Cod. 006.0001.1900
01/04/2021 V.2.6

WELD THE WORLD

Pioneer Pulse 321MSR

Instruction manual

Translation of original instructions

ENG

INDEX

1 INTRODUCTION

IMPORTANT!

This handbook must be consigned to the user prior to installation and commissioning of the unit.
Read the "General prescriptions for use" handbook supplied separately from this handbook before installing and commissioning the unit.
The meaning of the symbols in this manual and the associated precautionary information are given in the "General prescriptions for use".
If the "General prescriptions for use" are not present, it is mandatory to request a replacement copy from the manufacturer or from your dealer.
Retain these documents for future consultation.

LEGEND

DANGER!

This pictogram warns of danger of death or serious injury.

WARNING!

This pictogram warns of a risk of injury or damage to property.

CAUTION!

This pictogram warns of a potentially hazardous situation.

INFORMATION

This pictogram gives important information concerning the execution of the relevant operations.

➲ This symbol identifies an action that occurs automatically as a result of a previous action.
ⓘ This symbol identifies additional information or a reference to a different section of the manual containing the associated information.
§ This symbol identifies a reference to a chapter of the manual.
***1** The symbol refers to the associated numbered note.

NOTES

The figures in this manual are purely guideline and the images may contain differences with respect to the actual equipment to which they refer.

1.1 INTRODUCTION

Pioneer Pulse 321MSR is a power source for welding.
When combined with a wire feeder it can be used for MIG/MAG welding.

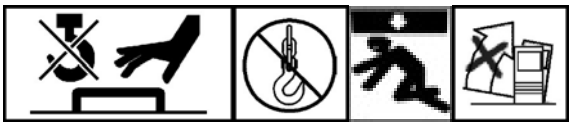
Accessories that can be connected to the unit:
- Wire feeding unit.
- Liquid cooler for torches.

Consult your dealer for an updated list of accessories and the latest available new products.

2 INSTALLATION

DANGER!
Lifting and positioning

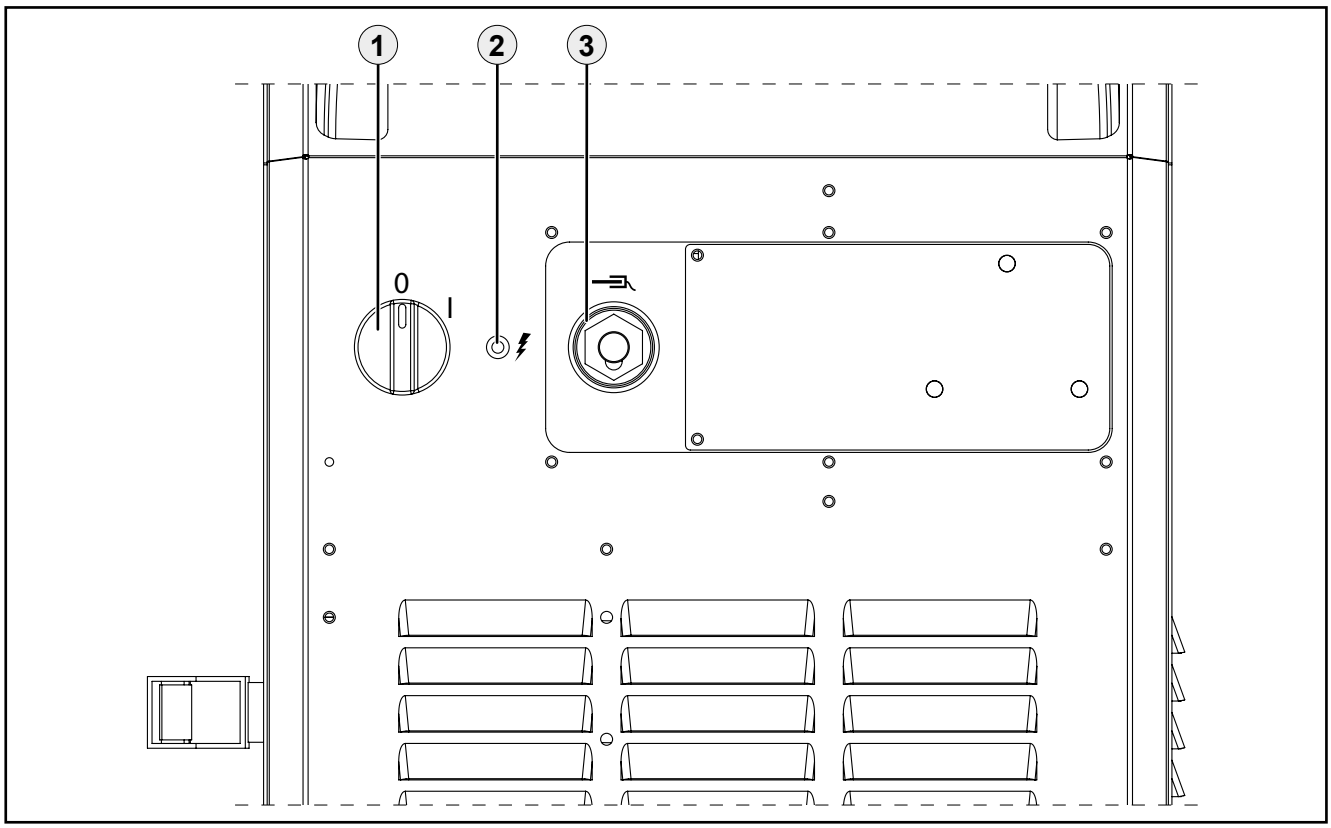
Read the warnings highlighted by the following symbols in the "General prescriptions for use".



2.1 CONNECTIONS TO THE ELECTRICAL MAINS NETWORK

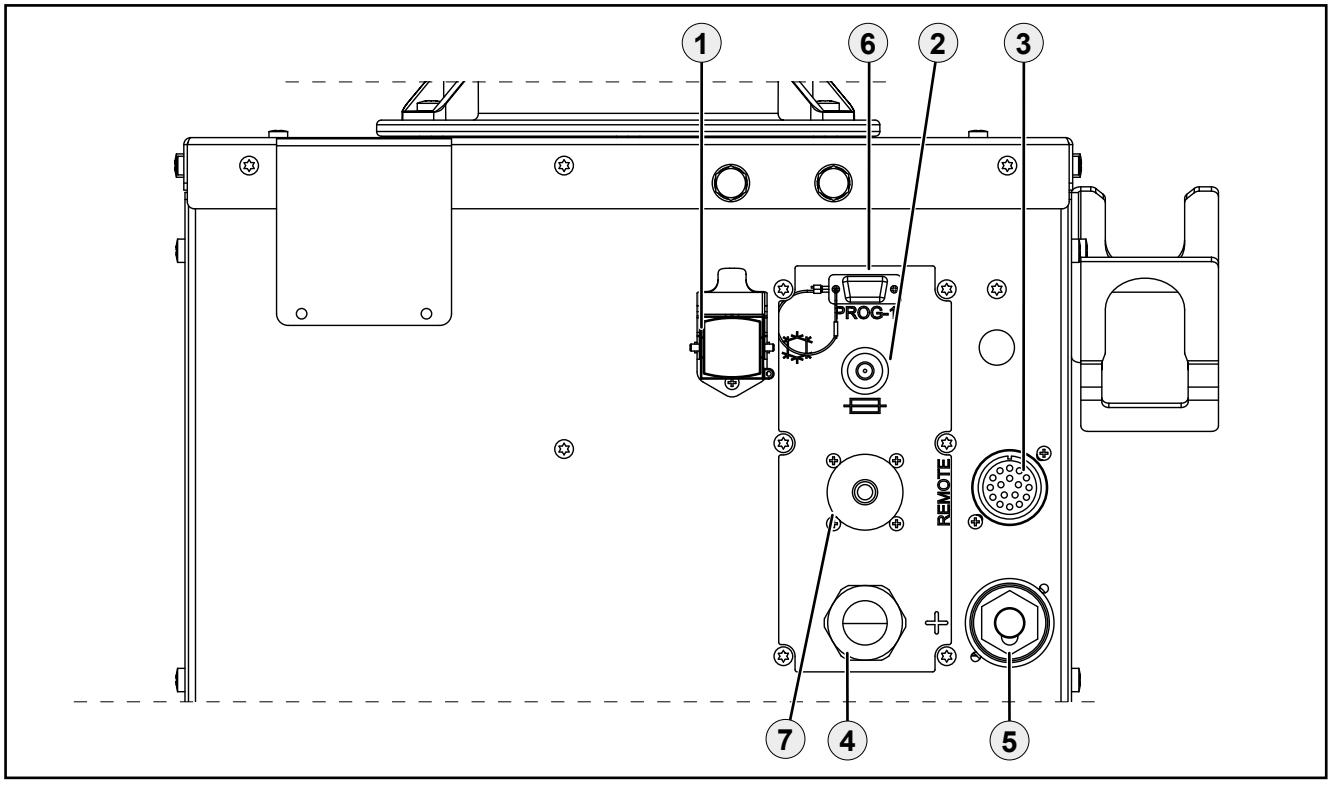
The mains power supply features to which the equipment should be connected are given in chapter "TECHNICAL DATA".
The machine can be connected to motorgenerators provided their voltage is stabilised.
Connect/disconnect the various devices with the machine switched off.

2.2 FRONT PANEL



- ○ Welding power source ON/OFF switch. [Item 1].
- ○ Mains protection ON LED [Item 2]. This LED illuminates if an incorrect operating condition occurs:
  - absence of a phase in the power supply line.
- ○ Earth welding socket [Item 3].

2.3 REAR PANEL



- Cooler power feeding connector [Item 1].
  - Voltage: 230 V a.c.
  - Current output: 0.8 A
  - IP protection rating: IP20 (cap open) / IP66 (cap closed)

DANGER!
High voltage!

If the socket is not connected to any devices always close the cap: presence of hazardous voltage levels!

- Power supply transformer fuse [Item 2].

Type	Delayed acting (T)
Amperage	3.15 A
Voltage	500 V a.c.

- Connector of the bundle of cables for connecting the power source to the remote control device [Item 3].

- Power cable [Item 4].
  - Total length (including internal part): 4,5 m
  - Number and cross section of wires: 4 x 4,0 mm^2
  - Power plug type: not supplied

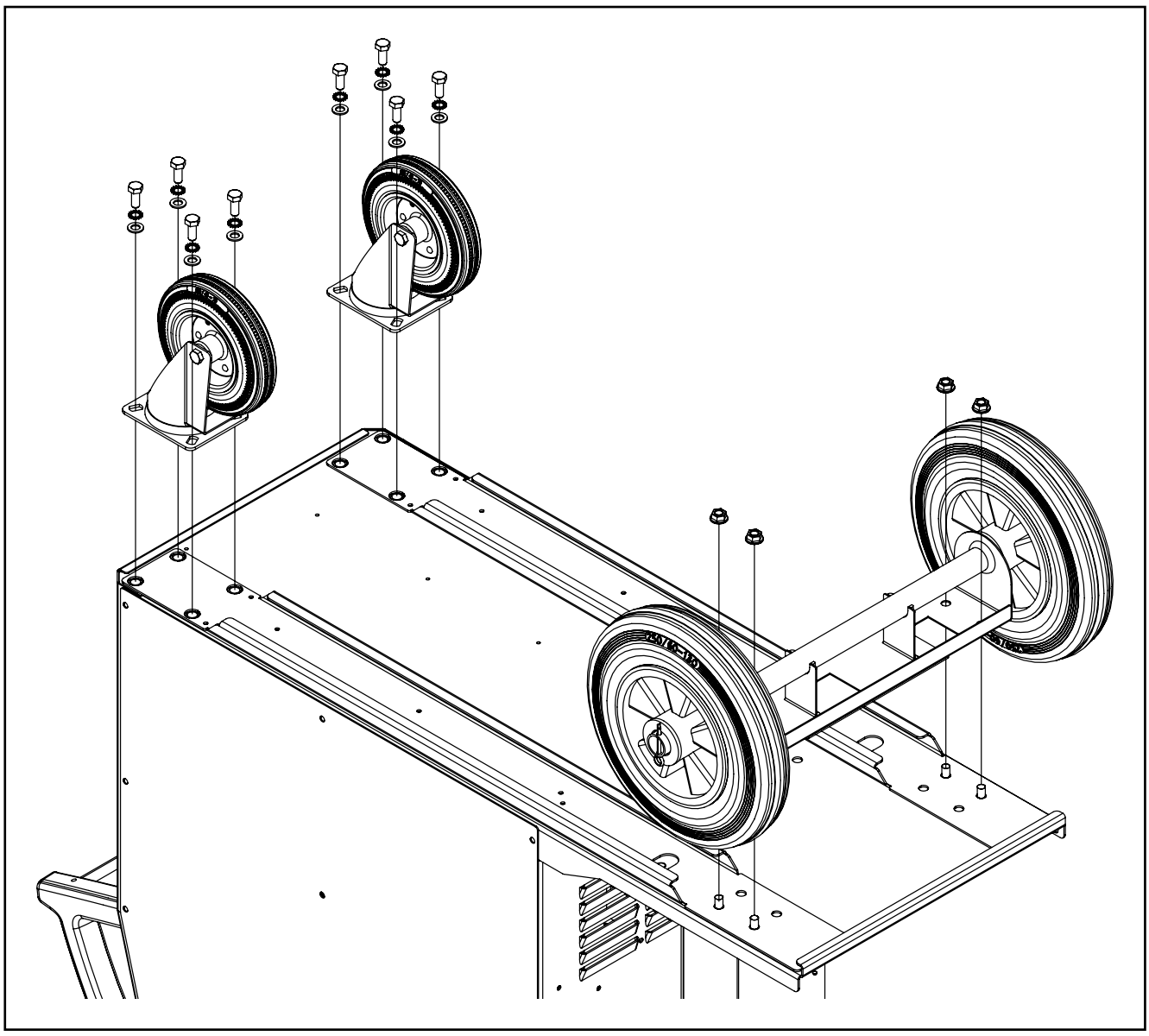
- Socket for connecting the power cable between the power source and the remote control device. [Item 5].

- Connector for connection to the programmer. [Item 6].
  - (Programming connector for the process circuit board). You can update the software of the equipment using the programming kit.

- Signals connector for automatic application. [Item 7].

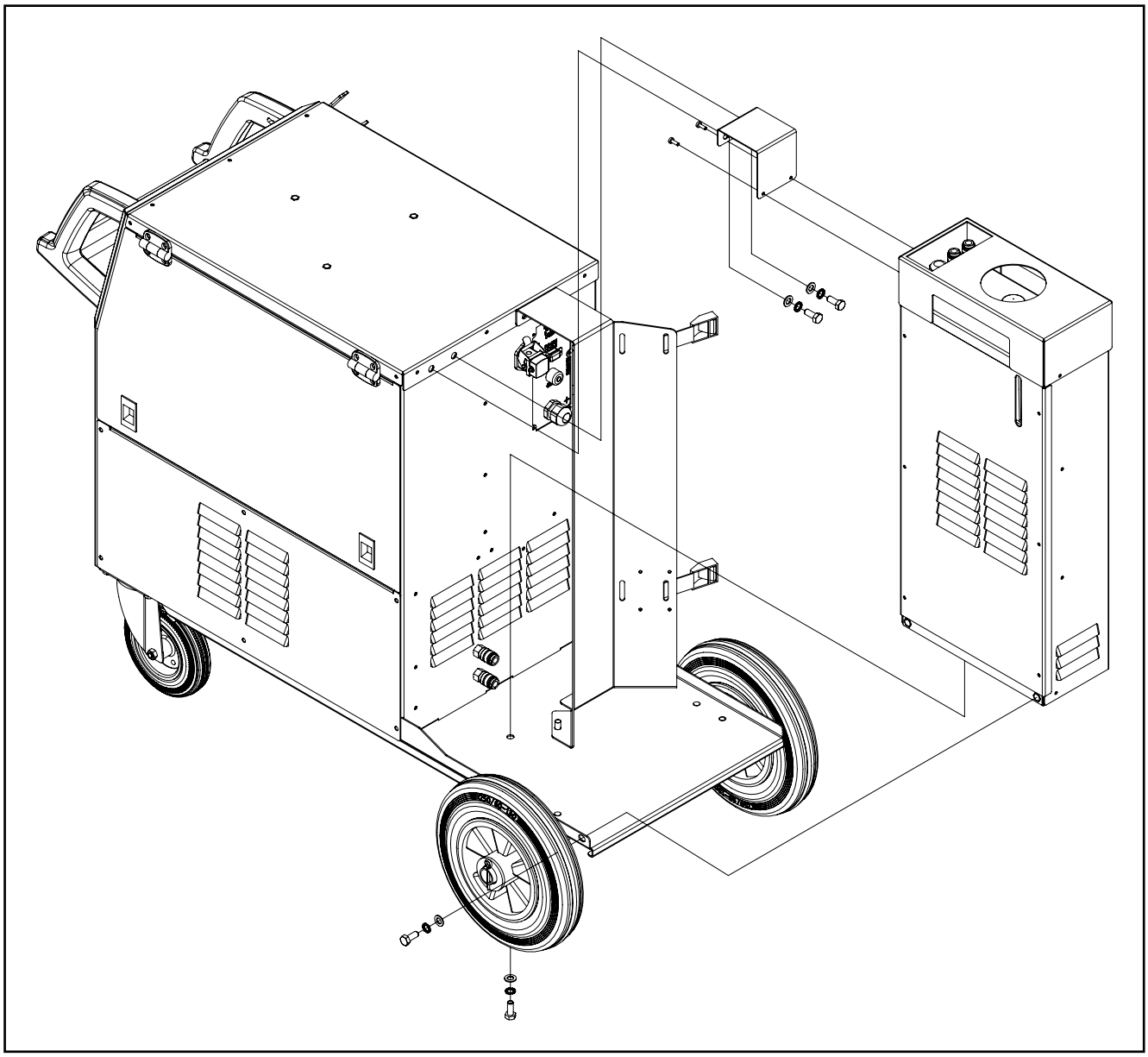
2.4 UNIT ASSEMBLY

1. Fit the front swivel wheels with the supplied screws.
2. Screw the fixed rear wheels to the studs in the base of the unit and secure them with the supplied nuts.



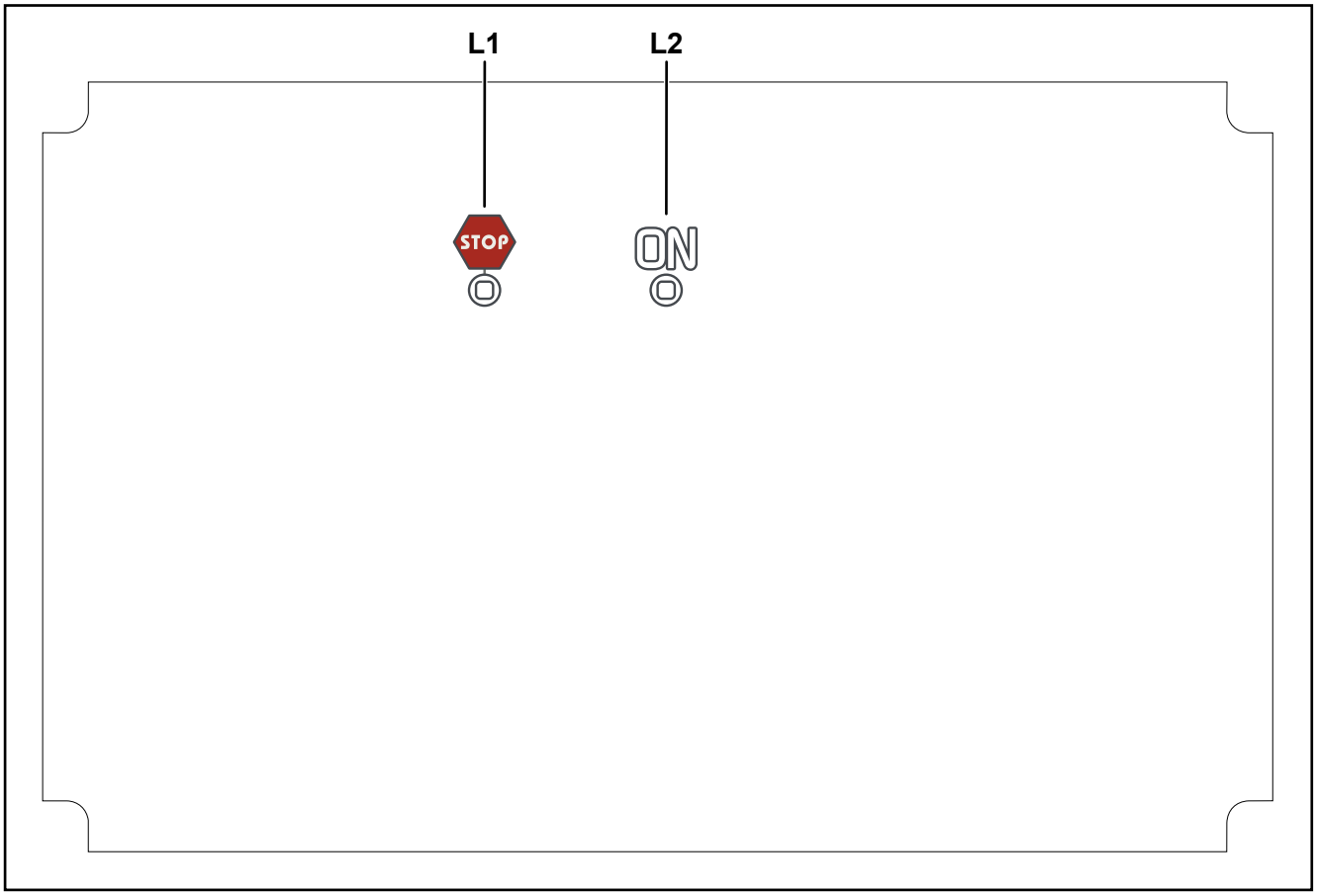
3. Mount the cooler in the relevant location.
4. Screw the cooler fixing bracket to the welding power source chassis using the supplied screws.
5. Screw the base of the cooler to the unit base using the supplied screws.
6. Connect the plug of the cooler power cable to the cooler power socket on the rear panel of the

welding power source.



3 USER INTERFACE

Pioneer Pulse 321MSR



CODE	SYMBOL	DESCRIPTION
L1	STOP	This LED illuminates to show an anomaly in the operating conditions. For information on alarm management, please refer to the relevant section in the manual of the wire feeder.
L2	ON	This LED illuminates to confirm the presence of power on the output sockets.

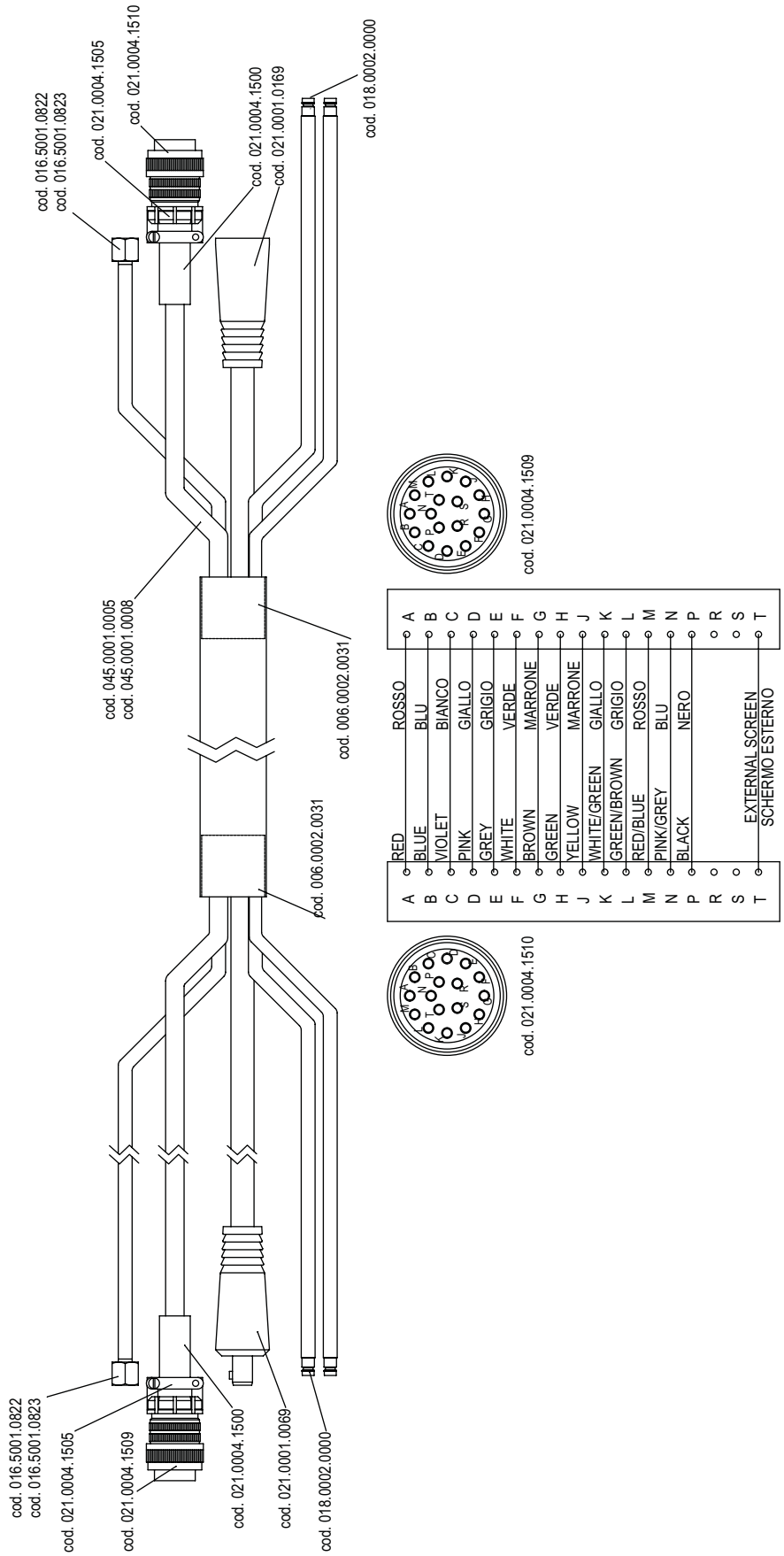
4 TECHNICAL DATA

Directives applied	Waste electrical and electronic equipment (WEEE)
	Electromagnetic compatibility (EMC)
	Low voltage (LVD)
	Restriction of the use of certain hazardous substances (RoHS)
Construction standards	EN 60974-1; EN 60974-10 Class A
Conformity markings	CE Equipment compliant with European directives in force
	S Equipment suitable in an environment with increased hazard of electric shock
	Equipment compliant with WEEE directive
	RoHS Equipment compliant with RoHS directive

4.1 PIONEER PULSE 321MSR

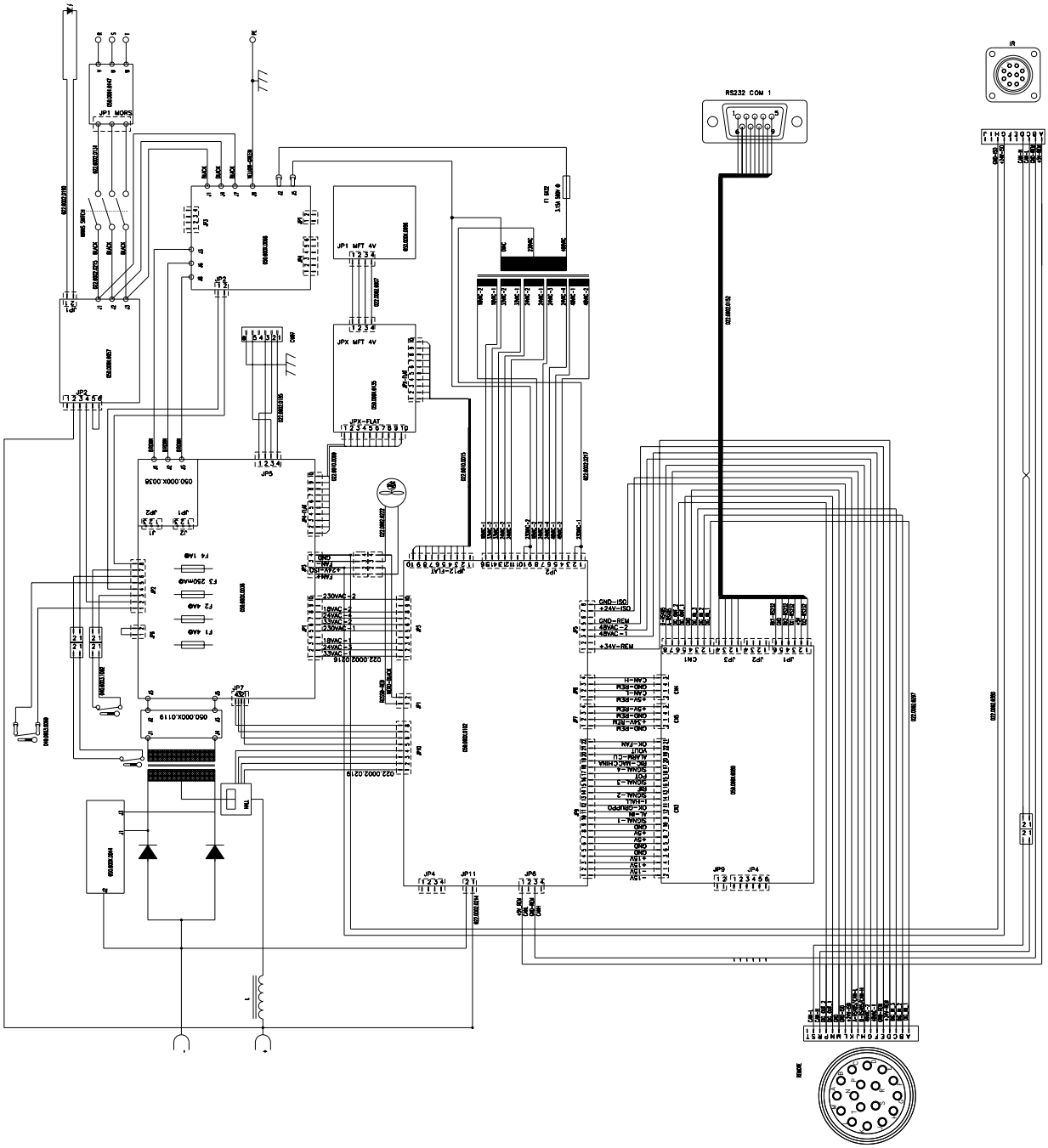
Construction standards	EN 60974-1 EN 60974-10 Class A		
Supply voltage	3 x 400 V~±15 % / 50-60 Hz		
Mains protection	25 A Delayed		
Dimensions (L x D x H)	1110 x 530 x 750 mm		
Weight	78,6 kg		
Insulation class	H		
Protection rating	IP23		
Cooling	AF		
Supply voltage	3 x 400 V~±15 % / 50-60 Hz		
Temperature of the environment	40°C		
Welding mode	MIG/MAG		
Static characteristic			
Work cycle	45 %	60 %	100 %
Welding current	320 A	280 A	230 A
Working voltage	30.0 V	28.0 V	25.5 V
Maximum input power	14.6 KVA	12.3 KVA	9.5 KVA
	10.9 KW	8.9 KW	6.7 KW
Maximum supply current	21.0 A	17.7 A	13.7 A
Maximum effective current	14.1 A	13.7 A	13.7 A
Open-circuit voltage (U_0)	71 V		
Reduced no-load voltage (Ur)	11 V		
Z_{max}	This equipment complies with IEC 61000-3-12 provided that the maximum permissible system impedance is less than or equal to 35 mΩ at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with maximum permissible system impedance less than or equal to 35 mΩ.		

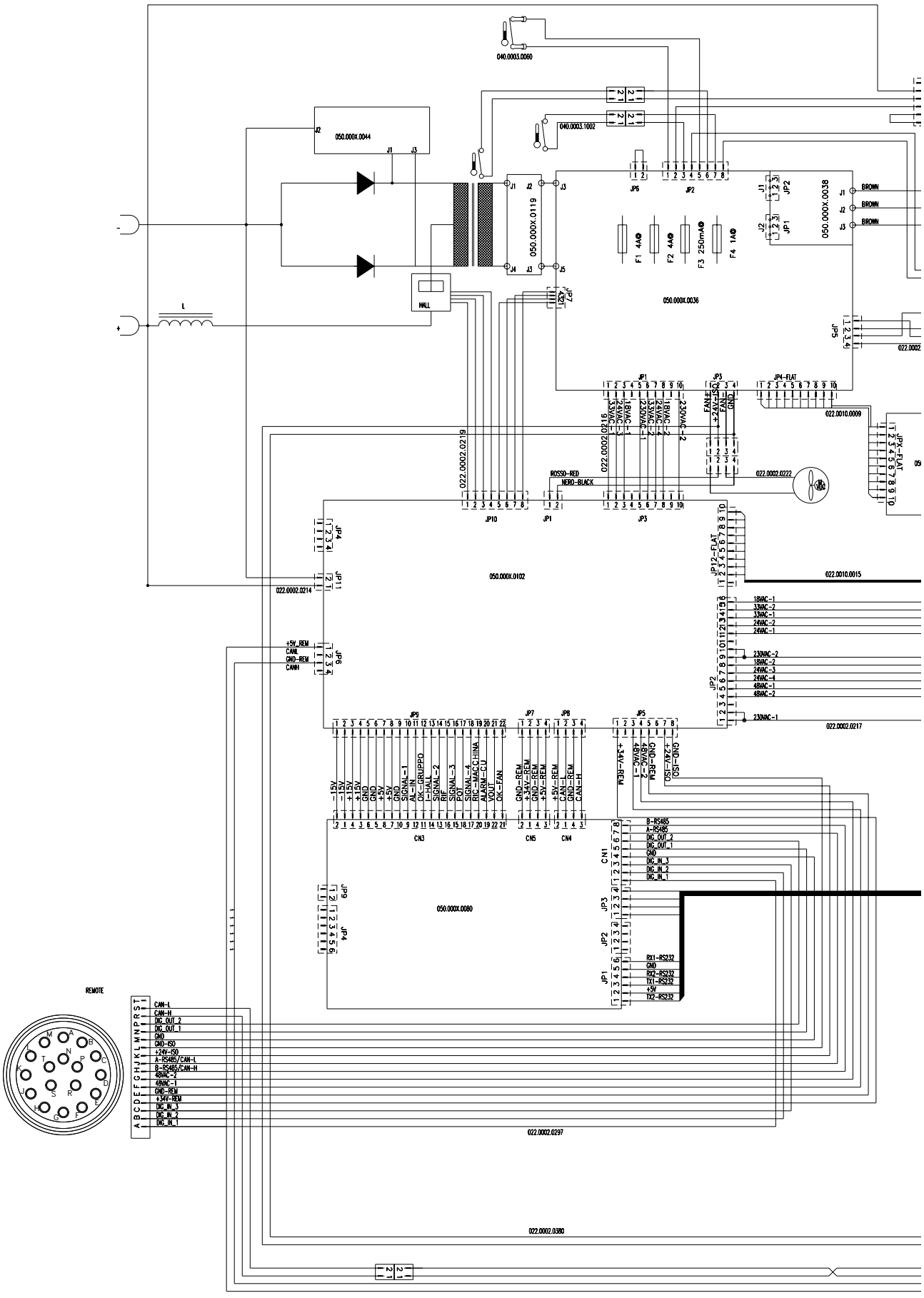
5 Pioneer Pulse 321MSR→WF-104 CABLE

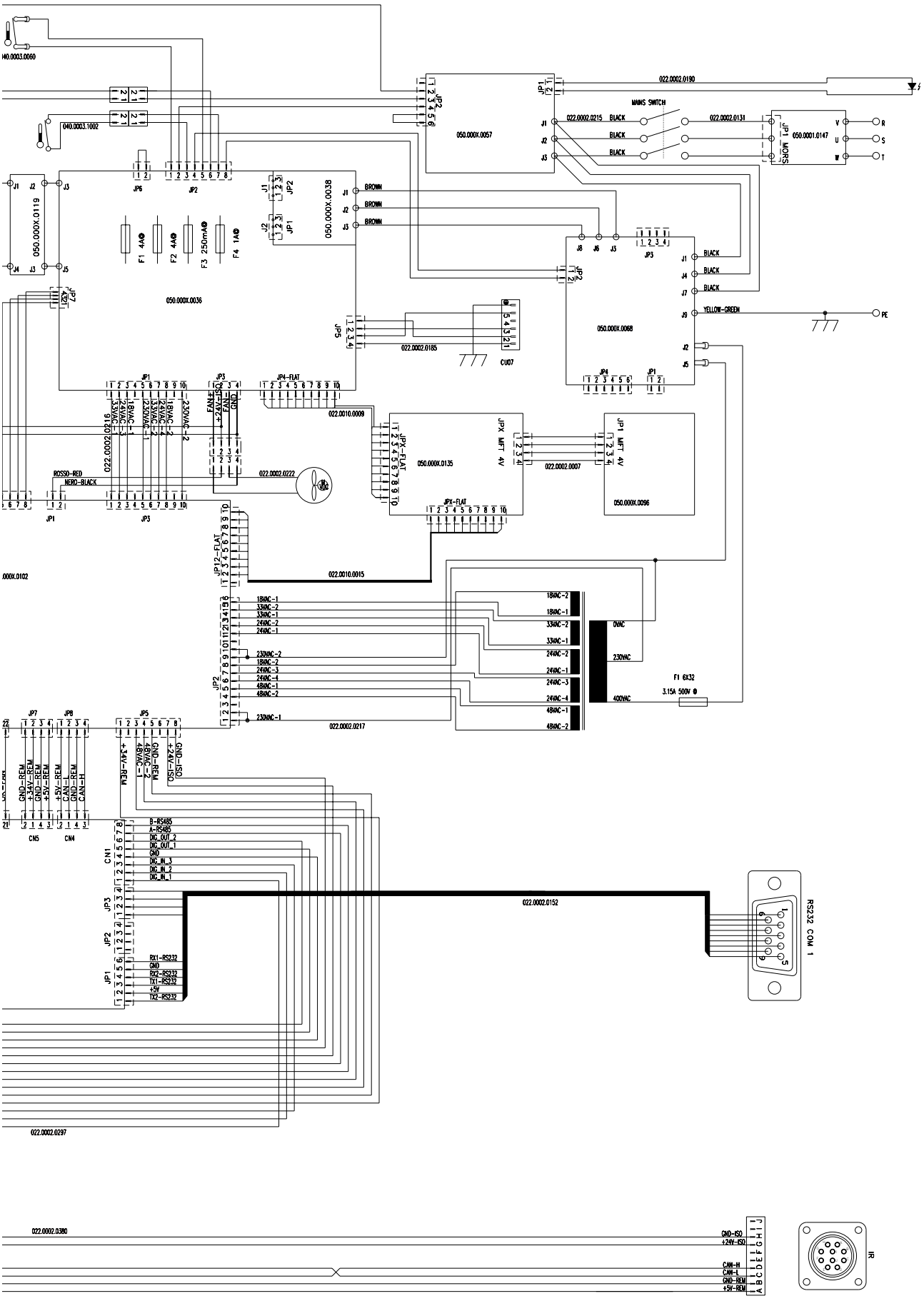


6 ELECTRICAL DIAGRAM

6.1 PIONEER PULSE 321MSR

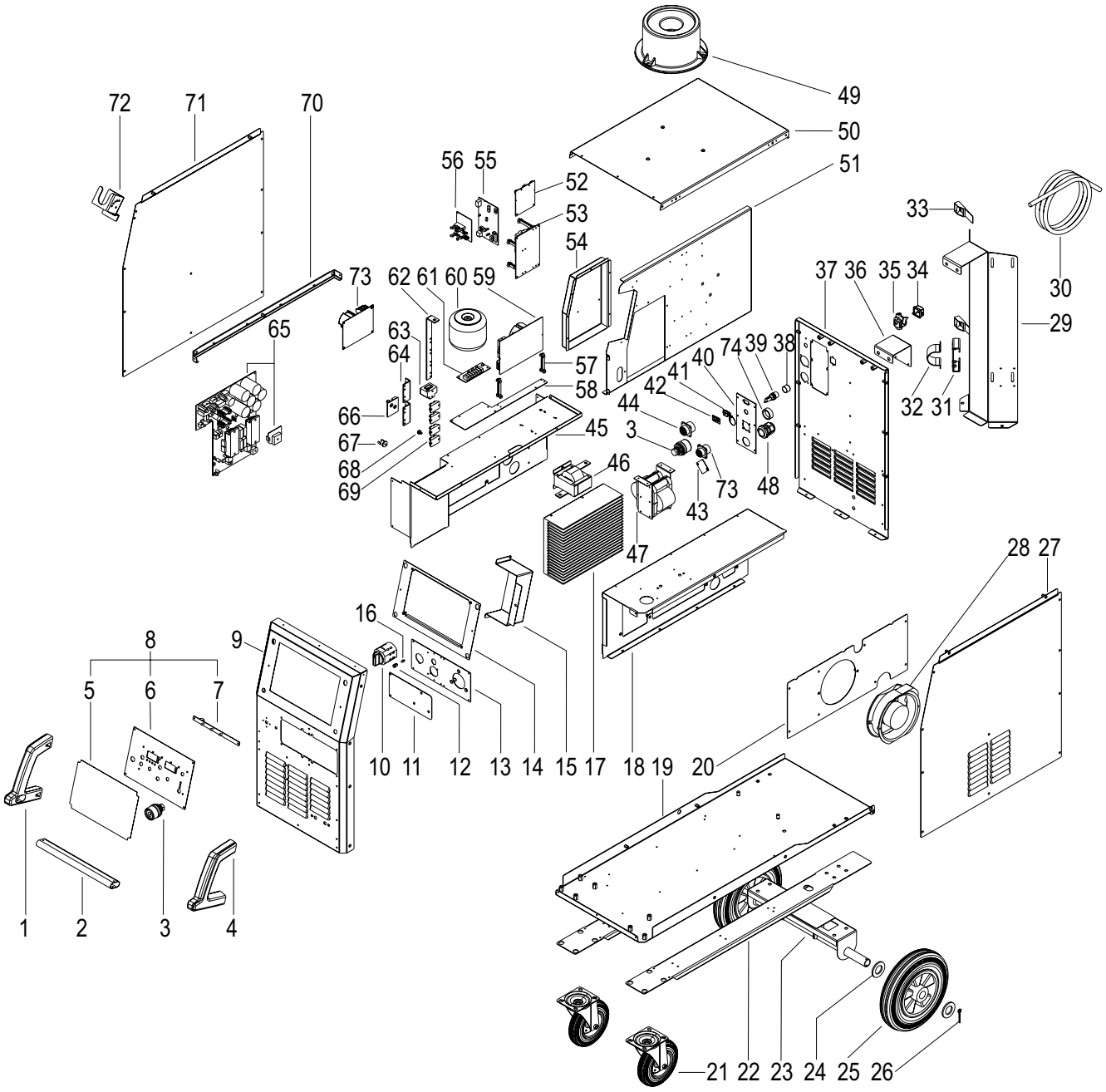



040.0003.0060
040.0003.1002
050.000X.0044
050.000X.0119
050.000X.0036
050.000X.0038
050.000X.0102
050.000X.0080
F1 4A
F2 4A
F3 250mA
F4 1A
HALL
BROWN
BROWN
BROWN
022.0002.0219
022.0002.0216
022.0002.0222
022.0002.0214
022.0010.0009
022.0010.0015
022.0002.0217
022.0002.0297
022.0002.0380
ROSSO-RED
NERO-BLACK
REMOTE
CAN-L
CAN-H
DIG_OUT_2
DIG_OUT_1
GND
GND-ISO
+24V-ISO
A-RS485/CAN-L
B-RS485/CAN-H
48VAC-2
48VAC-1
GND-REM
+24V-REM
DIG_IN_3
DIG_IN_2
DIG_IN_1


040.0003.0060
040.0003.1002
050.000X.0057
022.0002.0190
MAINS SWITCH
022.0002.0215
022.0002.0131
050.0001.0147
MOTOR
050.000X.0119
050.000X.0038
050.000X.0036
050.000X.0068
022.0002.0185
CU07
022.0010.0009
050.000X.0135
022.0002.0007
050.000X.0096
022.0002.0222
022.0002.0216
022.0010.0015
022.0002.0217
022.0002.0152
RS232 COM 1
022.0002.0297
022.0002.0380
F1 6X32
3.15A 500V

7 SPARE PARTS

7.1 PIONEER PULSE 321MSR



N°	CODE	DESCRIPTION
1	011.0006.0030	RIGHT HANDLE
2	011.0016.0128	FRONT HANDLE
3	021.0001.0259	FIXED SOCKET 400 A
4	011.0006.0029	LEFT HANDLE
5	013.0022.0301	FRONT PANEL LABEL
6	013.0000.8013	LOGIC BOARD PLATE
7	050.0001.0096	LED BOARD
8	050.5129.0000	COMPLETE FRONT PANEL
9	011.0016.0134	FRONT PLATE (1)
10	040.0001.0017	THREE-POLE SWITCH
11	011.0016.0145	FRONT PLATE (2)
12	016.4107.0001	LED HOLDER
13	011.0016.0144	FRONT PLATE (3)
14	011.0016.0109	PANEL SUPPORT PLATE
15	011.0016.0151	FRONT LOGIC BOARD COVER PLATE
16	022.0002.0190	LED WIRING
17	015.0001.0019	HEAT SINK
18	011.0016.0147	MOTOR SUPPORT PLATE (1)
19	011.0016.0136	LOWER COVER
20	011.0016.0153	FANS SUPPORT PLATE
21	004.0001.0013	CASTOR
22	011.0016.0138	BASE SLIDE METAL PLATE
23	011.0016.0129	WHEEL FIXING PLATE
24	016.1000.1002	WASHER M27
25	004.0001.0014	FIXED WHEEL
26	016.0002.0005	SPLIT PIN
27	011.0000.0941	RIGHT COVER PANEL
28	003.0002.0003	FAN
29	011.0016.0139	GAS BOTTLE SUPPORT PLATE
30	045.0002.0014	NEOPRENE CABLE
31	011.0015.0204	CABLE BUNDLE SUPPORT PLATE (1)
32	011.0014.0026	CABLE BUNDLE SUPPORT PLATE (2)
33	005.0001.0012	BELT FOR GAS BOTTLE
34	021.0013.0007	C.U. POWER CONNECTOR CAP
35	022.0002.0185	C.U. POWER SUPPLY WIRING
36	011.0012.0058	COOLING UNIT SUPPORT PLATE
37	011.0016.0135	REAR PLATE (1)
38	016.0011.0004	FUSE HOLDER CAP
39	040.0006.1880	FUSE HOLDER
40	013.0000.7011	REAR PLATE (2)
41	021.0014.0302	RS232 CONNECTOR CAP
42	022.0002.0152	RS232 CABLE
43	011.0014.0068	COVER PLATE (2)
44	022.0002.0297	REMOTE LOGIC CABLE

N°	CODE	DESCRIPTION
45	011.0016.0146	TUNNEL HOUSING (1)
46	044.0004.0020	OUTPUT INDUCTOR
47	042.0003.0041	POWER TRANSFORMER
48	045.0000.0017	CABLE CLAMP
49	006.0002.0022	WF SUPPORT
50	011.0016.0140	UPPER COVER
51	011.0016.0148	INTERNAL PLATE
52	050.0002.0057	POWER SUPPLY CONTROL BOARD
53	050.0002.0102	BUS-SUPPLY BOARD
54	011.0016.0149	WIRE FEEDER COVER PLATE
55	050.0025.0080	PULSE BOARD
56	050.0001.0135	LED CONTROL BOARD
57	016.0010.0001	BOARDS SUPPORT GUIDE
58	011.0016.0152	BOARDS SUPPORT
59	050.0002.0068	MAINS FILTER BOARD
60	041.0006.0006	AUXILIARY TRANSFORMER
61	050.0002.0119	PRIMARY CAPACITOR BOARD
62	045.0006.0082	DIODES-SOCKET COPPER BRACKET
63	041.0004.0502	HALL EFFECT SENSOR
64	045.0006.0081	DIODE-DIODE BRACKET
65	050.0003.0036	POWER BOARD
66	050.0003.0044	SNUBBER BOARD
67	040.0003.0061	THERMAL CUT-OUT 60 °C
68	040.0003.1002	THERMAL CUT-OUT 75°C
69	032.0002.2403	ISOTOP DIODE
70	011.0016.0143	COVER PANEL SUPPORT PLATE
71	011.0000.0931	LEFT COVER PANEL
72	011.0015.0029	TORCH HOLDER
73	022.0002.0380	REMOTE CONNECTOR CABLE
74	021.0004.2993	MILITARY CONNECTOR CAP

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