Retrofit mounting plate EP2M300-00

Duktor drive for 2 Units
Duktor drive for 2 Units EP2FU3AM-00
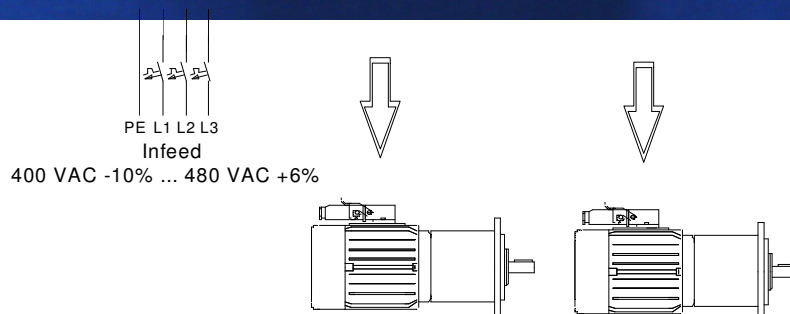Replacement for installation rack ER512-2-00 (ER512-2-01)
Replacement for installation rack ER503-2-00

IB1000   FU 1   FU 2

PE L1 L2 L3
Infeed
400 VAC -10% ... 480 VAC +6%

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Technical Description	Retrofit EP2M300
Document	M0019GB
Version	02/18

Content:

1. Retrofit mounting plate EP2M300-00

1.1 Specification

General: The installation plate Retrofit contains all for the replacement of the installation rack EP2FU3AM-00, ER512-2-00, ER512-2-01and ER503-2-00 required components as the controller FU3AM and the Interbus module IB1000. The mains connection and the pluggable motor connections are easily accessible.
The control connections are pin-compatible, running on the corresponding terminals on the adapter plate A519. An easy replacement of the previous units is ensured.
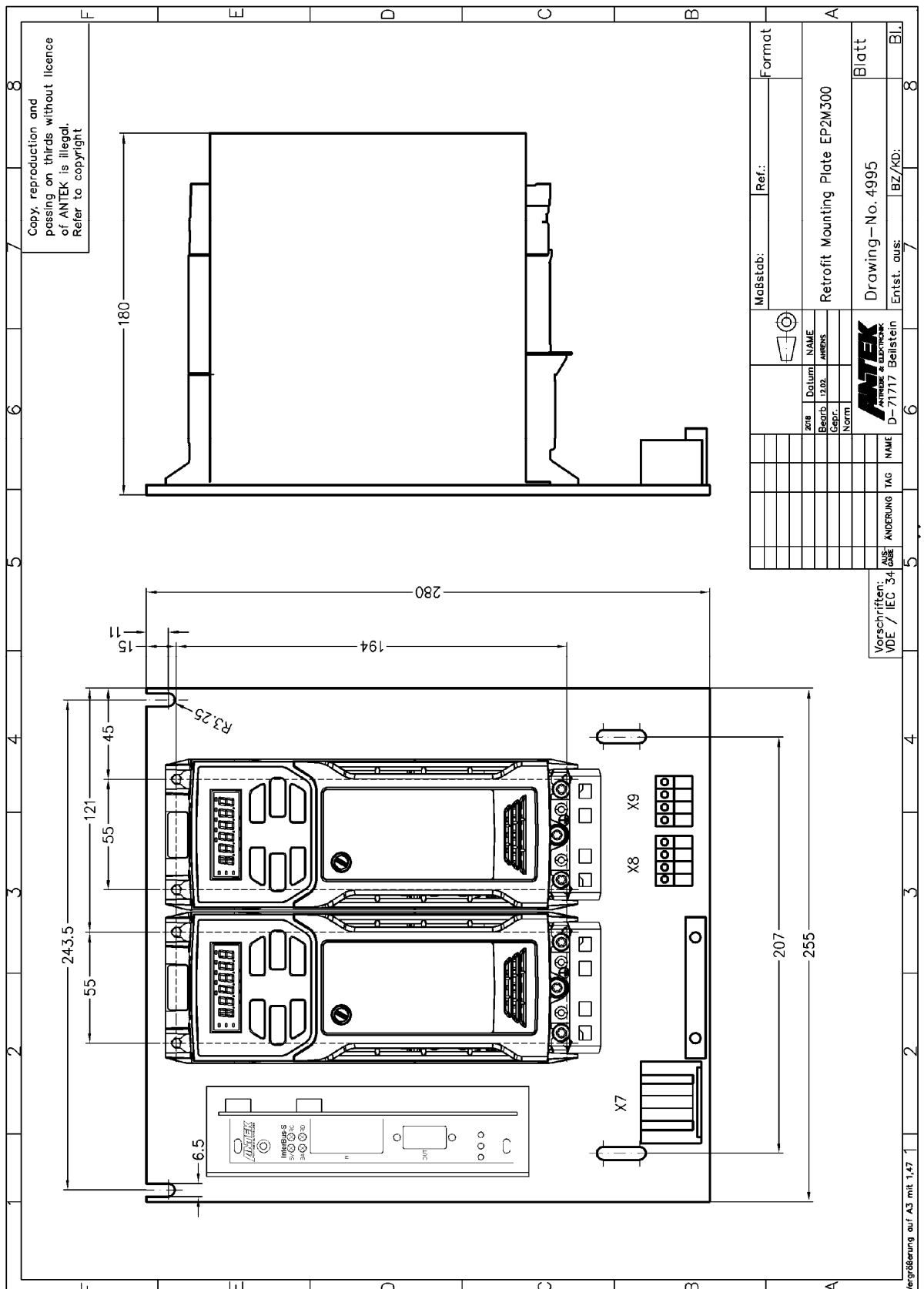Information regarding the regulator M300 please refer to the separate description.
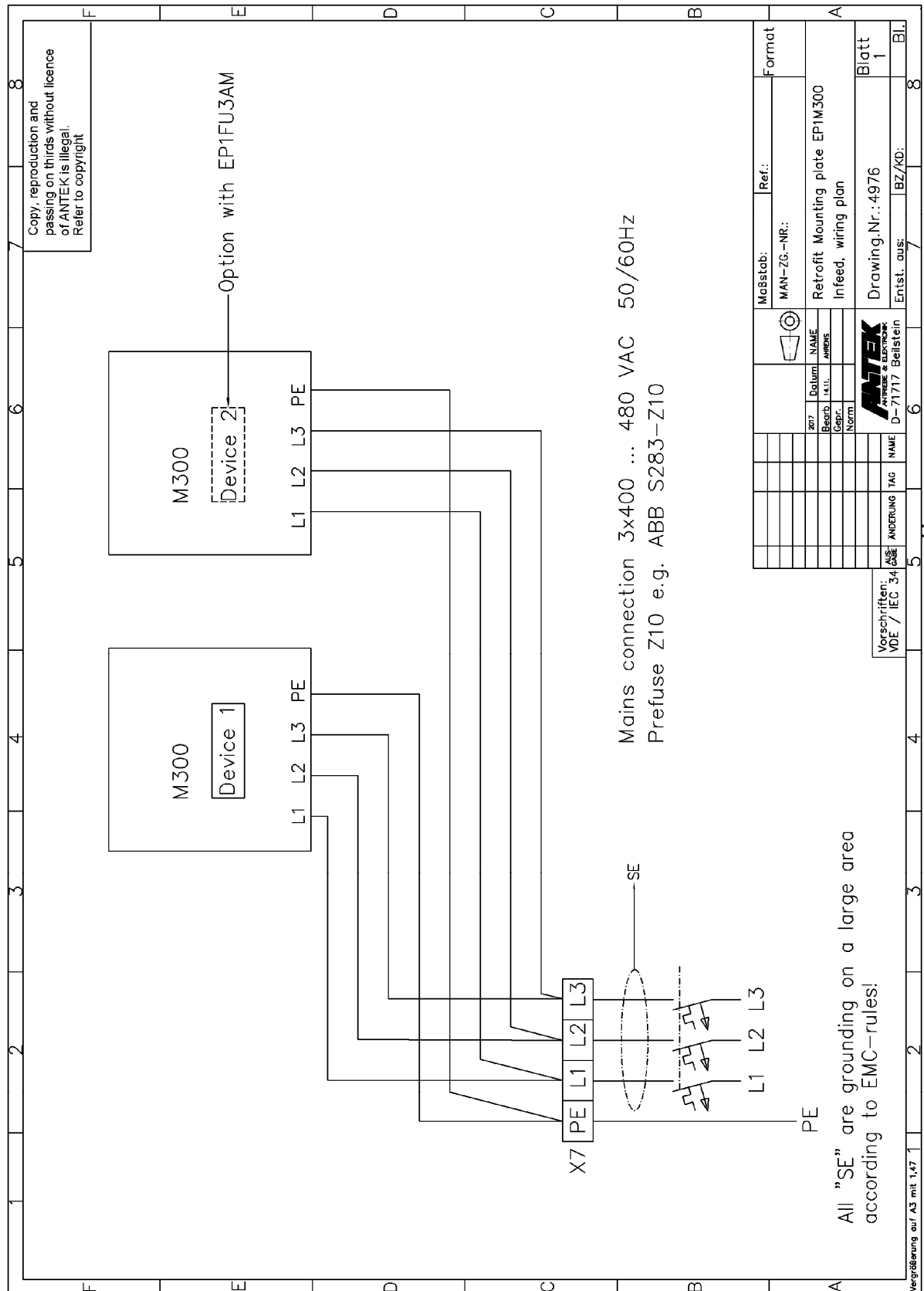
.

Technical Design:

Nominal terminal voltage:	3x 400 VAC -10% ... 480 VAC +6%, 50/60Hz
Nominal terminal current:	6 AAC
Fuses:	extern ABB, S283-Z10 (UL specification.)

⚠️ **Achtung!** **Nach Abschalten der Hauptspannung Gerät erst nach einer Pausenzeit von 30s wieder einschalten.**

Voltage supply

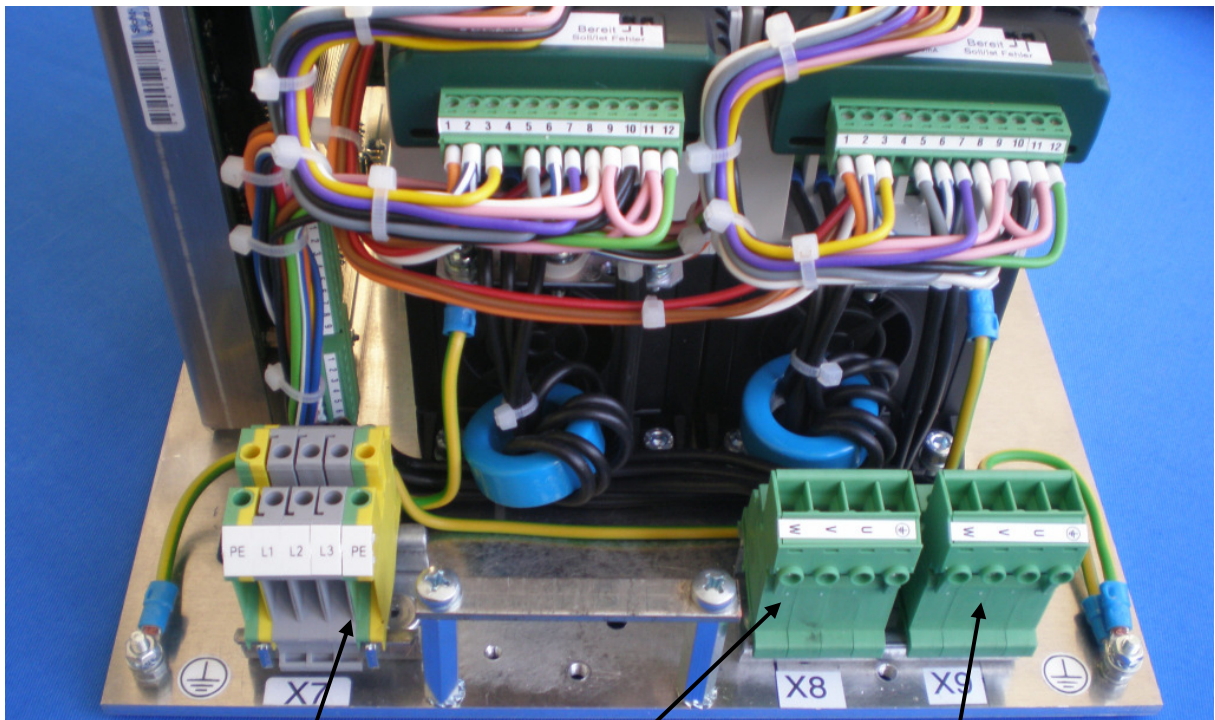|	
24V Interbus	24 VDC ± 20%
	Current consumption approx. 250 mA
	External fuses
24V-G (Devices)	24 VDC ± 20% Current consumption approx 0,8 A
	External fuses
24V-EFS (Motion Monitoring System)	24 VDC ± 20% Current consumption approx. 130 mA External fuses
24V-L (Fan)	omitted
Construction	2 Frequency converter M300-06-03 incl. EM725-00 1 Interbus module IB1000-00
Weight	4,5 kg
Control terminals	plug-in terminals (terminal width. 0,25-1,5mm²)
Power terminals	plug-in terminals (terminal width 0,5-2,5mm²)
Normen und Richtlinien	DIN 57110b EN 60204 EN 55011 Class B
Motor connections	the stated technical specifications are valid for cable lengths of up to 100 m when LAPPKABEL ÖLFLEX-190CY cable is used and proper EMC installation precautions are observed.

1.2 Drawing, Retrofit Mounting Plate EP2M300, Drawing -No. 4995

1.3 Wiring Plan, Retrofit Mounting Plate EP2M300 Infeed, Drawing-No. 4976

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Option with EP1FU3AM

M300 — Device 2
L1 L2 L3 PE

M300 — Device 1
L1 L2 L3 PE

Mains connection 3x400 ... 480 VAC 50/60Hz
Prefuse Z10 e.g. ABB S283-Z10

X7 PE L1 L2 L3
SE

PE L1 L2 L3

All "SE" are grounding on a large area according to EMC-rules!

Maßstab: Ref.:
MAN-ZG.-NR.:

Retrofit Mounting plate EP1M300
Infeed, wiring plan

Drawing.Nr.:4976

Entst. aus: BZ/KD:

Blatt 1 Bl.

2017
Bearb Datum NAME
Gepr. 14.11. AHRENS
Norm

ANTEK ANTRIEBE & ELEKTRONIK
D-71717 Beilstein

ÄNDERUNG TAG NAME

Vorschriften:
VDE / IEC 34

Vergrößerung auf A3 mit 1,47

Technical Documentation Retrofit Duktor drive for 2 units   Page 6 of 17
02/18 M0019GB

Terminal side: X7, X8, X9

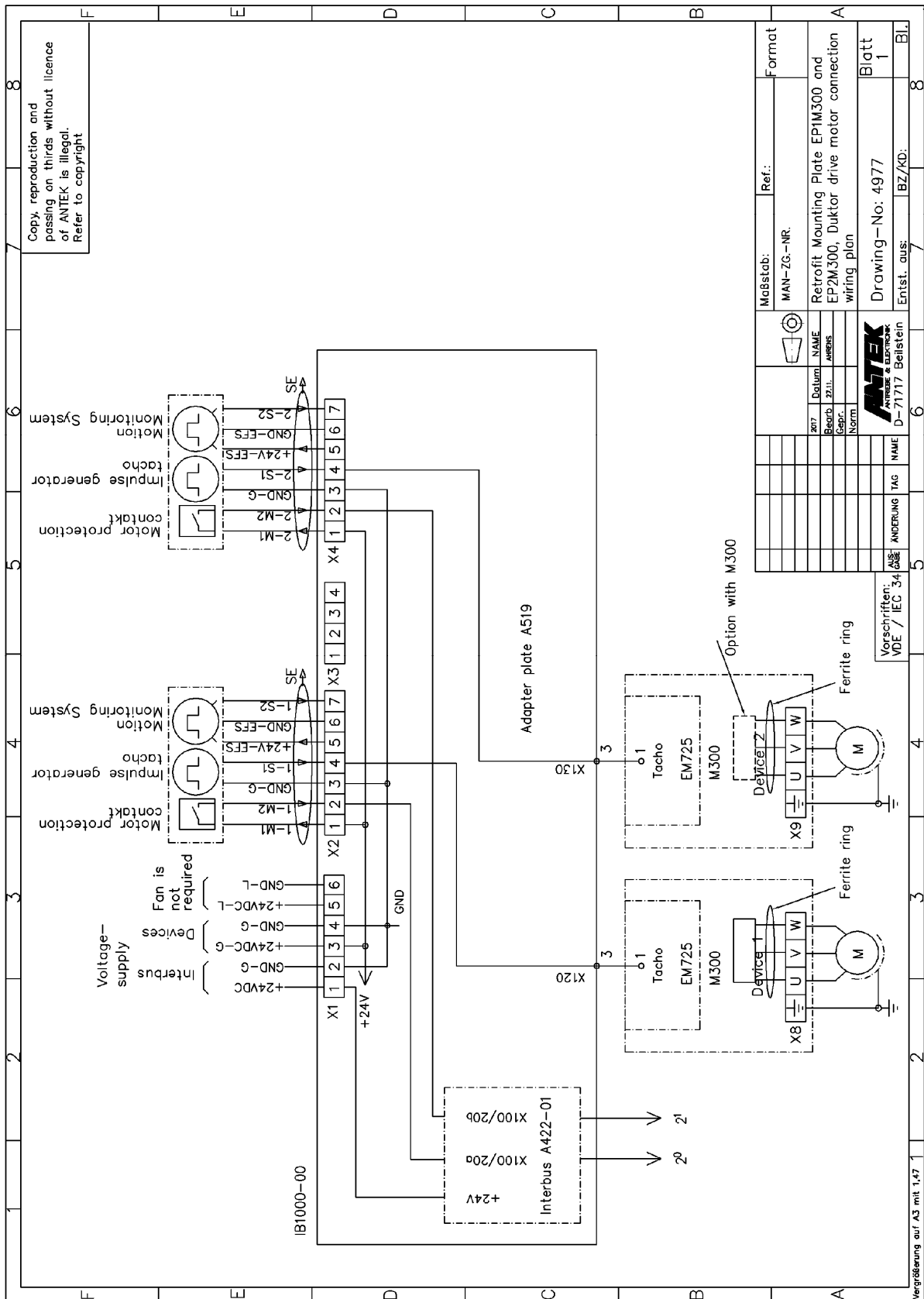**Mains Input X7 PE, L1, L2, L3**

Motor connection X8

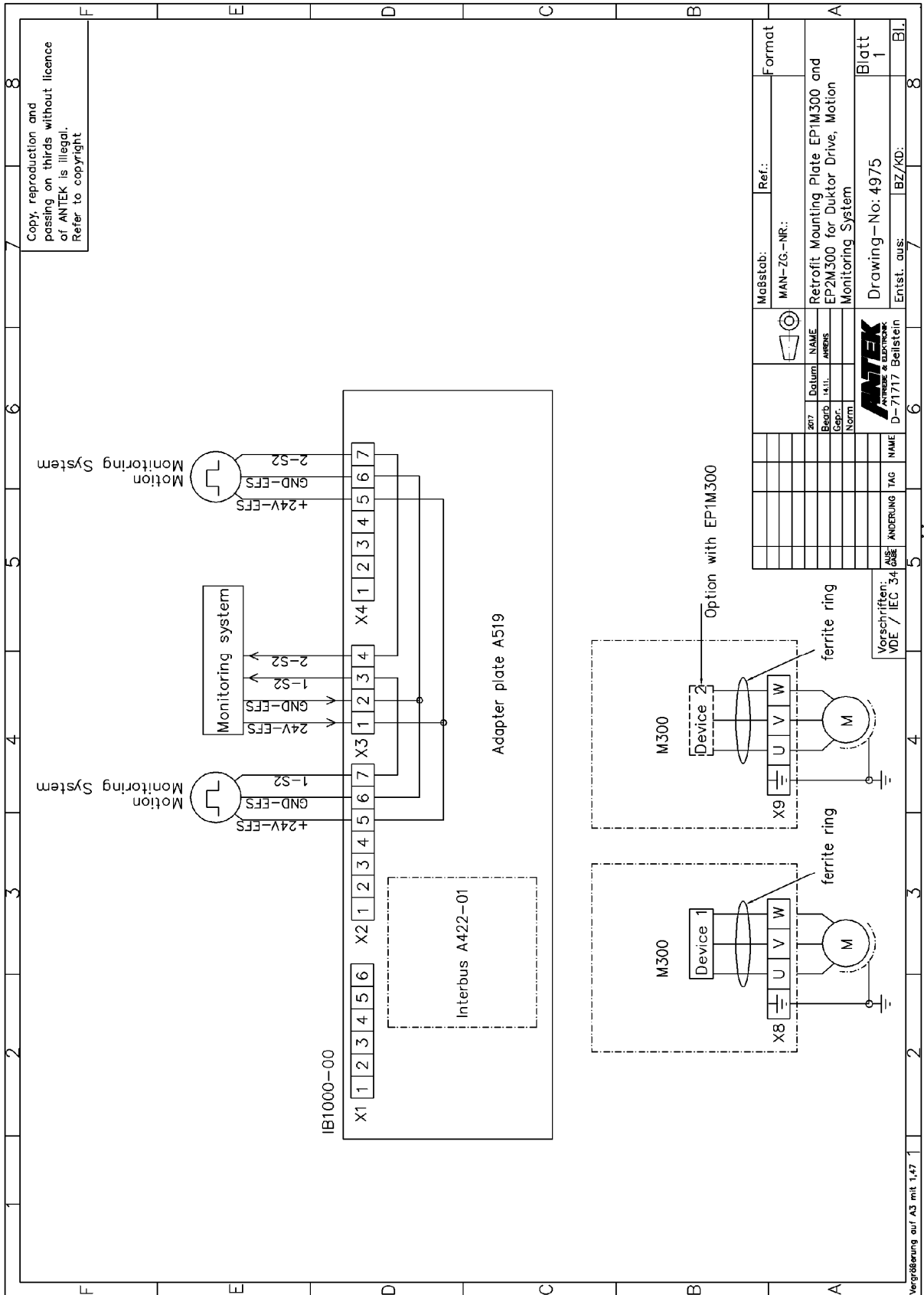**Motor connection X9**

and connections X1, X2, X3, X4

Connection X1, X2, X3, X4

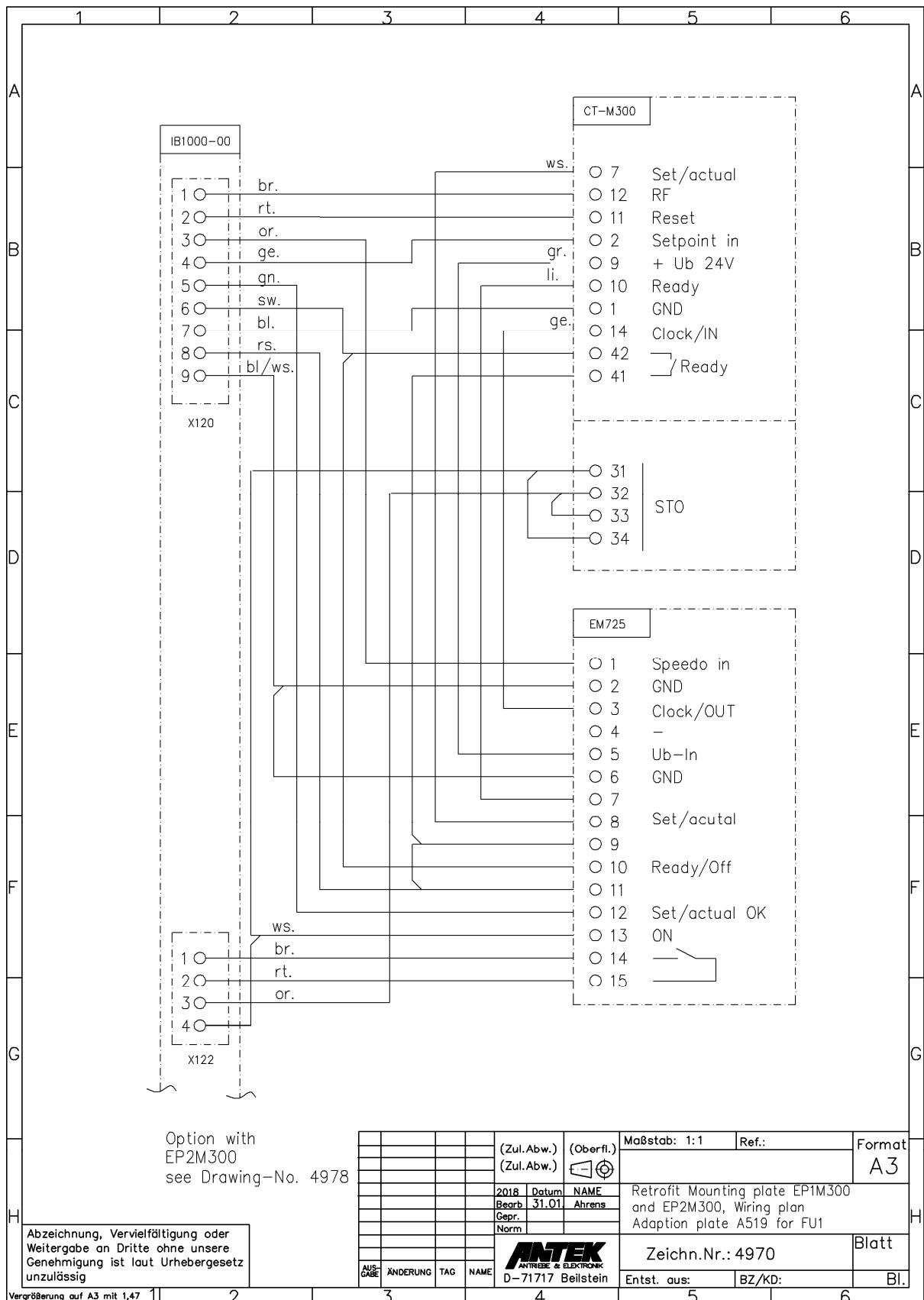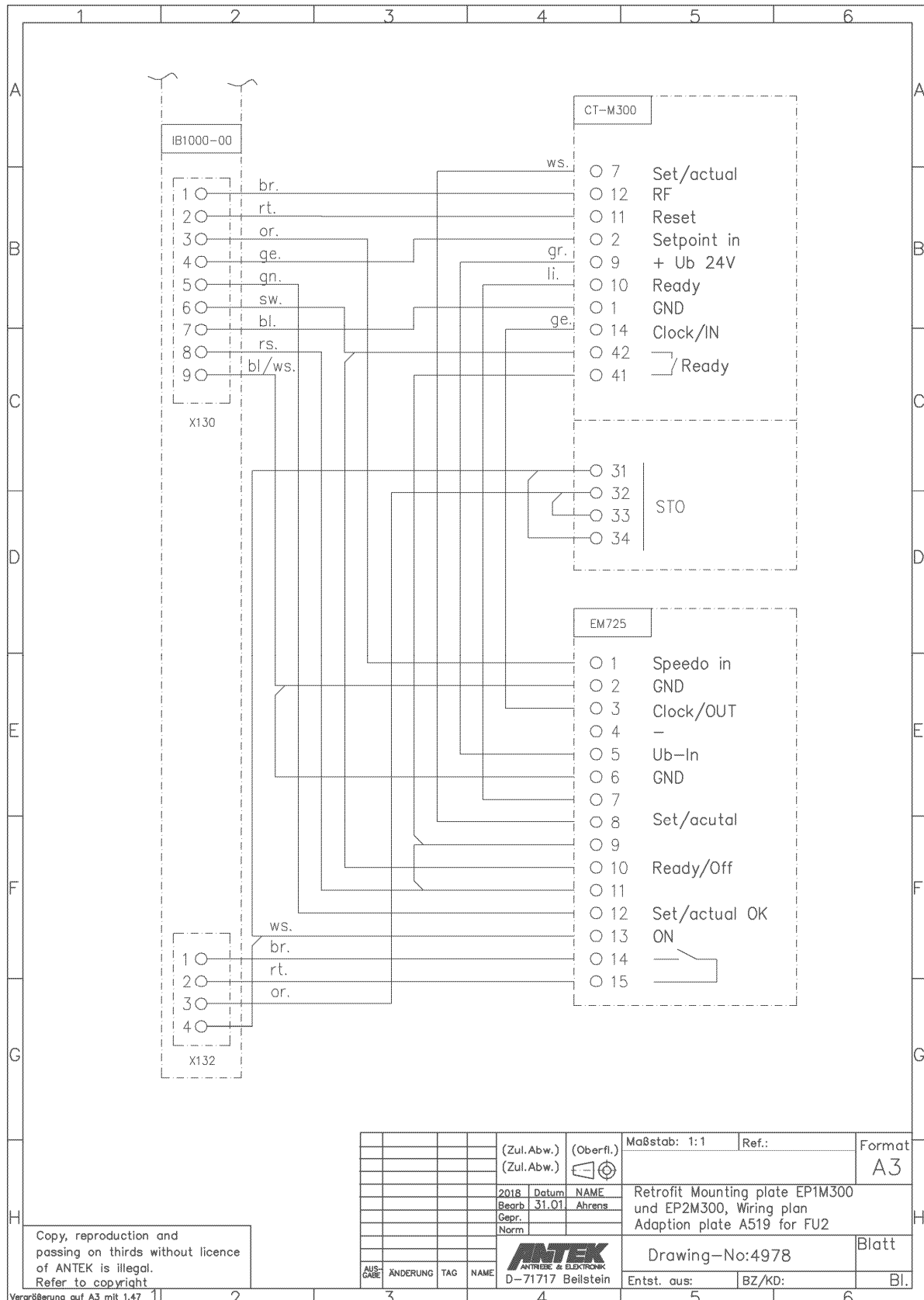## 1.4 Connection Plan, Retrofit Mounting Plate EP2M300 Duktor Drive, Motor Connection, Drawing-No. 4977

1.6 Retrofit Mounting Plate EP2M300, Wiring Plan, Adaption Plate A519 for FU1, Drawing-No. 4970

2. Retrofit EP2M300 Parameter set

2.1 EP2M300-00

This device description is supplied with the parameter set for 1500rpm.
In this connection the following frequency inverters are installed:
M300-06-03 with Parameter set **1500 min^{-1}**, analogue control

3. Controller M300 Operation and software structure

This chapter lists the user interfaces, menu structure, and safety levels of the drive.
(See also step by step instructions page 7, "step 10")

3.1 The Display

The control unit is firmly attached to the inverter. This will provide the user with information about the inverter operating status, alarms and shutdown codes. It also offers the possibility to change parameters, to operate and reset the inverter.

Note:
The red stop button is also used to reset the inverter in case of error! (RESET)

3.2 Operating unit

The display of the operating unit consists of a text line. Status information is displayed here.

Display	Description	Output stage of the inverter
inh	The inverter is disabled and can not be operated. The Drive Enable signal is not active.	disabled
rdy	**The drive is ready to run. The drive enable is active, but the drive inverter is not active because the final drive run is not active.**	**disabled**
StoP	The drive is stopped, holding zero speed.	enabled
Er. xxxx	A fault trip of the inverter has been triggered so that the motor is no longer controlled by the inverter. The error code is shown flashing on the display.	disabled
UV	The inverter is in the Undervoltage state	disabled
0-1500	The inverter runs and regulates the speed according to the specification.	enabled

3.3 Fault message

The display of the operating unit shows an error on this consists of a text line. Status information is displayed here.

Display	Description	
Er. UU	Under voltage converter	
Er. OVLd	Motor overload	
Er. IO AC	Overcurrent on the converter.	
Er. SOft	Software error	
Er. OU	Overvoltage converter	

To clear a fault, proceed as follows:

1. Turn off the inverter with controller enable, this goes e.g. on the contactor input. Then start the drive again externally. Message in the display (inh)
   The ready signal shows OK again.

2. Press the red reset button 2x. The drive restarts immediately, if the release is still pending, the ready signal shows OK again.
   Message in display (speed value).

3. When the controller enable is off, press the Red reset button 1x and the converter will report ready. Then restart enable. Message in the display (rdy).
   The ready signal shows OK again.

3.4 The Display:

The direction of rotation and the speed are displayed

With the key "ESC" the display changes on the utilization in%

utilization in %

red stop button(RESET)

4. EM725 Level converter, target / actual comparison

4.1 The electronics module EM725

The module indicates an internal ready message of the inverter, as long as the inverter is under voltage.

Similarly, the display of the set point / actual monitoring is displayed here if it is no longer complied to - error target / actual.

In the module, the required signals for the Ductor motor are processed and transferred to the converter. The module is plugged into slot 1 of the drive and is only available in combination with the driveM300-06-03.

5. InterBus Module Type Typ IB1000-00

Consisting of: InterBus InterBus A422-01 und Adapterplatte A519-00
Mounted on: bracket

5.1 InterBus-S Fernbusteilnehmer A422

Short description: The use of InterBus-S components allows for a uniform
                        communication structure with considerably reduced wiring
                        expenditure.
                        The compact remote bus on the A422 is matching in function
                        and design to the ANTEK product range.

Remote bus in 2-contuctor technology
                        16 Bit Input- peripheral coupling
                        ID-Code 3

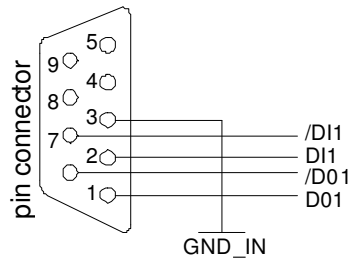|	
Input voltage:	24 VDC ±20%
Input current:	ca. 250 mA
Fuse:	1 A
analogue output:	4
digital output:	6
digital input:	16
Connection:	50 pol. / 3pol. Pin-strip
Protection:	IP 00
Dimension:	100x160mm

Function assignment:

Control input		Monitoring output	
2^{15}	Analogue value Bit 7 = MSB	2^{15}	
2^{14}	Analogue value Bit 6	2^{14}	
2^{13}	Analogue value Bit 5	2^{13}	Ready FU2
2^{12}	Analogue value Bit 4	2^{12}	Ready FU1
2^{11}	Analogue value Bit 3	2^{11}	
2^{10}	Analogue value Bit 2	2^{10}	
2^{9}	Analogue value Bit 1	2^{9}	Set-actual FU2
2^{8}	Analogue value Bit 0 = LSB	2^{8}	Set-actual FU1
2^{7}	⎞ Selection: 00 = FU1, 01 = FU2	2^{7}	
2^{6}	⎠	2^{6}	
2^{5}	Reset - Fault	2^{5}	
2^{4}	Regulator release FU1	2^{4}	
2^{3}	Regulator release FU2	2^{3}	
2^{2}		2^{2}	
2^{1}		2^{1}	Motor protection contact FU2
2^{0}		2^{0}	Motor protection contact FU1

Terminal allocation:

Remotebus-IN

The remote bus in plug must not have a conductive connection to PE

pin connector

5
9 4
8 3 ——— /DI1
7 2 ——— DI1
——— /DO1
1 ——— DO1

GND_IN

Remotebus-OUT

Socket strip

5
9 4
8 3 ——— /DI2
7 2 ——— DI2
——— /DO2
1 ——— DO2

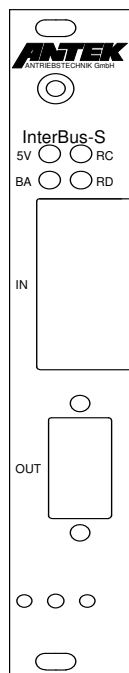GND_OUT

Displays:

5V ⊗ ⊗ RC

BA ⊗ ⊗ RD
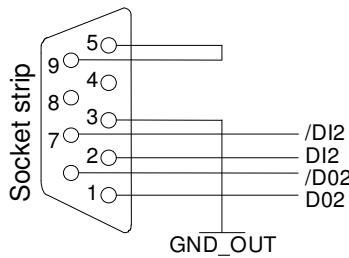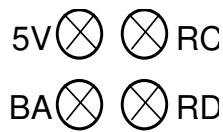
5V (GN) =   SUPI operating voltage display
             after elapsed reset time.
RC (GN) =   „Remote bus check„ active when Bus out of
             order and no reset.
BA (GN) =   „Bus active„ signalizes an INTERBUS-S
             transmission
RD (RD) =   „Remote bus disable„ means that the forwarding
             Interbus-S interface is switched off.
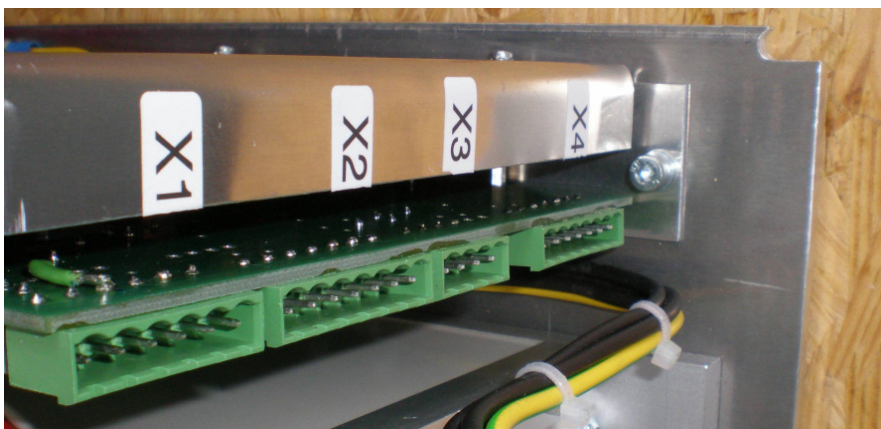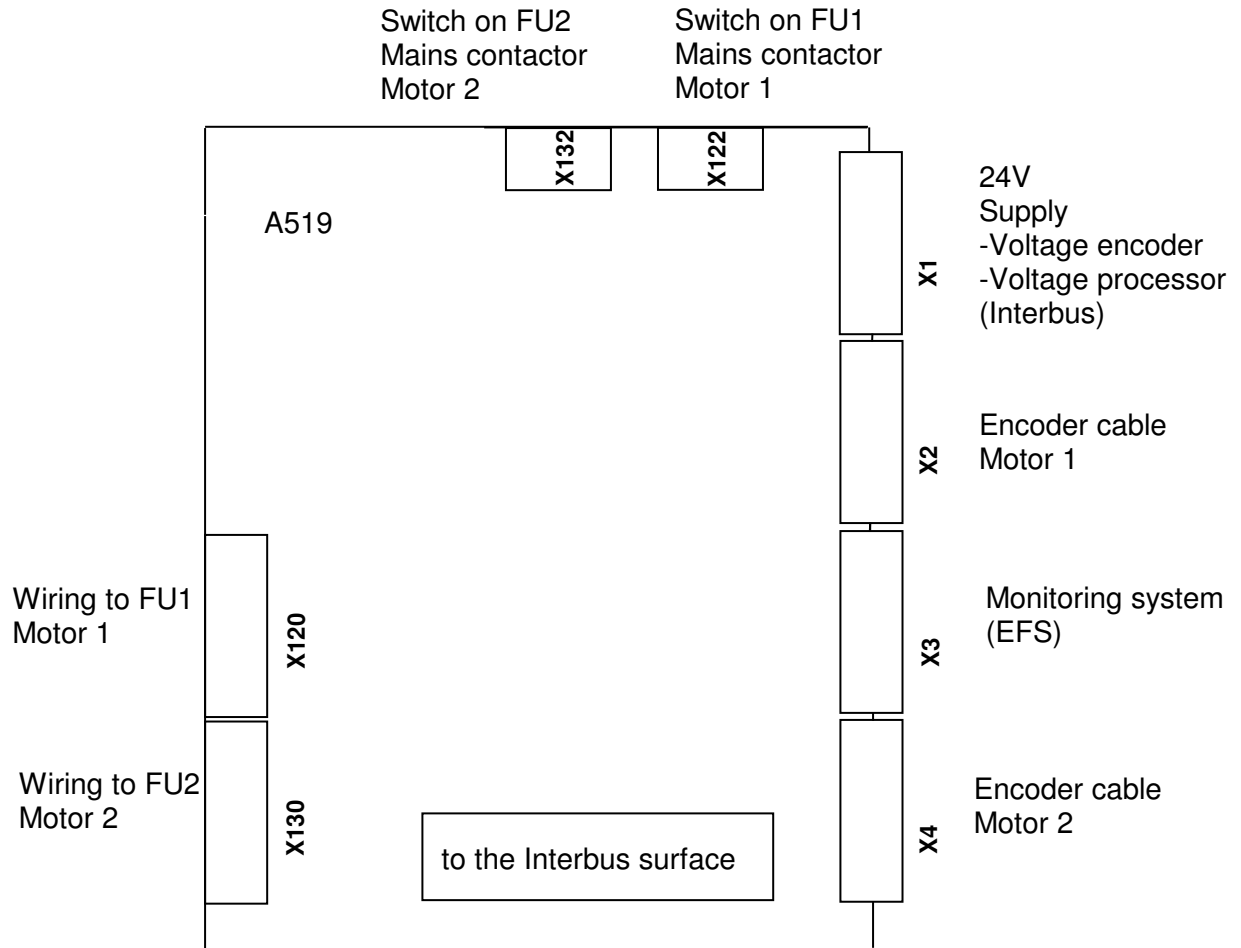
View of frontplate:

IB1000

5.2 Adapter board A519

Designed with connectors X1 to X4

The module IB1000-00 with the adapter boards A519 is used for contacting the control signals and power supply externally.
The control of the FU's done over the InterBus module A422 with the A519 adapter boards to the frequency inverter M300.