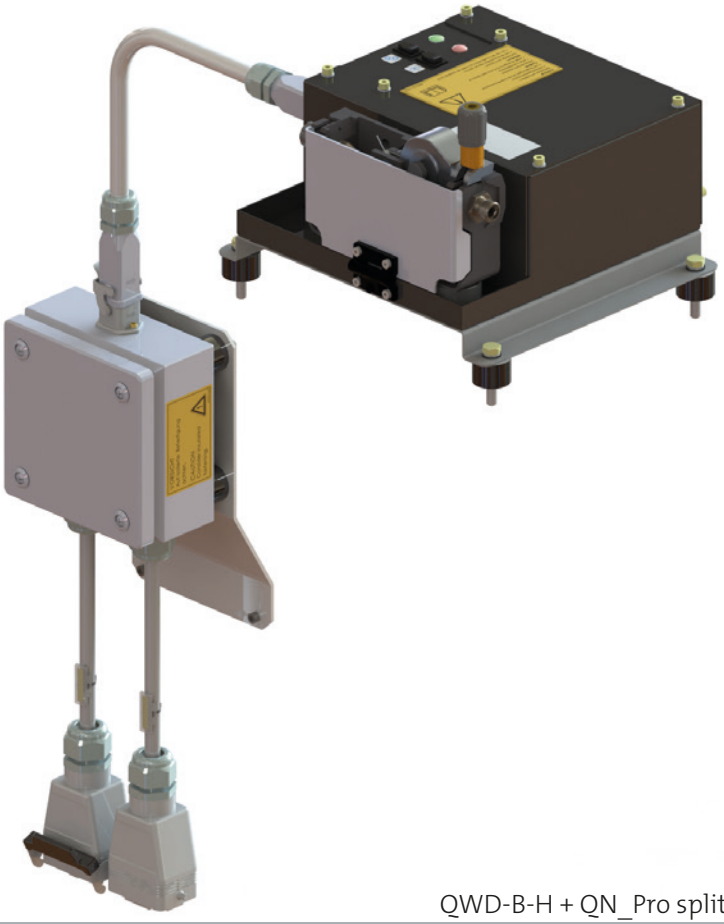
CLOOS

Weld your way.

QWD-B + QN splitter B



QWD-B-H + QN_Pro splitter B

Installation instructions

Wire drive unit

Type QWD-B / QWD-B-H

Document contains separate spare parts information for QWD-B up to serial number 287 and QWD-B from serial number 288 on.

MA QN-WD-B

11/20 Rev.18

-EN-
This is a translation of the original operating instructions.

These instructions are only valid in combination with the operating instructions for the welding power source.

RW-FP - 02/19 Rev.17.2
Release date: 09.11.2020

Keep for future use

Contents

1. General information

1.1 Installation instructions

These installation instructions contain important information for the safe, efficient handling of the device. Compliance with all of the safety instructions and operating instructions contained herein is a pre-condition for safe working with the device.

Illustrations in these instructions are intended to provide a basic understanding, and may differ from the actual design of the device. Claims cannot be derived therefrom.

1.2 Explanation of symbols

Warning and safety instructions in the manual are identified by means of pictograms and highlighted in a colour-coded block.

Warning and safety instructions which draw your attention to basic hazards are additionally marked with signal words which express the level of damage. These are categorised as follows:

DANGER! — **The signal word indicates a hazard with a high level of risk, which, if not avoided, leads to fatal or severe injury.**

WARNING! — **The signal word indicates a hazard with a moderate level of risk, which, if not avoided, can lead to fatal or severe injury.**

CAUTION! — **The signal word indicates a hazard with a low level of risk, which, if not avoided, leads to minor or moderate injury.**

ATTENTION! — **The signal word indicates a hazard without risk of a physical impairment, which, if not avoided, can lead to property damage.**

NOTE — **Tips and recommendations as well as information for efficient and smooth operation.**

1.3 Limitation of liability

All information and notes in this manual were compiled taking into consideration the applicable standards and regulations and the state of the art, as well as our many years of knowledge and experience.

The manufacturer assumes no liability for damages caused by:

- **Non-observance of the manual**
- **Improper use**
- **Use of untrained and non-instructed personnel**
- **Unauthorised alterations**
- **Technical changes**
- **Use of unauthorised spare parts**

1.4 Copyright

2. Safety

2.1 Intended use

The device is only to be used for the following purpose:

The device is intended exclusively for the transport of the welding wire from the wire drum or a wire coil to the wire drive unit in connection with a CLOOS welding power source.

WARNING!

Risk from improper use!

Any use of the device other than the intended purpose can lead to hazardous situations.

- **The device should normally only be used in accordance with the information in this document, in particular with respect to compliance with the application limit values given in the technical specifications.**
- **Refrain from any use of the device which differs or extends beyond these limits.**
- **Do not convert, retrofit or otherwise alter the structure or individual fitted components with the aim of altering the scope of application or usability of the device.**

Claims of any kind for damages caused by improper use are excluded.

2.2 Reasonably foreseeable misuse

The CLOOS wire drive unit of the type QWD-B / QWD-B-H is intended exclusively for the transport of welding wire. Any other or further application will be regarded as improper use, and will lead to the voiding of any warranty claim.

2.3 Personnel requirements

Work may only be performed by a trained specialist. All personnel involved must be instructed with regard to the safety requirements, safety regulations and operational instructions which must be applied in their work.

2.4 Hazards

The warning and safety notices of this manual must be observed in order to prevent potential harm to health and hazardous situations.

2.4.1 Risks due to mechanical hazards

WARNING!

Risk of being pulled in by the drive rollers!

Loose clothing, jewellery or long, loose hair can be caught by the drive rollers and cause severe injuries.

- **Wearing protective gloves in the work area of the machine is prohibited.**
- **Do not reach into or work on moving components during operation or commissioning.**
- **Wear fitted work clothing.**
- **Do not wear jewellery.**
- **Pull your hair back when working.**

WARNING!

Risks from unexpected welding wire transport!

Stab wounds caused by the wire drive unit being unintentionally switched on

- **Only use welding power sources with multi-cycle switching and/or a inching-in.**
- **Before cleaning / maintenance, isolate the wire drive unit.**
- **Do not hold hands or any other limbs in front of the current tip when the wire drive is being checked.**

2.4.2 Risks due to electrical hazards

The protection is achieved by low voltages. The device runs with a protective extra low voltage according to Protective Class III (42 V AC voltage; 60 V DC voltage).

2.5 Safety equipment

Always keep the protecting cover of the wire drive closed.

3. Technical data

3.1 Dimensions

Length (in mm)	300
Width (in mm)	260
Height (in mm)	180

3.2 Weight

Mass (in kg)	6.2

3.3 Ambient conditions

Transport and storage	-25 °C ... +55 °C
Operation	-10 °C ... +40 °C
Relative air humidity	up to 90 % at 20 °C
	up to 50 % at 40 °C

4. Structure and function

4.1 Functional description

The CLOOS wire drive unit type QWD-B / QWD-B-H is a wire drive assistant and belongs to the devices in the QINEO line.

The device serves to support the wire transport over a conveyance distance of up to 30 m, and to overcome the friction caused by several bends.

With only one drive roller it pulls the welding wire out of the wire drum or from the wire coil and transports it with a defined force into the liner.

From the liner the welding wire is led through a wire drive unit (e.g. QWD-A) either directly to the welding process or into a ROB wire drive unit (e.g. CDD).

The device is operated by using two buttons:

1 Button - " Threading"

2 Button - "Teach"

3 LED 1 - green

4 LED 2 - red

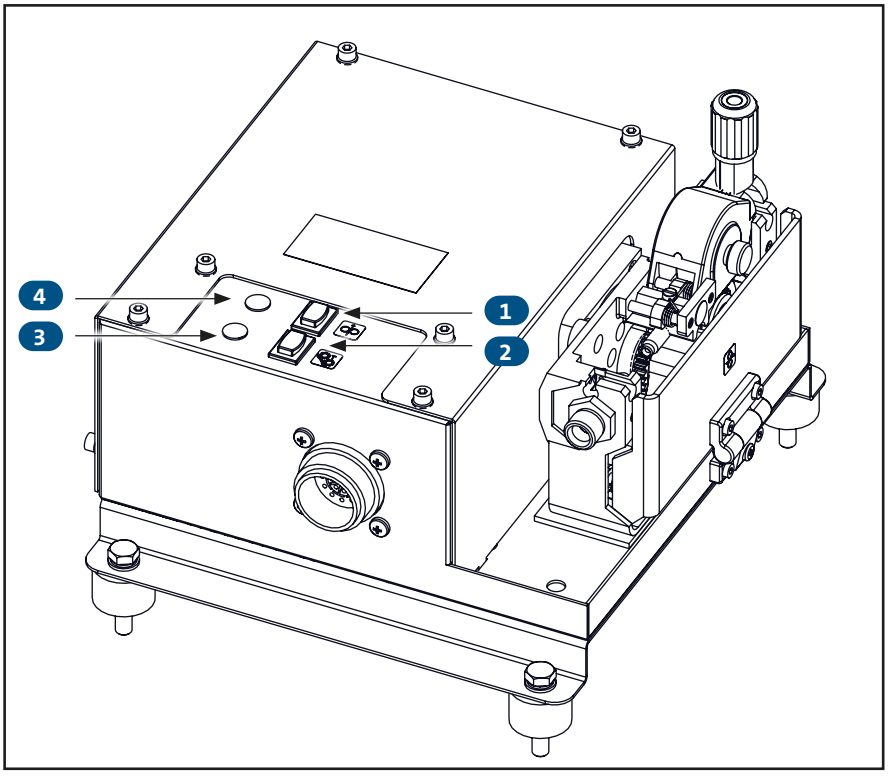


Figure 1. QWD-B Wire drive unit

Item	Function
1	Serves the threading of the wire with a pre-defined wire feed speed for reaching the wire drive unit. During threading the wire feed speed is continuously increased. In a period of 20 seconds it increases from 0m/min to a maximum of 6m/min.
1 + 2	Serves to calibrate the required breakaway torque for the motor. If the drive resistance diminishes after calibration, the device increases the speed until the measured torque is reached again.

The wire drive is suitable for conveying the following welding wire:

Steel, steel high-alloyed	
Diameter (in mm)	1.0
	1.2
	1.6

NOTE

For aluminium welding wire it is necessary to change to special equipment for aluminium.

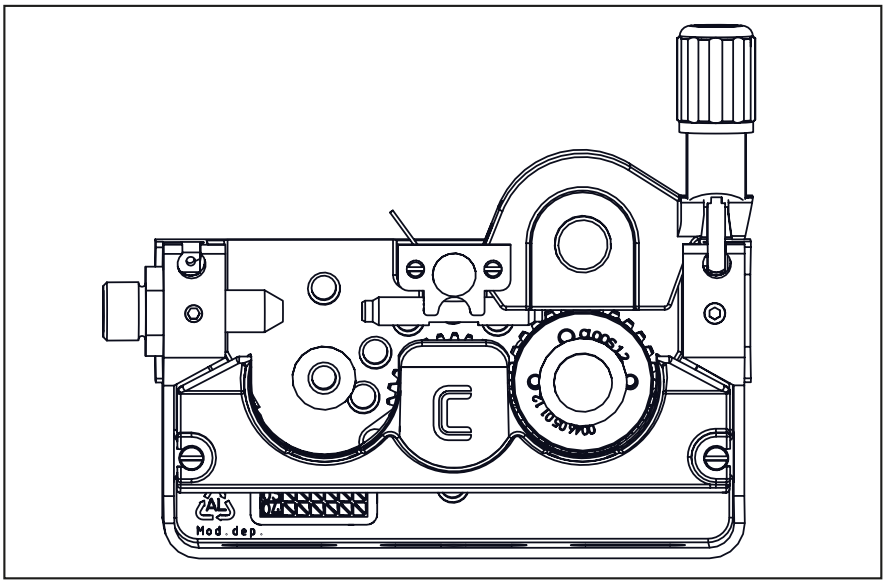


Figure 2. QN-WF-22 Wire feed unit

4.2 Status display

The device status is displayed by two LEDs:

LED 1 - green	
lights up	The device is ready for operation.
does not light up	There is a malfunction or a defect.
flashes	Calibration is running.
LED 2 - red	
does not light up	The device is ready for operation if, at the same time, LED 1 is on.
flashes/lights up	Depending on the malfunction or defect, LED 2 flashes at different intervals or is continuously on. During switching on LED 2 is on until the device is ready for operation.

4.3 Error messages

Following error codes are displayed by LED 2:

Flash pulse	
■ □ □ □	Motor not set-up

Continuously on	
■ ■ ■ ■	System not ready for operation (Error: "CAN not OPERATIONAL")

5. Connections

5.1 Safety instructions for connecting

ATTENTION!

The distribution box should mounted in an isolated state.

WARNING!

Danger from electrical current!

Live components can cause shocks or damage to components when being connected or replugged.

- **QINEO components, such as wire drive units, operating modules etc. are not suitable for hot-plugging.**
- **Isolate the welding power source from the power supply before you start working on the devices.**
- **A system restart is always needed after replugging.**

5.2 Assignment QWD-B / QWD-B-H to the type of welding power source

Depending on the type of welding power source it is necessary that the encoding plug of the QWD-B / QWD-B-H control board is plugged on the X1 slot. Pin assignment see following table.

Encoding plug X1	Encoding
3 + 4 open	QINEO / QINEO Pro / QINEO NexT
Bridge 4 + 8	QUINTO II

5.3 Assignment of several QWD-B to a welding power source

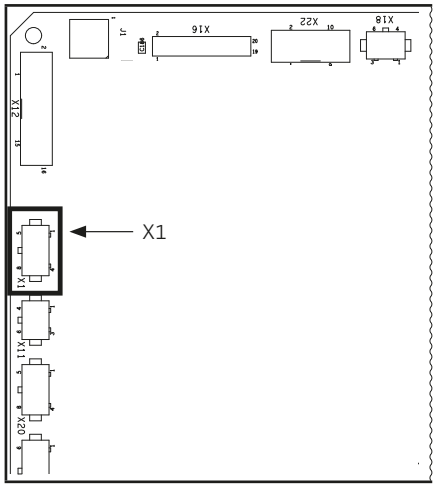


Figure 3. QWD-B/QWD-B-H Control board

Welding power sources of the QINEO series can be operated with up to four wire drive units at the same time.

If several wire drive units with a QWD-B or QWD-B-H each are operated at one welding power source, they have to be assigned to the respective wire drive unit. The assignment is made via an encoding plug on the QWD-B or QWD-B-H control board at the X1 slot. Pin assignment see following table.

Encoding plug X1	Encoding
1 + 2 open	QWD-B 1 / QWD-B-H 1
Bridge 1 + 5	QWD-B 2 / QWD-B-H 2
Bridge 2 + 6	QWD-B 3 / QWD-B-H 3
Bridge 1 + 5 & bridge 2 + 6	QWD-B 4 / QWD-B-H 4

5.4 Further notes on connections

5.4.1 Number of devices at the QUINTO II CAN bus

The CAN bus cable to the QUINTO II wire drive allows two participants. From the third participant on, a CAN-Repeater is necessary.

Example:
If two CK 118 wire drive units are connected to a Quinto II welding power source via a distribution box and if a QWD-B is used on one or both units by means of a splitter each, the distribution box must be exchanged by a box with CAN-Repeater, see Figure 5 on page 13.

Part number of distribution box with CAN-Repeater: 0412 99 25 00

5.4.2 Total length calculation at Qineo and Quinto II

The total length of the CAN bus cable is limited to 200 m. Please note the following to calculate the total length:

- A connection cable assembly of the QINEO welding power sources (CAW) consists of go-and-return line.
- A connecting cable assembly of the QINEO welding power sources (VSP) consists of only one line.

Example for QINEO:
20 m connection cable assembly + 15 m connection line to the QWD-B + 5 m connection line to a RPU = 20+15+5= 40*2 = 80 m.

Example for QUINTO II:
20 m connection cable assembly + 15 m connection line to the QWD-B + 5 m connection line to a RPU = 20+15+5=20+20*2 = 60 m.

5.4.3 QWD-B / QWD-B-H in connection with Rolliner

If a wire drive hose, type Rolliner, is used in addition to the QWD-B / QWD-B-H for the optimisation of the wire feed distance, please pay attention to the following:

ATTENTION!

The use of a wire coil is not recommended because the continuous change of the feeding force may damage the Rolliner.

- **QWD-B / QWD-B-H in combination with Rolliner, feed wire only from a wire drum.**

5.5 Mounting the "splitter" to QINEO

Use the holding plate and the corresponding slot nuts to mount the "splitter" to the back side of the QINEO welding power source profile.

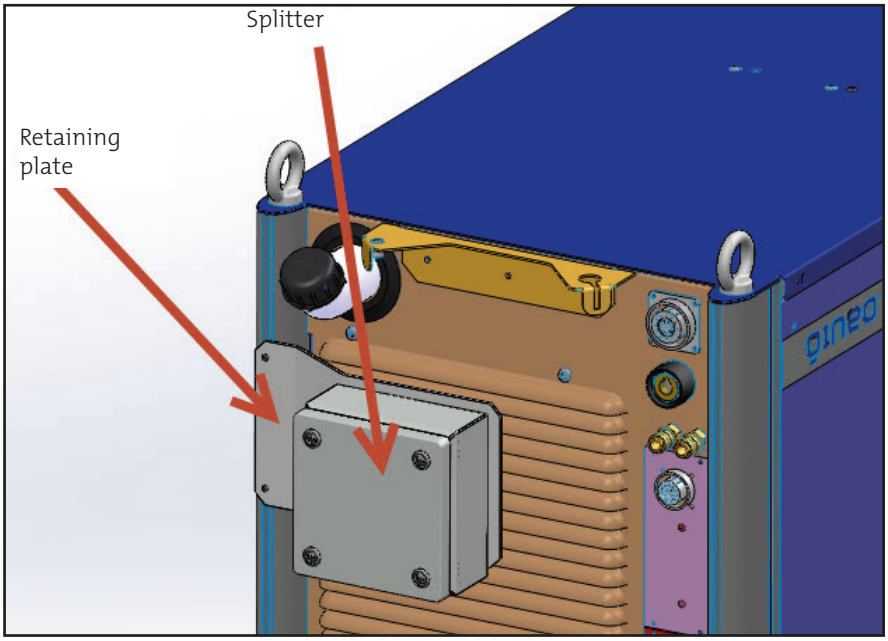


Figure 4. Splitter to QINEO welding power source

5.6 Overview of the components

Item	Quinto II	QINEO	QINEO Pro	Qineo NexT	Comments
1	Wire drum				
2	Wire feed hose				
3	Connection line		Connection line H		
4	QWD-B 1 / 2 / 3 / 4		QWD-B-H 1 / 2 / 3 / 4		See “Assignment of several QWD-B to a welding power source” on page 10.
5	Splitter type B	Splitter type B	Splitter type B	Splitter type B*	*Required if two or more QWD-B are connected to one QINEO NexT
	0831 70 20 00	0831 70 10 00	0831 70 21 00	0831 70 11 00	
6	CK118	QWD-A3 / QWD-AR V2	QWD-A4 / QWD-AR 4		
7	Control line / Connection cable assembly (CAW / VSP)				
8	Welding power source				
9	Distribution box with CAN repeater	Splitter type A 1/2	Splitter type A 1/2		If two wire drive units are used on one welding power source.
	0412 99 25 00	0831 82 00 00	0891 82 00 00		
	Distribution box 2/3	Splitter type A 2/3	Splitter type A 2/3		Additionally required if three wire drive units are used on one welding power source.
	0412 99 20 30	0831 82 02 00	0891 82 02 00		

5.7 Connection diagrams

5.7.1 Quinto II with two wire drive units

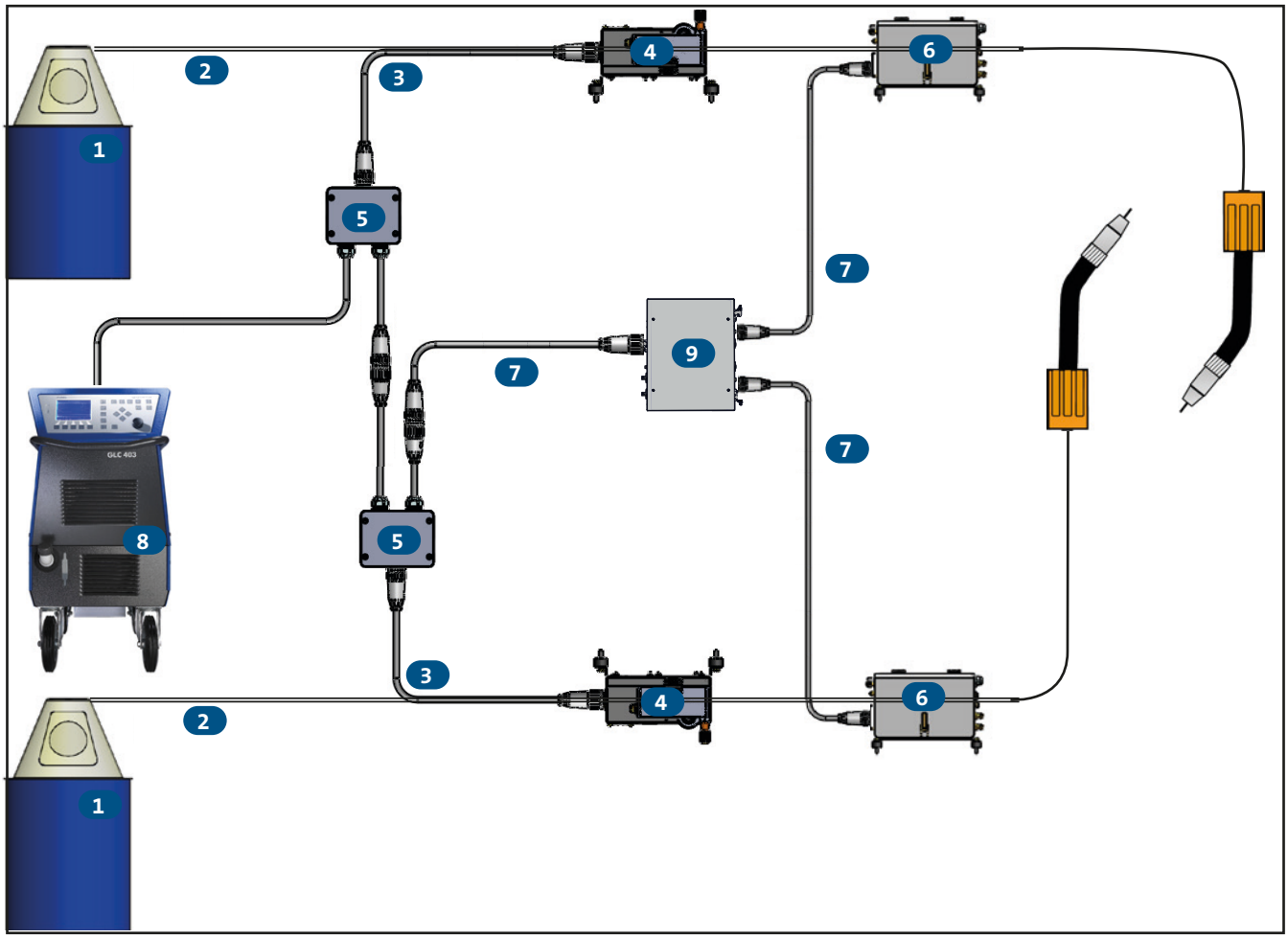


Figure 5. Connection diagram Quinto II with two single wire torches and two QWD-B

5.7.2 QINEO with one wire drive unit

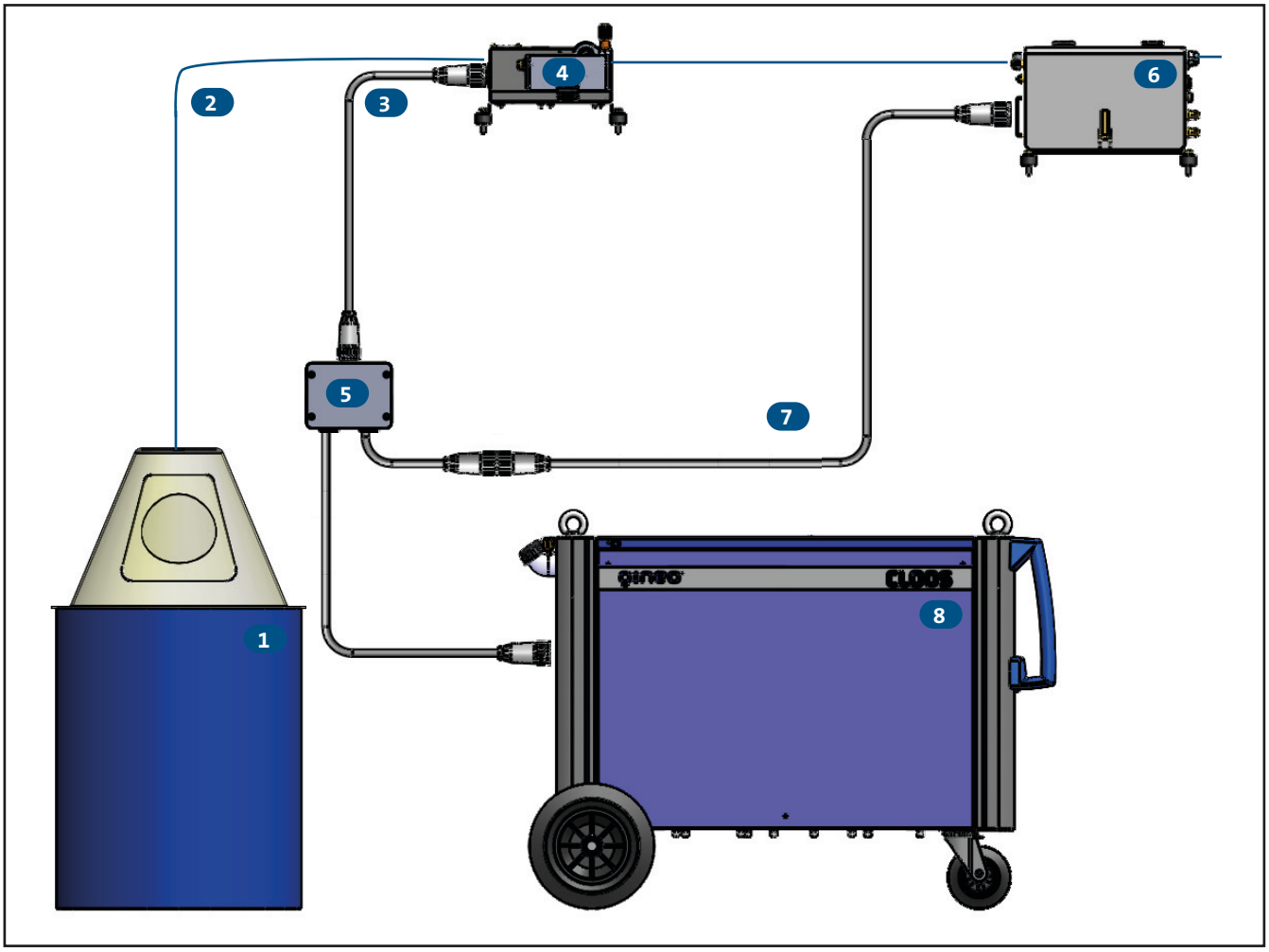


Figure 6. QWD-B connection diagram for the single wire welding process

5.7.3 QINEO Pro with one wire drive unit and splitter B in two versions

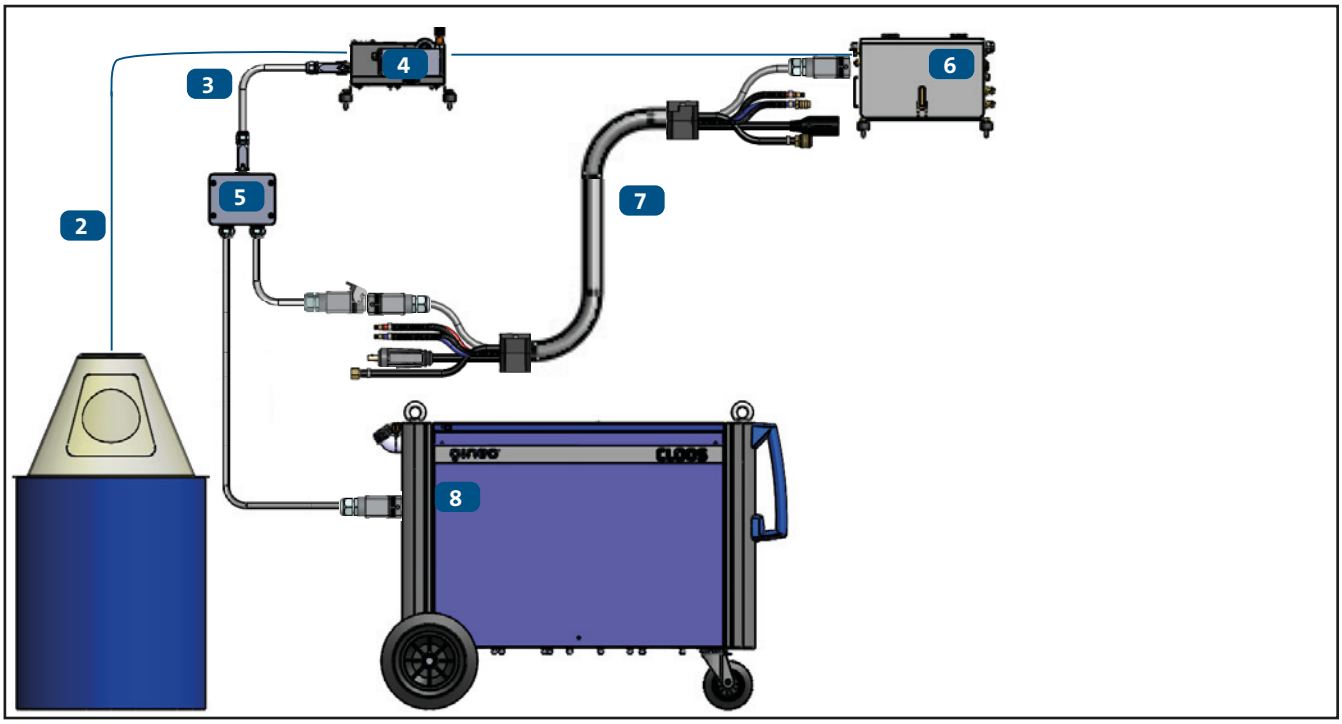


Figure 7. Arrangement Qineo Pro with splitter B (831702100) on welding power source

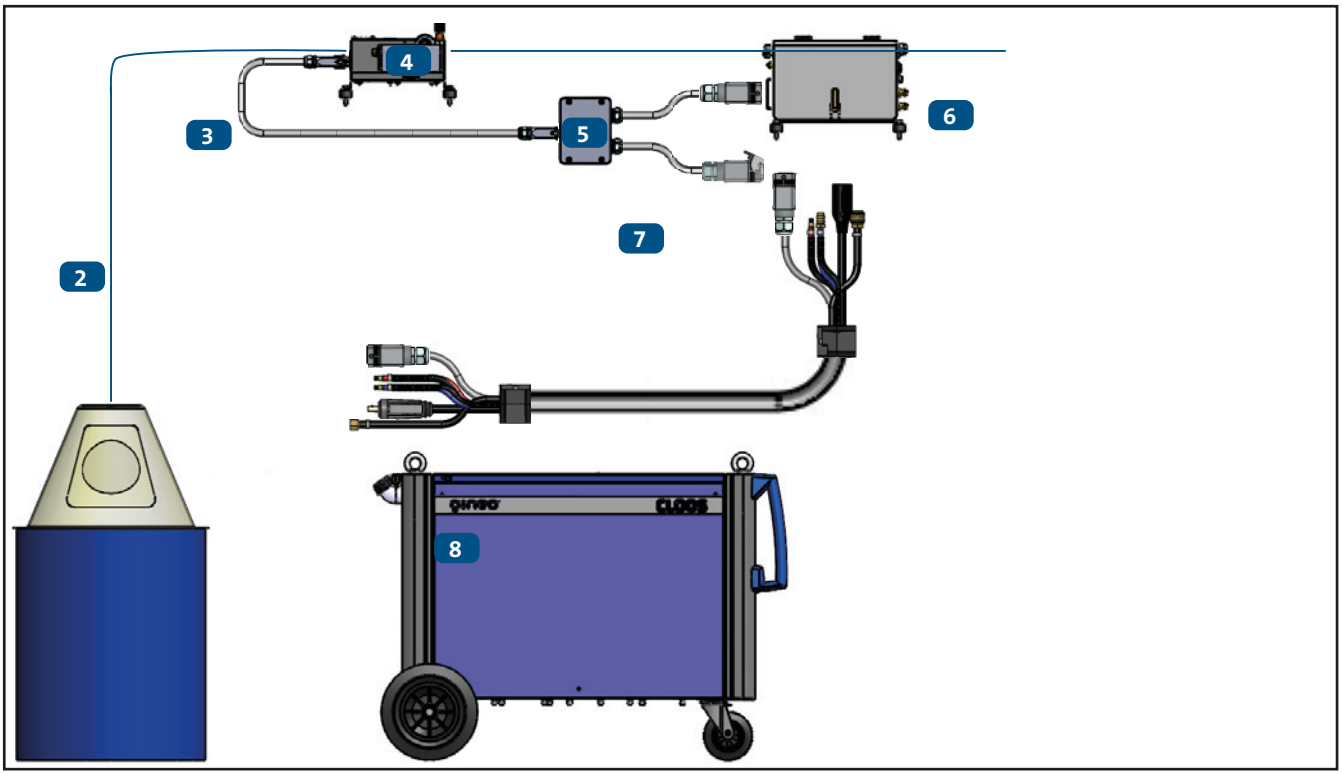


Figure 8. Arrangement Qineo Pro with splitter B (831702110) on wire drive unit

5.7.4 Two QINEO in Tandem operation

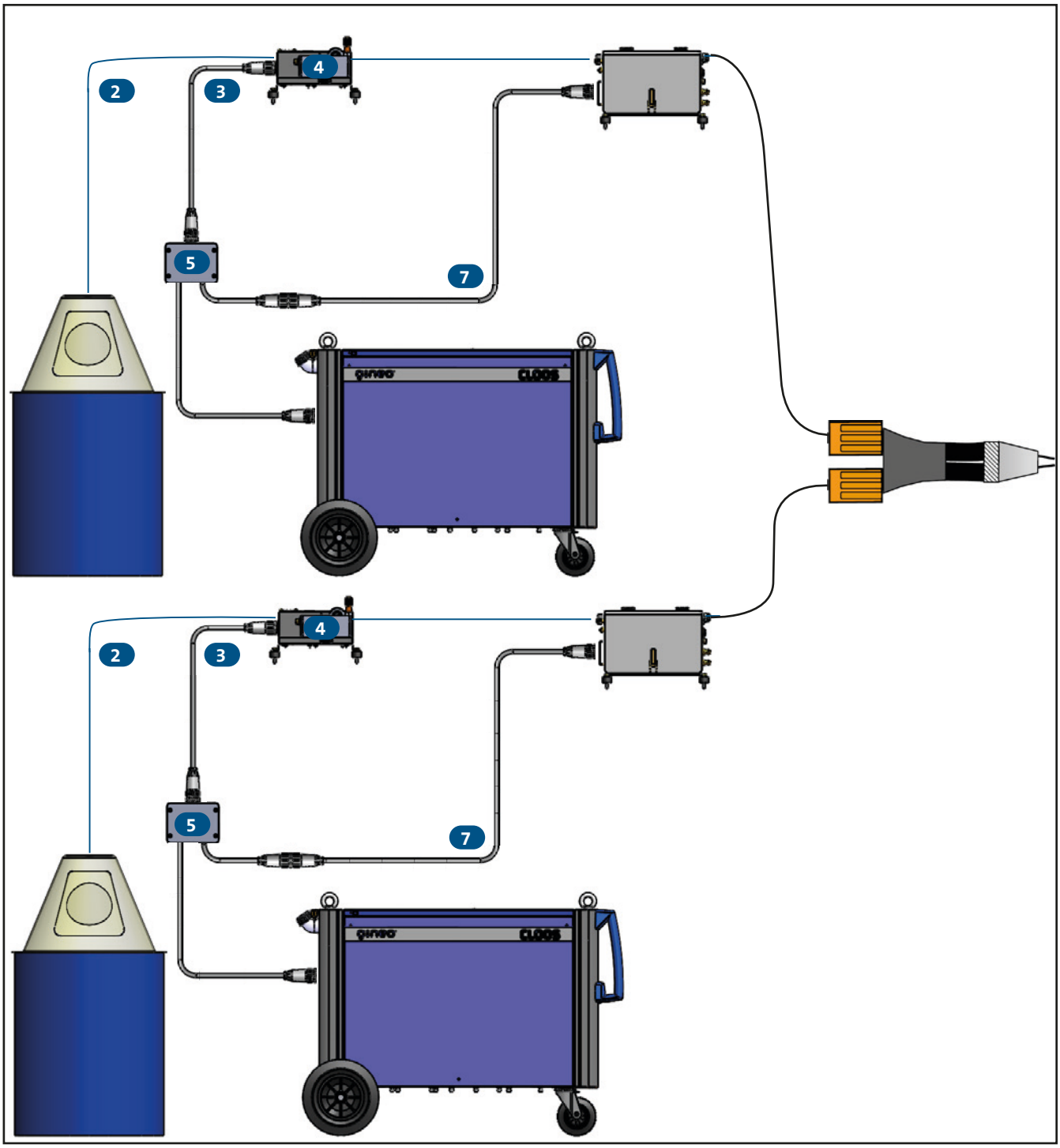


Figure 9. QWD-B connection diagram for the Tandem welding process

5.7.5 Two QINEO with Tandem and single wire torch

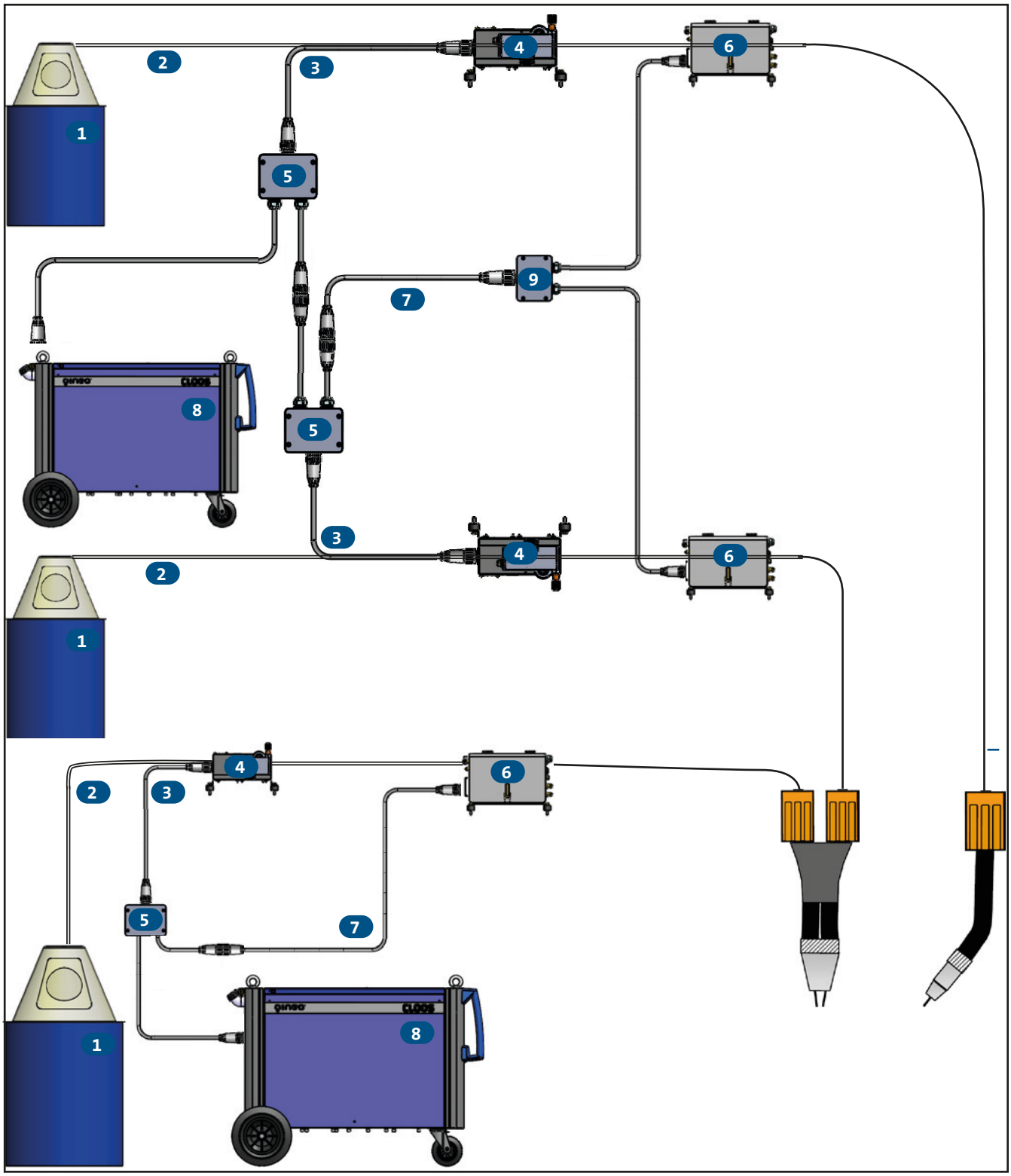


Figure 10. QWD-B connection diagram for the Tandem welding process with additional single wire welding process

5.7.6 Two Qineo Pro in Tandem operation

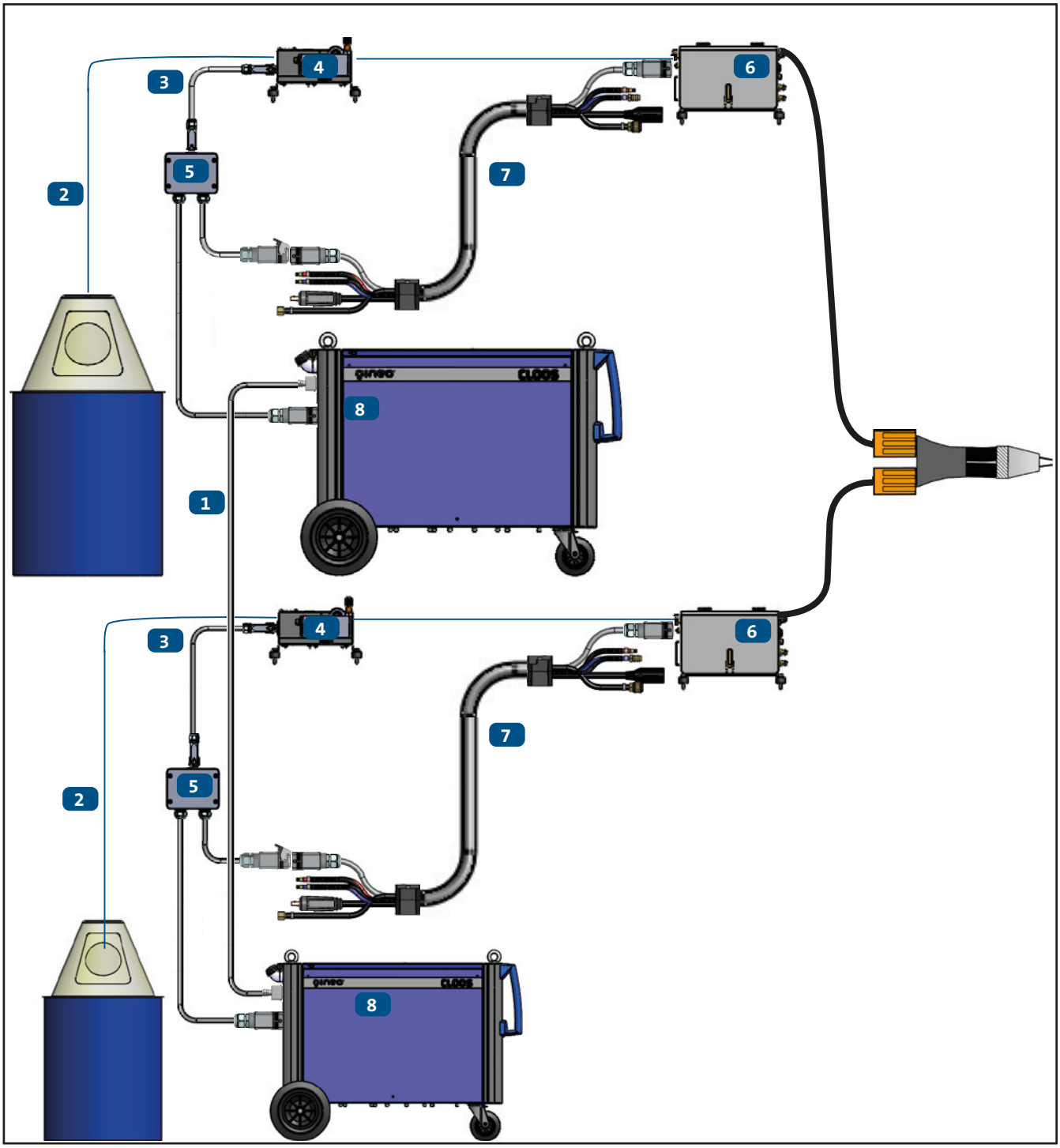


Figure 13. QWD-B connection diagram for the Tandem welding process

5.7.7 Two Qineo Pro in Tandem operation including single wire torch

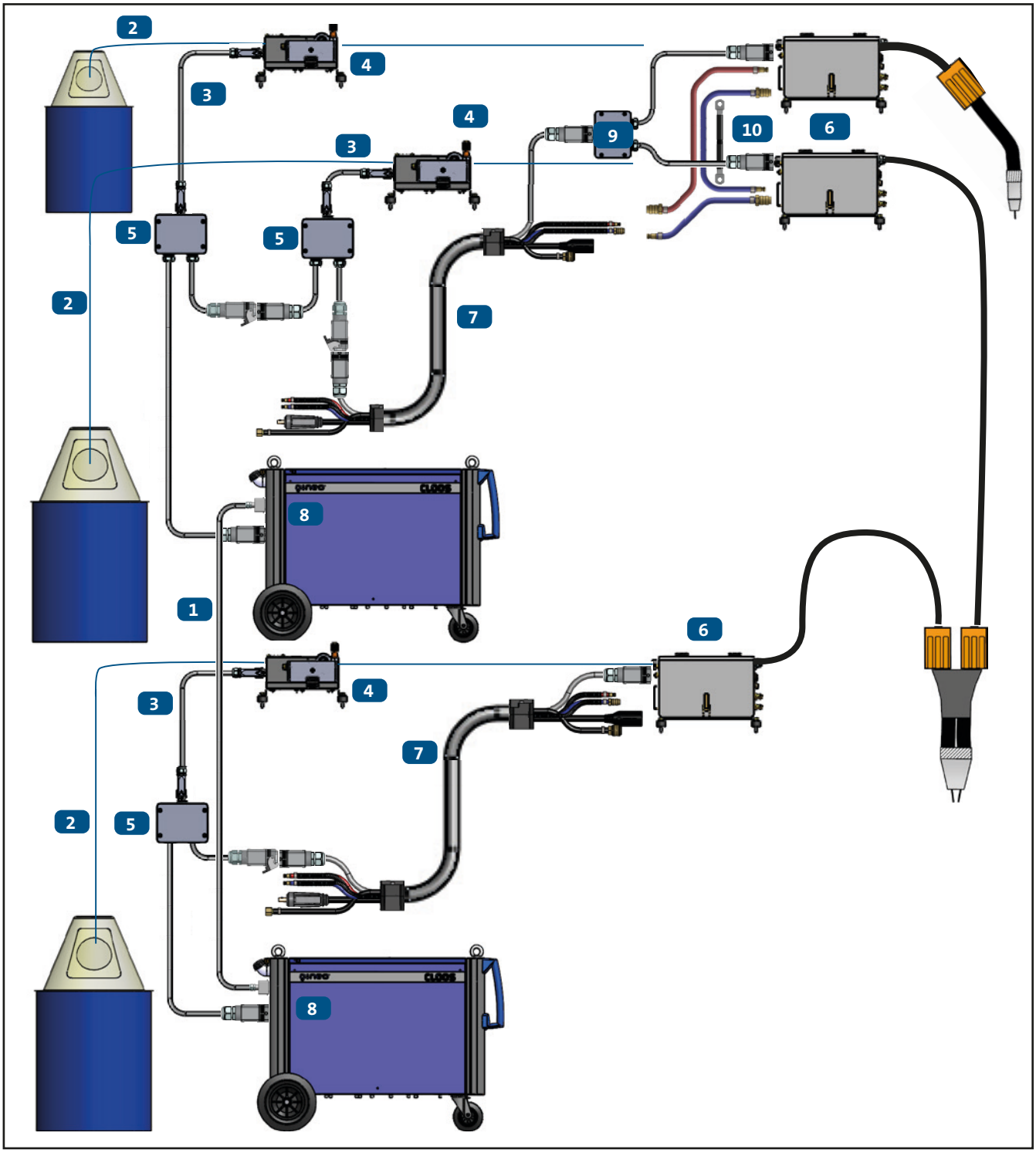


Figure 11. Connection diagram for the Tandem welding process including single wire torch

5.7.8 QINEO NexT with three wire drive units

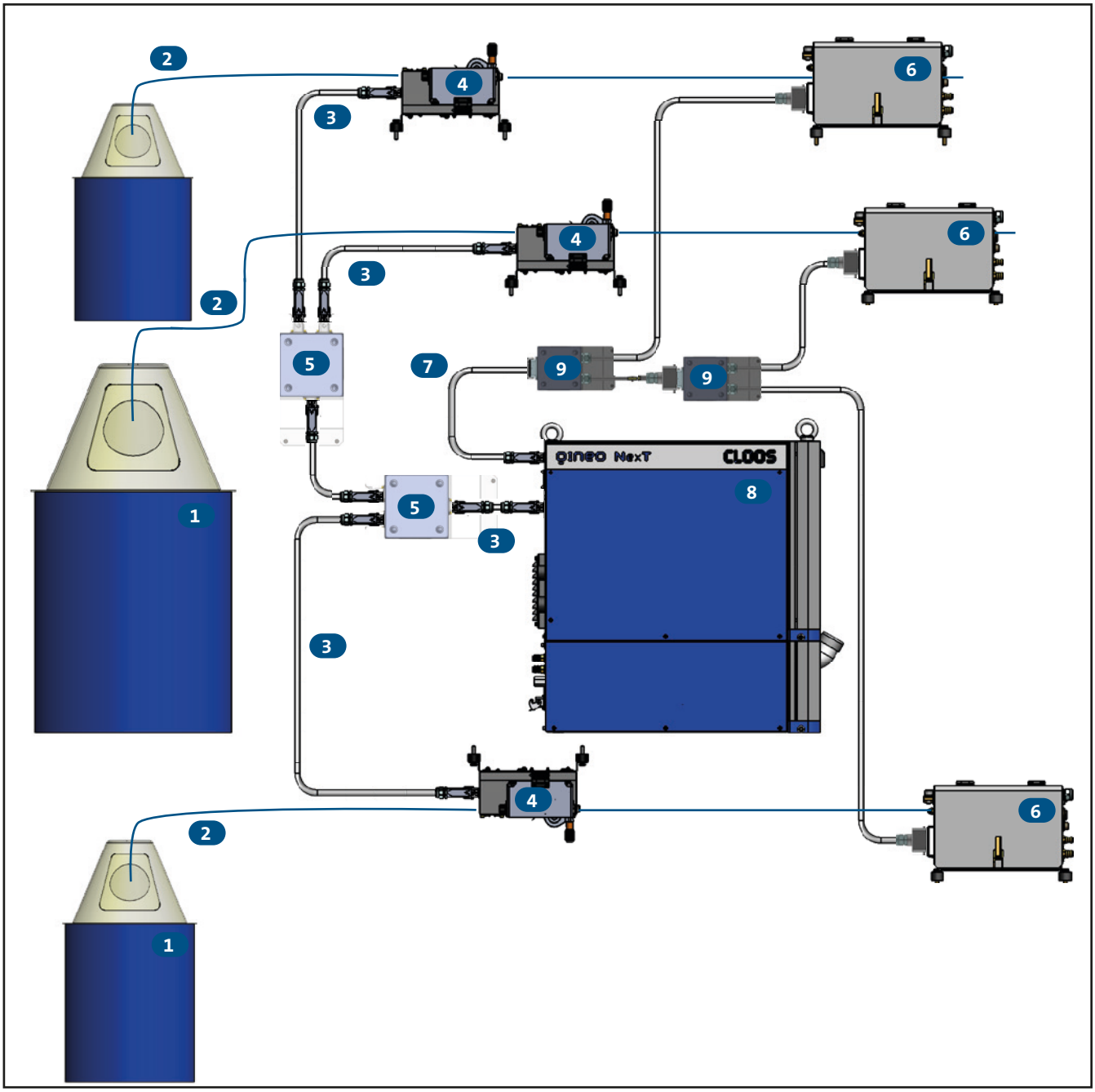


Figure 12. QWD-B-H connection diagram for the single wire welding process with Qineo NexT

6. Torque measurement

Isolate the welding power source from the power supply before you start calibration.

ATTENTION! **The “Threading” button on the QWD-B / QWD-B-H only serves to activate the device. The other participants remain inactive!**

ATTENTION! **If the drive resistance changes after calibration, the QWD-B / QWD-B-H changes the speed until the measured torque is reached again.**

NOTE **If the welding wire is being transported from a wire coil, ensure that the welding wire is under tension.**

NOTE **QWD-B / QWD-B-H in combination with Rolliner: Remove the Rolliner for calibration. Feed the wire only from a wire drum.**

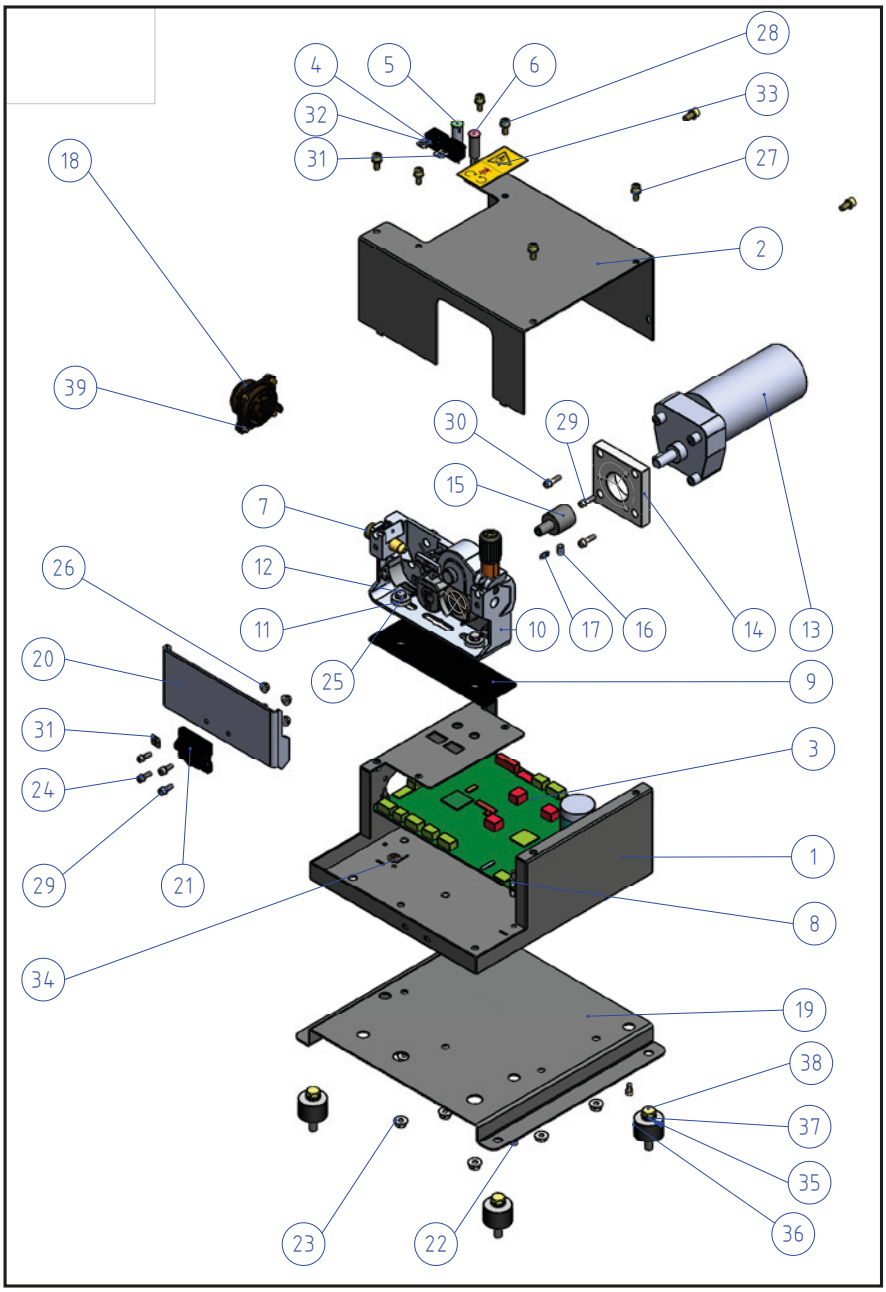
1. Open the pressure levers of the QWD-B / QWD-B-H and the other wire drive units in your wire feed distance.
2. Ensure the appropriate components for the desired welding wire are inserted.
   - The wire drive rollers, wire guide unit and wire inlet nozzle are embossed accordingly. Wire drive rollers and toothed wheels must be not forced onto the gear shaft.
3. Transport the wire manually from the drum or coil to the drive roller on the QWD-B / QWD-B-H.
4. Ensure the welding wire and the pressure roller are flush.
5. Thread the welding wire and close the pressure lever.
6. Adjust the contact pressure of the pressure lever to the used material and the welding wire diameter.
   - The welding wire must not be deformed.

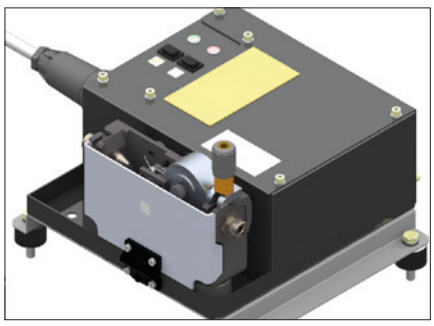
NOTE **The wire drive hose may not yet be attached to the wire drive unit.**

7. Connect the welding power source to the mains supply and switch it on.
8. Press the "Threading" button on the QWD-B / QWD-B-H until you see the welding wire in front of the next wire drive.
9. Press the "Teach" and the “Threading” buttons until the green LED flashes. Then release the buttons.
   - The green LED flashes during measurement.
   - The green LED lights steadily at the end of the measurement.
10. After the measurement attach the wire drive hose to the wire drive unit (e.g. QWD-AR).
11. Thread the welding wire into the wire drive unit.
12. Press the "Wire by hand" button on the wire drive unit until the welding wire appears at the ROB wire drive unit (e.g. CDD) or at the current tip of the welding torch.
    - The wire feed distance is now ready for operation.

7. Mechanical parts lists

7.1 QWD-B up to serial number 287

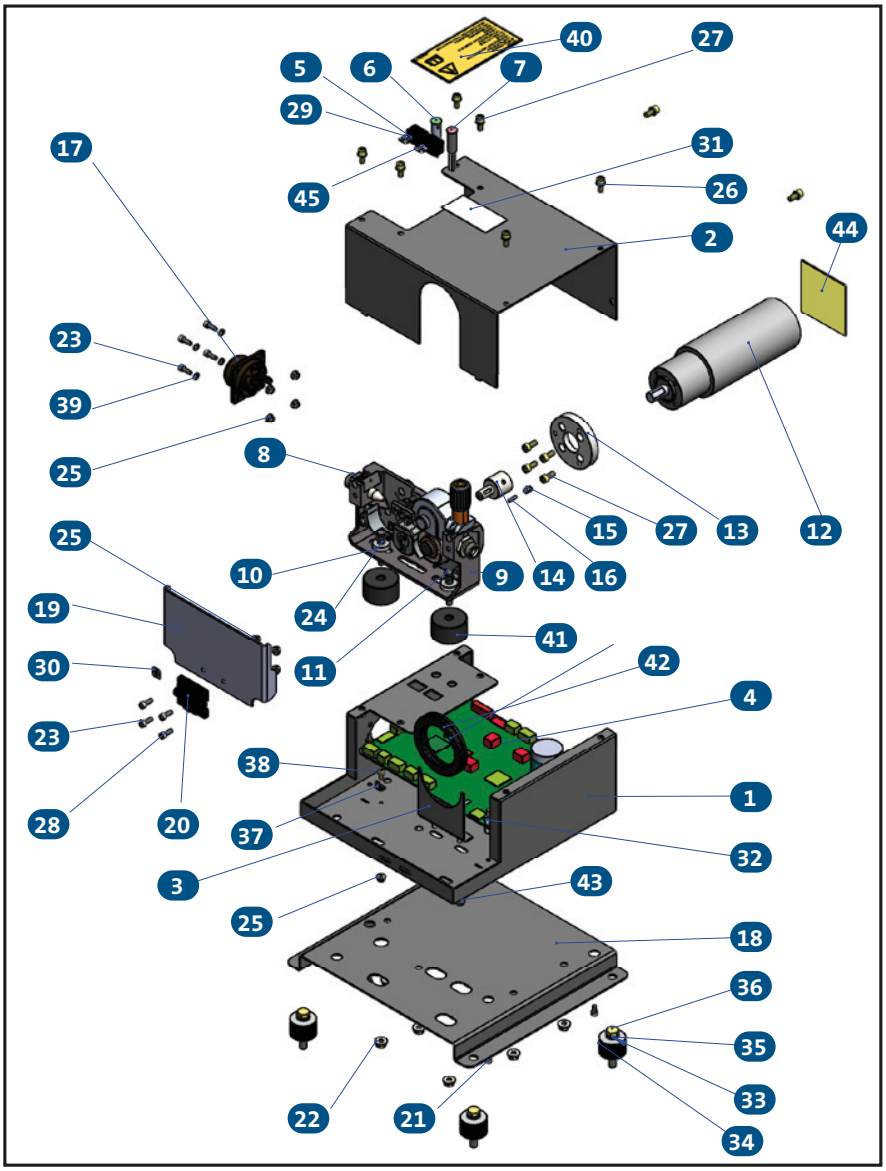


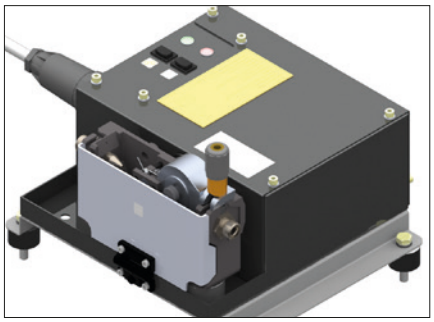


Item	Designation	Part number
0	**QN-WD-B complete**	**0831 70 00 00**
1	QN-WD-B housing jacket cpl.	0831 70 00 01
2	QN-WD-B control housing cpl.	0831 70 00 03
3	QN-WD-B controller	0033 33 46 00
4	Button	0008 01 00 32
5	LED lamp green, 24V	0020 03 01 30
6	LED lamp red, 24V	0020 03 01 31
7	Connection nipple (hex. SW22x51)	0048 01 00 37
8	Spacer inside/outside M4x10	0049 01 49 16

Item	Designation	Part number
9	Wire drive insulation	0833 58 11 31
10	QN-WF-22-HD, see chapter 8	0043 59 10 00
11	Insert for insulating plate	0043 58 01 50
12	Hexagon bolt M6x20	0101 80 60 25
13	Gear motor	0024 14 28 65
14	Plate for gear motor	0831 70 00 06
15	Coupling for gear motor	0831 70 00 05
16	Threaded pin M6x10	0102 30 60 10
17	Feather key A 3x3x12	0000 02 02 46
18	Machine socket 19+PE, C16-3 size 2C	0011 04 32 03
19	QN-WD-B fitting panel	0831 70 00 03
20	QN-WD-B cover wire drive	0831 70 00 04
21	Hinge	0097 03 05 11
22	Cylinder screw M4x8	0102 20 40 08
23	Hexagon nut M6	0107 60 60 20
24	Cylinder screw M4x12	0102 20 40 12
25	Serrated lock washer A6,4	0103 70 60 00
26	Hexagon nut M4, self-locking	0107 60 40 20
27	Spring lock washer M5 DIN 35072-Z	0103 78 05 10
28	Cylinder screw M5x12 8.8 DIN 912	0102 20 50 12
29	Lock washer VS4	0103 76 04 00
30	Cylinder screw M4x16 8.8 DIN 912	0102 20 40 16
31	Label “Wire forward”	0090 02 15 96
32	Label “Motor calibration”	0090 02 15 98
33	Warning sign wire drive ISO11684	0090 02 14 95
34	Ground connection in blind-riveting technology	0035 02 03 38
35	Insulating sleeve for screw M8	0049 01 03 74
36	Rubber-metal buffer ø30, H20, M8	0054 12 00 06
37	Lock washer VS8 galvanised	0103 76 08 00
38	Hexagon screw M8x12 ISO 4017	0101 80 80 12
39	Tapping screw M5x10 galvanised DIN 7516-A	0100 55 05 10

7.2 QWD-B from serial number 288

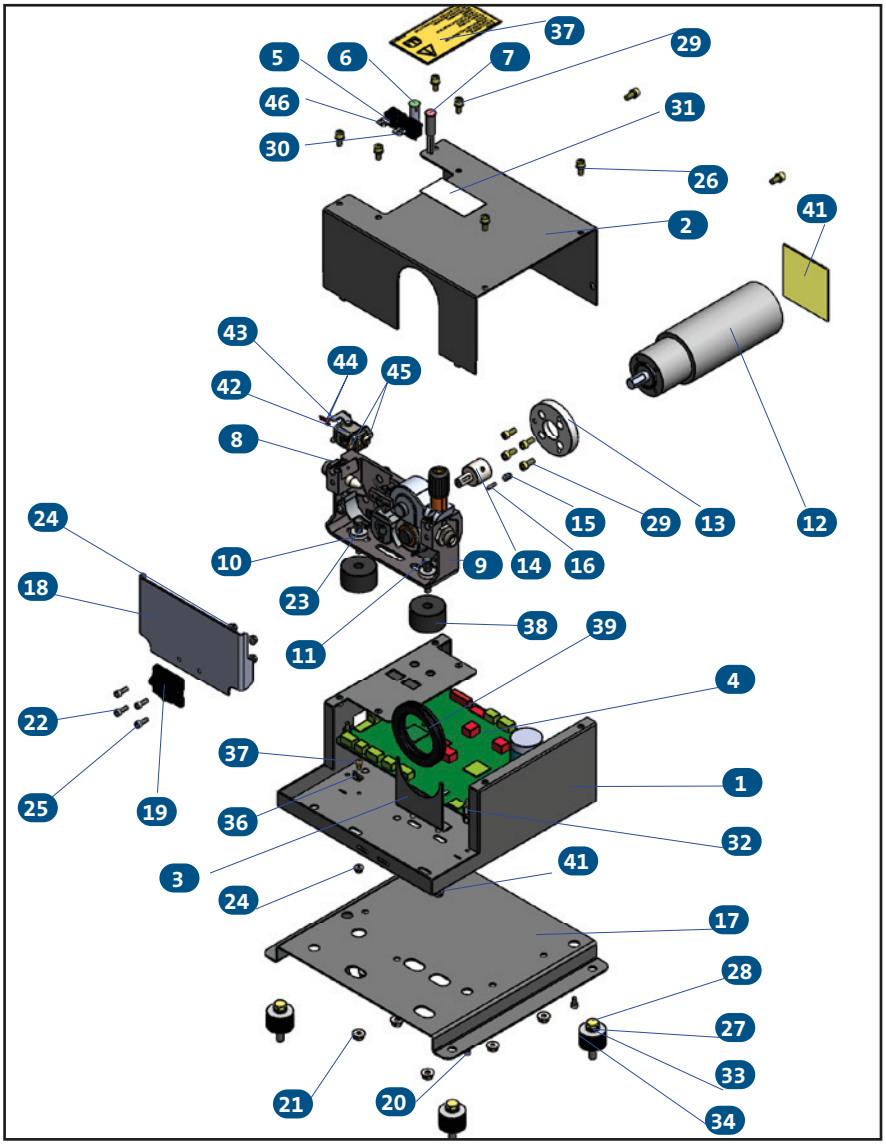


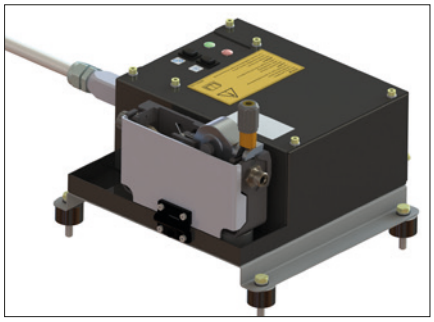


Item	Designation	Part number
0	**QN-WD-B complete**	**0831 70 00 00**
1	QN-WD-B housing jacket cpl.	0831 70 00 01
2	QN-WD-B control housing cpl.	0831 70 00 02
3	QN-WD-B sealing brace	0831 70 00 10
4	QN-WD-B controller	0033 33 46 00
5	Button	0008 01 00 32
6	LED lamp green, 24V	0020 03 01 30
7	LED lamp red, 24V	0020 03 01 31
8	Connection nipple QWD-FSE Ms Ø2	0048 01 00 48
9	QN-WF-22-HD, see chapter 8	0043 59 10 00
10	Insert for insulating plate	0043 58 01 50
11	Hexagon screw M6x40	0101 80 60 40
12	Gear motor Ø63 24V P52 i=6.75	0024 14 40 00
13	Adapter disk Ø63 24V P52 i=6.75	0831 70 00 08
14	Coupling GM Ø63 24V P52 i=6.75	0831 70 00 09
15	Threaded pin M6x10	0102 30 60 10

Item	Designation	Part number
16	Feather key A 3x3x12	0000 02 02 46
17	Machine socket 19+PE, C16-3 size 2C	0011 04 32 03
18	QN-WD-B fitting panel	0831 70 00 03
19	QN-WD-B cover wire drive	0831 70 00 04
20	Hinge	0097 03 05 11
21	Cylinder screw M4x8	0102 20 40 08
22	Hexagon nut M6	0107 60 60 20
23	Cylinder screw M4x12	0102 20 40 12
24	Serrated lock washer A6,4	0103 70 60 00
25	Hexagon nut M4, self-locking	0107 60 40 20
26	Spring lock washer M5 DIN 35072-Z	0103 78 05 10
27	Cylinder screw M5x12	0102 20 50 12
28	Lock washer VS4	0103 76 04 00
29	Label “Teach”	0090 02 15 98
30	Label “Wire forward”	0090 02 15 96
31	Warning sign wire drive	0090 02 14 95
32	Spacer inside/outside M4x10	0049 01 49 16
33	Insulating sleeve for screw M8	0049 01 03 74
34	Rubber-metal buffer ø30, H20_ M8	0054 12 00 06
35	Lock washer VS8	0103 76 08 00
36	Hexagon screw M8x12	0101 80 80 12
37	Flat plug 6.3 M4x90°	0035 02 00 70
38	Self-tapping screw M4x8	0100 55 04 08
39	Washer A4.3	0100 80 40 00
40	QN-WD-B label “Calibration”	0090 02 14 04
41	Distance sleeve Ø40x23	0831 70 00 11
42	Membrane socket DG53 AØ75mm perforated Ø50mm	0035 01 00 17
43	Hexagon nut M5, self-locking	0107 60 50 20
44	QWD-AR motor insulation 70x70x1,5	0832 80 10 16
45	Label “Inching”	0090 02 15 89

7.3 QWD-B-H

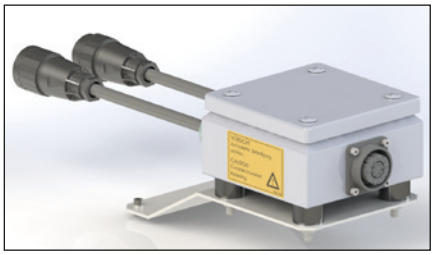




Item	Designation	Part number
0	**QN-WD-B-H complete**	**0891 70 00 00**
1	QN-WD-B-H housing jacket	0891 70 00 01
2	QN-WD-B control housing cpl.	0831 70 00 02
3	QN-WD-B sealing brace	0831 70 00 10
4	QN-WD-B controller	0033 33 46 00
5	Button	0008 01 00 32
6	LED lamp green, 24V	0020 03 01 30
7	LED lamp red, 24V	0020 03 01 31
8	Connection nipple QWD-FSE Ms Ø2	0048 01 00 48
9	QN-WF-22-HD, see chapter 8.	0043 59 10 00
10	Insert for insulating plate	0043 58 01 50
11	Hexagon screw M6x40	0101 80 60 40
12	Gear motor Ø63 24V P52 i=6.75	0024 14 40 00
13	Adapter disk GM Ø63 24V P52 i=6,75.SLDPRT	0831 70 00 08
14	Coupling GM Ø63 24V P52 i=6,75.SLDPRT	0831 70 00 09
15	Threaded pin M6x10	0102 30 60 10
16	Feather key A 3x3x12	0000 02 02 46
17	QN-WD-B fitting panel	0831 70 00 03

Item	Designation	Part number
18	QN-WD-B cover wire drive	0831 70 00 04
19	Hinge	0097 03 05 11
20	Cylinder screw M4x8	0102 20 40 08
21	Hexagon nut M6	0107 60 60 20
22	Cylinder screw M4x12	0102 20 40 12
23	Serrated lock washer A6,4	0103 70 60 00
24	Hexagon nut M4, self-locking	0107 60 40 20
25	Lock washer VS4	0103 76 04 00
26	Spring lock washer M5 DIN 35072-Z	0103 78 05 10
27	Lock washer VS8	0103 76 08 00
28	Hexagon screw M8x12	0101 80 80 12
29	Cylinder screw M5x12	0102 20 50 12
30	Label “Wire forward”	0090 02 15 96
31	Warning sign wire drive	0090 02 14 95
32	Spacer inside/outside M4x10	0049 01 49 16
33	Insulating sleeve for screw M8	0049 01 03 74
34	Rubber-metal buffer ø30, H20 _ M8	0054 12 00 06
35	Flat plug 6.3 M4x90°	0035 02 00 70
36	Self-tapping screw M4x8	0100 55 04 08
37	QN-WD-B label “Calibration”	0090 02 14 04
38	Distance sleeve Ø40x23	0831 70 00 11
39	Membrane socket DG53 AØ75mm perforated Ø50mm	0035 01 00 17
40	Hexagon nut M5, self-locking	0107 60 50 20
41	QWD-AR motor insulation 70x70x1.5	0832 80 10 16
42	Mounted housing HAN3A	0010 09 25 10
43	Pin insert Crimp 12P 10A for CQM12	0010 09 25 14
44	Encoding pin HAN Q	0010 09 25 24
45	Blind rivet Al/St 3.2x10 FK	0104 20 50 00
46	Label “Inching”	

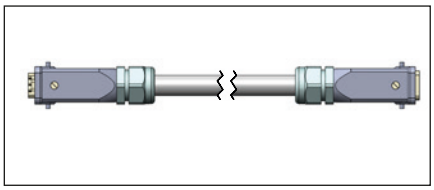
7.4 Distribution box/splitter



QN splitter B	0831 70 10 00
QN NexT splitter B	0831 70 11 00
QN Pro splitter B	0831 70 21 00
QUINTO II distribution box B	0831 70 20 00
QUINTO II distribution box A with CAN repeater	0412 99 25 00
QUINTO II distribution box A, 2&3	0412 99 20 30
QN NexT/Pro splitter A, 1&2	0891 82 00 00
QN NexT/Pro splitter A, 2&3	0891 82 02 00
QN splitter A, 1&2	0831 82 00 00
QN splitter A, 2&3	0831 82 02 00

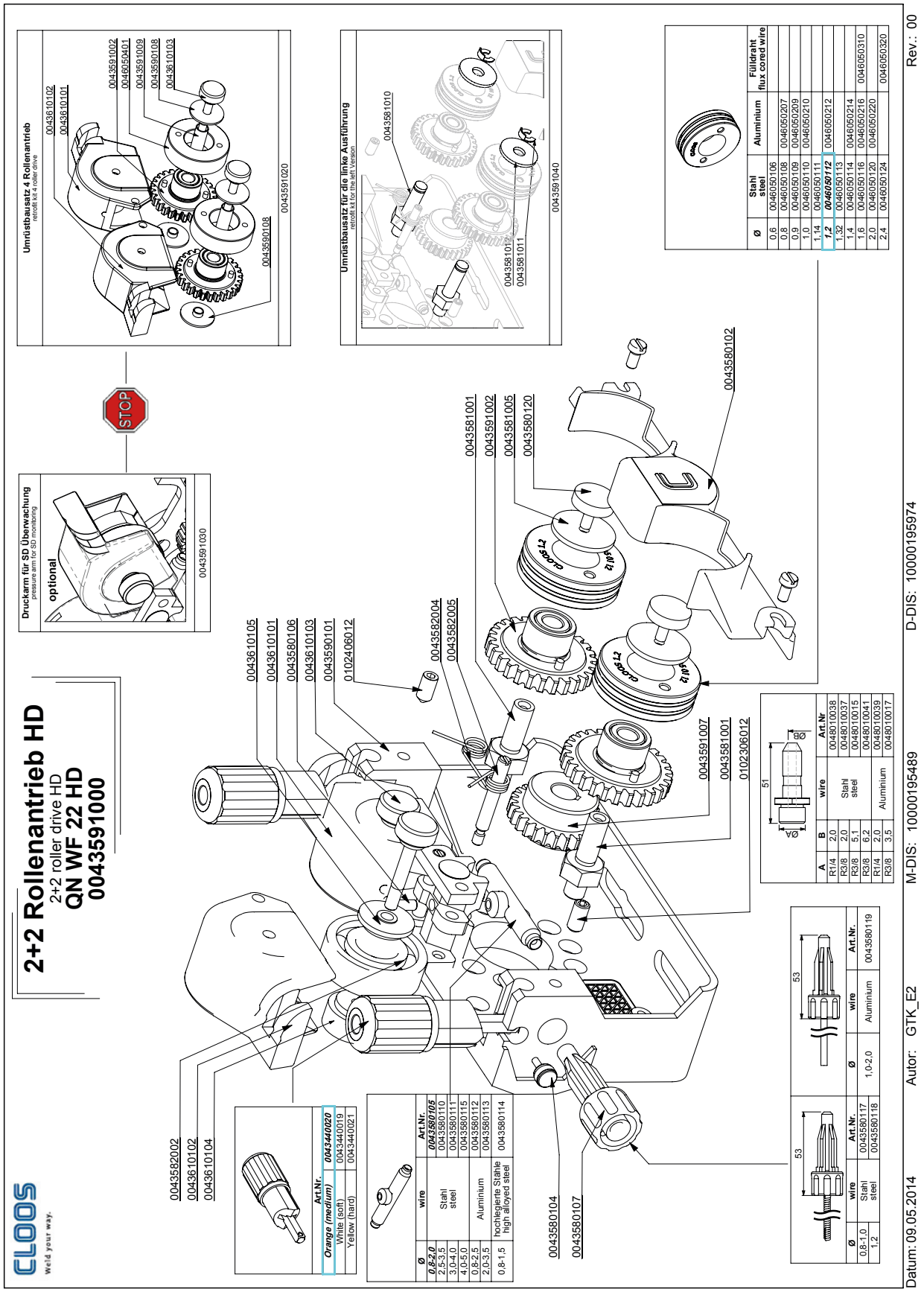
7.5 Connection lines

QN-WD-B, connection line	
Connection line 3m	0831 70 10 03
Connection line 5m	0831 70 10 05
Connection line 10m	0831 70 10 10
Connection line 15m	0831 70 10 15
Connection line 25m	0831 70 10 25



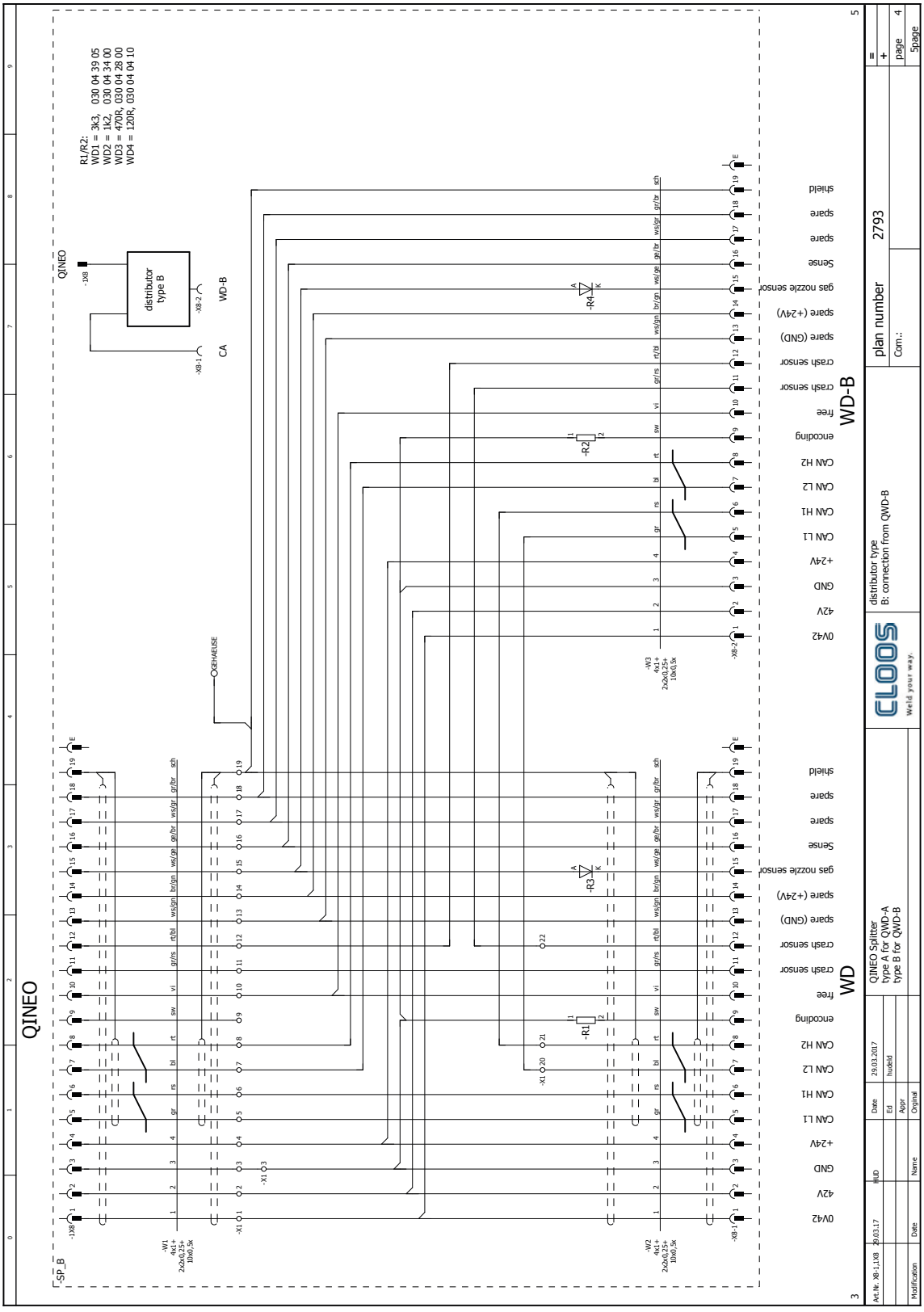
QN-WD-B-H, connection line H	
Connection line H 1m	0831 70 11 01
Connection line H 3m	0831 70 11 03
Connection line H 5m	0831 70 11 05
Connection line H 10m	0831 70 11 10
Connection line H 15m	0831 70 11 15
Connection line H 25m	0831 70 11 25

8. Spare parts/Consumables QN-WF-22-HD wire drive unit



9. Circuit diagrams and electrical parts lists

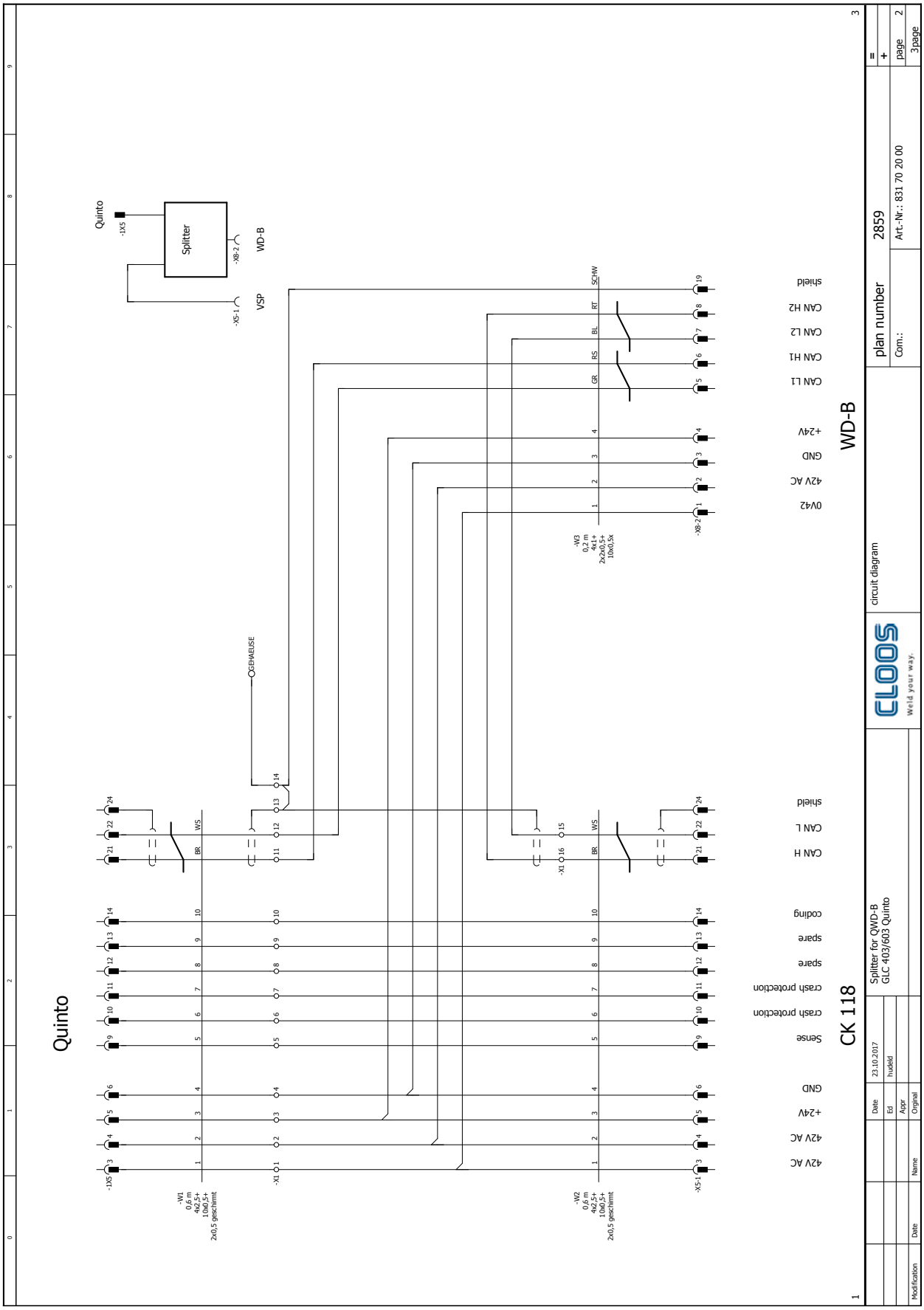
9.1 Circuit diagram splitter type B for QINEO



9.2 Parts list splitter type B for QINEO (diagram number: 2793)

SP_B		Splitter Typ B:
SP_B-R1	resistor 3,3K 0,25W	0030043905
SP_B-R2	resistor 1,2K 0,25W	0030043400
SP_B-R3	diode BY255,1300V/3A	0029063500
SP_B-R4	diode BY255,1300V/3A	0029063500
SP_B-X1	terminal 2,5mm² beige	0033042800
SP_B-X1	cross connector 2- fold	0033042806
SP_B-X1	final angle terminal	0033042880
SP_B-X8-1	cable-box 19+PE, C16-3, size 2 D	0011043202
SP_B-X8-1	crimp contact bush 0,35-0,5mm², C16-3	0011043204
SP_B-X8-1	crimp contact bush 0,75-1,0mm², C16-3	0011043206
SP_B-X8-2	plug appliance 19+PE, C16-3, size 2 G	0011043200
SP_B-X8-2	crimp contact bush 0,35-0,5mm², C16-3	0011043204
SP_B-X8-2	crimp contact bush 0,75-1,0mm², C16-3	0011043206
SP_B-1X8	plug 19+PE, C16-3, size 2 H	0011043201
SP_B-1X8	crimp contact pin 0,35-0,5mm², C16-3	0011043205
SP_B-1X8	crimp contact pin 0,75-1,0mm², C16-3	0011043207
W1	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
W2	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
W3	cable 4x1+2x2x0,5+10x0,5mm²	0038077200

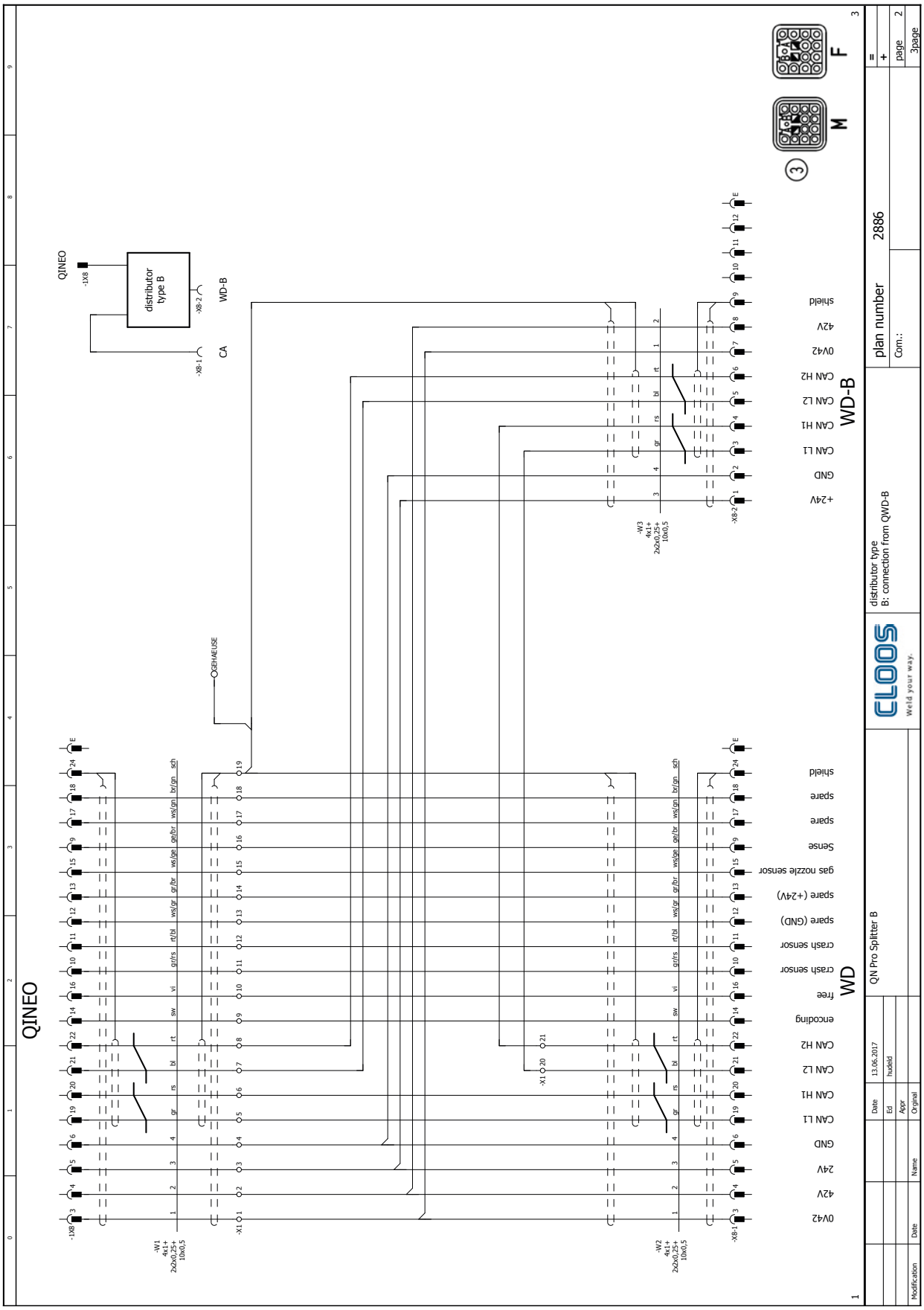
9.3 Circuit diagram distribution box type B for QUINTO



9.4 Parts list distribution box type B for QUINTO (diagram number: 2859)

W1	cable oelflex 4x2,5+6x0,5+2x0,5mm² shielded	0038076410
W2	cable oelflex 4x2,5+6x0,5+2x0,5mm² shielded	0038076410
W3	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
X1	terminal 2,5mm² beige	0033042800
X1	cross connector 2- fold	0033042806
X1	final angle terminal	0033042880
X1	terminal designation 1-10	0033042901
X1	terminal designation 11-20	0033042902
X5-1	coupling housing 24DD	0010091321
X5-1	socket insert HAN24DD	0010091315
X5-1	crimp contact bush 2,5 HAN D	0010091811
X5-1	crimp contact bush 0,5 HAN D	0010091830
X5-1	screwed cable gland M25	0035036100
X8-2	cable-box 19+PE, C16-3, size 2 E	0011043212
X8-2	crimp contact bush 0,35-0,5mm², C16-3	0011043204
1X5	plug-housing 24DD	0010091320
1X5	multiple plug HAN 24DD	0010091316
1X5	crimp contact pin 2,5 HAN D	0010091809
1X5	crimp contact pin 0,5 HAN D	0010091804
1X5	screwed cable gland M25	0035036100

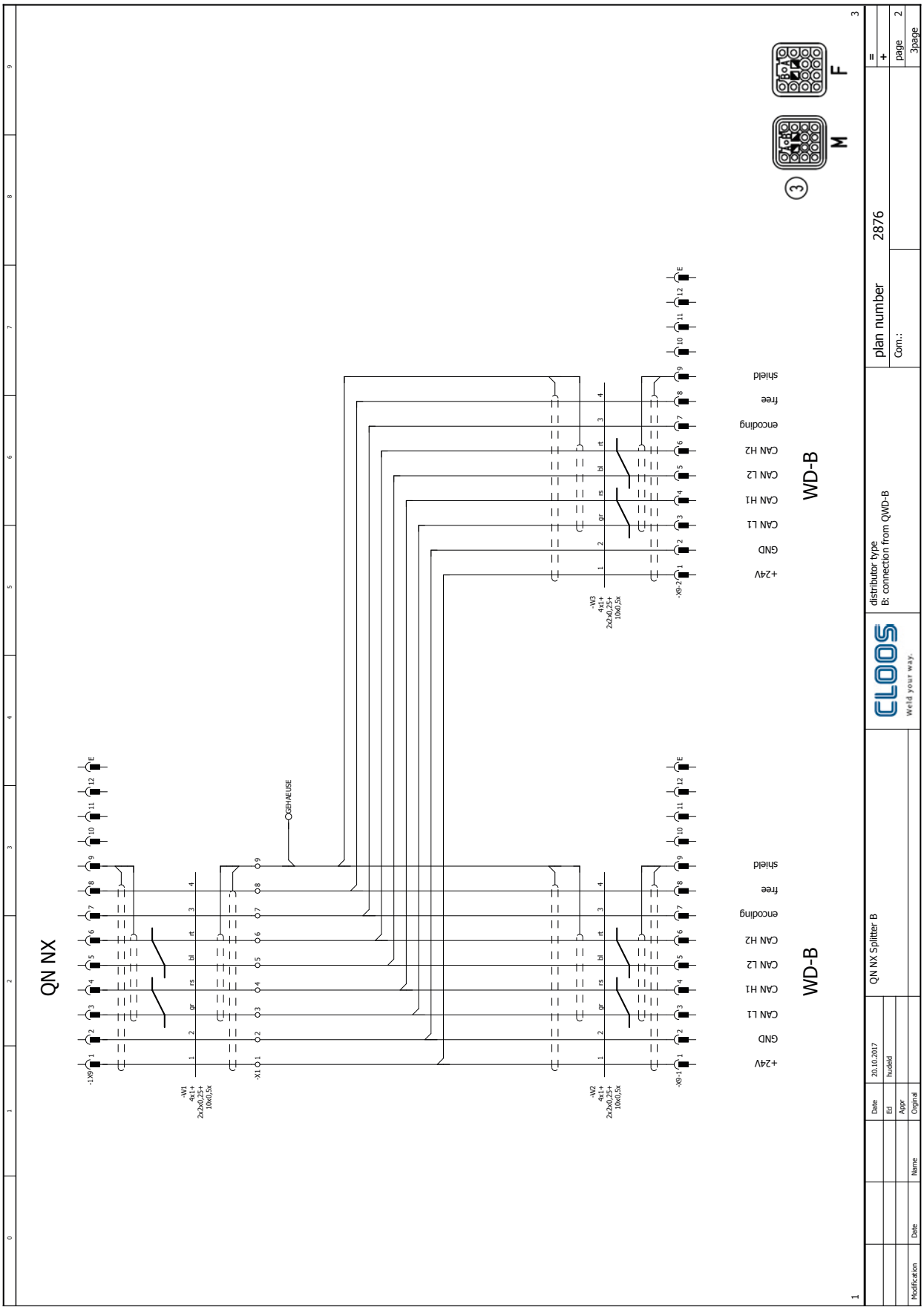
9.5 Circuit diagram splitter type B for Qineo Pro



9.6 Parts list splitter type B for Qineo Pro (diagram number: 2886)

W1	cable 4x1+2x2x0,25+10x0,5mm²	0038077210
W2	cable 4x1+2x2x0,25+10x0,5mm²	0038077210
W3	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
X1	terminal 2,5mm² beige	0033042800
X1	cross connector 2- fold	0033042806
X1	final angle terminal	0033042880
X8-1	coupling housing 24DD	0010091321
X8-1	socket insert HAN24DD	0010091315
X8-1	crimp contact bush 1,0 HAN D	0010091810
X8-1	crimp contact bush 0,5 HAN D	0010091830
X8-1	crimp contact bush 0,14-0,37HAN/D	0010091880
X8-1	screwed cable gland M25	0035036100
X8-2	Bulkhead mounted housings HAN3A/7D	0010092510
X8-2	socket insert 12pol.	0010092515
X8-2	crimp contact bush 0,14-0,37HAN/D	0010091880
X8-2	crimp contact bush 1,0 HAN D	0010091810
X8-2	crimp contact bush 0,5 HAN D	0010091830
X8-2	coding pin Han Q12	0010092524
1X8	plug-housing 24DD	0010091320
1X8	multiple plug HAN 24DD	0010091316
1X8	crimp contact pin 1,0 HAN D	0010091803
1X8	crimp contact pin 0,5 HAN D	0010091804
1X8	crimp contact pin 0,14-0,37 HAN D	0010091805
1X8	screwed cable gland M25	0035036100

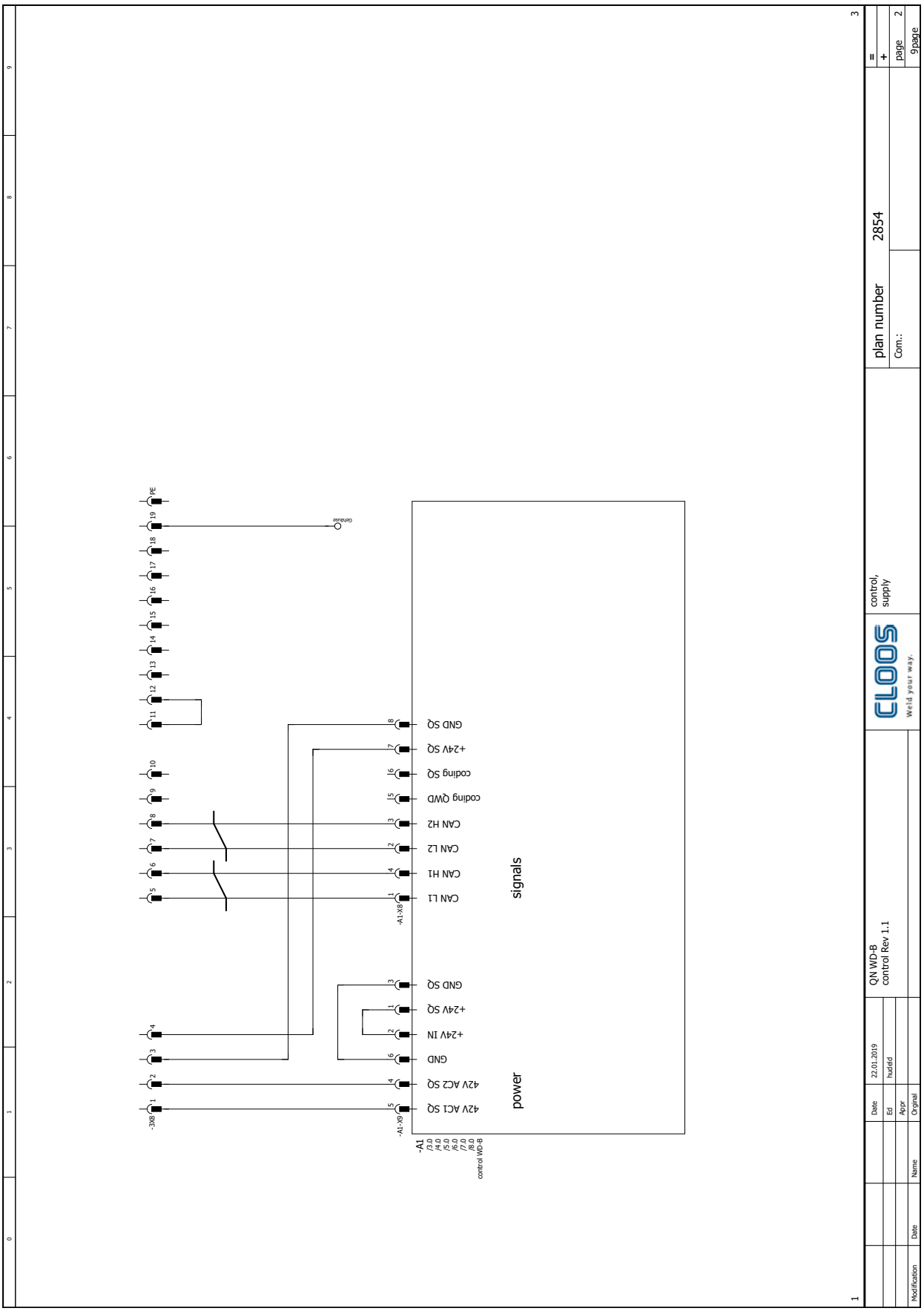
9.7 Circuit diagram splitter type B for Qineo NexT

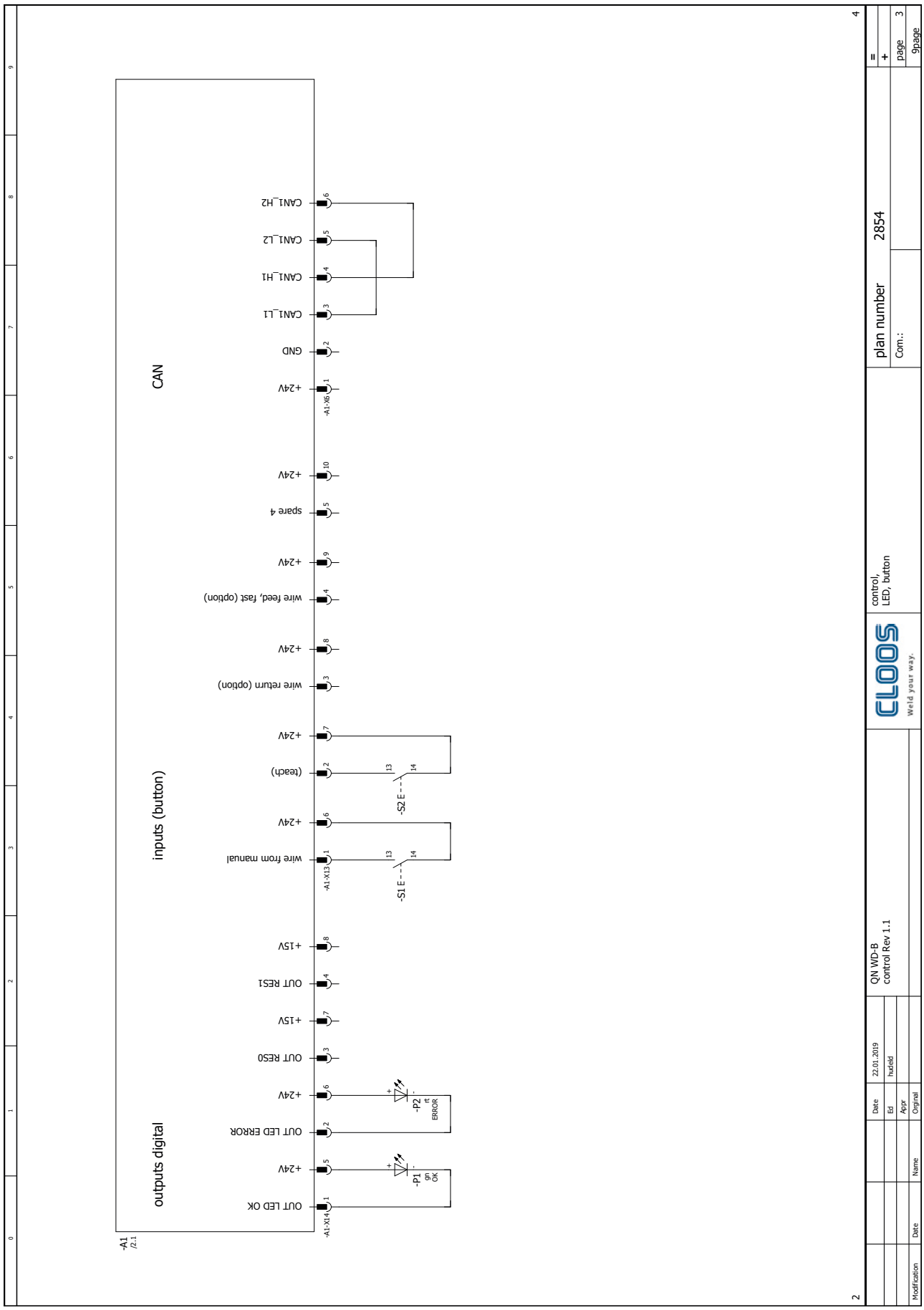


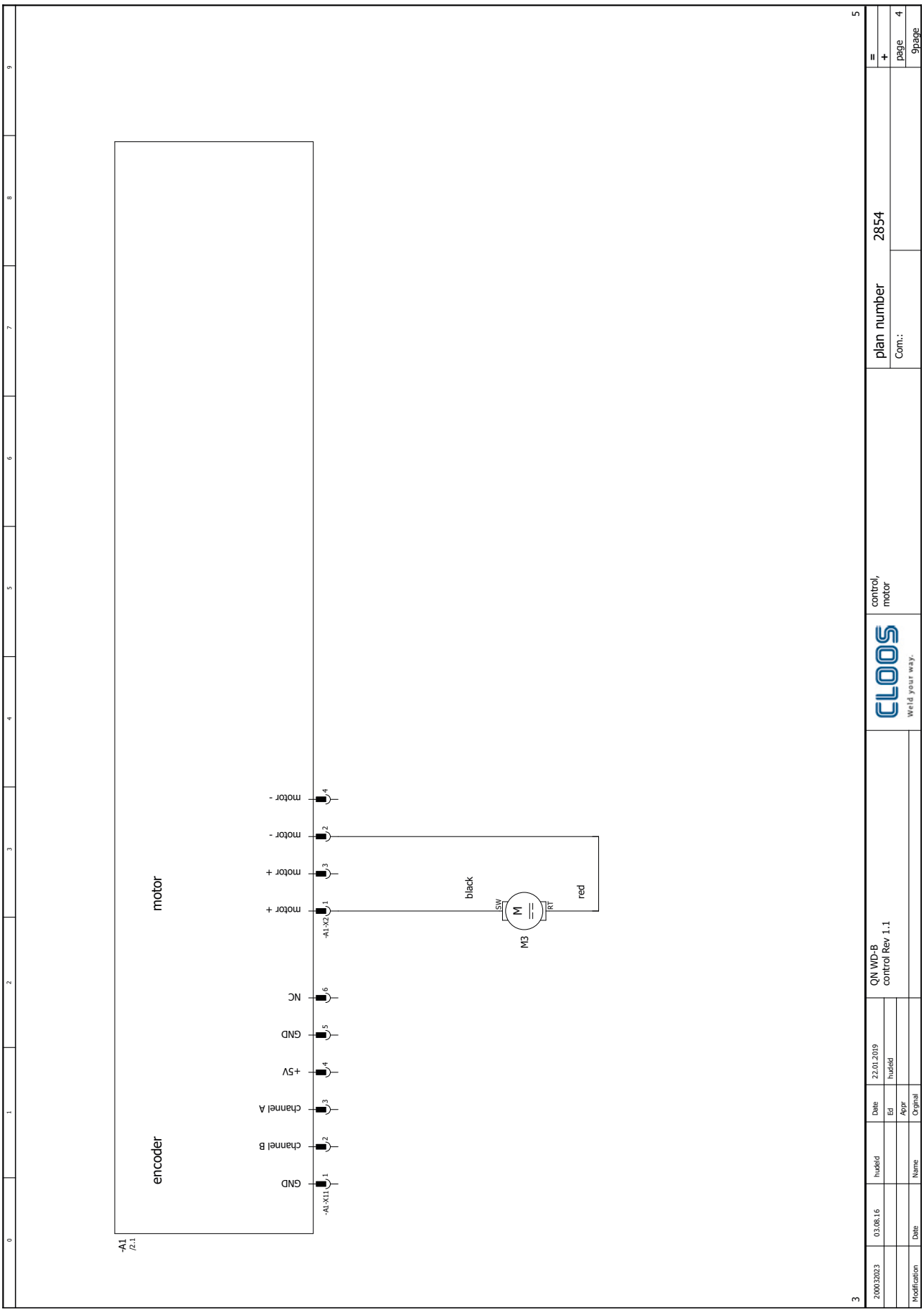
9.8 Parts list splitter type B for Qineo NexT (diagram number: 2876)

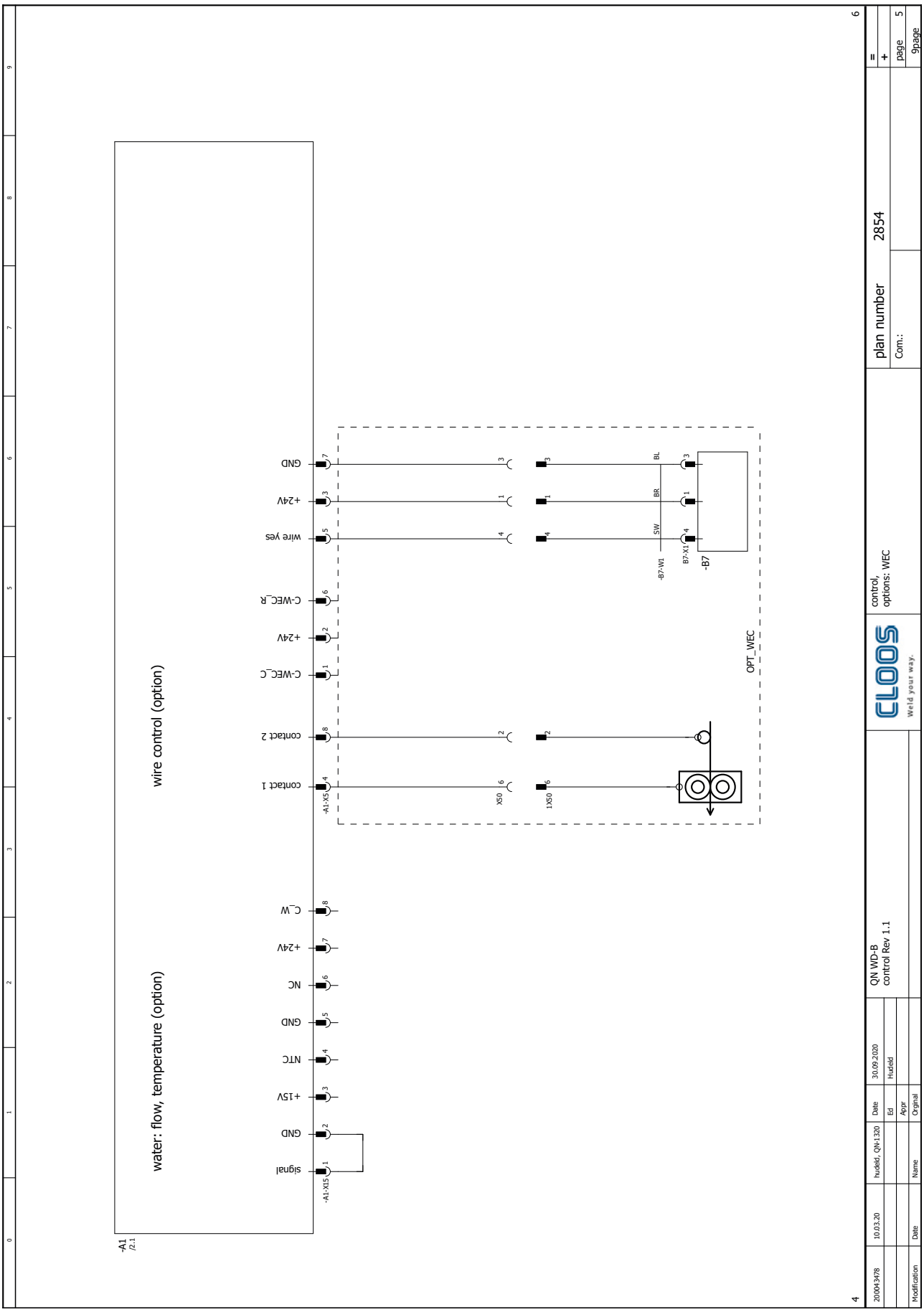
W1	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
W2	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
W3	cable 4x1+2x2x0,5+10x0,5mm²	0038077200
X1	terminal 2,5mm² beige	0033042800
X1	final angle terminal	0033042880
X9-1	Bulkhead mounted housings HAN3A/7D	0010092510
X9-1	socket insert 12pol.	0010092515
X9-1	crimp contact bush 0,14-0,37HAN/D	0010091880
X9-1	crimp contact bush 0,5 HAN D	0010091830
X9-1	coding pin Han Q12	0010092524
X9-2	Bulkhead mounted housings HAN3A/7D	0010092510
X9-2	socket insert 12pol.	0010092515
X9-2	crimp contact bush 0,14-0,37HAN/D	0010091880
X9-2	crimp contact bush 0,5 HAN D	0010091830
X9-2	coding pin Han Q12	0010092524
1X9	Bulkhead mounted housings HAN3A/7D	0010092510
1X9	pin insert 12pol.	0010092514
1X9	crimp contact pin 0,14-0,37 HAN D	0010091805
1X9	crimp contact pin 0,5 HAN D	0010091804
1X9	coding pin Han Q12	0010092524

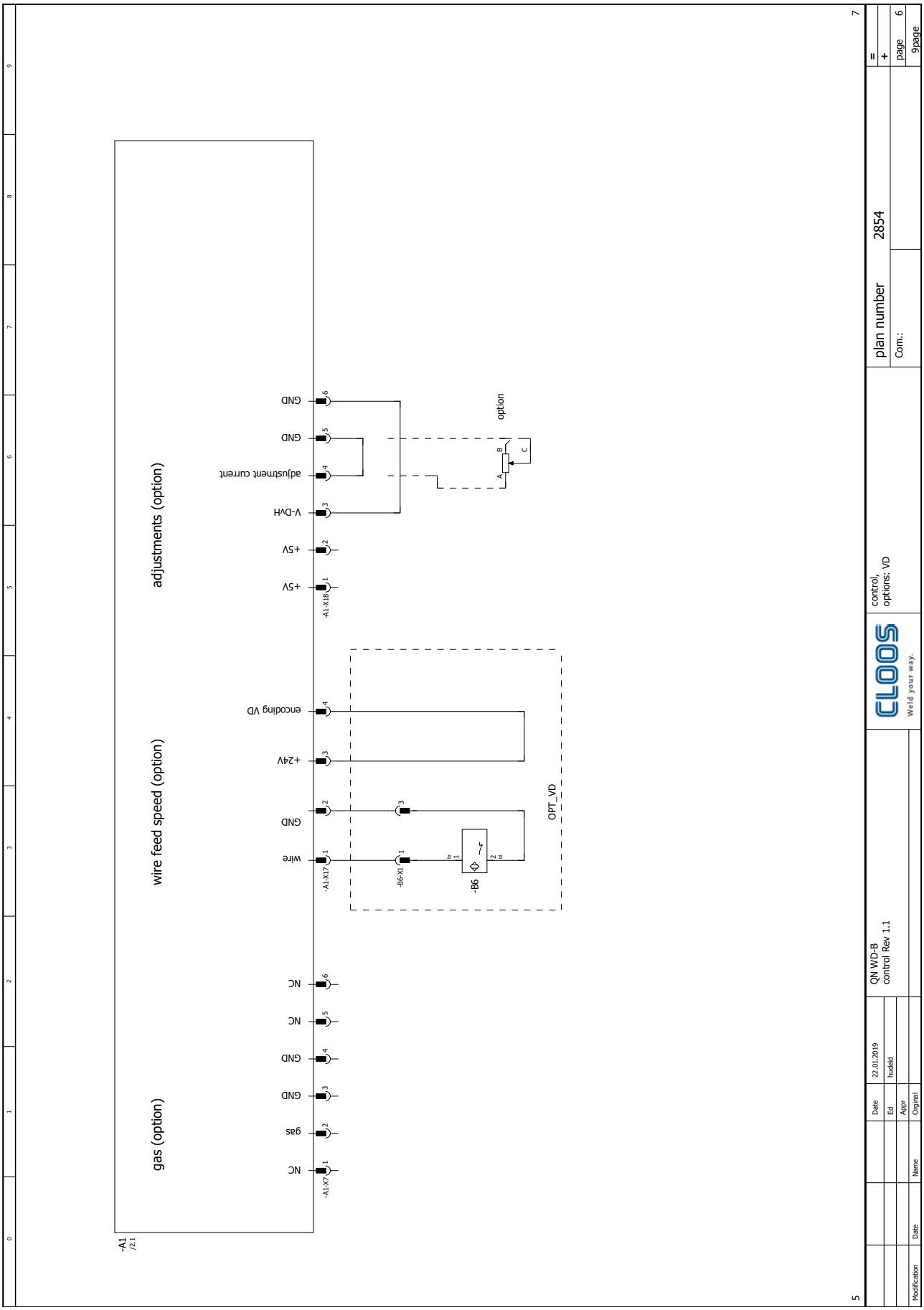
9.9 Circuit diagram controller QWD-B

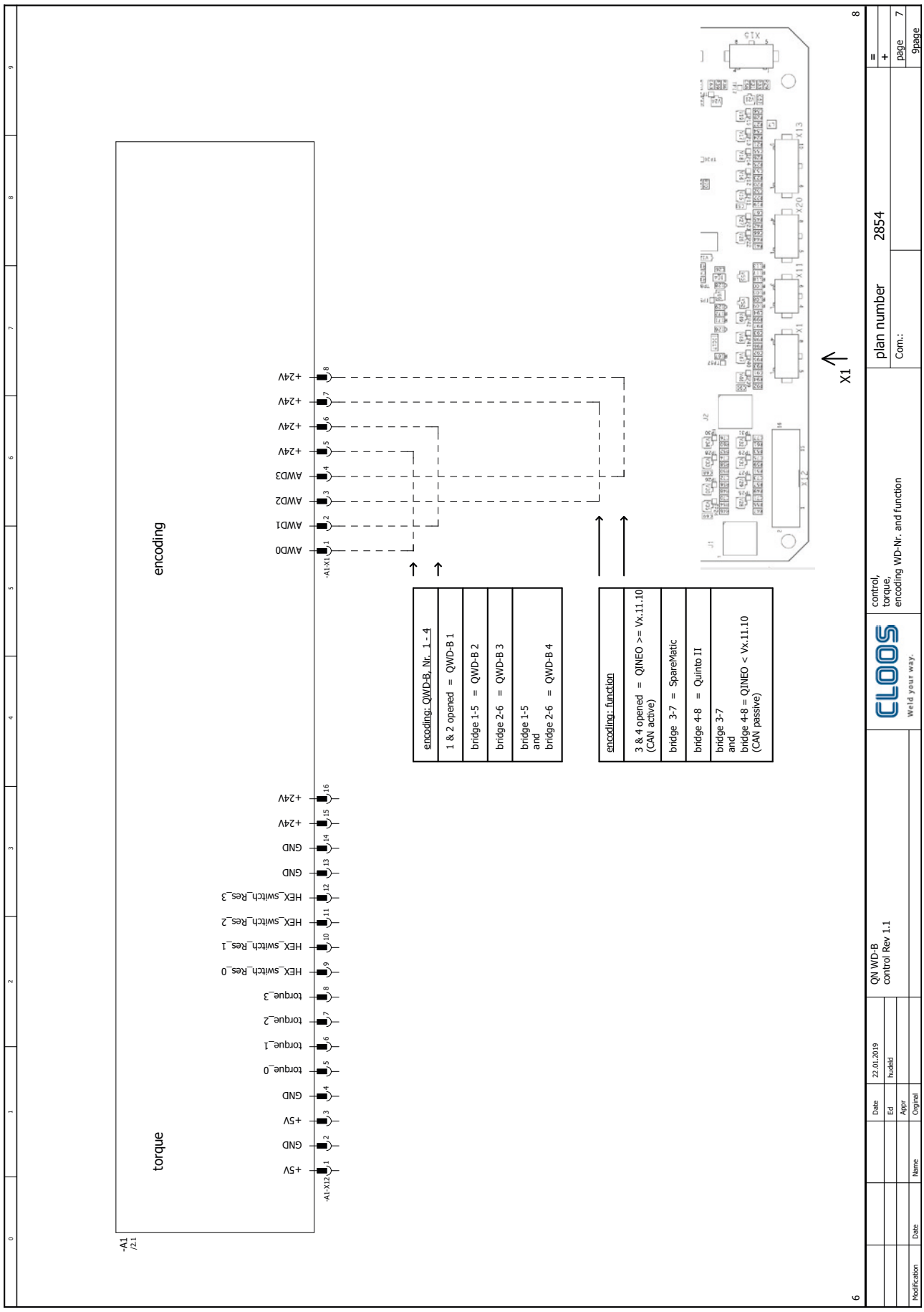


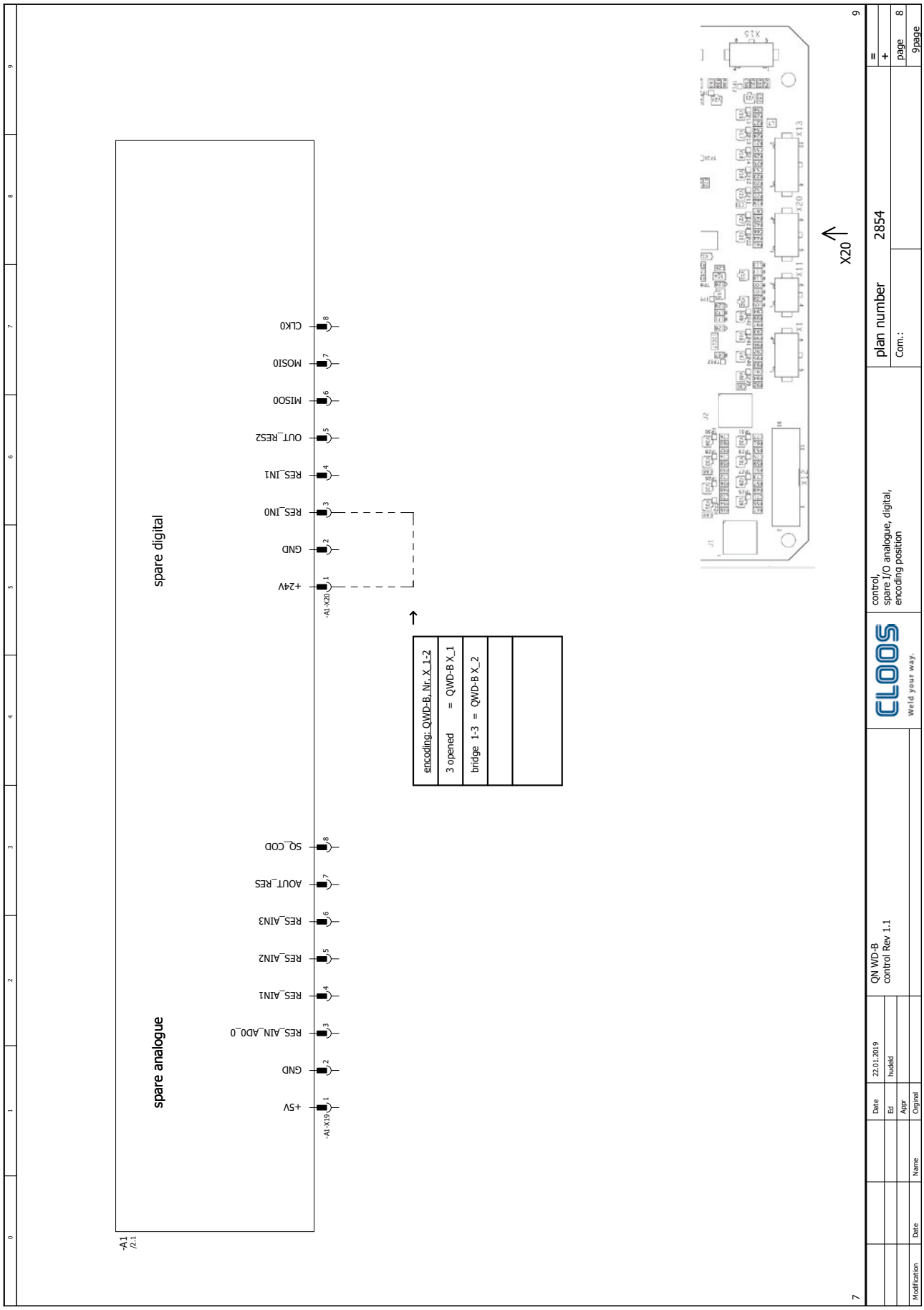

CAN
inputs (button)
outputs digital
-A1
/2:1
-A1-X14
OUT LED OK
+24V
OUT LED ERROR
+24V
OUT RES0
+15V
OUT RES1
+15V
-A1-X13
wire from manual
+24V
(teach)
+24V
wire return (option)
+24V
wire feed, fast (option)
+24V
spare 4
+24V
-A1-X6
+24V
GND
CAN1_L1
CAN1_H1
CAN1_L2
CAN1_H2
-P1
gn
OK
-P2
rt
ERROR
-S1 E
-S2 E
13
14
QN WD-B
control Rev 1.1
Date
22.01.2019
Ed
hudeld
Appr
Original
Name
Date
Modification
CLOOS
Weld your way.
control,
LED, button
plan number
2854
Com.:
page
3
9page


-A1
/2:1
encoder
motor
GND
channel B
channel A
+5V
GND
NC
-A1-X11
motor +
motor +
motor -
motor -
-A1-X2
black
red
M3
QN WD-B
control Rev 1.1
CLOOS
Weld your way.
control,
motor
plan number
2854
Com.:
page
4
9page
2000.2023
03.08.16
22.01.2019
hudeld
Name
Date
Original
Modification


-A1
/2.1
water: flow, temperature (option)
wire control (option)
signal
GND
+15V
NTC
GND
NC
+24V
C_W
-A1-X15
contact 1
contact 2
C-WEC_C
+24V
C-WEC_R
wire yes
+24V
GND
-A1-X5
X50
1X50
OPT_WEC
-B7
-B7-W1
B7-X1
BL
BR
SW
control,
options: WEC
plan number
2854
Com.:
page
5
9page
QN WD-B
control Rev 1.1
hudeld, QN-1320
Date
30.09.2020
Ed
Hudeld
Appr
Orginal
Name
Date
Modification
10.03.20
20004478


-A1
/2.1
gas (option)
wire feed speed (option)
adjustments (option)
NC
gas
GND
GND
GND
NC
NC
-A1-X7
wire
GND
+24V
encoding VD
-A1-X17
-B6-X1
-B6
OPT_VD
+5V
+5V
V-DVH
adjustment current
GND
GND
-A1-X18
option
A
B
C
QN WD-B
control Rev 1.1
22.01.2019
hudeld
control,
options: VD
plan number
2854
Com.:
page
6
9page
Modification
Date
Name
Orginal
Appr
Ed
Date


-A1
/2.1
encoding
torque
-A1-X12
+5V
GND
+5V
GND
torque_0
torque_1
torque_2
torque_3
HEX_switch_Res_0
HEX_switch_Res_1
HEX_switch_Res_2
HEX_switch_Res_3
GND
GND
+24V
+24V
-A1-X11
AWD0
AWD1
AWD2
AWD3
+24V
+24V
+24V
+24V
encoding: QWD-B, Nr. 1 - 4
1 & 2 opened = QWD-B 1
bridge 1-5 = QWD-B 2
bridge 2-6 = QWD-B 3
bridge 1-5 and bridge 2-6 = QWD-B 4
encoding: function
3 & 4 opened = QINEO >= Vx.11.10 (CAN active)
bridge 3-7 = SpareMatic
bridge 4-8 = Quinto II
bridge 3-7 and bridge 4-8 = QINEO < Vx.11.10 (CAN passive)
X1
QN WD-B
control Rev 1.1
CLOOS
Weld your way.
control, torque, encoding WD-Nr. and function
plan number 2854
Com.:
page 7
9page
Date 22.01.2019
Ed hudeld
Appr
Original
Name
Date
Modification


spare digital
spare analogue
-A1
/2.1
-A1-X19
-A1-X20
+5V
GND
RES_AIN_AD0_0
RES_AIN1
RES_AIN2
RES_AIN3
AOUT_RES
SQ_COD
+24V
GND
RES_IN0
RES_IN1
OUT_RES2
MISO0
MOSI0
CLK0
encoding: QWD-B, Nr. X_1-2
3 opened = QWD-B X_1
bridge 1-3 = QWD-B X_2
X20
QN WD-B
control Rev 1.1
Date 22.01.2019
Ed hudeld
Appr
Original
Name
Date
Modification
CLOOS
Weld your way.
control,
spare I/O analogue, digital,
encoding position
plan number 2854
Com.:
page 8
9page

9.10 Parts list QN-WD-B controller

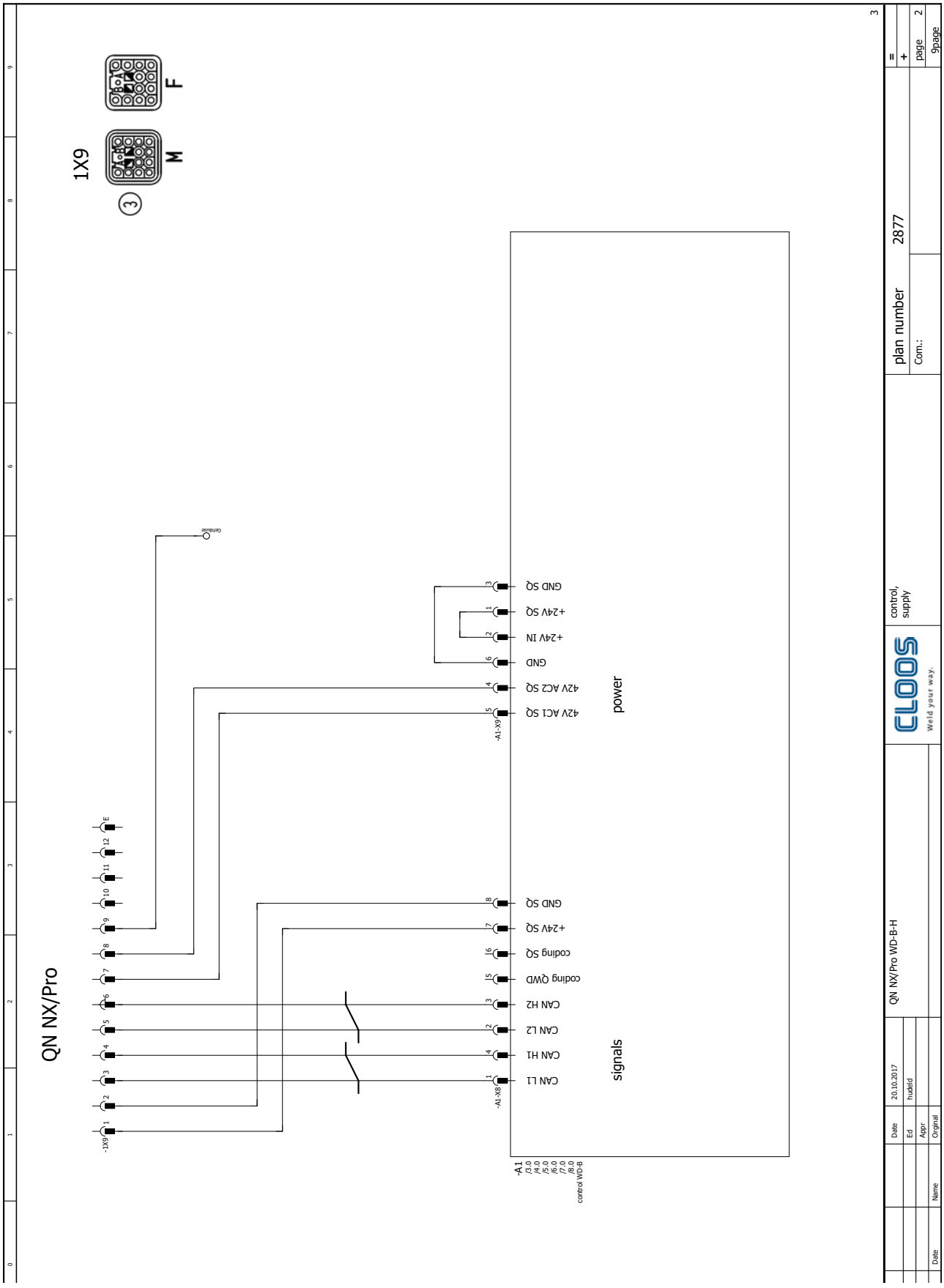
9.10.1 Diagram number 2854 up to serial number 287

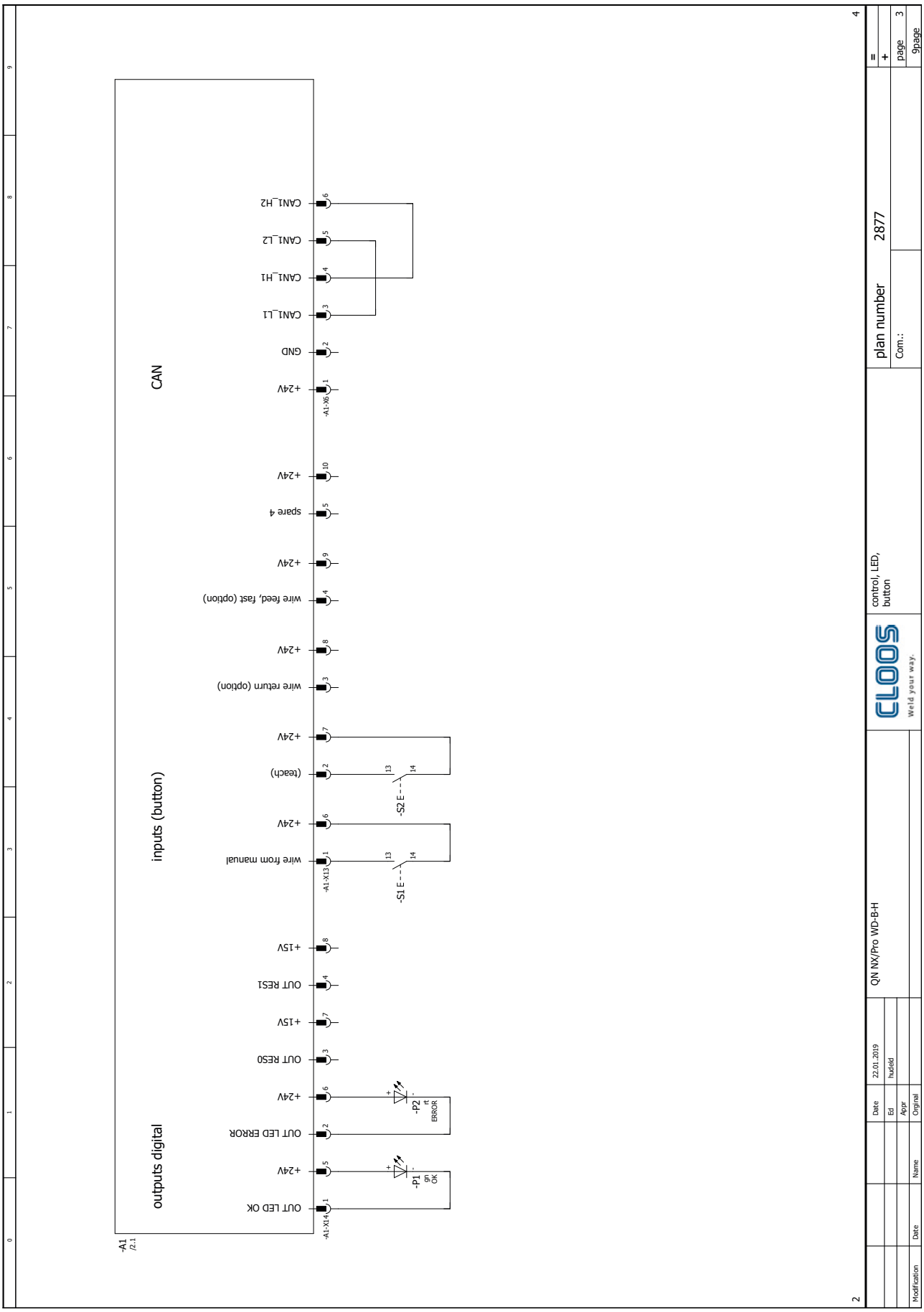
A1	QN-WD-B, controller	0033334600
A1-X1	8 pole Bushing housing MICRO MNL	0011043108
A1-X1	Bushing MICRO MNL 24-20AWG	0011043100
A1-X2	4 pole Bushing housing Mini Universal MNL	0011043004
A1-X2	Bushing Mini Universal 20-16AWG	0011043000
A1-X6	6 pole Bushing housing MICRO MNL	0011043106
A1-X6	Bushing MICRO MNL 24-20AWG	0011043100
A1-X8	8 pole Bushing housing MICRO MNL	0011043108
A1-X8	Bushing MICRO MNL 24-20AWG	0011043100
A1-X9	6 pole Bushing housing Mini Universal MNL	0011043006
A1-X9	Bushing Mini Universal 20-16AWG	0011043000
A1-X13	10 pole Bushing housing MICRO MNL	0011043110
A1-X13	Bushing MICRO MNL 24-20AWG	0011043100
A1-X14	8 pole Bushing housing MICRO MNL	0011043108
A1-X14	Bushing MICRO MNL 24-20AWG	0011043100
A1-X15	8 pole Bushing housing MICRO MNL	0011043108
A1-X15	Bushing MICRO MNL 24-20AWG	0011043100
A1-X18	6 pole Bushing housing MICRO MNL	0011043106
A1-X18	Bushing MICRO MNL 24-20AWG	0011043100
A1-X19	8 pole Bushing housing MICRO MNL	0011043108
A1-X19	Bushing MICRO MNL 24-20AWG	0011043100
A1-X20	8 pole Bushing housing MICRO MNL	0011043108
A1-X20	Bushing MICRO MNL 24-20AWG	0011043100
M3	Gear motor 24V DC	0024142865
OPT_VD-A1-X17	4 pole Bushing housing MICRO MNL	0011043104
OPT_VD-A1-X17	Bushing MICRO MNL 24-20AWG	0011043100
OPT_VD-B6	Sensor including HD pressure roller clip, right	0043530100
OPT_VD-B6-X1	Flange socket 3pol.	0010053400
OPT_WEC-A1-X5	8 pole Bushing housing MICRO MNL	0011043108
OPT_WEC-A1-X5	Bushing MICRO MNL 24-20AWG	0011043100
OPT_WEC-B7	Ring sensor inductive	0007050059
OPT_WEC-B7-W1	Cable socket 4 pole/5m	0007050020
OPT_WEC-X50	Machine socket 6 pole + PE	0010070600
OPT_WEC-1X50	Plug 6 pole + PE	0010070700
P1	LED green, 24V	0020030130
P2	LED red, 24V	0020030131
S1	Button	0008010032
S2	Button	0008010032
3X8	Machine plug 19+PE, C16-3, size 2 C	0011043203
3X8	Crimp contact pin 0,35-0,5mm², C16-3	0011043205

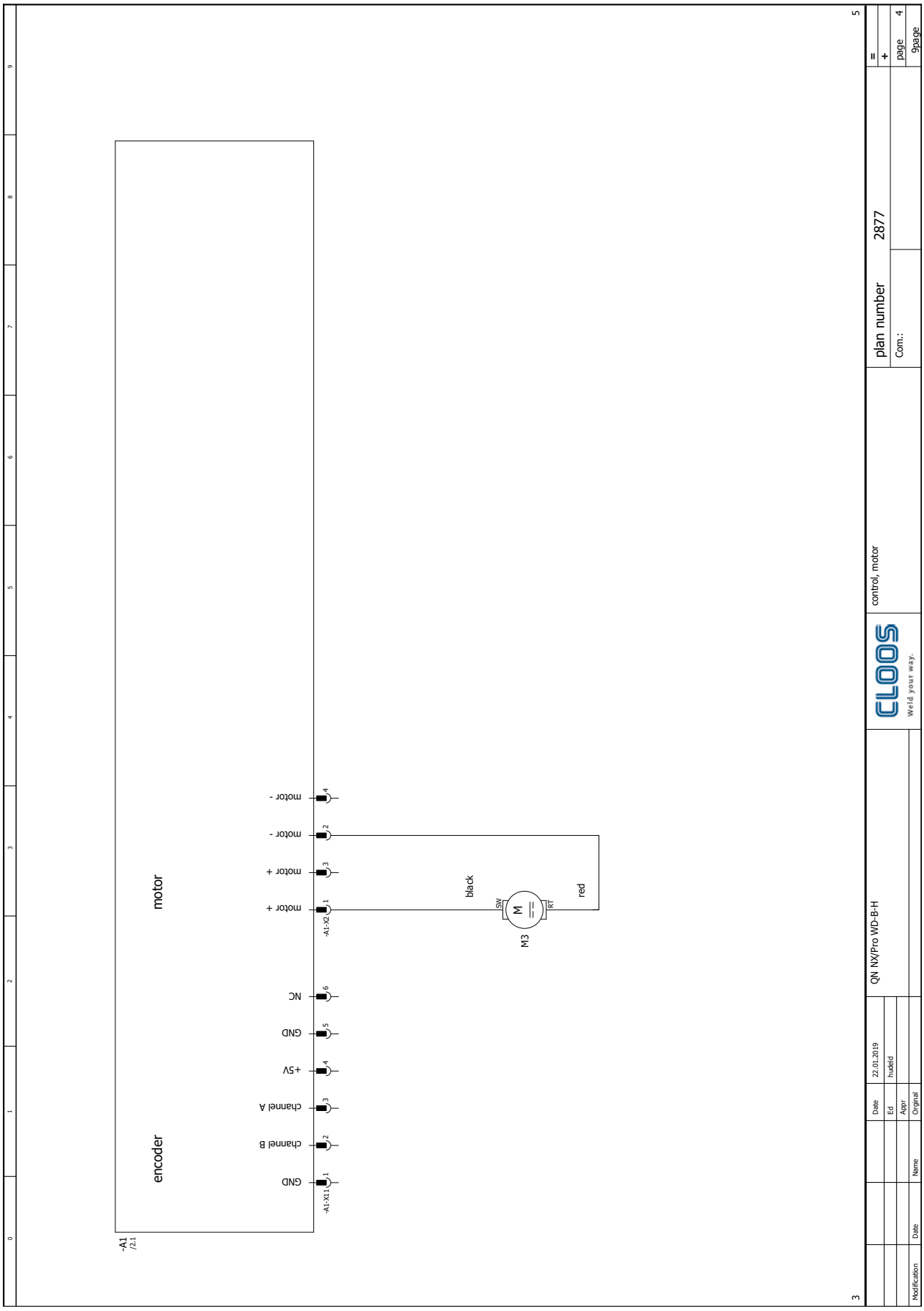
9.10.2 Diagram number 2854 from serial number 288 on

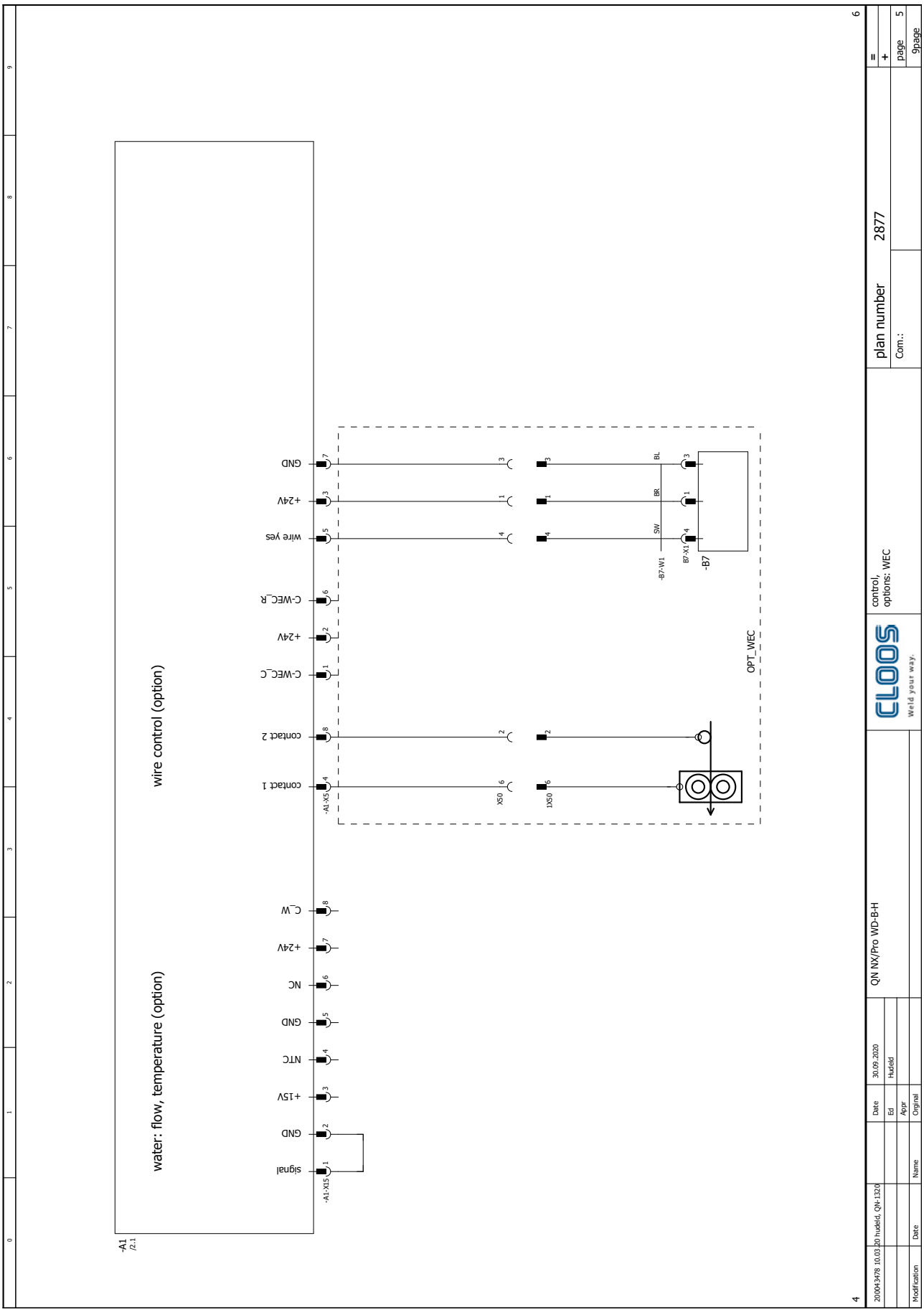
A1	QN WD-B, control	0033334600
A1-X1	8pol. housing for bushes MICRO MNL	0011043108
A1-X1	bush MICRO MNL 24-20AWG	0011043100
A1-X2	4pol. housing for bushes Mini Universal MNL	0011043004
A1-X2	bush Mini Universal 20-16AWG	0011043000
A1-X6	6pol. housing for bushes MICRO MNL	0011043106
A1-X6	bush MICRO MNL 24-20AWG	0011043100
A1-X8	8pol. housing for bushes MICRO MNL	0011043108
A1-X8	bush MICRO MNL 24-20AWG	0011043100
A1-X9	6pol. housing for bushes Mini Universal MNL	0011043006
A1-X9	bush Mini Universal 20-16AWG	0011043000
A1-X13	10pol. housing for bushes MICRO MNL	0011043110
A1-X13	bush MICRO MNL 24-20AWG	0011043100
A1-X14	8pol. housing for bushes MICRO MNL	0011043108
A1-X14	bush MICRO MNL 24-20AWG	0011043100
A1-X15	8pol. housing for bushes MICRO MNL	0011043108
A1-X15	bush MICRO MNL 24-20AWG	0011043100
A1-X18	6pol. housing for bushes MICRO MNL	0011043106
A1-X18	bush MICRO MNL 24-20AWG	0011043100
A1-X19	8pol. housing for bushes MICRO MNL	0011043108
A1-X19	bush MICRO MNL 24-20AWG	0011043100
A1-X20	8pol. housing for bushes MICRO MNL	0011043108
A1-X20	bush MICRO MNL 24-20AWG	0011043100
M3	gear motor 24V DC Ø63 P52 i=6,75	0024144000
OPT_VD-A1-X17	4pol. housing for bushes MICRO MNL	0011043104
OPT_VD-A1-X17	bush MICRO MNL 24-20AWG	0011043100
OPT_VD-B6	pressure roller bow right HD + sensor	0043530100
OPT_VD-B6-X1	flange-socket 3pol.	0010053400
OPT_WEC-A1-X5	8pol. housing for bushes MICRO MNL	0011043108
OPT_WEC-A1-X5	bush MICRO MNL 24-20AWG	0011043100
OPT_WEC-B7	ring sensor inductive	0007050059
OPT_WEC-B7-W1	cable-box M12x1 bracket 5m	0007050020
OPT_WEC-X50	plug appliance 6pol.+PE	0010070600
OPT_WEC-1X50	plug 6pol.+PE	0010070700
P1	LED green, 24V	0020030130
P2	LED red 24V/DC	0020030131
S1	button	0008010032
S2	button	0008010032
3X8	plug 19+PE, C16-3, size 2 C	0011043203
3X8	crimp contact pin 0,35-0,5mm², C16-3	0011043205

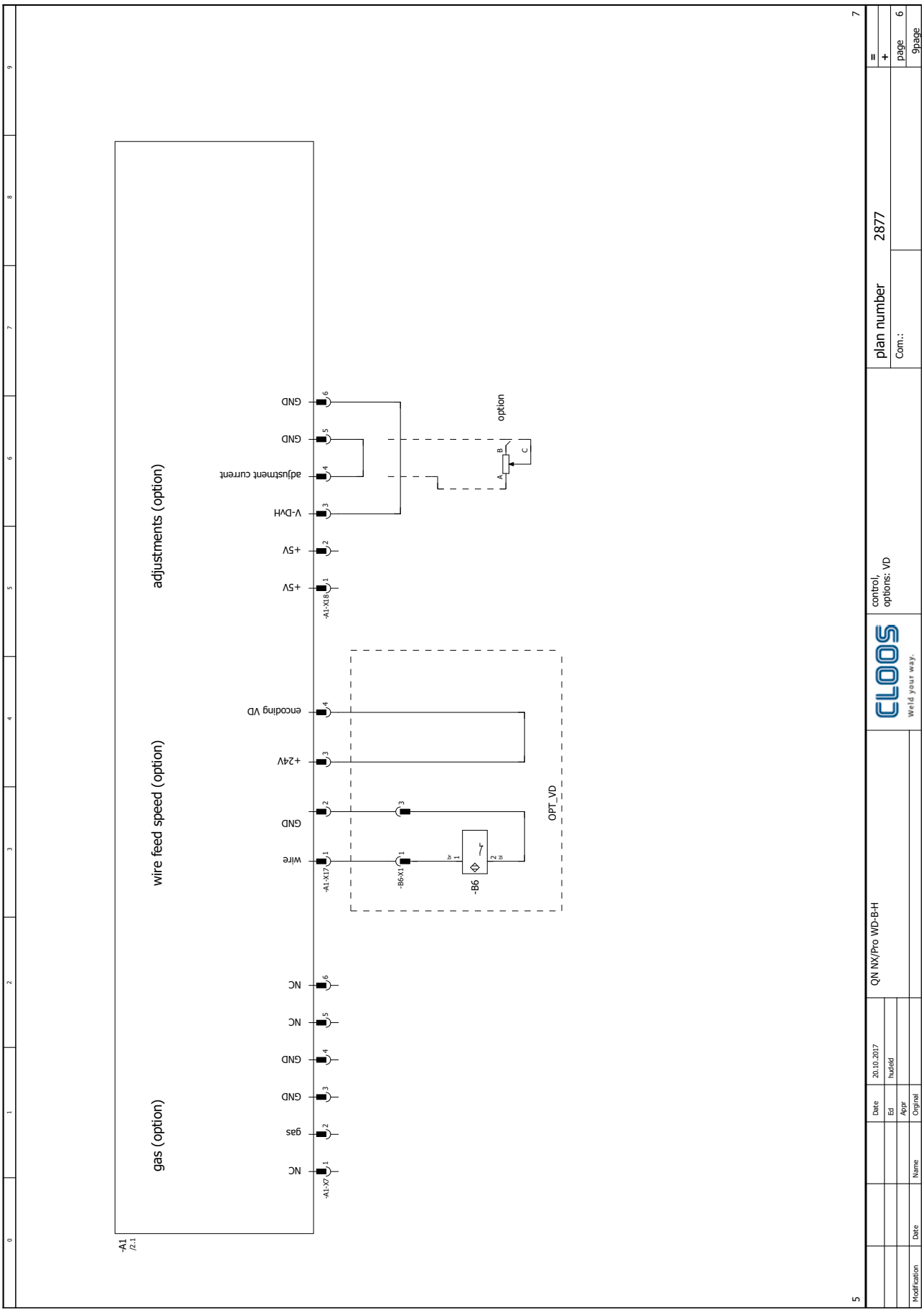
9.11 Circuit diagram controller QWD-B-H

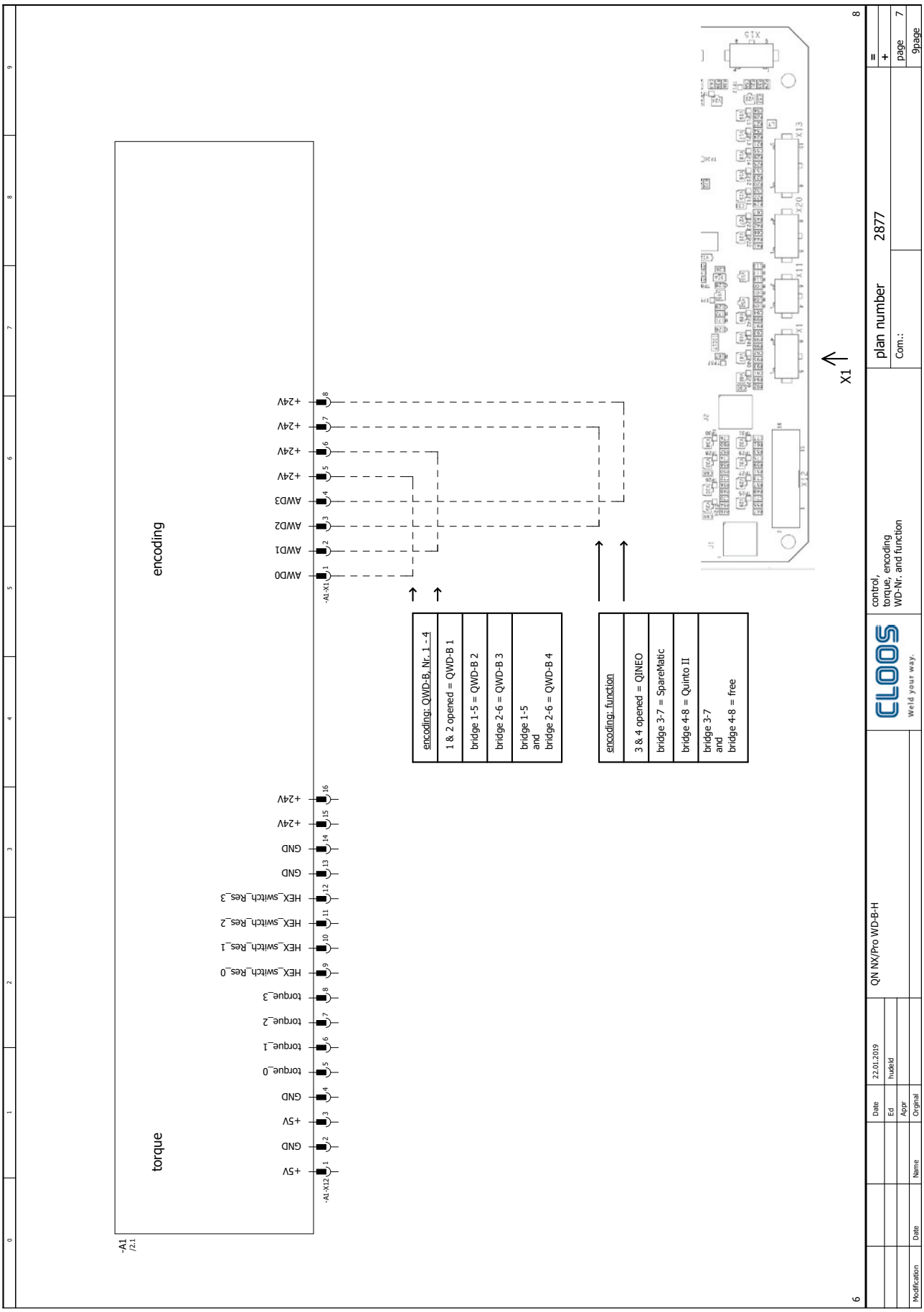


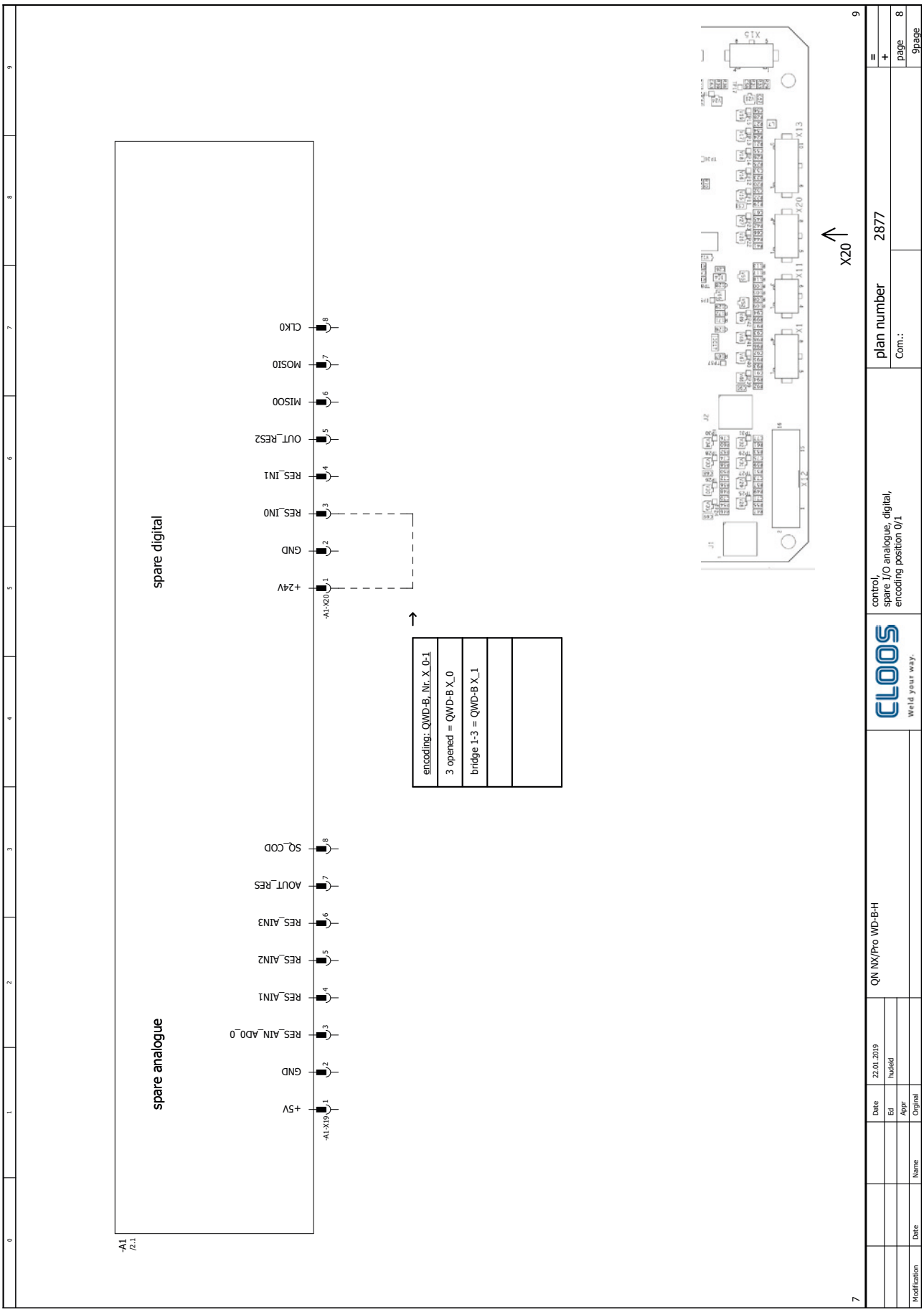

-A1
/2.1
outputs digital
OUT LED OK
+24V
OUT LED ERROR
+24V
OUT RES0
+15V
OUT RES1
+15V
inputs (button)
wire from manual
+24V
(teach)
+24V
wire return (option)
+24V
wire feed, fast (option)
+24V
spare 4
+24V
CAN
+24V
GND
CAN1_L1
CAN1_H1
CAN1_L2
CAN1_H2
-A1-X14
-A1-X13
-A1-X6
-P1
gn
OK
-P2
rt
ERROR
-S1 E
-S2 E
13
14
QN NX/Pro WD-B-H
Date
Ed
Appr
Original
Name
Date
Modification
22.01.2019
hudeld
CLOOS
Weld your way.
control, LED, button
plan number
2877
Com.:
page
3
9page
=
+


-A1
/2:1
motor
encoder
GND
channel B
channel A
+5V
GND
NC
-A1-X11
motor +
motor +
motor -
motor -
-A1-X2
black
red
M3
control, motor
QN NX/Pro WD-B-H
plan number 2877
Com.:
page 4
9page
Date
Name
Modification
Orginal
Appr
Ed
22.01.2019
hudeld
CLOOS
Weld your way.


water: flow, temperature (option)
wire control (option)
-A1
/2.1
signal
GND
+15V
NTC
GND
NC
+24V
C_W
-A1-X1S
contact 1
contact 2
C-WEC_C
+24V
C-WEC_R
GND
+24V
wire yes
X50
1X50
-B7-W1
BP-X1
-B7
OPT_WEC
control,
options: WEC
plan number
2877
Com.:
page
5
9page
QN NX/Pro WD-B-H
Date
30.09.2020
Ed
Hudeld
Appr
Original
Name
Date
Modification
20004-3478 10.03.20 hudeld, QN-1320


-A1
/2.1
gas (option)
wire feed speed (option)
adjustments (option)
NC
gas
GND
GND
GND
NC
NC
NC
-A1-X7
wire
GND
+24V
encoding VD
+5V
+5V
V-DVH
adjustment current
GND
GND
-A1-X17
-A1-X18
-B6-X1
-B6
OPT_VD
option
A
B
C
plan number 2877
Com.:
control, options: VD
QN NX/Pro WD-B-H
Date 20.10.2017
Ed hudeld
Appr
Original
Name
Date
Modification
page 6
9page


-A1
/2.1
torque
encoding
-A1-X12
+5V
GND
+5V
GND
torque_0
torque_1
torque_2
torque_3
HEX_switch_Res_0
HEX_switch_Res_1
HEX_switch_Res_2
HEX_switch_Res_3
GND
GND
+24V
+24V
-A1-X1
AWD0
AWD1
AWD2
AWD3
+24V
+24V
+24V
+24V
encoding: QWD-B, Nr. 1 - 4
1 & 2 opened = QWD-B 1
bridge 1-5 = QWD-B 2
bridge 2-6 = QWD-B 3
bridge 1-5 and bridge 2-6 = QWD-B 4
encoding: function
3 & 4 opened = QINEO
bridge 3-7 = SpareMatic
bridge 4-8 = Quinto II
bridge 3-7 and bridge 4-8 = free
X1
QN NX/Pro WD-B-H
CLOOS
Weld your way.
control, torque, encoding WD-Nr. and function
plan number 2877
Com.:
page 7
9page
Date 22.01.2019
Ed hudeld
Appr
Original
Name
Date
Modification


-A1
/2.1
spare analogue
+5V
GND
RES_AIN_AD0_0
RES_AIN1
RES_AIN2
RES_AIN3
AOUT_RES
SQ_COD
-A1-X19
spare digital
+24V
GND
RES_IN0
RES_IN1
OUT_RES2
MISO0
MOSI0
CLK0
-A1-X20
encoding: QWD-B_Nr_X_0-1
3 opened = QWD-B X_0
bridge 1-3 = QWD-B X_1
X20
control,
spare I/O analogue, digital,
encoding position 0/1
plan number
2877
Com.:
page
8
9page
QN NX/Pro WD-B-H
Date
22.01.2019
Ed
hudeld
Appr
Original
Name
Date
Modification

9.12 Parts list QN-WD-B-H controller (diagram number: 2877)

A1	QN WD-B, control	0033334600
A1-X1	8pol. housing for bushes MICRO MNL	0011043108
A1-X1	bush MICRO MNL 24-20AWG	0011043100
A1-X2	4pol. housing for bushes Mini Universal MNL	0011043004
A1-X2	bush Mini Universal 20-16AWG	0011043000
A1-X6	6pol. housing for bushes MICRO MNL	0011043106
A1-X6	bush MICRO MNL 24-20AWG	0011043100
A1-X8	8pol. housing for bushes MICRO MNL	0011043108
A1-X8	bush MICRO MNL 24-20AWG	0011043100
A1-X9	6pol. housing for bushes Mini Universal MNL	0011043006
A1-X9	bush Mini Universal 20-16AWG	0011043000
A1-X13	10pol. housing for bushes MICRO MNL	0011043110
A1-X13	bush MICRO MNL 24-20AWG	0011043100
A1-X14	8pol. housing for bushes MICRO MNL	0011043108
A1-X14	bush MICRO MNL 24-20AWG	0011043100
A1-X15	8pol. housing for bushes MICRO MNL	0011043108
A1-X15	bush MICRO MNL 24-20AWG	0011043100
A1-X18	6pol. housing for bushes MICRO MNL	0011043106
A1-X18	bush MICRO MNL 24-20AWG	0011043100
A1-X19	8pol. housing for bushes MICRO MNL	0011043108
A1-X19	bush MICRO MNL 24-20AWG	0011043100
A1-X20	8pol. housing for bushes MICRO MNL	0011043108
A1-X20	bush MICRO MNL 24-20AWG	0011043100
M3	gear motor 24V DC Ø63 P52 i=6,75	0024144000
OPT_VD-A1-X17	4pol. housing for bushes MICRO MNL	0011043104
OPT_VD-A1-X17	bush MICRO MNL 24-20AWG	0011043100
OPT_VD-B6	pressure roller bow right HD + sensor	0043530100
OPT_VD-B6-X1	flange-socket 3pol.	0010053400
OPT_WEC-A1-X5	8pol. housing for bushes MICRO MNL	0011043108
OPT_WEC-A1-X5	bush MICRO MNL 24-20AWG	0011043100
OPT_WEC-B7	ring sensor inductive	0007050059
OPT_WEC-B7-W1	cable-box M12x1 bracket 5m	0007050020
OPT_WEC-X50	plug appliance 6pol.+PE	0010070600
OPT_WEC-1X50	plug 6pol.+PE	0010070700
P1	LED green, 24V	0020030130
P2	LED red 24V/DC	0020030131
S1	button	0008010032
S2	button	0008010032
1X9	Bulkhead mounted housings HAN3A/7D	0010092510
1X9	pin insert 12pol.	0010092514
1X9	crimp contact pin 0,14-0,37 HAN D	0010091805
1X9	crimp contact pin 0,5 HAN D	0010091804
1X9	coding pin Han Q12	0010092524

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Weld your way.

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