 |
| 1 | CONTACTOR,AC3:4KW 1NO DC24V | 3RT2016-1BB41 | 3RT2016-1BB41 | Siemens | EIDB032001 |
| 4 | Miniature Power Relay, mechanical indicators built-in, 2 poles | MY2IN-GS-R DC24 | MY2IN-GS-R DC24 | Omron | EIDF632008 |
| 4 | Square Sockets | PYF08S | PYF08S | Omron | EIDK600004 |
| 1 | Varistor | S14K60 | S14K60 | Epcos | EIKH176502 |
| 1 | ROTARY CAM SWITCH 1X21A, H/0/A - FRONT MOUNTING IP66 | M220-61025-003M1 | 5960025 | Salzer | EICB442601 |
| 1 | SITOP PSU100S | 6EP1333-2BA20 | 6EP1333-2BA20 | Siemens | EIPF240505 |
| 1 | Bridge Rectifier | VBO30-16NO7 | VBO30-16NO7 | IXYS | EIKCDB3807 |
| 1 | Heatsink250x140mm | Heatsink250x140mm | Heatsink250x140mm | TNR | E0093016 |
| 1 | Current value transformer | ECM-UC-100A-UI-REL | 1698172 | Phoenix Contact | EITW049001 |

# Bill of material

| Quantity | Description | Type number | Part Number | Supplier | Isah Number |
|---|---|---|---|---|---|
| 1 | Cable tags for identifying field components | REBO TAG ID EC1510060012 | 1215.00829 | Goudsmit | E0165910 |
| 2 | THERMISTOR MOTOR PROT. 2CO REMOTE RESET | 3RN2012-1BW30 | 3RN2012-1BW30 | Siemens | EIDC037000 |
| 3 | Screwed cable gland (electr.) M16, Grey | ESKV 16 | 10066411 | Wiska | EIYP090016 |
| 2 | Screwed cable gland (electr.) M20, Grey | ESKV 20 | 10066412 | Wiska | EIYP090020 |
| 6 | End Clamb | CLIPFIX 35 | 3022218 | Phoenix Contact | EI0M100002 |
| 4 | End cover | D-UT 2,5/10 | 3047028 | Phoenix Contact | EI0M040000 |
| 34 | Feed-through terminal block | UT 4 | 3044102 | Phoenix Contact | EI0J020002 |
| 1 | Ground modular terminal block | UT 4-PE | 3044128 | Phoenix Contact | EI0J320000 |
| 2 | Feed-through terminal block | UT 16 | 3044199 | Phoenix Contact | EI0J050005 |
| 1 | End cover | D-UT 16 | 3047206 | Phoenix Contact | EI0M050005 |
| 1 | Ground modular terminal block | UT 16-PE | 3044212 | Phoenix Contact | EI0J350002 |
| 2 | Plug-in bridge | FBS 2-6 | 3030336 | Phoenix Contact | EI0M320003 |

# Components list

| Device tag | Quantity | Description | Type number | Part number | Supplier | Isah number | Page/Path |
|---|---|---|---|---|---|---|---|
| -X1 | 2 | End Clamb | CLIPFIX 35 | 3022218 | Phoenix Contact | EI0M100002 | /501.2 |
| -100Q4 | 1 | Base mounting switch, On-Off switch, 90 degree, 20A, 2 pole, padlock, yellow/red | M220-61192-033N4 | M220-61192-033N4 | Salzer | EICB442605 | /100.2 |
| -X0 | 2 | End Clamb | CLIPFIX 35 | 3022218 | Phoenix Contact | EI0M100002 | /100.2 |
| -X0 | 1 | End cover | D-UT 2,5/10 | 3047028 | Phoenix Contact | EI0M040000 | /100.2 |
| -X0 | 2 | Feed-through terminal block | UT 4 | 3044102 | Phoenix Contact | EI0J020002 | /100.2 |
| -X0 | 1 | Ground modular terminal block | UT 4-PE | 3044128 | Phoenix Contact | EI0J320000 | /100.2 |
| -110A1 | 1 | VE1.0 1-PHASE TRANSFORMER | VE1.0 | 11191164 | Jaspers Transformatoren | EIJA501K02 | /110.1 |
| -110F2 | 1 | CIRCUIT BREAKER 10KA 1+N-POL D10 | 5SY4510-8 | 5SY4510-8 | Siemens | EIHD042005 | /110.2 |
| -X6 | 2 | End Clamb | CLIPFIX 35 | 3022218 | Phoenix Contact | EI0M100002 | /110.1;/110.2 |
| -X6 | 7 | Feed-through terminal block | UT 4 | 3044102 | Phoenix Contact | EI0J020002 | /110.1.../110.3 |
| -X6 | 2 | End cover | D-UT 2,5/10 | 3047028 | Phoenix Contact | EI0M040000 | /110.2;/110.3 |
| -X6 | 2 | Plug-in bridge | FBS 2-6 | 3030336 | Phoenix Contact | EI0M320003 | /110.2 |
| -111F2 | 1 | CIRCUIT BREAKER 6KA1+N-POL C4 | 5SY6504-7 | 5SY6504-7 | Siemens | E0029964 | /111.2 |
| -111T1 | 1 | SITOP PSU100S | 6EP1333-2BA20 | 6EP1333-2BA20 | Siemens | EIPF240505 | /111.1 |
| -150C2 | 1 | CAPACITOR | 450V1.5uF | 450V1.5uF | Unknown brand | EIMB81K500 | /150.2 |
| -150C4 | 1 | Capacitor 6.0uF, 450V AC | MKA 450-6uF | MKA 450-6uF | Comar | EIMB86K301 | /150.4 |
| -150R2 | 1 | Varistor | S14K60 | S14K60 | Epcos | EIKH176502 | /150.2 |
| -150T2 | 1 | Bridge Rectifier | VBO30-16NO7 | VBO30-16NO7 | IXYS | EIKCDB3807 | /150.2 |
| -150T2 | 1 | Heatsink250x140mm | Heatsink250x140mm | Heatsink250x140mm | TNR | E0093016 | /150.2 |
| -150U0 | 1 | Cable tags for identifying field components | REBO TAG ID EC1510060012 | 1215.00829 | Goudsmit | E0165910 | /150.0 |
| -X1 | 2 | Feed-through terminal block | UT 16 | 3044199 | Phoenix Contact | EI0J050005 | /150.4 |
| -X1 | 1 | End cover | D-UT 16 | 3047206 | Phoenix Contact | EI0M050005 | /150.4 |
| -X1 | 1 | Ground modular terminal block | UT 16-PE | 3044212 | Phoenix Contact | EI0J350002 | /150.5 |
| -200T2 | 1 | Current value transformer | ECM-UC-100A-UI-REL | 1698172 | Phoenix Contact | EITW049001 | /200.2 |
| -220U2 | 1 | THERMISTOR MOTOR PROT. 2CO REMOTE RESET | 3RN2012-1BW30 | 3RN2012-1BW30 | Siemens | EIDC037000 | /220.2 |
| -220U5 | 1 | THERMISTOR MOTOR PROT. 2CO REMOTE RESET | 3RN2012-1BW30 | 3RN2012-1BW30 | Siemens | EIDC037000 | /220.5 |
| -X1 | 25 | Feed-through terminal block | UT 4 | 3044102 | Phoenix Contact | EI0J020002 | /220.2;/220.3;/220.5;/220.6;/230.2;/230.4;/230.6/ |
| -410A1 | 1 | S-DIAS CPU Module | CP102 | 20-004-102 | Sigmatek | E0027409 | /410.1 |
| -412A1 | 1 | S-DIAS Digital Mixed Module | DM161 | 20-008-161 | Sigmatek | E0027373 | /412.1 |
| -413A1 | 1 | S-DIAS Digital Mixed Module | DM161 | 20-008-161 | Sigmatek | E0027373 | /413.1 |
| -501F1 | 1 | Fuse modular terminal block | UT 4-HESI (5X20) GY | 3074169 | Phoenix Contact | EI0J020003 | /501.1 |
| -501F1 | 1 | 5X20mm Fuse 0,5A Slow Acting | MI5T25V0,5 | F219747Q | Ferraz | EIHF610212 | /501.1 |
| -501S8 | 1 | ROTARY CAM SWITCH 1X21A, H/0/A - FRONT MOUNTING IP66 | M220-61025-003M1 | 5960025 | Salzer | EICB442601 | /501.8 |
| -X1 | 1 | End cover | D-UT 2,5/10 | 3047028 | Phoenix Contact | EI0M040000 | /501.2 |
| -502F3 | 1 | Fuse modular terminal block | UT 4-HESI (5X20) GY | 3074169 | Phoenix Contact | EI0J020003 | /502.3 |
| -502F3 | 1 | 5X20mm Fuse 0,5A Slow Acting | MI5T25V0,5 | F219747Q | Ferraz | EIHF610212 | /502.3 |
| -502P5 | 1 | LED MODULE, GREEN | 3SU1401-1BB40-1AA0 | 3SU1401-1BB40-1AA0 | Siemens | EIFD403002 | /502.5 |
| -502P5 | 1 | INDICATOR LIGHT, GREEN | 3SU1001-6AA40-0AA0 | 3SU1001-6AA40-0AA0 | Siemens | EIFC050005 | /502.5 |
| -502P5 | 1 | HOLDER | 3SU1500-0AA10-0AA0 | 3SU1500-0AA10-0AA0 | Siemens | EICH000022 | /502.5 |
| -502P6 | 1 | LED MODULE, YELLOW | 3SU1401-1BB30-1AA0 | 3SU1401-1BB30-1AA0 | Siemens | EIFD403003 | /502.6 |
| -502P6 | 1 | INDICATOR LIGHT, YELLOW | 3SU1001-6AA30-0AA0 | 3SU1001-6AA30-0AA0 | Siemens | EIFC050006 | /502.6 |
| -502P6 | 1 | HOLDER | 3SU1500-0AA10-0AA0 | 3SU1500-0AA10-0AA0 | Siemens | EICH000022 | /502.6 |
| -502P7 | 1 | LED MODULE, RED | 3SU1401-1BB20-1AA0 | 3SU1401-1BB20-1AA0 | Siemens | EIFD403001 | /502.7 |
| -502P7 | 1 | INDICATOR LIGHT, RED | 3SU1001-6AA20-0AA0 | 3SU1001-6AA20-0AA0 | Siemens | EIFC050007 | /502.7 |
| -502P7 | 1 | HOLDER | 3SU1500-0AA10-0AA0 | 3SU1500-0AA10-0AA0 | Siemens | EICH000022 | /502.7 |
| -502Q2 | 1 | CONTACTOR,AC3:7,5KW 1NO+1NC DC24V | 3RT2025-1BB40 | 3RT2025-1BB40 | Siemens | EIDB052001 | /502.1 |
| -502Q2.1 | 1 | CONTACTOR,AC3:4KW 1NO DC24V | 3RT2016-1BB41 | 3RT2016-1BB41 | Siemens | EIDB032001 | /502.2 |
| -504Q2 | 1 | Miniature Power Relay, mechanical indicators built-in, 2 poles | MY2IN-GS-R DC24 | MY2IN-GS-R DC24 | Omron | EIDF632008 | /504.1 |
| -504Q2 | 1 | Square Sockets | PYF08S | PYF08S | Omron | EIDK600004 | /504.1 |
| -504Q2.1 | 1 | Miniature Power Relay, mechanical indicators built-in, 2 poles | MY2IN-GS-R DC24 | MY2IN-GS-R DC24 | Omron | EIDF632008 | /504.2 |
| -504Q2.1 | 1 | Square Sockets | PYF08S | PYF08S | Omron | EIDK600004 | /504.2 |
| -504Q3 | 1 | Miniature Power Relay, mechanical indicators built-in, 2 poles | MY2IN-GS-R DC24 | MY2IN-GS-R DC24 | Omron | EIDF632008 | /504.3 |
| -504Q3 | 1 | Square Sockets | PYF08S | PYF08S | Omron | EIDK600004 | /504.3 |
| -504Q4 | 1 | Miniature Power Relay, mechanical indicators built-in, 2 poles | MY2IN-GS-R DC24 | MY2IN-GS-R DC24 | Omron | EIDF632008 | /504.4 |
| -504Q4 | 1 | Square Sockets | PYF08S | PYF08S | Omron | EIDK600004 | /504.4 |
| | 1 | Compact enclosure AX | AX.1050000 | 1050000 | Rittal | EI1D566403 | /800.1 |

# Components list

| Device tag | Quantity | Description | Type number | Part number | Supplier | Isah number | Page/Path |
|---|---|---|---|---|---|---|---|
| -150C4 | 1 | CAPACITOR | 450V6.3uF | 450V6.3uF | Unknown brand | EIMB86K300 | /800.2 |
| -800U1 | 3 | Screwed cable gland (electr.) M16, Grey | ESKV 16 | 10066411 | Wiska | EIYP090016 | /800.6 |
| -800U1 | 2 | Screwed cable gland (electr.) M20, Grey | ESKV 20 | 10066412 | Wiska | EIYP090020 | /800.6 |

# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | | |

| Terminal | | | | | |
|---|---|---|---|---|---|
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
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|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Terminal Plan | = |
| | | | Ed. | p.hellings | | | | | + |
| | | | Appr. | | | | | | Page 940 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | Page 25 / 31 |

# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | | |
| Terminal | | | | | |
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
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| | 20 |
| | 21 |
| | A |
| | B |
| | PE |



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|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | |
| | | | Ed. | p.hellings | | |
| | | | Appr. | | | |
| Modification | Date | Name | Original | | Replacement of | Replaced by |

Goudsmit Magnetic Systems

SPA-E-CB-NA-PLC-HW-PT1K0

ESBP210001_H

Terminal Plan

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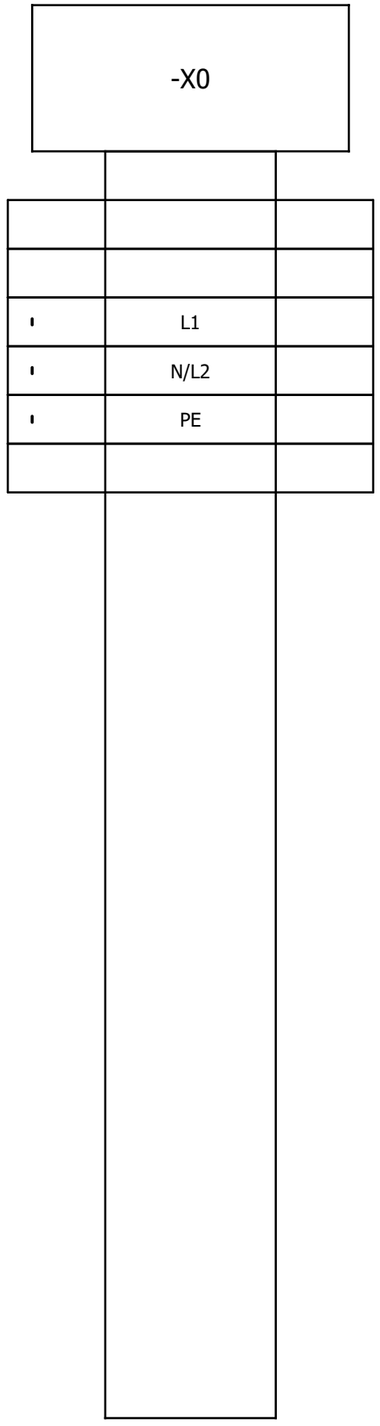
# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | PXC.3022218 | PXC.3047028 |

| Terminal | | | | | |
|---|---|---|---|---|---|
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
| PXC.3022218 | CLIPFIX 35 | | | | |
| PXC.3047028 | D-UT 2,5/10 | | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044128 | UT 4-PE | 6 | | | |
| PXC.3022218 | CLIPFIX 35 | | | | |



# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | PXC.3022218 | |

| Terminal | | | | | |
|---|---|---|---|---|---|
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
| PXC.3022218 | CLIPFIX 35 | | | | |
| PXC.3044199 | UT 16 | 25 | | | |
| PXC.3044199 | UT 16 | 25 | | | |
| PXC.3047206 | D-UT 16 | | | | |
| PXC.3044212 | UT 16-PE | 25 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |

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| ' | B | |
| | | |
| ' | PE | |
| ' | 1 | |
| ' | 2 | |
| ' | 3 | |
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| ' | 5 | |
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| ' | 8 | |
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| ' | 15 | |
| ' | 16 | |
| ' | 17 | |
| ' | 18 | |
| ' | 19 | |
| ' | 20 | |
| ' | 21 | |

# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | PXC.3022218 | |

| Terminal | | | | | |
|---|---|---|---|---|---|
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3047028 | D-UT 2,5/10 | | | | |
| PXC.3022218 | CLIPFIX 35 | | | | |

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| ' | 31 | |
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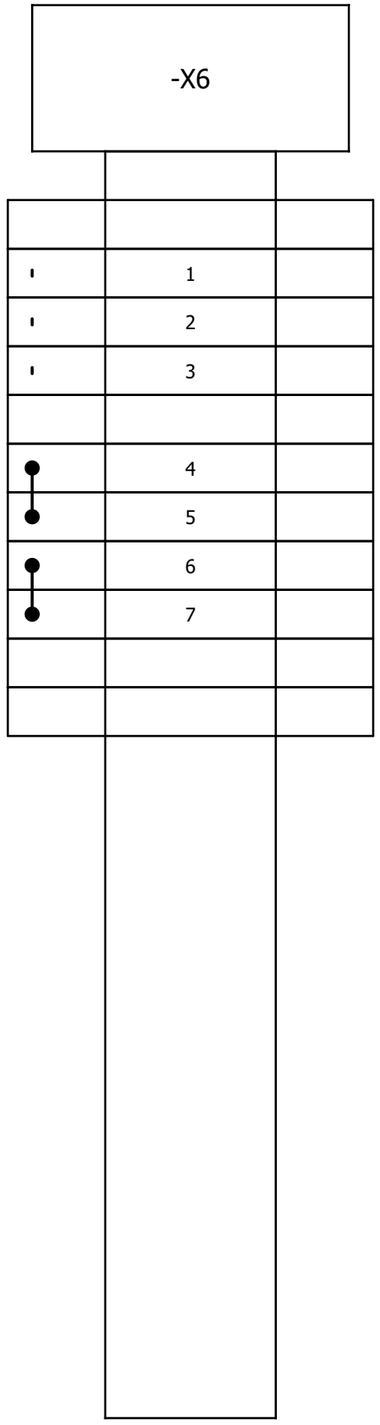
|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Terminal Plan | = |
| | | | Ed. | p.hellings | | | | | + |
| | | | Appr. | | | | | | Page 943.a |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | Page 29 / 31 |

# Terminal line-up diagram

Goudsmit_2025_03

| Part number | | | | | |
|---|---|---|---|---|---|
| Mounting rail | | | Strip label | End angle rear | End plate |
| | | | | PXC.3022218 | |

| Terminal | | | | | |
|---|---|---|---|---|---|
| Part number | Type number | Cross-section | Terminal label | Jumper | Cover |
| PXC.3022218 | CLIPFIX 35 | | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3047028 | D-UT 2,5/10 | | | | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3044102 | UT 4 | 6 | | PXC.3030336 | |
| PXC.3044102 | UT 4 | 6 | | PXC.3030336 | |
| PXC.3044102 | UT 4 | 6 | | | |
| PXC.3047028 | D-UT 2,5/10 | | | | |
| PXC.3022218 | CLIPFIX 35 | | | | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE<br>project Number xxxxx | Goudsmit Magnetic Systems | SPA-E-CB-NA-PLC-HW-PT1K0<br>ESBP210001_H | Terminal Plan | = |
| | | | Ed. | p.hellings | | | | | + |
| | | | Appr. | | | | | | Page 944 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | Page 30 / 31 |

# Textplates

**RESOPALS**

| | |
|---|---|
| MAINSWITCH | MAGNET ON |
| FAILURE | MAGNET OFF |
| LOCAL-OFF-REMOTE | - |
| - | - |
| - | - |

**TEXTPLATE**

GOUDSMIT MAGNETICS

www.goudsmitmagnets.com

| | |
|---|---|
| **CONTROL BOX** | **ESBP210001_H** |
| VOLTAGE: | 110-230-400 VAC |
| CURRENT: | 16 A |
| POWER: | 1.0 kW |

Goudsmit Magnetics, Petunialaan 19, 5582 HA, Waalre, The Netherlands

UK authorised prepresentative:

Goudsmit UK Ltd, 1st Floor, Riverview, The Green, Tullynacross Rd, Lisburn, BT27 5SR, United Kingdom

| RESOPAL PROPERTIES | |
|---|---|
| Resopal dimension | 45x15mm |
| Resopal color | White |
| Text color | Black |

**CABLE TAGS**

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944

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date | 22-9-2025 | Control box EM1-3 INCL. VALVE project Number xxxxx | | Goudsmit Magnetic Systems GOUDSMIT MAGNETICS | SPA-E-CB-NA-PLC-HW-PT1K0 ESBP210001_H | Textplates | = |
| | | | Ed. | p.hellings | | | | | | + |
| | | | Appr. | | | | | | | Page 990 |
| Modification | Date | Name | Original | | Replacement of | Replaced by | | | | Page 31 / 31 |