ARDAT Systems s.r.o. Přední cesta 905/9, 32600 Plzeň e-mail: info@ardat.cz BUSCH VÝROBA s.r.o. Svárovská 620, 460 01 Liberec AE-BU11FL (AR 100 110 S)



Project name: Control Box AE-BU11FL for TYR-Blower System

Commission: BUSCH

Manufacturing date: 2022

Type: AE-BU11FL Project nr.: AR100110S

Rated voltage: 3PE AC 400/230V 50 Hz

Rated current: 25 A
Control voltage: 24 VAC

#### SAFETY REGULATIONS



During controller operation certain items are under dangerous voltage! Nonobservance of safety instructions can result in death, serious injuries or material damage.

Only specialist personnel may carry out transport, installation and commissioning work.

The applicable valid standards as well as the national and / or companyspecific accident prevention regulations are to observed.

The following safety instructions are to be observed:

The installation, commissioning, troubleshooting as well as repair of the controller may only be carried out by qualified personnel that is familiar with the corresponding operating instructions.

Device connection and installation has to follow all the valid standards, state and local regulations. Proper grounding and conductor dimensioning as well as proper short-circuit proofing have to be ensured. These measures serve to ensure the safety of the plant and of the operating personnel.

Before carrying out safety checks, maintenance work and repair measures ensure that all the power supplies are switched off, are secured against being switched on unintentionally and are marked correspondingly.

Only test devices that are in technically perfect condition and are suitable for the respective measurement may be used to carry out measurements!

The instructions specified in the respective operating instructions are to be followed strictly! It is mandatory that hazard, warning and safety instructions are followed!

All doors and covers are to be kept closed during the controller operation. If cooling devices are installed in the controller, ensure that these systems operate trouble-free. These include the regular cleaning of the filters, in as far as they exist.

Date: 12.12. 2022 Responsible: Michal Liška ARDAT Systems s.r.o. Přední cesta 905/9, 32600 Plzeň tel +420 724 145 790

e-mail: info@ardat.cz

BUSCH VÝROBA s.r.o. Svárovská 620, 460 01 Liberec El. switchboard 11kW, 400V Výkres číslo: AR 100 110 S

### **Technical Report**

Electric switchboard AE-BU11FL, 11kW, 400V, 50Hz

### 1. General

AE-BU11FL is an indoor, metal sheet cabinet designed for control and powering of the blower unit and complies with EN 60204-1. The cabinet is totally enclosed and has following dimensions: 800x600x400 mm (HxWxL).

The switchboard consists of electric components, which ensure starting, running and safe operation of 11 kW / 400 V blower package. The switchboard is secured against short circuit by main circuit breaker – 1F1. Start and blower speed control is controlled by frequency converter (FC) -1G1. Its protection circuits protect the blower motor from over-current. It is started by auxiliary relay -4KA1. Blower cabinet fan motors -1M5 are powered by 230 VAC, 50 Hz isolation transformer -1T4. Its primary winding is protected by fuses -1FU3.3 and -1FU3.4, motor -1M5 is protected by fuses -1FU5.1 a -1FU5.2. Start is provided by auxiliary relay -4KA4. Motor of switchboard fan –1M4 is protected by fuse -1FU4 and started by auxiliary relay -4KA2. Isolation transformer -1T6 powers the control circuit of the switchboard with 24 VAC, 50 Hz. Its primary wiring is protected by fuses -1FU3.1 and 1FU3.2, control circuits are protected by fuses -2FU1.1, -2FU1.2, -2FU1.3, -2FU1.4. Logik 26-S controller -2A4, EMERGENCY STOP button -2SA5, the -5S5 switch Man and Auto and the blower speed control trimmer -5R5 are placed on the switchboards door. The main switch -1Q1 is placed on the cabinet side wall.

The electric switchboard shall be connected to the main power supply by WL01 cable in size 4x10mm². The blower motor should be connected by shielded cable WL03, YSLCY-JZ 4x10 mm². Fan motor -1M5 should be connected by WL04 YSLY-JZ 3x1 cable, air temperature sensor -3B1 by WS01 YSLY-OZ 2x0,75 cable, pressure sensor -3B2 by WS04 YSLCY-OZ 2x0,5 cable, pressure sensor -3B3 (optional) by WS05 YSLCY-OZ 2x0,5 cable, motor thermistor -6B7 by WS06 YSLY-OZ 2x0,75 cable. Cables from and into the switchboard shall be installed from the bottom of the switchboard.

ATTENTION! When working on the device, it is necessary to switch it off from the power supply by setting off the main circuit breaker. There is a voltage on input terminals even when the main switch if switched off.

## 2. Function description

After switching on the main switch -1Q1 and the main circuit breaker –1F1, blower is ready to start. The -5S5 switch can be set to Man and Auto. Trimmer -5R5 can be set to the required RPM. Please see the Danfoss frequency converter manual (Annex to the Technical report) to set the drive parameters. Press push START [I] button on the control unit (PLC) –2A4. The machine will start. Please note, that the Man/Auto switch is not operational when the machine is running.

It is possible to read current value of the blower discharge pressure and the air temperature on the display (PLC) –2A4. Please check the LOGIK 26-S manual to read the process values and/or set the control unit parameters.

It is possible to control the blower by remote command through NO contact via terminal connectors –X4:1, :2. The current condition of blower is reported via zero-potential contacts -X5:1 - com. conductor, -X5:2 - connected (NO) ...... operation, -X5:3 connected (NO) ...... blower without any failure.

When temperature or pressure exceeds the warning preset, the display starts signalling an ALARM, stating its type, and blower continues its operations. In case of a defect, i.e. when air temperature or discharge pressure level exceed the alarm level or when the current in the engine exceeds the preset level by 15%. PLC will disconnect the power supply and the blower will stop. It is possible to put blower into operation after the defect has been eliminated.

Date: 12.12.2022 Responsible: Michal Liška

BUSCH VÝROBA s.r.o. Svárovská 620, 460 01 Liberec El. switchboard 11kW, 400V Výkres číslo: AR 100 110 S

## 3. Basic technical parameters

Rated voltage	3PE AC 400/230V, 50Hz
Rated current	25A
Short circuit resistance	10kA
El. protection	IP54, after opening the cover IP20automatic disconnection from the source
Switchboard dimensions	800x600x400mm
Weight – switchboard + control panel	100kg
Design according to	ČSN EN 60204-1
Drawing documentation	AR100110S

# 4. Technical specification

Metal sheet cabinet Rittal AX1059.100, dimensions 800x600x400mm

Item	Marking o	description,type,function,manufacturer/supplier	QTY, length (m)
1.	-2A4	PLC, Logik 26-S, LogikaControl, Italy	1
2.	-3B1	Temperature sensor, MBT3270, -50/+150°C, Outlet air temperature sensor, Danfo	SS,
		outside of switchboard	1
3.	-3B2	Pressure sensor, MBS3000, -100 - 0kPa/4 - 20mA, Inlet air pressure sensor, Danf	oss,
		outside of switchboard	1
4.	-3B3	Pressure sensor, MBS3000, 0 - 250kPa/4 - 20mA, Outlet air pressure sensor, Dan	foss,
		outside of switchboard	1
5.	-1F1	Circuit breaker, C25/3, 25A, 400V, main circuit breaker, Schrack	1
6.	-1FU3.1,2	Fuse T2A, 500V + RSPA4, protects transf1T6 from short circuit, OMEGA, Elektro	Bečov 2
7.	-1FU3.3,.4	Fuse T6,3A, 500V + RSPA4, protects transf1T4 from short circuit, OMEGA, Elek	tro Bečov 2
8.	-1FU4	Fuse T1A, 250V + ASK2S, switchboard fan protection -1M4, OMEGA, Schrack	1
9.	-1FU5.1,.2	Fuse T6,3A, 250V + ASK2S, blower fan protection -1M5, OMEGA, Schrack	2
10.	-2FU1.1,.2	Fuse F3,15A,250V + fuse holder ASK2S , protects control circuits, OMEGA, Schra	ck 2
11.	-2FU1.3,.4	Fuse T3,15A,250V + fuse holder ASK2S , protects control circuits, OMEGA, Schra	ck 2
12.	-1G1	Frequency converter with control panel, FC302P15K, 18,5kW, 380-500V, Danfoss	1
13.	-4KA1, -4K	A2, Relay, XT484R24, 24V AC, 8A + socket , auxiliary relay for control circuits, Schr	ack 4
	-4KA4, -4KA	A5	
14.	-1M4	Fan, SK3238.100, 19W, 0,12A, 230V, 50Hz, switchboard cooling, Rittal	1
15.	-5R5	Trimmer, 4,7kOhm/N, 0,5W, regulation of output frequency of freq. converter	1
16.	-5S5	The switch can be set in MAN (0) or Auto (1) mode, PSMB5D0, EK Industry Adam	ov 1
17.	-1Q1	Switch, SQ32003R, 32A, 690V, main switch, EK Industry Adamov	1

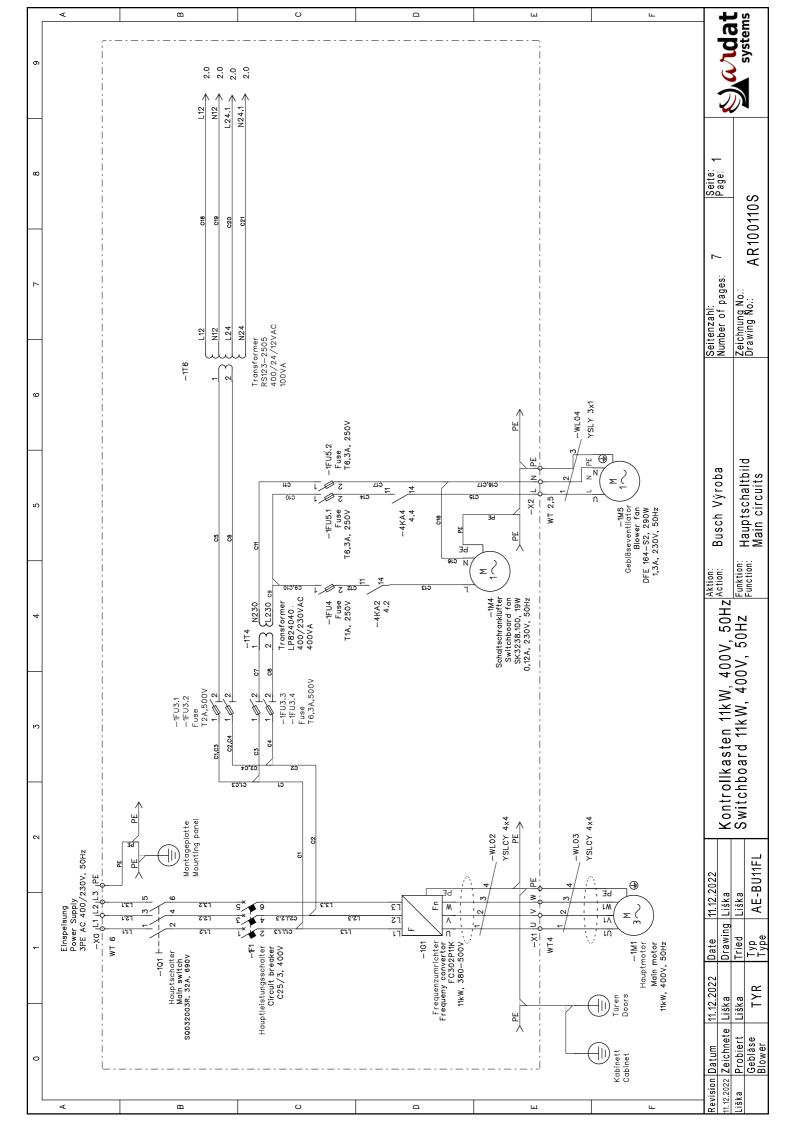
Date: 12.12.2022 Responsible: Michal Liška ARDAT Systems s.r.o. Přední cesta 905/9, 32600 Plzeň tel +420 724 145 790 e-mail: info@ardat.cz BUSCH VÝROBA s.r.o. Svárovská 620, 460 01 Liberec El. switchboard 11kW, 400V Výkres číslo: AR 100 110 S

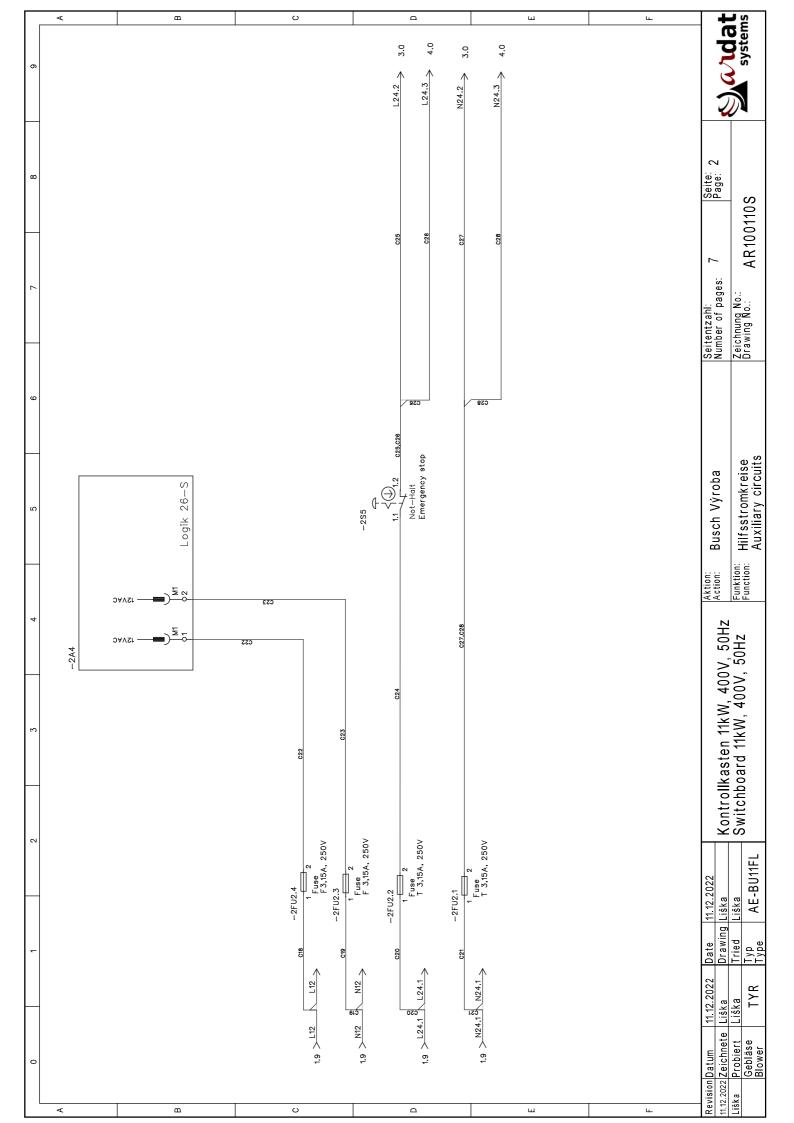
18.	-2SA5	Controller head PPFN1R4N, NC unit PL004002, EMERGENCY STOP, EK Industry	1
19.	-1T4	Transformer, LP824040, 400VA, 400/230V, fan supply voltage, Schrack	1
20.	-1T6	Transformer, RS123-2505, 100VA, 400/24/12V, control voltage, RS Components	1
21.	-X0	Terminal box, 3x WT6 + 1x WT6 PE, switchboard power supply in, Wieland	1
22.	-X1	Terminal box, 3xWT4 + 1x WT4 PE, power supply out for main motor, Wieland	1
23.	-X2	Terminal box, 1x WT2,5 +1x WT2,5 N + 1x WT2,5 PE, output for blower fan supply, Wieland	1
24.	-X3, -X4,	Terminal box, WT 2,5 8+2+3+3 pcs, sensors, external signals, Wieland	1
	-X5, -X6		

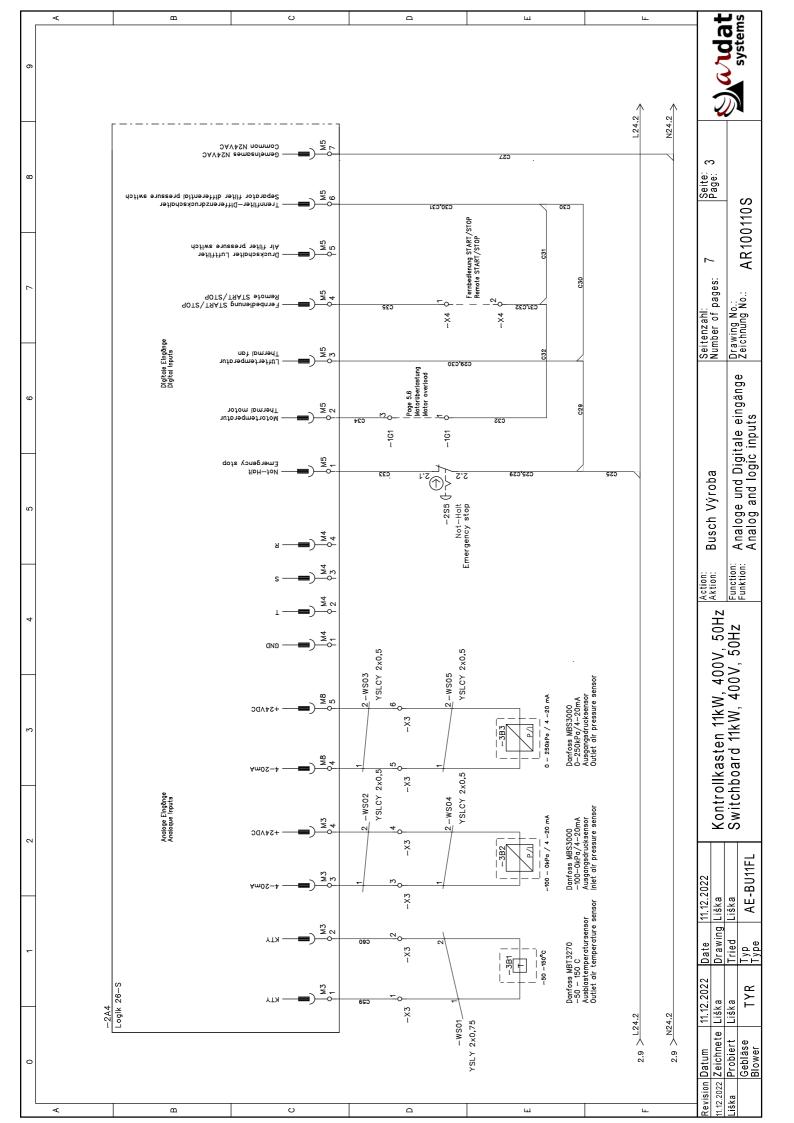
## Cable leading

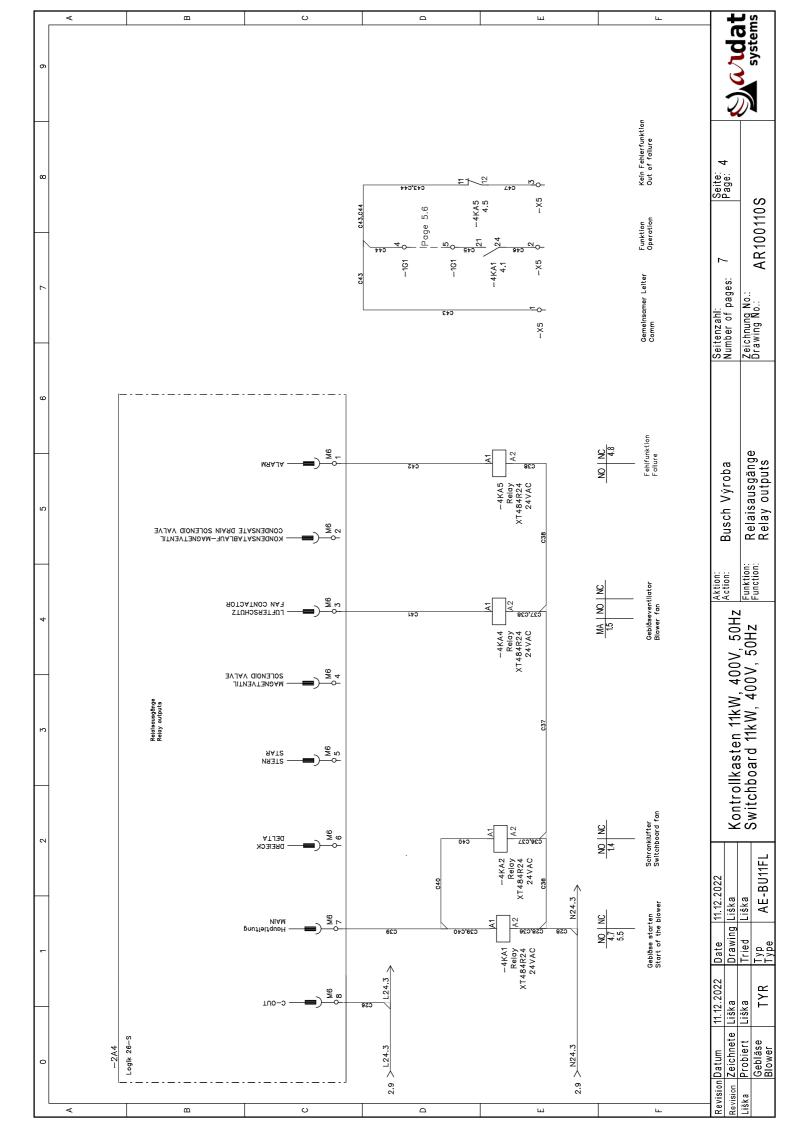
1.	WL01	CYKY 4x4, supply mains of the blower	not included
2.	WL02	YSLCY 4x4,current supply of mains engine –1M1, Tekaben	5
3.	WL03	YSLY-JZ 3x1, current supply of fan engine –1M5, Tekaben	5
4.	WS01	YSLY-OZ 2x0,75, connection temperature sensor –3B1 witch PLC -2A4, Tekaben	5
5.	WS04	YSLCY 2x0,5, connection pressure sensor -3B2 witch PLC -2A4, Tekaben	5
6.	WS05	YSLCY 2x0,5, connection pressure sensor –3B3 witch PLC -2A4, Tekaben	5
7.	WS06	YSLY-OZ 2x0,75, connection thermistor –5B5 frequency converter Danfoss, Tekaben	5
8.	WS09	YSLY-OZ 2x0,75, external control connected to, PLC -2A4	not included
9.	WS10	YSLY-OZ 3x0,75, external signals connected to, PLC -2A4	not included
10.	WS11	YSLYCY 2x1, external communication connected to, PLC -2A4	not included

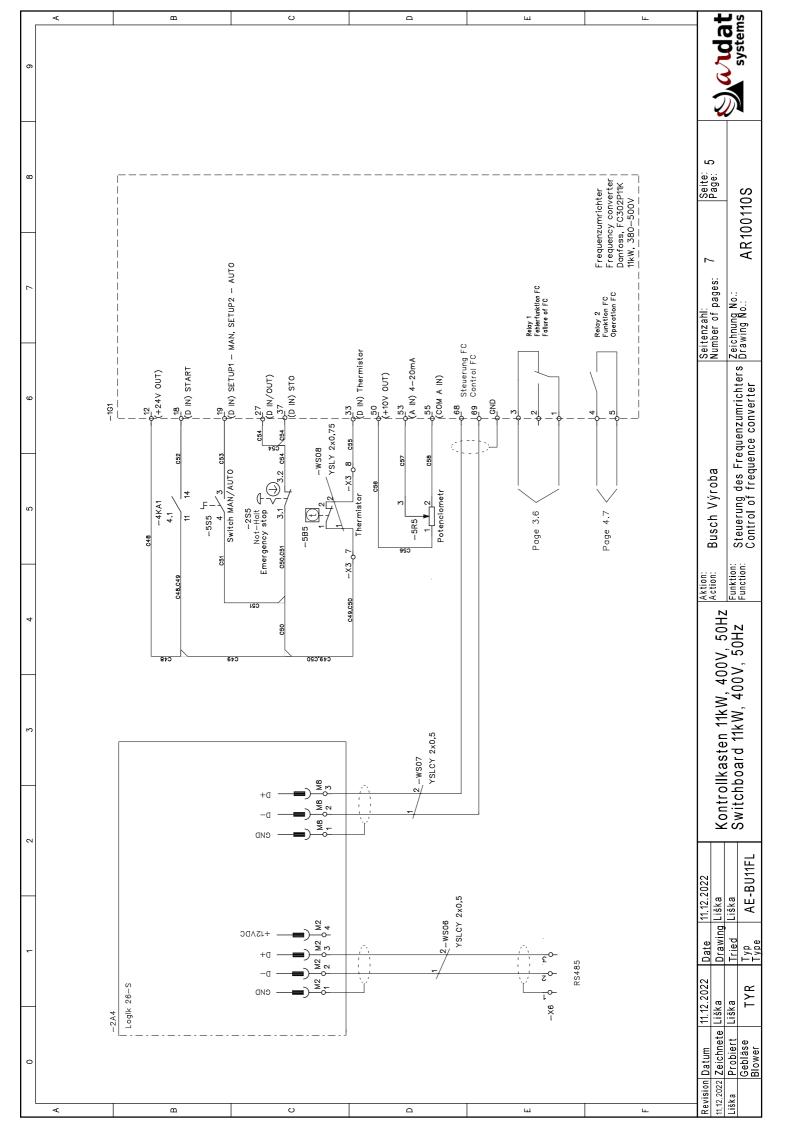
Date: 12.12.2022 Responsible: Michal Liška

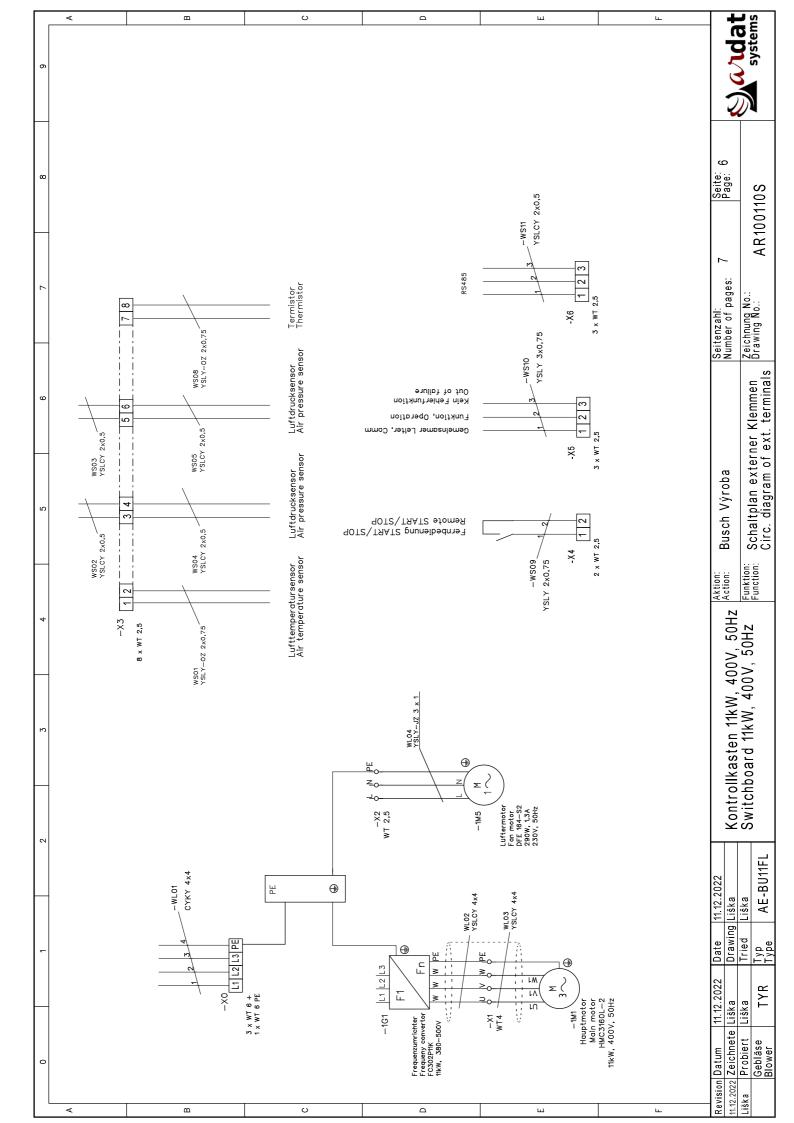


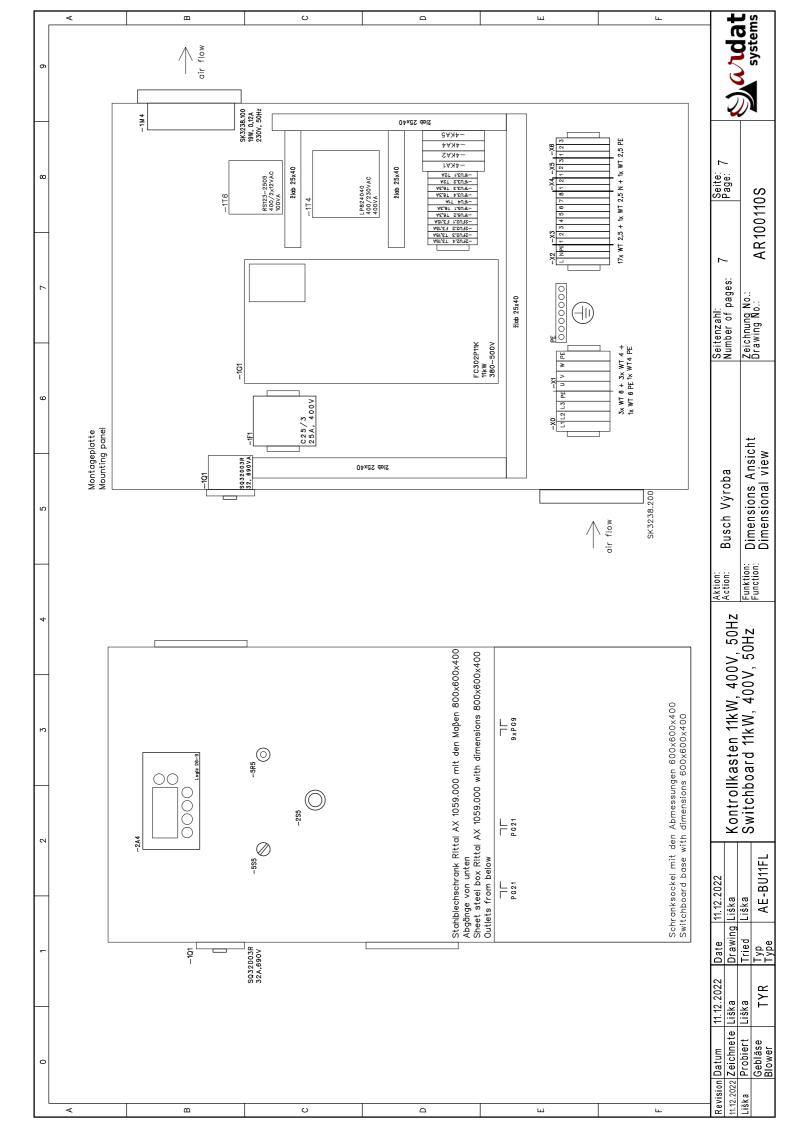












Function (=) Location (+) =EC +1C1 =EC +1F1	-1F1 -1M1	Sheet	Cell	Description Circuit breaker Main motor	Type C25/3, 400V 11kW, 400V, 50Hz
+101	-161	-	~	Frequeny convertor	FC302P11K
+181	101	-	- 1	Main switch	SQ032003R, 32A, 690V
+103	-1FU3.4 -1FU3.3		m m	Fuse Tuse	T6,3A, 500V T6,3A, 500V
+1B3	-1FU3.2	-	ъ	т по по	T2A, 500V
+1B3	-1FU3.1	-	3	Fuse	T2A, 500V
+1C4	-1T4	1	4	Transformer	LP824040, 400/230V, 400VA
+104	-1FU4	1	4	Fuse	T1A, 250V
+1E4	-1M4	1	4	Switchboard fan	SK3238.100, 19W
+1F5	-1M5	1	5	Blower fan	DFE 164-S2, 290W
+105	-1FU5.2	-	2	Fuse	T6,3A, 250V
+105	-1FU5.1	-	2	Fuse	T6,3A, 250V
+1B6	-116	1	9	Transformer	RS123-2505, 400/24/12VAC, 100VA
+2D2	-2FU2.2	2	2	Fuse	T 3,15A, 250V
+2C2	-2FU2.4	2	2	Fuse	F3,15A, 250V
+2C2	-2FU2.3	2	2	Fuse	F 3,15A, 250V
+2D2	-2FU2.1	2	2	Fuse	T 3,15A, 250V
+2B4	-2A4	2	4	Logik 26-S	Logik 26-S
+2D5	-2S5	2	5	Emergency stop	PPFN1R4N
+3E1	-3B1	ъ	-	Temperature sensor	KTY
+3E2	-3B2	ы	2	Pressure sensor	4-20mA
+3E3	-3B3	3	3	Pressure sensor	4-20mA
+3D5	-285	ы	2	Emergency stop	PPFN1R4N
+4E1	-4KA1	4	-	Relay	XT484R24
+4E3	-4KA2	4	2	Relay	XT484R24
+4E4	-4KA4	4	4	Relay	XT484R24
+4E5	-4KA5	4	2	Relay	XT484R24
+505	-285	5	5	Emergency stop	74N
Adat systems	Gebläse TYR Blower TYR	TYR FYR		Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz	Aktion: Busch Výroba Type: AE-BU11FL 11.12.2022  Funktion: List of Products Drawing No.: AR100110S Page: 1

		PSMB5D0	MM229490, 4K7 Ohm															1	Aktion: Busch Výroba Type: AE-BU11FL 11.12.2022 Funktion: List of Products Drawing No.: AR100110S Page: 2
	Type	PSME	MM23	PTC														-	Aktion: Action: Funktion: Function
List of Products	Description	Switch MAN/AUTO	Potenciometr	Thermistor															Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	Cell	5	2	2															
	Sheet	ιΩ	5	വ															TYR TYR
	Product (-)	-585	-5R5	-5B5															Gebläse TYR Blower TYR
	Location (+)	+5B5	+5D5	+505															\alpha\dat systems
	Function (=)	=EC	=EC	=EC															700 M

	Cell	<b>~</b>	1	_	1													Date: 13.12.2022 Seite: Page: 1
	Sheet	_	1	1	1													Typ: AE-BU11FL Zeichnung No.: AR100110S
	Type	WT 6	WT 6	WT 6	WT 6 PE													Aktion: Busch Výroba Funktion: List of Terminals
of Terminals: -X0	Terminal	L1	L2	L3	PE													
List of Term	Product (-)	-X0:L1	-X0:L2	-X0:L3	-X0:PE													Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	Location (+)	+1A1	+1A1	+1A1	+1A2													Gebläse TYR Blower TYR
	Function (=)	=EC	=EC	=EC	=EC													Systems systems

	Cell	5	5	5															Date: 13.12.2022 Seite: Page: 3
	Sheet	<b>~</b>		~															AE-BU11FL No.: AR100110S
																		<u> </u>	Typ: Type: Zeichnung Drawing N
	Туре	WT 2,5	WT 2,5	WT 2,5 PE															Aktion: Action: Busch Výroba Funktion: List of Terminals Function:
s: -X2	inal																		
of Terminals: -X2	Terminal		Z	PE															,, 50Hz 50Hz
List of T	Product (-)	-X2:L	-X2:N	-X2:PE															Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	_	l	l	ι															
	Location (+)	+1E5	+1E5	+1E5															Gebläse TYR Blower TYR
	Function (=)	=EC	=EC	=EC															Systems systems

		List of Termin	of Terminals: -2A4			
Function (=)	Location (+)	Product (-)	Terminal	Туре	Sheet	Cell
=EC	+2B4	-2A4:M1	M	+12VAC	2	4
=EC	+2B4	-2A4:M1	M1	-12VAC	2	4
=EC	+5C1	-2A4:M2	M2	GND	5	<b>~</b>
=EC	+5C1	-2A4:M2	M2	D-	5	1
=EC	+5C1	-2A4:M2	M2	D+	5	1
=EC	+5C1	-2A4:M2	M2	+12VDC	r <sub>C</sub>	~
=EC	+3C1	-2A4:M3	M3	KTY	33	~
=EC	+3C1	-2A4:M3	M3	KTY	3	~
=EC	+362	-2A4:M3	M3	4-20mA	23	2
=EC	+3C2	-2A4:M3	M3	+24VDC	23	2
=EC	+303	-2A4:M3	M8	4-20mA	3	3
=EC	+3C3	-2A4:M3	M8	+24VDC	3	3
=EC	+3C4	-2A4:M4	M4	GND	3	4
=EC	+3C4	-2A4:M4	M4	<b>-</b>	3	4
=EC	+3C4	-2A4:M4	M4	N	3	4
=EC	+305	-2A4:M4	M4	꼰	3	5
=EC	+2C5	-2A4:M5	M5	Emergency stop	3	5
=EC	+3C6	-2A4:M5	M5	Thermal motor	3	9
=EC	+306	-2A4:M5	M5	Thermal fan	3	9
=EC	+3C7	-2A4:M5	MS	Remote START/STOP	3	7
=EC	+3C7	-2A4:M5	MS	Air filter pressure switch	3	7
=EC	+3C8	-2A4:M5	M5	Separator filter differential pressure s	switch 3	8
=EC	+3C8	-2A4:M5	M5	Common N24VAC	3	80
=EC	+4C1	-2A4:M6	M6	Main	4	1
=EC	+4C1	-2A4:M6	M6	C-out	4	1
=EC	+4C2	-2A4:M6	M6	Delta	4	2
=EC	+4C3	-2A4:M6	M6	Selenoid valve	4	3
=EC	+4C3	-2A4:M6	M6	Star	4	23
=EC	+4C4	-2A4:M6	M6	Fan contactor	4	4
=EC	+4C5	-2A4:M6	M6	Alarm	4	5
Sandat	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz		Aktion: Busch Výroba Typ: AE-I Funktion: List of Terminals Zeichnung No.:	_ m	Date: 13.12.202 Seite:
3,3161113					No.: ARTUUTIUS	

		List of Terminals: -2A4	inals: -2A4				
Function (=)	Location (+)	Product (-)	Terminal	Туре		Sheet	Cell
	+4C5	-2A4:M6	M6	CONDENSATE DRAID SOLENOID VA	VALVE	4	Ω
	+5C2	-2A4:M8	M8	GND		5	2
	+5C2	-2A4:M8	M8			5	2
	+5C2	-2A4:M8	M8	D+		5	2
(andat	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz		Aktion: Busch Výroba Type: Action: Busch Výroba Type: Funktion: List of Terminals Zeichnu	AE-B	U11FL	Date: 13.12.2022 Seite:
~				Function: Fig. 6:		4 K 100 1100	Page: 5

	Sheet Cell	5	3	3 2	3 2	3 3	3 3	5 5	5												AE-BU11FL 13.12.2022 No.: AR100110S Page: 6
	Туре	WT 2,5	WT 2,5	WT 2,5	WT 2,5	WT 2,5	WT 2,5	WT 2,5	WT 2,5												Aktion: Busch Výroba Type: AE-E Funktion: List of Terminals Drawing No.:
of Terminals: -X3	Terminal		2	3	۷	5	۸ 9	Λ /	8												
List of Ter	Product (-)	-X3:1	-X3:2	-X3:3	-X3:4	-X3:5	-X3:6	-X3:7	-X3:8												Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	Location (+)	+3D1	+3D1	+3D2	+3D2	+3D3	+3D3	+5C5	+5C5												Gebläse TYR Blower TYR
	Function (=)	+ =EC	=EC +	=EC	=EC +	=EC +	=EC +	=EC	=EC +												Systems systems

	Cell	7	7														Date: 13.12.2022 Seite: Page: 7
	Sheet	3	3														Typ: Type: AE-BU11FL Zeichnung No.: AR100110S
	Type	WT 2,5	WT 2,5														Aktion: Busch Výroba Action: Busch Výroba Funktion: List of Terminals
of Terminals: -X4	Terminal	_	2														Hz H
List of Ter	Product (-)	-X4:1	-X4:2														Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	Location (+)	+3D7	+3E7														Gebläse TYR Blower TYR
	Function (=)	=EC	=EC														Systems systems

	Cell	7	7	∞															Date: 13.12.2022 Seite: S Page: 8
	Sheet	4	4	4														=======================================	ýroba Typ: AE-BU11FL Type: AE-BU11FL Terminals Zeichnung No.: AR100110S
	Туре	WT 2,5	WT 2,5	WT 2,5															Aktion: Busch Výroba Funktion: List of Terminals
of Terminals: -X5	Terminal	_	2	3															50Hz Hz
List of Te	Product (-)	-X5:1	-X5:2	-X5:3															Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz
	Location (+)	+4E7	+4E7	+4E8															Gebläse TYR Blower TYR
	Function (=)	=EC	=EC	=EC															Systems systems

		List of Termi	of Terminals: -X6			
Function (=)	Location (+)	Product (-)	Terminal	Туре	Sheet	Cell
=EC	+5E1	-X6:1	_	WT 2,5	5	~
	+5E1	-X6:2	2	WT 2,5	5	<b>~</b>
	+5E1	-X6:3	3	WT 2,5	5	1
Adat systems	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz		Aktion: Busch Výroba Type: AE-E Funktion: List of Terminals Drawing No:	U11FL AR100110S	Date: 13.12.2022 Seite: Page: 0

		List of Termi	of Terminals: -1G1			
Function (=)	Location (+)	Product (-)	Terminal	Туре	Sheet	Cell
=EC	+3D6	-161:1	_	Relay 1 Failure of FC	3	9
=EC	+3D6	-161:3	3	Relay 1 Failure of FC	3	9
=EC	+4D7	-161:4	4	Relay 2 Operation FC	4	7
=EC	+4D7	-161:5	5	Relay 2 Operation FC	4	7
=EC	+586	-161:12	12	(+24V OUT)	2	9
=EC	+586	-161:18	18	(D IN) START	2	9
=EC	+586	-161:19	19	(D IN) SETUP1 - MAN, SETUP2 - AUTO	2	9
=EC	+506	-161:27	27	(D IN/OUT)	2	9
=EC	+506	-161:37	37	(D IN) STO	2	9
=EC	+5D6	-161:33	33	(D IN) Thermistor	D.	9
=EC	+5D6	-161:50	50	(+10V OUT)	5	9
=EC	+5D6	-161:53	53	(A IN) 4-20mA	D.	9
=EC	+5D6	-161:55	55	(COM A IN)	5	9
=EC	+5E6	-1G1:GND	GND	GND	2	9
=EC	+5E6	-161:1	_	Relay 1 Failure of FC	5	9
=EC	+5E6	-161:2	2	Relay 1 Failure of FC	5	9
=EC	+5E6	-1G1:3	3	Relay 1 Failure of FC	5	9
=EC	+5E6	-1G1:68	68	Control FC	5	9
=EC	+5E6	-1G1:69	69	Control FC	5	9
=EC	+5F6	-161:4	4	Relay 2 Operation FC	5	9
=EC	+5F6	-161:5	5	Relay 2 Operation FC	5	9
8), and at	Gebläse TYR	Kontrollkasten 11kW, 400V, 50Hz		Typ: Type:	AE-BU11FL	Date: 13.12.2022
systems		SWITCHBOARD TIKW, 400V, 50HZ		Function: List of Terminals Drawing No.:	AR100110S	Seite: Page: 10

			List of Cables	Sables			
Function (=)	Location (+)	Cablename (-)	Description	Connection 1	Connection 2	Sheet	Cell
=EC	+6B1	-WL01	CYKY 4x4	=EC+6B1-Power supply	=EC+6B1-X0	9	1
=EC	+1E1	-WL02	YSLCY 4x4	=EC+1D1-1G1	=EC+1E1-X1	1	1
=EC	+1E1	-WL03	YSLCY 4x4	=EC+1E1-X1	=EC+1F1-1M1	1	_
=EC	+1E5	-WL04	YSLY 3x1	=EC+1E5-X2	=EC+1F5-1M5	1	5
=EC	+3D1	-WS01	YSLY 2x0,75	=EC+3D1-X3	=EC+3E1-3B1	3	1
=EC	+3D2	-WS02	YSLCY 2x0,5	=EC+3C2-2A4	=EC+3D2-X3	3	2
=EC	+3D3	-WS03	YSLCY 2x0,5	=EC+3C3-2A4	=EC+3D3-X3	3	3
=EC	+3D2	-WS04	YSLCY 2x0,5	=EC+3D2-X3	=EC+3D2-X3	3	2
=EC	+3D3	-WS05	YSLCY 2x0,5	=EC+3D3-X3	=EC+3D3-X3	3	3
=EC	+5D1	-WS06	YSLCY 2x0,5	=EC+5C1-2A4	=EC+5E1-X6	5	1
=EC	+5D2	-WS07	YSLCY 2x0,5	=EC+5C2-2A4	=EC+5E6-1G1	5	2
=EC	+505	-WS08	YSLY 2x0,75	=EC+5C5-5B5	=EC+5C5-X2	5	S
=EC	+6E5	-WS09	YSLCY 2x0,5	=EC+6E5-X4	=EC+6E5-Remote Start/Stop	9	5
=EC	+6E6	-WS10	YSLY 3x0,75	=EC+6E6-X5	=EC+6E6—External signals	9	9
=EC	+6E7	-WS11	YSLCY 2x0,5	=EC+6E7-X5	=EC+6E5-Ext. communication	9	7
		Took	rollkasten 11kW 400V	50H7	Aktion: Busch Vároba	Typ:	Date:
Systems	Blower TYR	Swit	Switchboard 11kW, 400V, 50Hz	HZ		Type: AE-BOTIFL Zeichnung No.: AR100110S	
1							

		Wire list			
ON	From	To	Туре	Colour   Sq	Square
L1.1	=EC+1A1-X0:L1	=EC+1B1-1Q1:1	HO7 V-K 1x4. Black	BK	4
L2.1	=EC+1A1-X0:L2	=EC+1B1-1Q1:3	HO7 V-K 1x4. Black	BK	4
L3.1	=EC+1A1-X0:L3	=EC+1B1-1Q1:5	HO7 V-K 1x4. Black	BK	4
L1.2	=EC+1B1-1Q1:2	=EC+1C1-1F1:1	HO7 V-K 1x4. Black	BK	4
L2.2	=EC+1B1-1Q1:4	=EC+1C1-1F1:3	HO7 V-K 1x4. Black	BK	4
L3.2	=EC+1B1-1Q1:6	=EC+1C1-1F1:5	HO7 V-K 1x4. Black	BK	4
L1.3	=EC+1C1-1F1:2	=EC+1D1-1G1:L1	H07 V-K 1x4. Black	Bk	4
L2.3	=EC+1C1-1F1:4	=EC+1D1-1G1:L2	H07 V-K 1x4. Black	Bk	4
L3.3	=EC+1C1-1F1:6	=EC+1D1-161:L3	HO7 V-K 1x4. Black	Bk	4
PE	=EC+1A2-X0:PE	=EC+1A2PE	HO7 V-K 1x4. G/Y	GY	4
PE	=EC+1E1PE	=EC+1E1-X1:PE	HO7 V-K 1x4. G/Y	GY	4
PE	=EC+1E5PE	=EC+1E4-1M4:PE	H05 V-K 1x1. G/Y	GY	_
PE	=EC+1E5PE	=EC+1E5-X2:PE	H05 V-K 1x1. G/Y	GY	_
C1	=EC+1C1-1F1:2	=EC+1B3-1FU3.1:1	H07 V-K 1x1,5. Black	Bk	1,5
C2	=EC+1C1-1F1:4	=EC+1B3-1FU3.2:1	H07 V-K 1x1,5. Black	BK	1,5
C3	=EC+1B3-1FU3.1:1	=EC+1C3-1FU3.3:1	HO7 V-K 1x1,5. Black	BK	1,5
C4	=EC+1C3-1FU3.4:1	=EC+1B3-1FU3.2:1	H07 V-K 1x1,5. Black	BK	1,5
C5	=EC+1B3-1FU3.1:2	=EC+1B6-1T6:1	HO7 V-K 1x1,5. Black	Bk	1,5
90	=EC+1B3-1FU3.2:2	=EC+1B6-1T6:2	H07 V-K 1x1,5. Black	BK	1,5
C7	=EC+1C3-1FU3.3:2	=EC+1C4-1T4:1	HO7 V-K 1x1,5. Black	BK	1,5
C8	=EC+1C3-1FU3.4:2	=EC+1C4-1T4:2	H07 V-K 1x1,5. Black	BK	1,5
60	=EC+1C4-1T4:L230	=EC+1C4-1FU4:1	H05 V-K 1x1. Black	BK	_
C10	=EC+1C4-1FU4:1	=EC+1C5-1FU5.1:1	H05 V-K 1x1. Black	BK	_
C11	=EC+1C4-1T4:N230	=EC+1C5-1FU5.2:1	H05 V-K 1x1. Blue	BU	1
C12	=EC+1C4-1FU4:2	=EC+4E3-4KA2:11	H05 V-K 1x1. Black	BK	_
C13	=EC+4E3-4KA2:14	=EC+1E4-1M4:L	H05 V-K 1x1. Black	BK	_
C14	=EC+1C5-1FU5.1:2	=EC+4E4-4KA4:11	H05 V-K 1x1. Black	BK	_
C15	=EC+4E4-4KA4:14	=EC+1E5-X2:L	H05 V-K 1x1. Black	BK	_
C16	=EC+1C5-1FU5.2:2	=EC+1E5-X2:N	H05 V-K 1x0,5. Blue	BU	_
C17	=EC+1E5-X2:N	=EC+1E4-1M4:N	HO5 V-K 1x0,5. Blue	BU	<b>~</b>
Systems systems	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz	Aktion: Busch Výroba Action: Busch Výroba Funktion: Wire list	Typ: Type: AE-BU11FL Zeichnung No.: AR100110S	Date: 13.12.2022 Seite: Page: 1
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		Wire list			
NO	From	To	Туре	Colour	Square
C18	=EC+L12	=EC+2C2-2FU2.4	H05 V-K 1x0,5. Red	R	0,5
C19	=EC+N12	=EC+2C2-2FU2.3	H05 V-K 1x0,5. Red	R	0,5
C20	=EC+L24.1	=EC+2D2-2FU2.2	H05 V-K 1x0,5. Red	R	0,5
C21	=EC+N24.1	=EC+2D2-2FU2.1	H05 V-K 1x0,5. Red	R	0,5
C22	=EC+2C2-2FU2.4	=EC+2B4-2A4:M1	H05 V-K 1x0,5. Red	R	0,5
C23	=EC+2C2-2FU2.3	=EC+2B4-2A4:M1	H05 V-K 1x0,5. Red	R	0,5
C24	=EC+2D2-2FU2.2	=EC+2D5-2S5:1.1	H05 V-K 1x0,5. Red	R	0,5
C25	=EC+3D5-2S5:2.2	=EC+L24.2	H05 V-K 1x0,5. Red	R	0,5
C26	=EC+L24.3	=EC+4C1-2A4:M6	H05 V-K 1x0,5. Red	R	0,5
C27	=EC+N24.2	=EC+3C8-2A4:M5	H05 V-K 1x0,5. Red	R	0,5
C28	=EC+N24.3	=EC+4E1-4KA1:A2	H05 V-K 1x0,5. Red	R	0,5
C29	=EC+3D5-2S5:2.2	=EC+3C6-2A4:M5	H05 V-K 1x0,5. Red	R	0,5
C30	=EC+3C6-2A4:M5	=EC+3C8-2A4:M5	H05 V-K 1x0,5. Red	R	0,5
C31	=EC+3C8-2A4:M5	=EC+3E7-X4:2	H05 V-K 1x0,5. Red	R	0,5
C32	=EC+3E7-X4:2	=EC+3D6-101:1	H05 V-K 1x0,5. Red	R	0,5
C33	=EC+3D5-2S5:2.1	=EC+2C5-2A4:M5	H05 V-K 1x0,5. Red	R	0,5
C34	=EC+3D6-1G1:3	=EC+3C6-2A4:M5	H05 V-K 1x0,5. Red	R	0,5
C35	=EC+3D7-X4:1	=EC+3C7-2A4:M5	H05 V-K 1x0,5. Red	œ	0,5
C36	=EC+4E1-4KA1:A2	=EC+4E3-4KA2:A2	H05 V-K 1x0,5. Red	R	0,5
C37	=EC+4E3-4KA2:A2	=EC+4E4-4KA4:A2	H05 V-K 1x0,5. Red	R	0.5
C38	=EC+4E4-4KA4:A2	=EC+4E5-4KA5:A2	H05 V-K 1x0,5. Red	R	0,5
C39	=EC+4C1-2A4:M6	=EC+4E1-4KA1:A1	H05 V-K 1x0,5. Red	R	0,5
C40	=EC+4E1-4KA1:A1	=EC+4E3-4KA2:A1	H05 V-K 1x0,5. Red	R	0,5
C41	=EC+4C4-2A4:M6	=EC+4E4-4KA4:A1	H05 V-K 1x0,5. Red	R	0,5
C42	=EC+4C5-2A4:M6	=EC+4E5-4KA5:A1	H05 V-K 1x0,5. Red	R	0,5
C43	=EC+4E7-X5:1	=EC+4E5-4KA5:11	H05 V-K 1x0,5. Orange	OR	0,5
C44	=EC+4E5-4KA5:11	=EC+4D7-1G1:4	H05 V-K 1x0,5. Orange	OR	0,5
C45	=EC+4D7-1G1:5	=EC+4E1-4KA1:21	H05 V-K 1x0,5. Orange	OR	0,5
C46	=EC+4E1-4KA1:24	=EC+4E7-X5:2	H05 V-K 1x0,5. Orange	OR	0,5
C47	=EC+4E5-4KA5:12	=EC+4E8-X5:3	H05 V-K 1x0,5. Orange	OR	0,5
&) and at	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz	Sus	Typ: Type: AE-BU11FL	Date: 13.12.2022 Saita:
systems			Function: Wire list	Drawing No.: AR100110S	110S Page: 2

		Wire list			
ON	From	То	Туре	Colour	Square
C48	=EC+5B6-1G1:12	=EC+5B5-4KA1:14	H05 V-K 1x0,5. Dark Blue	DB	0,5
C49	=EC+4E1-4KA1:14	=EC+5C5-X3:7	H05 V-K 1x0,5. Dark Blue	DB	0,5
020	=EC+5C5-X3:7	=EC+5C5-2S5:3.1	H05 V-K 1x0,5. Dark Blue	DB	0,5
C51	=EC+5C5-2S5:3.1	=EC+5B5-5S5:4	H05 V-K 1x0,5. Dark Blue	DB	0,5
C52	=EC+4E1-4KA1:11	=EC+5B6-1G1:18	H05 V-K 1x0,5. Dark Blue	DB	0,5
C53	=EC+5B5-5S5:3	=EC+5B6-1G1:19	H05 V-K 1x0,5. Dark Blue	DB	0,5
C54	=EC+5C6-1G1:27	=EC+5C6-1G1:37	H05 V-K 1x0,5. Dark Blue	DB	0,5
C54	=EC+5C5-2S5:3.2	=EC+5C6-1G1:27	H05 V-K 1x0,5. Dark Blue	DB	0,5
C55	=EC+5C5-X3:8	=EC+5D6-1G1:33	H05 V-K 1x0,5. Dark Blue	DB	0,5
056	=EC+5D5-5R5:1	=EC+5D6-1G1:50	H05 V-K 1x0,5. Dark Blue	DB	0,5
C57	=EC+5D5-5R5:3	=EC+5D6-1G1:53	H05 V-K 1x0,5. Dark Blue	DB	0,5
C58	=EC+5D5-5R5:2	=EC+5D6-1G1:55	H05 V-K 1x0,5. Dark Blue	DB	0,5
C59	=EC+3C1-2A4:M3	=EC+3D1-X3:1	H05 V-K 1x0,5. Dark Blue	BO	0,5
090	=EC+3C1-2A4:M3	=EC+3D1-X3:2	H05 V-K 1x0,5. Dark Blue	DB	0,5
				<u> </u>	
Systems systems	Gebläse TYR Blower TYR	Kontrollkasten 11kW, 400V, 50Hz Switchboard 11kW, 400V, 50Hz	Aktion: Busch Výroba Action: Busch Výroba Funktion: Wire list	Type: AE-BU11FL Zeichnung No.: AR100110S	Date: 13.12.2022 Seite: Seite: 3
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