

# project: CoolingWaterPump\_enhanced\_2009



Order: Order

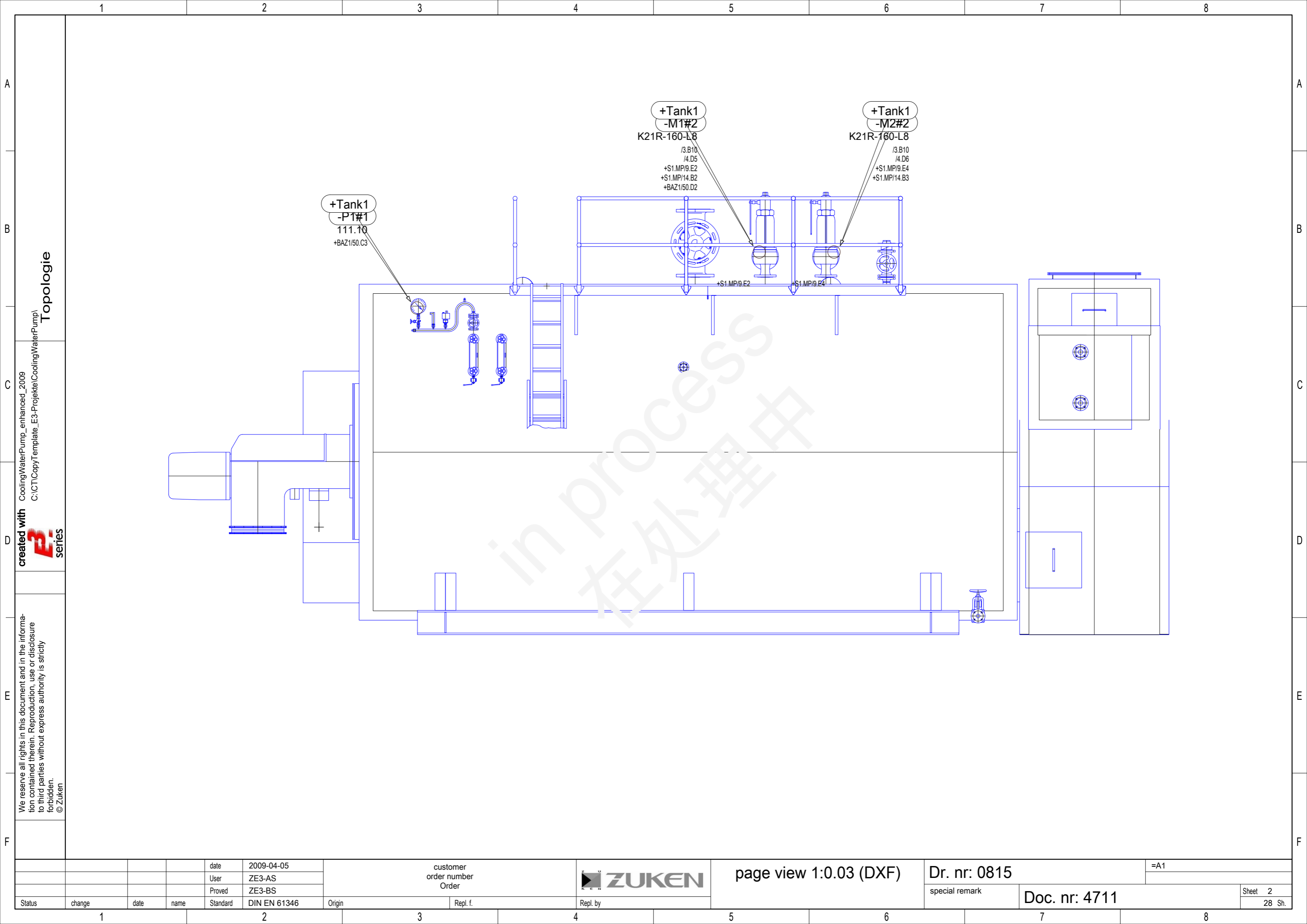
## Contents:

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  - 6 Panel (1:20) =A1, total
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  - 6\_S1\_V2 2D-View +S1 door
  - 7 supply
  - 8 Power supply, 24V DC
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  - 40 cable plan -W1
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- \*\* the drawing contains further sheets \*\*

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		date		2009-04-05		customer order number				cover sheet		Dr. nr: 0815			
		User		ZE3-AS											
		Proved		ZE3-BS											
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by			special remark		Doc. nr: 4711		Sheet 0
1				2		3		4	5	6	7	8			28 Sh.

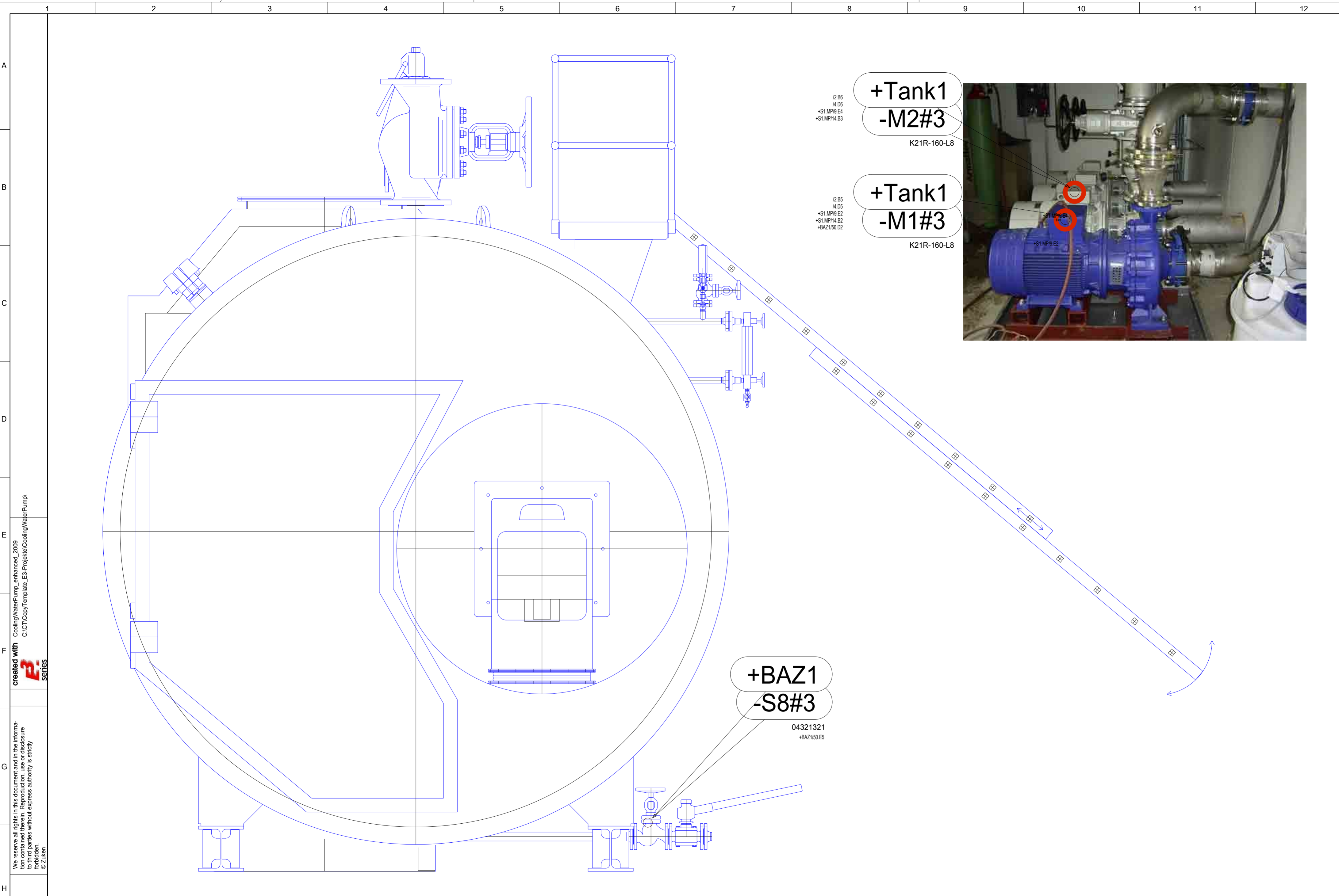


Topologie

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		date	2009-04-05		customer order number		page view 1:0.03 (DXF)		Dr. nr: 0815		=A1	
		User	ZE3-AS		Order		ZUKEN		special remark		Sheet 2	
		Proved	ZE3-BS		Repl. f.		Repl. by		Doc. nr: 4711		28 Sh.	
Status	change	date	name	Standard	DIN EN 61346	Origin						



+Tank1  
-M2#3  
K21R-160-L8

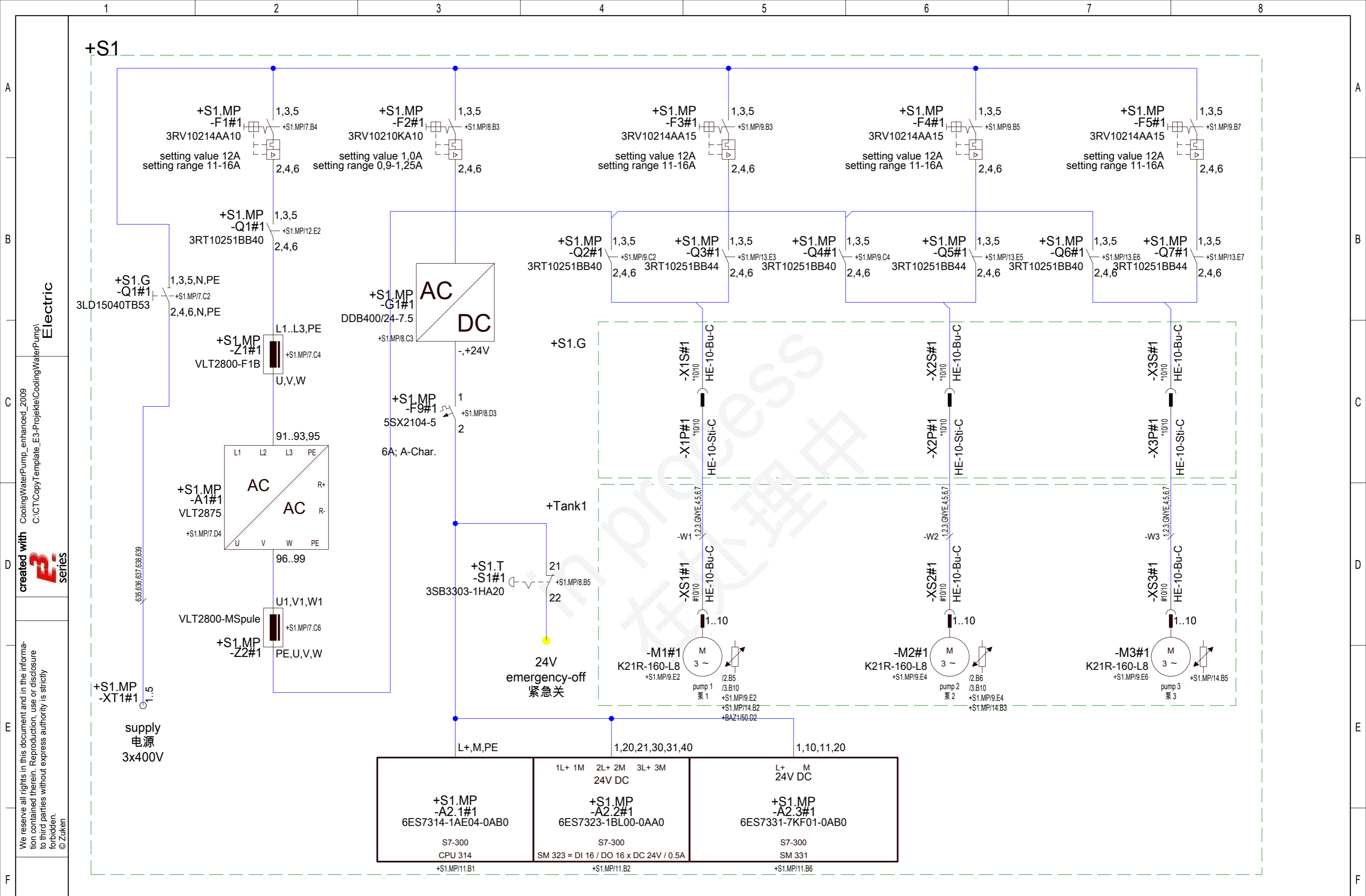
+Tank1  
-M1#3  
K21R-160-L8

+BAZ1  
-S8#3  
04321321  
+BAZ1/50.E5



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Status		change	date	name	Standard	Origin	Repl. f.	Repl. by	top view 1:0.075 (DXF)		Dr. nr: 0815		=A1
					DIN EN 61346				ZUKEN		special remark		Sheet 3
											Doc. nr: 4711		28 Sh.



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date	2009-04-05
User	ZE3-AS
Proved	ZE3-BS
Status	change
date	
name	
Standard	DIN EN 61346
Origin	

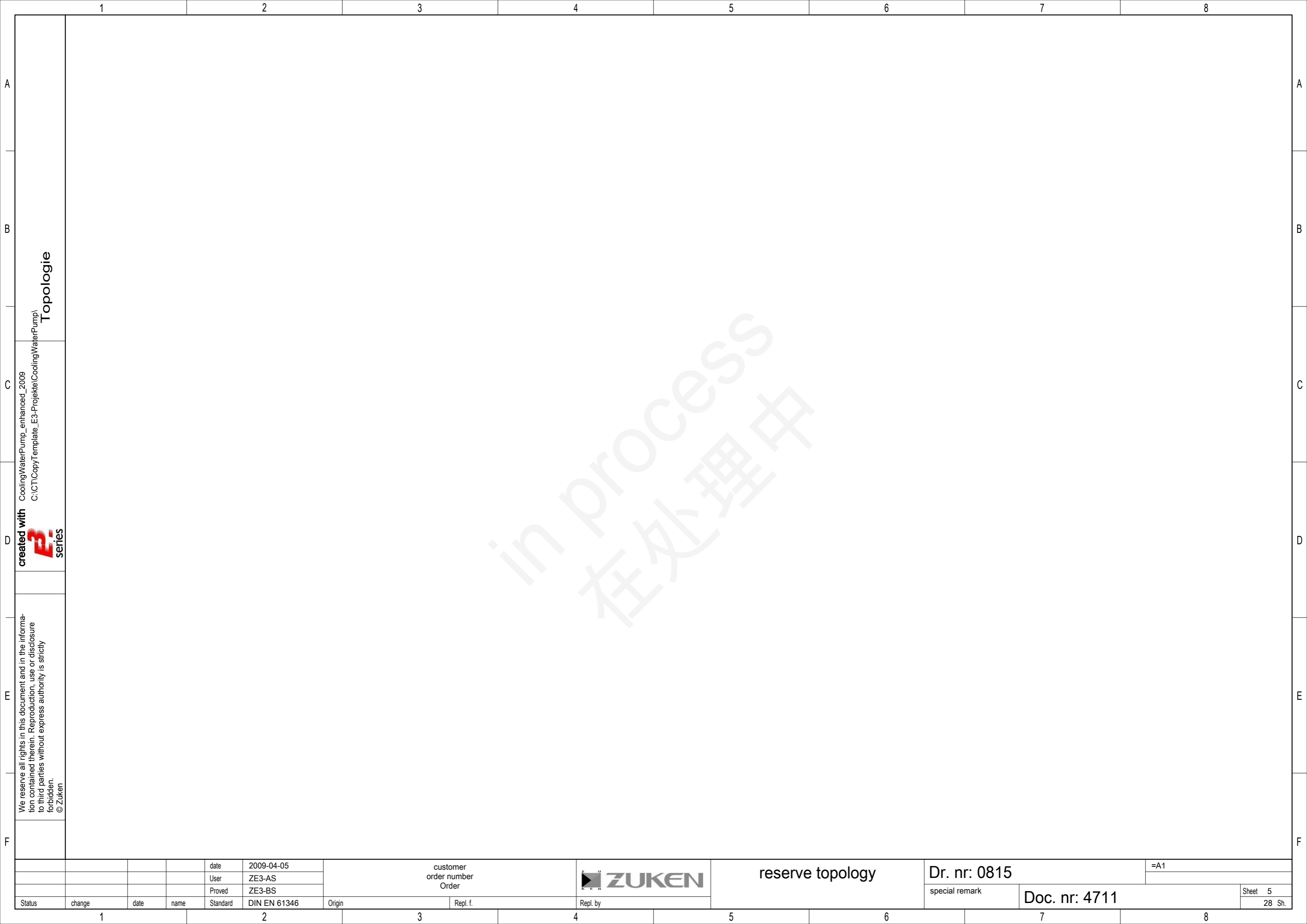
customer order number	
Order	
Repl. f.	



Single line

Dr. nr: 0815	=A1
special remark	
Doc. nr: 4711	

Sheet 4
28 Sh.



1 2 3 4 5 6 7 8

A

B

C

D

F

F

**Topologie**

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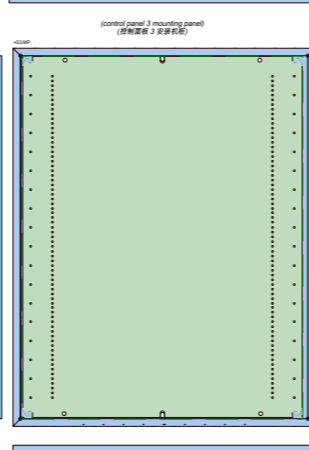
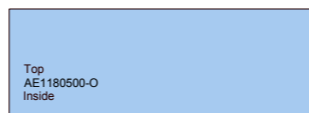
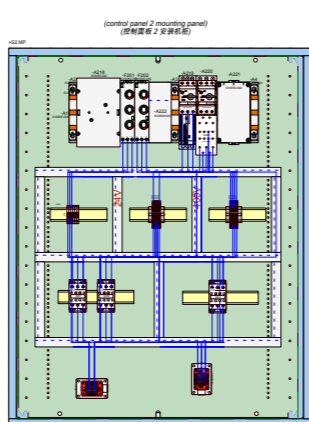
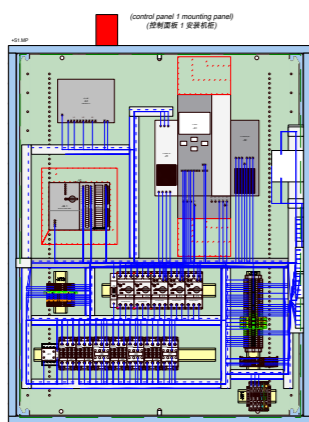
				date	2009-04-05	customer order number Order			reserve topology	Dr. nr: 0815		=A1
			User	ZE3-AS	special remark					Doc. nr: 4711	Sheet 5	
			Proved	ZE3-BS							28 Sh.	
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by				

1 2 3 4 5 6 7 8

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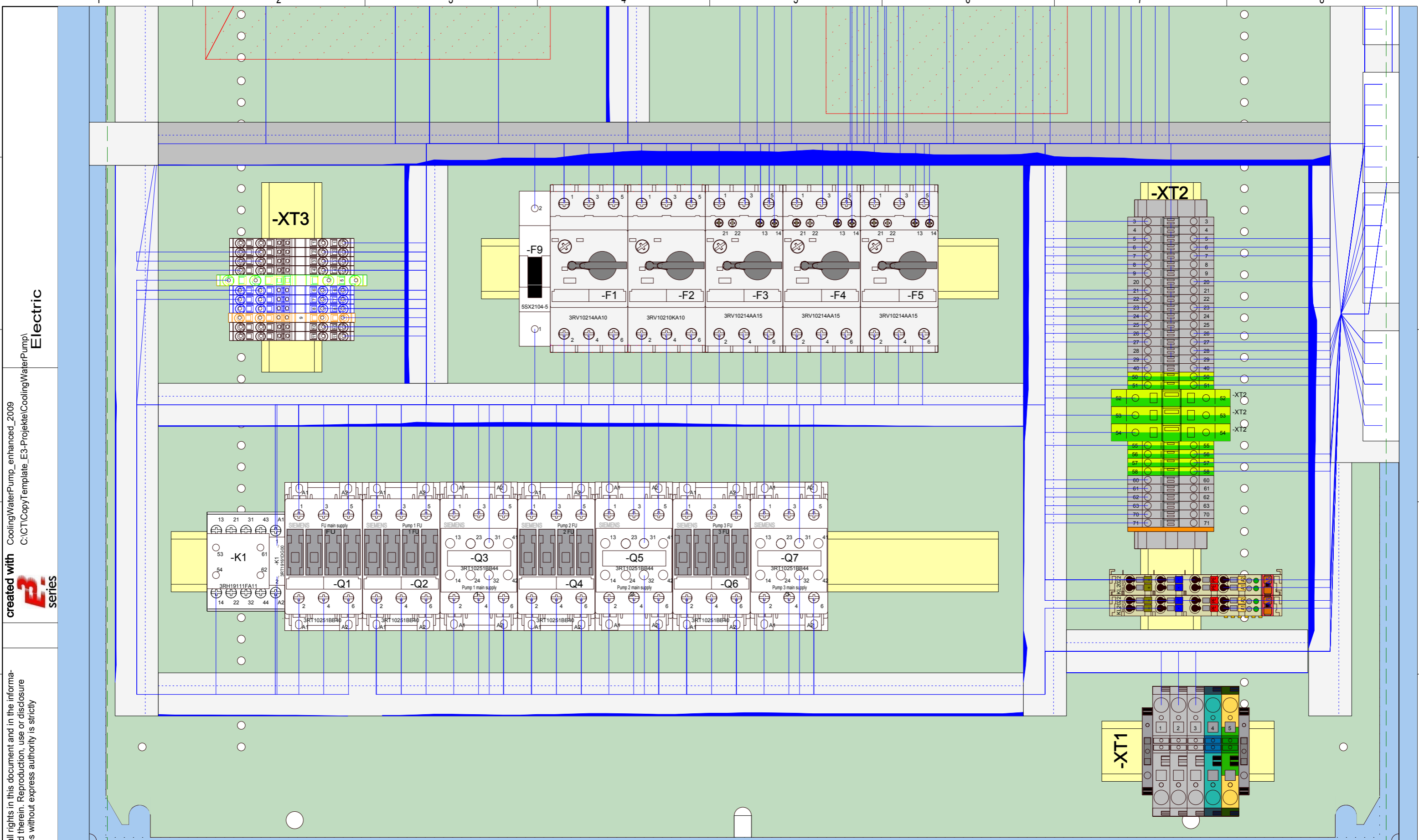
date	2009-04-05
User	ZE3-AS
Proved	ZE3-BS
Standard	DIN EN 61346

customer order number	
Order	
Origin	
Repl. f.	



Panel (1:20) =A1  
total

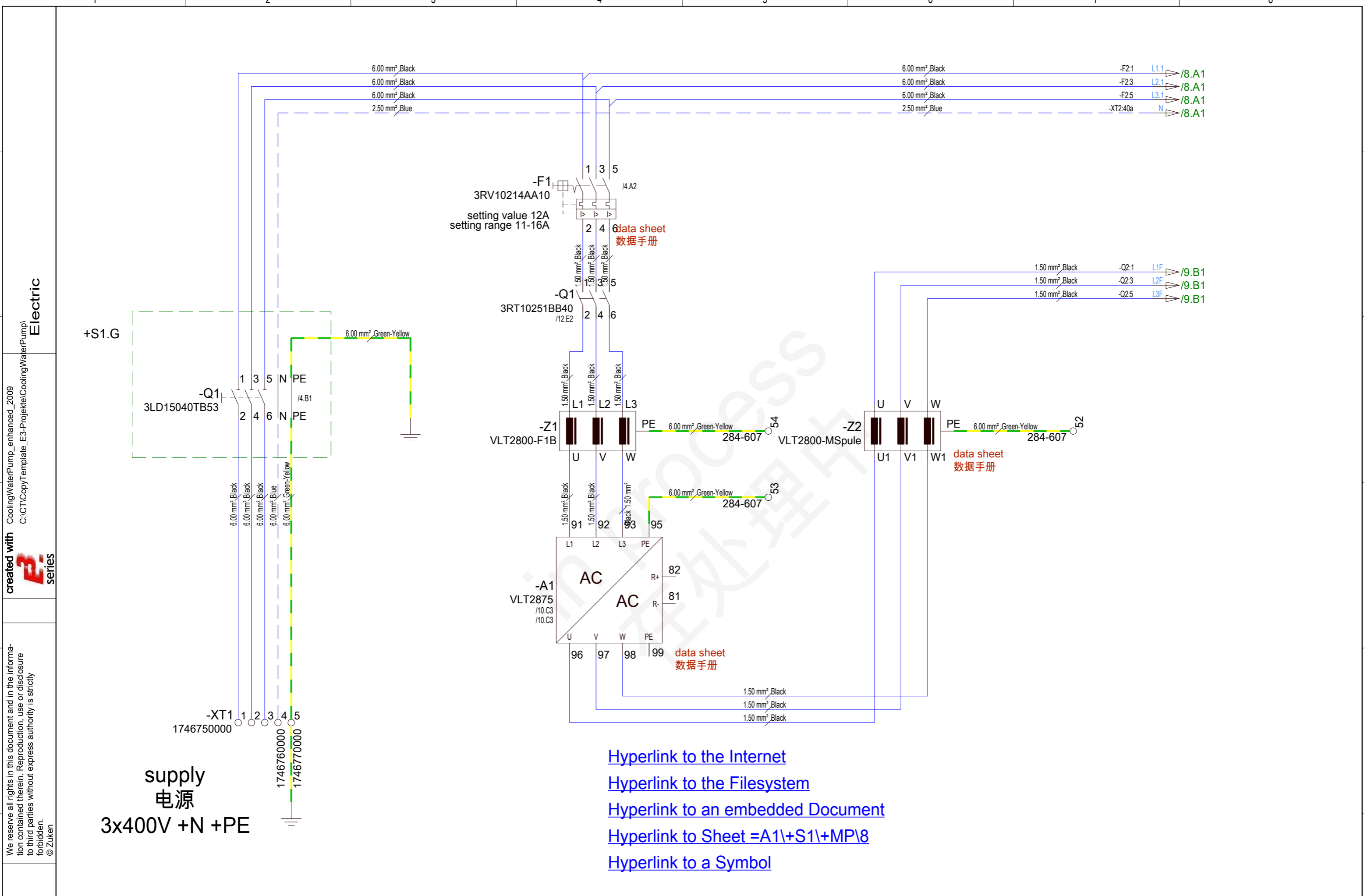
Dr. nr: 0815	=A1
special remark	Doc. nr: 4711
	Sheet 6 28 Sh.



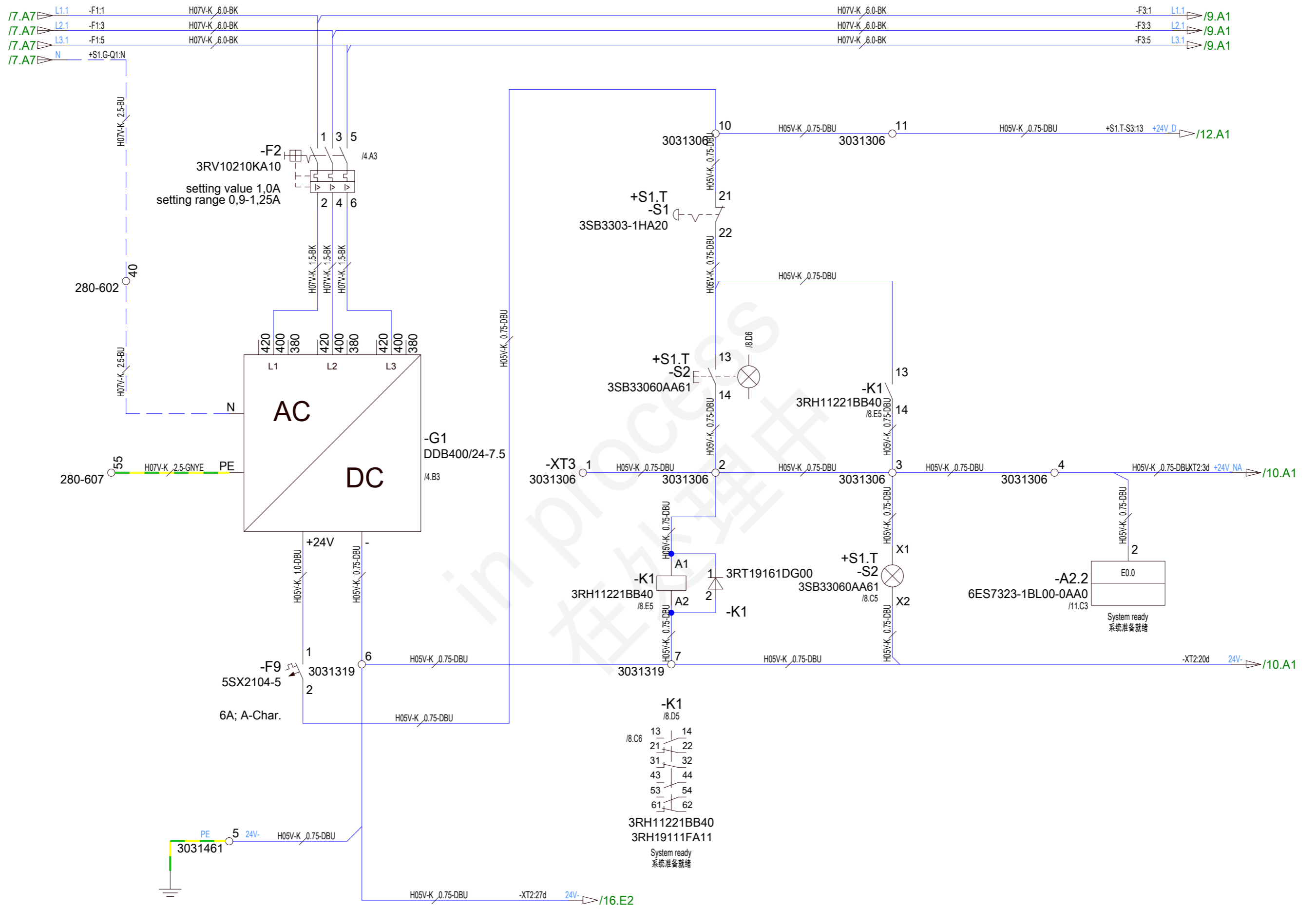
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date		2009-04-05		customer order number		Panel (1:2) =A1 +S1.MP		Dr. nr: 0815		=A1	
User		ZE3-AS		Order		ZUKEN		special remark		Sheet 6.2	
Proved		ZE3-BS		Repl. f.		Repl. by		Doc. nr: 4711		28 Sh.	
Status	change	date	name	Standard	DIN EN 61346	Origin					



date		2009-04-05		customer order number		Order		ZUKEN		supply		Dr. nr: 0815		=A1	
User		ZE3-AS		Order										+S1.MP	
Proved		ZE3-BS		Origin		Repl. f.		Repl. by		special remark		Doc. nr: 4711		Sheet 7	
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by							28 Sh.



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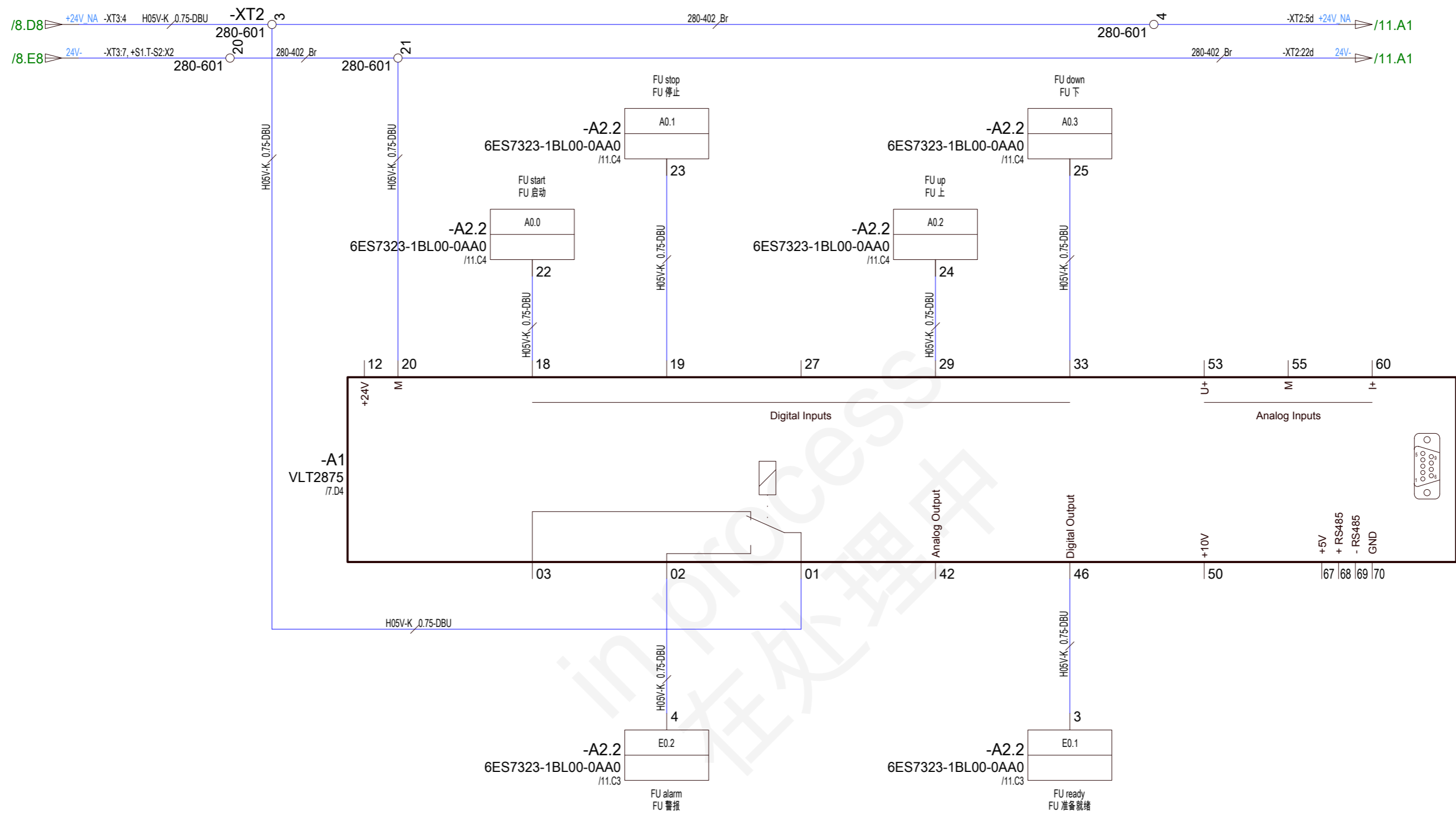
date		2009-04-05		customer order number		Order		Dr. nr: 0815		=A1	
User		ZE3-AS		Order				special remark		+S1.MP	
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Status	change	date	name	Standard	DIN EN 61346	Origin					28 Sh.



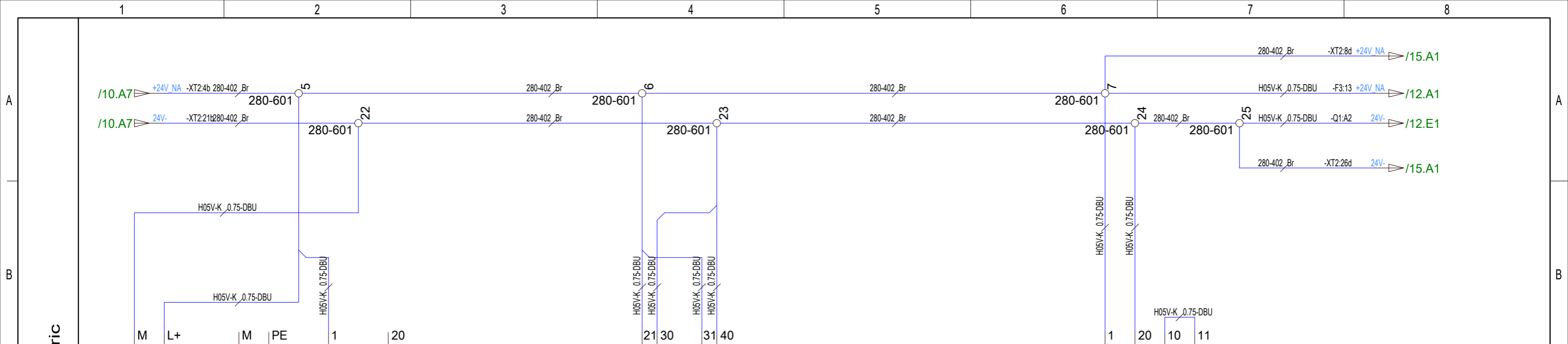
Power supply, 24V DC

Doc. nr: 4711



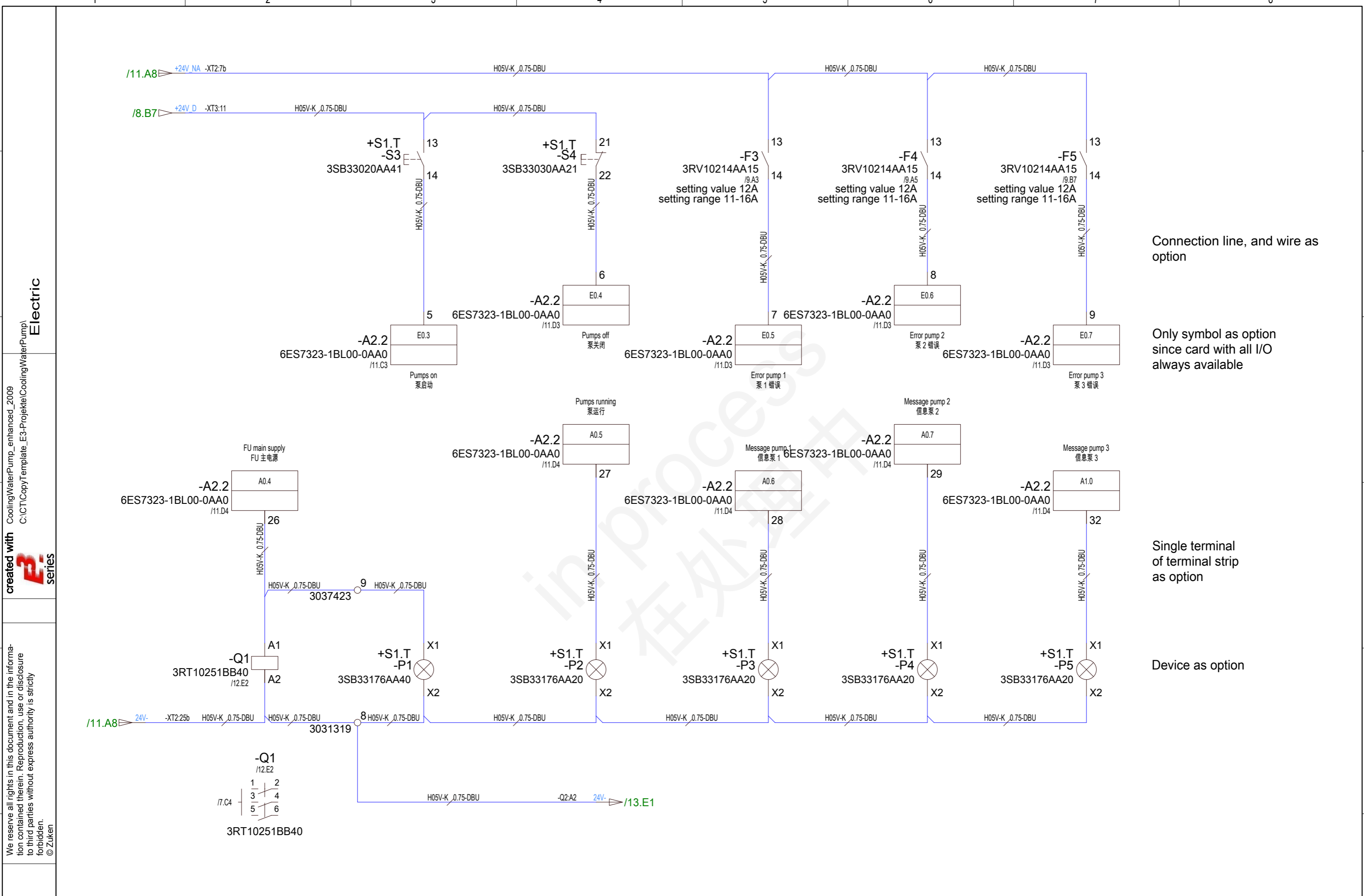


date		2009-04-05		customer order number		Order		ZUKEN		Frequency control		Dr. nr: 0815		=A1	
User		ZE3-AS		Order										+S1.MP	
Proved		ZE3-BS		Repl. f.		Repl. by						special remark		Sheet 10	
Status	change	date	name	Standard	DIN EN 61346	Origin							Doc. nr: 4711		28 Sh.



-A2.1 6ES7314-1AE04-0AB0		1L+ 24V DC 1M		-A2.2 6ES7323-1BL00-0AA0		2L+ 2M 3L+ 3M 24V DC		S7-300 SM 323 = DI 16 / DO 16 x DC 24V / 0.5A		L+ M COMP 24V DC 24V DC S7-300 SM 331 AI 8 x 12Bit				-A2.3 6ES7331-7KF01-0AB0			
S7-300 CPU 314		○ 2	E0.0	/8.D7	System ready 系统准备就绪	○ 22	A0.0	/10.B3	FU start FU 启动	○	U / I / Thermo Couple		R				
		○ 3	E0.1	/10.E6	FU ready FU 准备就绪	○ 23	A0.1	/10.B4	FU stop FU 停止	○ 2	M0+	CH0	M0+	CH0	EW272	/14.E7	M-Cooling water temperature M-冷却水温度
		○ 4	E0.2	/10.E4	FU alarm FU 警报	○ 24	A0.2	/10.B5	FU up FU 上	○ 3	M0-		M0-				
		○ 5	E0.3	/12.C3	Pumps on 泵启动	○ 25	A0.3	/10.B6	FU down FU 下	○ 4	M1+	CH1	IC0+	CH0	EW274	/14.E7	I-Cooling water temperature I-冷却水温度
		○ 6	E0.4	/12.C4	Pumps off 泵关闭	○ 26	A0.4	/12.D2	FU main supply FU 主电源	○ 5	M1-		IC0-				
		○ 7	E0.5	/12.C5	Error pump 1 泵 1 错误	○ 27	A0.5	/12.C4	Pumps running 泵运行	○ 6	M2+	CH2	M1+	CH2	EW276	/14.E2	M-Pump motor 1 M-泵用电动机 1
		○ 8	E0.6	/12.C6	Error pump 2 泵 2 错误	○ 28	A0.6	/12.D5	Message pump 1 信息泵 1	○ 7	M2-		M1-				
		○ 9	E0.7	/12.C7	Error pump 3 泵 3 错误	○ 29	A0.7	/12.C6	Message pump 2 信息泵 2	○ 8	M3+	CH3	IC1+	CH2	EW278	/14.E2	I-Pump motor 1 I-泵用电动机 1
		○				○				○ 9	M3-		IC1-				
		○				○				○ 10	Comp+						
		○				○				○ 11	Comp- / Mana						
		○ 12	E1.0			○ 32	A1.0	/12.D7	Message pump 3 信息泵 3	○ 12	M4+	CH4	M2+	CH4	EW280	/14.E3	M-Pump motor 2 M-泵用电动机 2
		○ 13	E1.1			○ 33	A1.1	/13.C2	Pump 1 FU 泵 1 FU	○ 13	M4-		M2-				
		○ 14	E1.2			○ 34	A1.2	/13.B3	Pump 1 main supply 泵 1 主电源	○ 14	M5+	CH5	IC2+	CH4	EW282	/14.E4	I-Pump motor 2 I-泵用电动机 2
		○ 15	E1.3			○ 35	A1.3	/13.C4	Pump 2 FU 泵 2 FU	○ 15	M5-		IC2-				
		○ 16	E1.4			○ 36	A1.4	/13.B5	Pump 2 main supply 泵 2 主电源	○ 16	M6+	CH6	M3+	CH6	EW284	/14.E5	M-Pump motor 3 M-泵用电动机 3
		○ 17	E1.5			○ 37	A1.5	/13.C6	Pump 3 FU 泵 3 FU	○ 17	M6-		M3-				
		○ 18	E1.6			○ 38	A1.6	/13.B7	Pump 3 main supply 泵 3 主电源	○ 18	M7+	CH7	IC3+	CH6	EW286	/14.E6	I-Pump motor 3 I-泵用电动机 3
		○ 19	E1.7			○ 39	A1.7			○ 19	M7-		IC3-				
		○				○				○							

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Connection line, and wire as option

Only symbol as option since card with all I/O always available

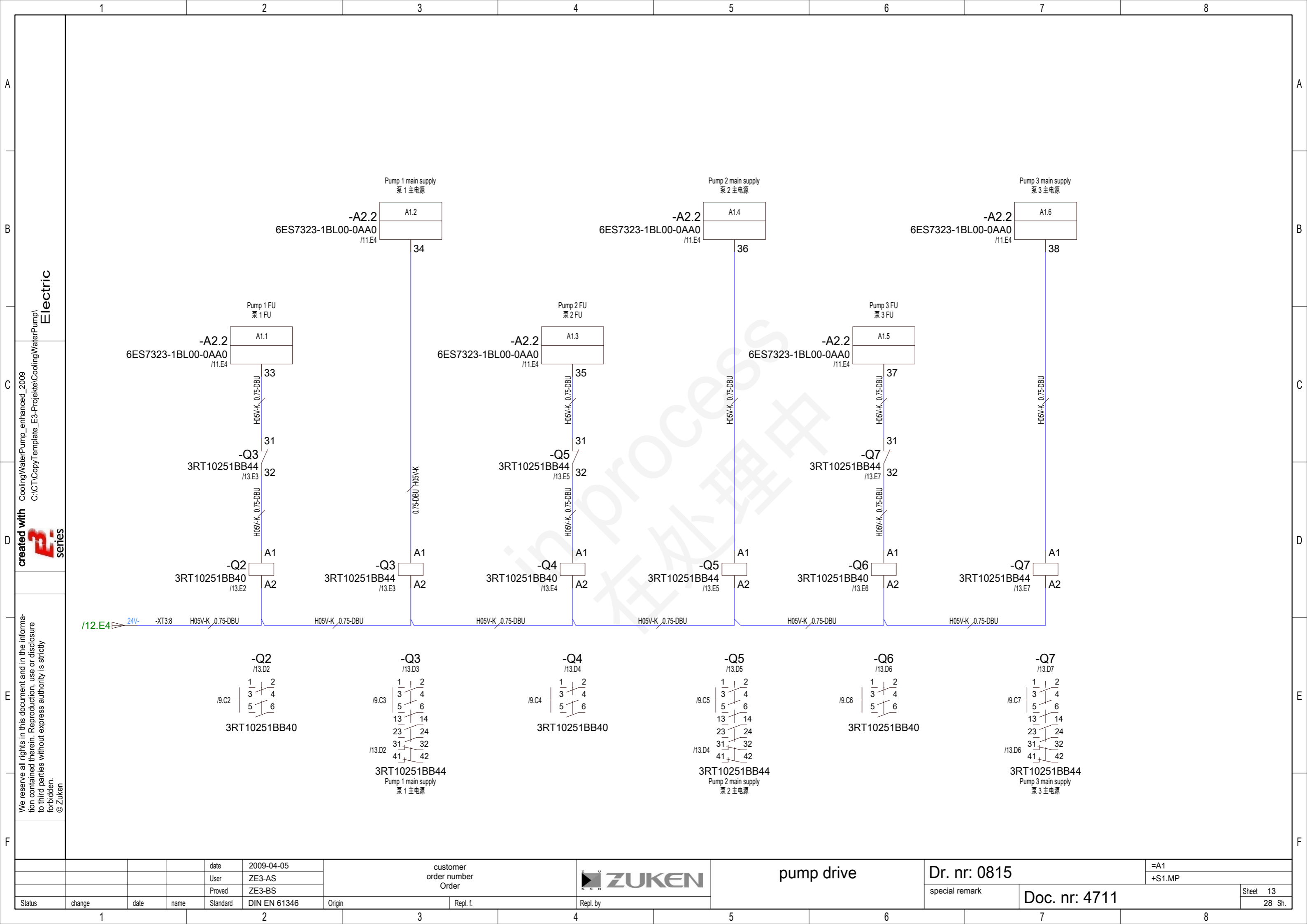
Single terminal of terminal strip as option

Device as option

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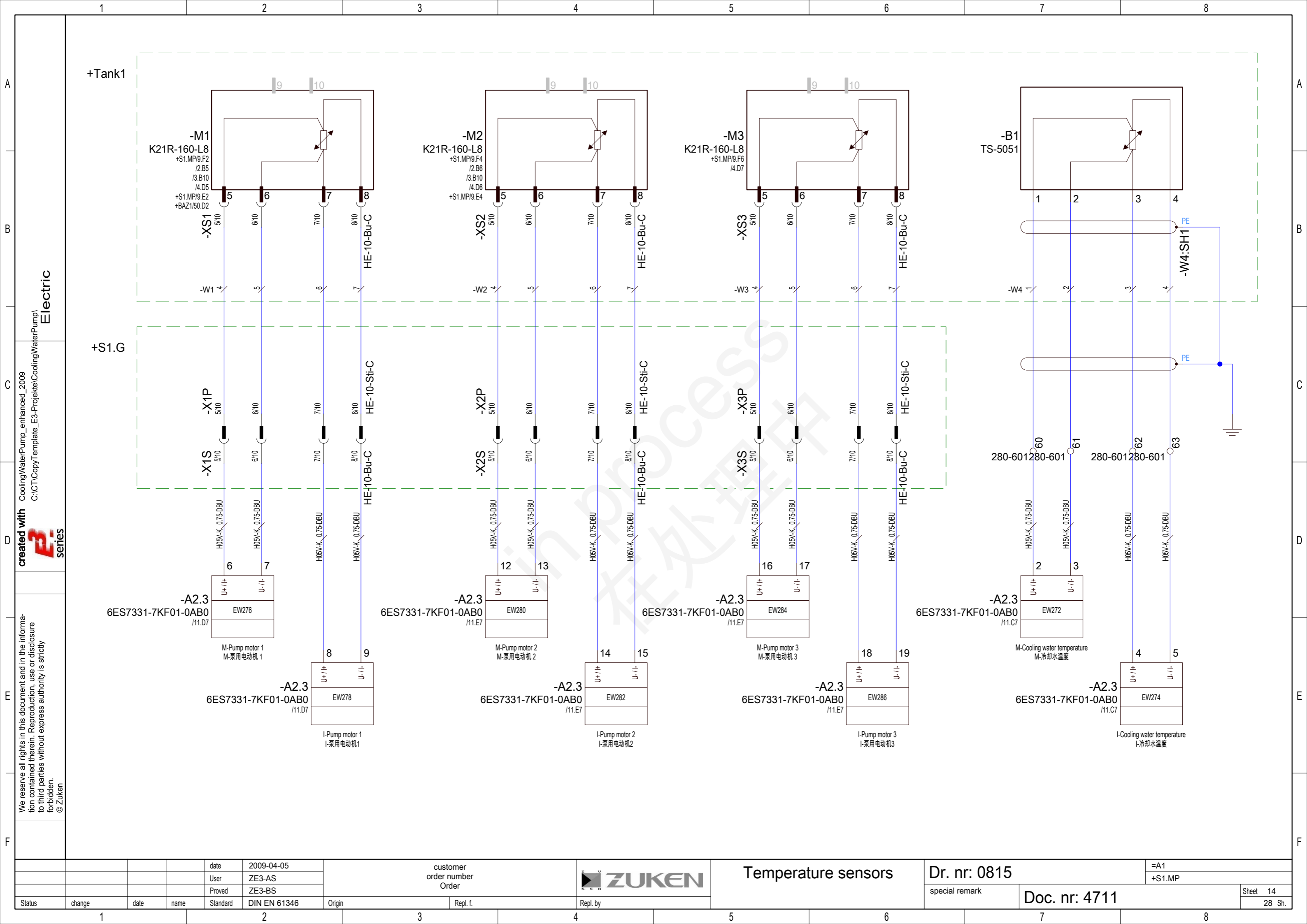
date		2009-04-05		customer order number		Order		diagnostics		Dr. nr: 0815		=A1	
User		ZE3-AS		Order						special remark		+S1.MP	
Proved		ZE3-BS		Repl. f.		Repl. by				Doc. nr: 4711		Sheet 12	
Status	change	date	name	Standard	DIN EN 61346	Origin						28 Sh.	



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date		2009-04-05		customer order number Order				pump drive		Dr. nr: 0815		=A1			
User		ZE3-AS								special remark		Doc. nr: 4711		+S1.MP	
Proved		ZE3-BS								Sheet		13			
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by			28 Sh.				

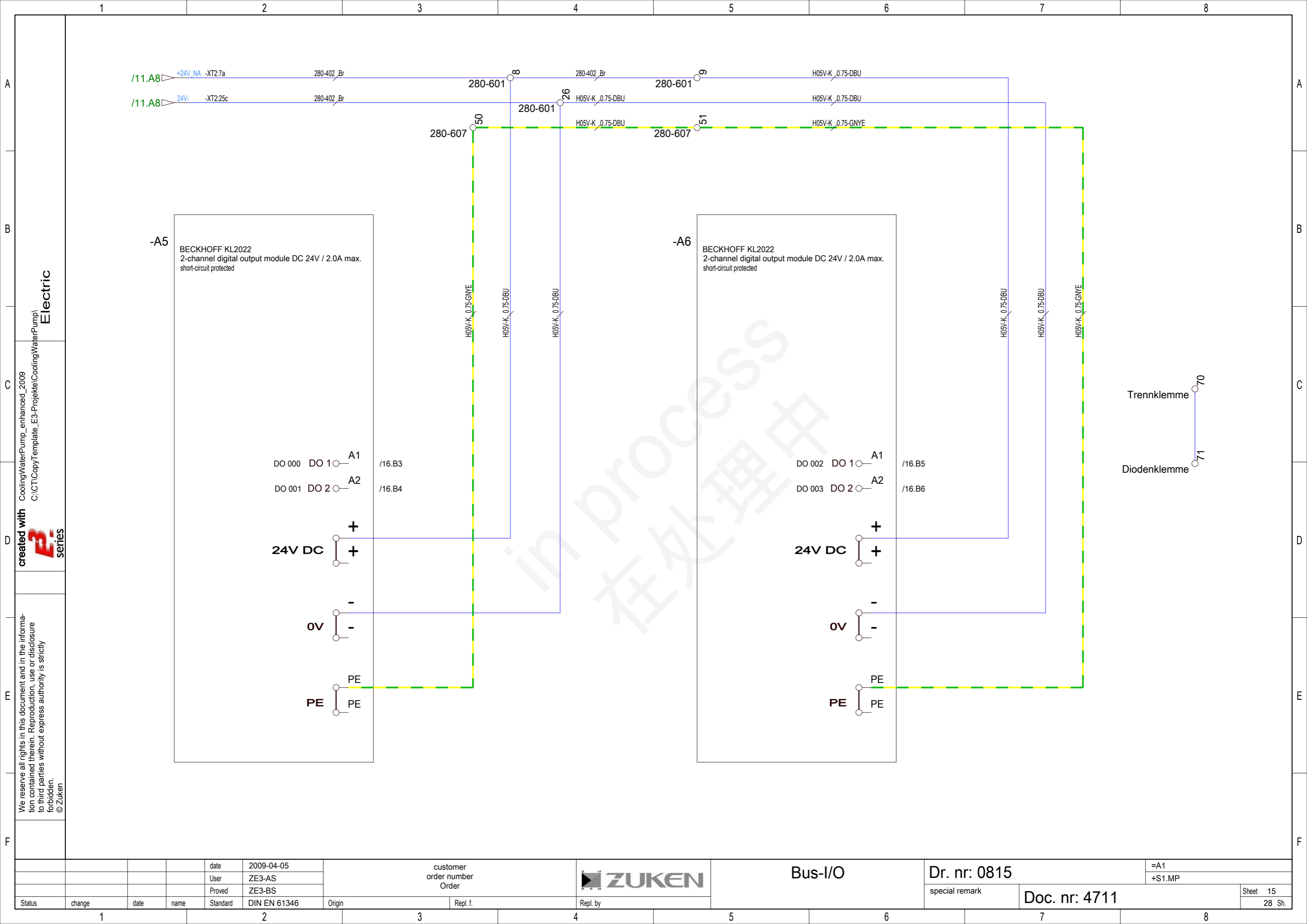


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date		2009-04-05		customer order number		Order		ZUKEN		Temperature sensors		Dr. nr: 0815		=A1	
User		ZE3-AS		Order		Repl. f.		Repl. by		special remark		Doc. nr: 4711		Sheet 14	
Proved		ZE3-BS		Standard		DIN EN 61346		Origin						28 Sh.	
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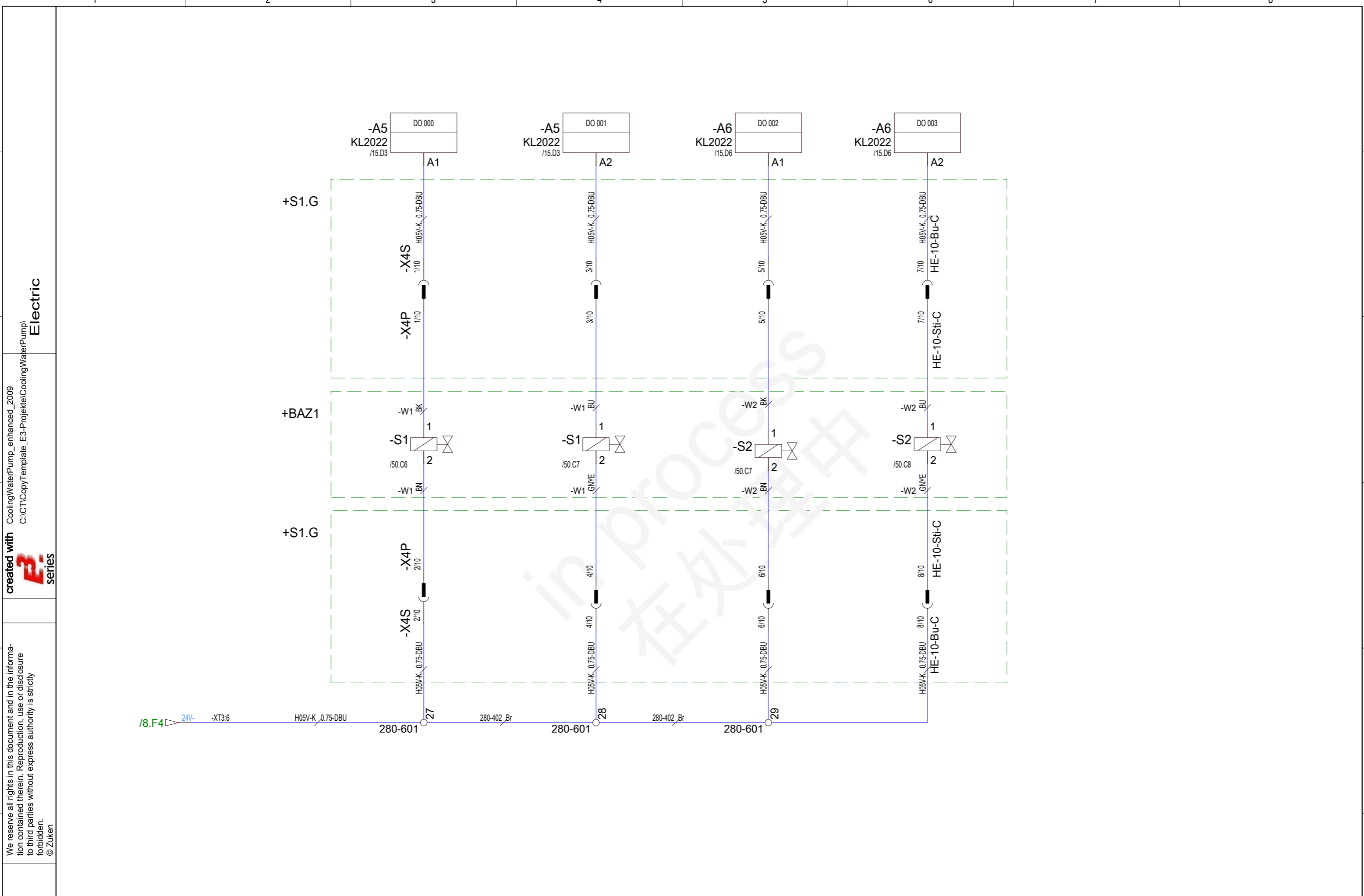


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date		2009-04-05		customer order number		Order		ZUKEN		Bus-I/O		Dr. nr: 0815		=A1		
User		ZE3-AS		Order		Order		ZUKEN		Bus-I/O		Dr. nr: 0815		+S1.MP		
Proved		ZE3-BS		Repl. f.		Repl. f.		ZUKEN		Bus-I/O		Dr. nr: 0815		Sheet 15		
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by	Repl. by	Repl. by	Repl. by	Repl. by	Repl. by	Repl. by	Repl. by	28 Sh.

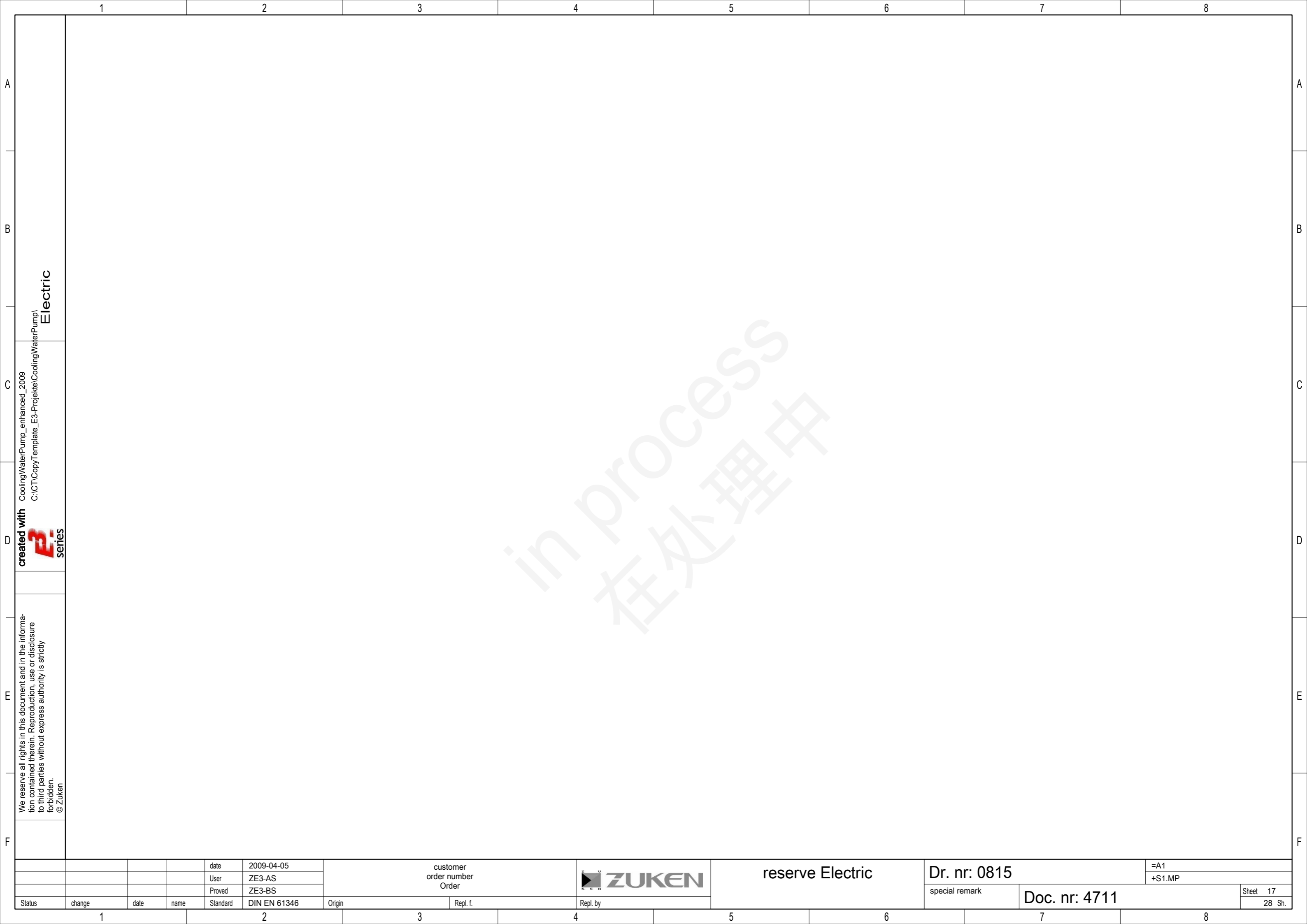
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date		2009-04-05		customer order number		Order		ZUKEN		pilot operated valves		Dr. nr: 0815		=A1	
User		ZE3-AS		Repl. f.		Repl. by				special remark		Doc. nr: 4711		Sheet 16	
Proved		ZE3-BS		Standard		DIN EN 61346		Origin						28 Sh.	
Status	change	date	name	Standard	DIN EN 61346	Origin		Repl. f.		Repl. by					



1 2 3 4 5 6 7 8

A

B

C

D

F

F

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				date	2009-04-05	customer order number Order			reserve Electric	Dr. nr: 0815		=A1
			User	ZE3-AS						+S1.MP		
			Proved	ZE3-BS								
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by		special remark	Doc. nr: 4711	Sheet 17 28 Sh.

1 2 3 4 5 6 7 8



A

B

C

D

F

F



cable designations		target external	potential	terminal number	jumpers	target internal	Placement in Schematics	cable designations	
=A1+S1.G-Q1	:2	L1	1				/7.E2		
=A1+S1.G-Q1	:4	L2	2				/7.E2		
=A1+S1.G-Q1	:6	L3	3				/7.E2		
=A1+S1.G-Q1	:N	N	4				/7.E2		
=A1+S1.G-Q1	:PE	PE	5				/7.E2		

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Terminal type      terminal 1746750000 [ 1 - 3 ]  
 terminal 1746760000 [ 4 ]  
 terminal 1746770000 [ 5 ]

A  
B  
C  
D  
E  
F

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cable type		target external		potential	terminal number	jumpers	target internal		Placement in Schematics	cable designations		
OFX-110-CY-4X0.5												
=A1 + Tank1 -W4												
		=A1 +S1.MP -XT3	:4	+24V_NA	3		=A1 +S1.MP -A1	:01	/10.A2			
				+24V_NA	4					/10.A6		
		=A1 +S1.MP -A2.1	:L+	+24V_NA	5			=A1 +S1.MP -A2.2	:1	/11.A2		
		=A1 +S1.MP -A2.2	:21	+24V_NA	6			=A1 +S1.MP -A2.2	:31	/11.A4		
		=A1 +S1.MP -F3	:13	+24V_NA	7			=A1 +S1.MP -A2.3	:1	/11.A6		
				+24V_NA	8			=A1 +S1.MP -A5	:+	/15.A4		
				+24V_NA	9			=A1 +S1.MP -A6	:+	/15.A5		
		=A1 +S1.T -S2	:X2	24V-	20			=A1 +S1.MP -XT3	:7	/10.A2		
				24V-	21			=A1 +S1.MP -A1	:20	/10.A3		
				24V-	22		=A1 +S1.MP -A2.1	:M	/11.A2			
		=A1 +S1.MP -A2.2	:30	24V-	23		=A1 +S1.MP -A2.2	:40	/11.A4			
				24V-	24		=A1 +S1.MP -A2.3	:20	/11.A6			
				24V-	25		=A1 +S1.MP -Q1	:A2	/11.A7			
		=A1 +S1.MP -A6	:-	24V-	26		=A1 +S1.MP -A5	:-	/15.A4			
		=A1 +S1.G -X4S	:2	24V-	27		=A1 +S1.MP -XT3	:6	/16.E3			
		=A1 +S1.G -X4S	:4	24V-	28				/16.E4			
		=A1 +S1.G -X4S	:6	24V-	29		=A1 +S1.G -X4S	:8	/16.E5			
		=A1 +S1.G -Q1	:N	N	40		=A1 +S1.MP -G1	:N	/8.B2			
		=A1 +S1.MP -XT2	:51	PE.XT2	50		=A1 +S1.MP -A5	:PE	/15.A3			
		=A1 +S1.MP -A6	:PE	PE.XT2	51		=A1 +S1.MP -XT2	:50	/15.A5			
				PE.XT2	52		=A1 +S1.MP -Z2	:PE	/7.C7			
				PE.XT2	53		=A1 +S1.MP -A1	:95	/7.D5			
				PE.XT2	54		=A1 +S1.MP -Z1	:PE	/7.C5			
				PE.XT2	55		=A1 +S1.MP -G1	:PE	/8.D2			
		=A1 +S1.G -X3S	:4	PE.XT2	56				/9.D7			
		=A1 +S1.G -X2S	:4	PE.XT2	57				/9.D5			
		=A1 +S1.G -X1S	:4	PE.XT2	58				/9.D3			
		=A1 +Tank1 -B1	:1	#256	60		=A1 +S1.MP -A2.3	:2	/14.C7			

Terminal type      terminal 280-601 [ 3 - 29 , 60 ]  
 terminal 280-602 [ 40 ]  
 terminal 280-607 [ 50 - 51 , 55 - 58 ]

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cable type	cable designations	target external		potential	terminal number	jumpers	target internal		Placement in Schematics	cable type	
OFX-110-CY-4X0.5	=A1 + Tank1 -W4	2	=A1 + Tank1 -B1	:2	#257	■	=A1 + S1.MP -A2.3	:3	/14.C7		
		3	=A1 + Tank1 -B1	:3	#258	■	=A1 + S1.MP -A2.3	:4	/14.C8		
		4	=A1 + Tank1 -B1	:4	#259	■	=A1 + S1.MP -A2.3	:5	/14.C8		
					#1	■ ∞		=A1 + S1.MP -XT2	:71	/15.C8	
					#1	■ 本		=A1 + S1.MP -XT2	:70	/15.D8	

Terminal type      terminal 280-601 [ 61 - 63 ]  
 terminal Trennklemme [ 70 ]  
 terminal Diodenklemme [ 71 ]



cable type		target external		potential	terminal number	jumpers	target internal		Placement in Schematics	cable type	
				+24V_NA	1		=A1+S1.MP-XT3	:2	/8.D4		
		=A1+S1.T-S2	:14	+24V_NA	2		=A1+S1.MP-K1	:A1	/8.D5		
		Connection is not unique.		+24V_NA	2		=A1+S1.MP-XT3	:1	/8.D5		
		=A1+S1.T-S2	:X1	+24V_NA	3		=A1+S1.MP-K1	:14	/8.D6		
		=A1+S1.MP-XT3	:4	+24V_NA	3		=A1+S1.MP-XT3	:2	/8.D6		
		=A1+S1.MP-A2.2	:2	+24V_NA	4		=A1+S1.MP-XT3	:3	/8.D7		
				+24V_NA	4		=A1+S1.MP-XT2	:3	/8.D7		
				PE	5				/8.F2		
				24V-	5		=A1+S1.MP-XT3	:6	/8.F2		
		=A1+S1.MP-XT3	:5	24V-	6		=A1+S1.MP-G1	:-	/8.E3		
		=A1+S1.MP-XT2	:27	24V-	6		=A1+S1.MP-XT3	:7	/8.E3		
		=A1+S1.MP-XT2	:20	24V-	7		=A1+S1.MP-K1	:A2	/8.E5		
				24V-	7		=A1+S1.MP-XT3	:6	/8.E5		
		=A1+S1.T-P1	:X2	24V-	8		=A1+S1.MP-Q1	:A2	/12.E3		
				24V-	8		=A1+S1.MP-Q2	:A2	/12.E3		
		=A1+S1.T-P1	:X1	#698	9		=A1+S1.MP-Q1	:A1	/12.D3		
									/12.D3		
		=A1+S1.T-S1	:21	+24V_D	10		=A1+S1.MP-F9	:2	/8.B5		
				+24V_D	10		=A1+S1.MP-XT3	:11	/8.B5		
		=A1+S1.T-S3	:13	+24V_D	11		=A1+S1.MP-XT3	:10	/8.B6		
									/8.B6		

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Terminal type      terminal 3031306 [ 1 - 4 , 10 - 11 ]  
                          terminal 3031461 [ 5 - 5 ]  
                          terminal 3031319 [ 6 - 8 ]

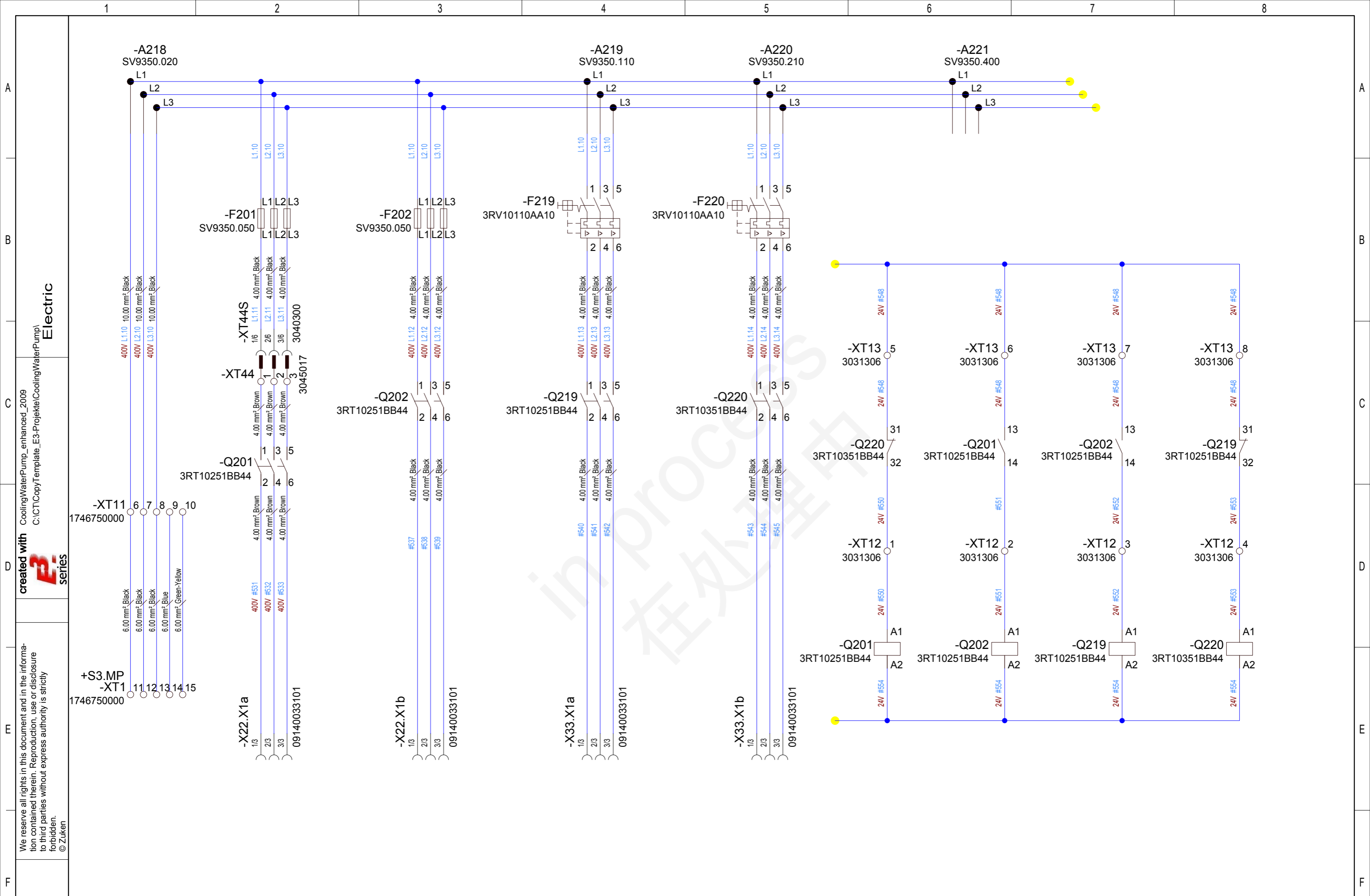
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cable type		cable designations		target external	potential	connector number	jumpers	target internal	Placement in Schematics	cable type			
Servo-700-4G2.5	cable type	=A1 +Tank1 -W1	cable designations										
				1	=A1 +Tank1 -XS1	:1	L1.3	1	=A1 +S1.G -X1S	:1	/9.D2		
				2	=A1 +Tank1 -XS1	:2	L2.3	2	=A1 +S1.G -X1S	:2	/9.D2		
				3	=A1 +Tank1 -XS1	:3	L3.3	3	=A1 +S1.G -X1S	:3	/9.D2		
				GNVE	=A1 +Tank1 -XS1	:4	PE.XT2	4	=A1 +S1.G -X1S	:4	/9.D2		
				4	=A1 +Tank1 -XS1	:5	Temperature1	5	=A1 +S1.G -X1S	:5	/14.C2		
				5	=A1 +Tank1 -XS1	:6	Temperature2	6	=A1 +S1.G -X1S	:6	/14.C2		
6	=A1 +Tank1 -XS1	:7	Temperature3	7	=A1 +S1.G -X1S	:7	/14.C2						
7	=A1 +Tank1 -XS1	:8	Temperature4	8	=A1 +S1.G -X1S	:8	/14.C3						
						9							
						10							
						PE							

connector type \_\_\_\_\_  
connector \_\_\_\_\_  
connector HE-10-Sti-C [ 1 - PE ]

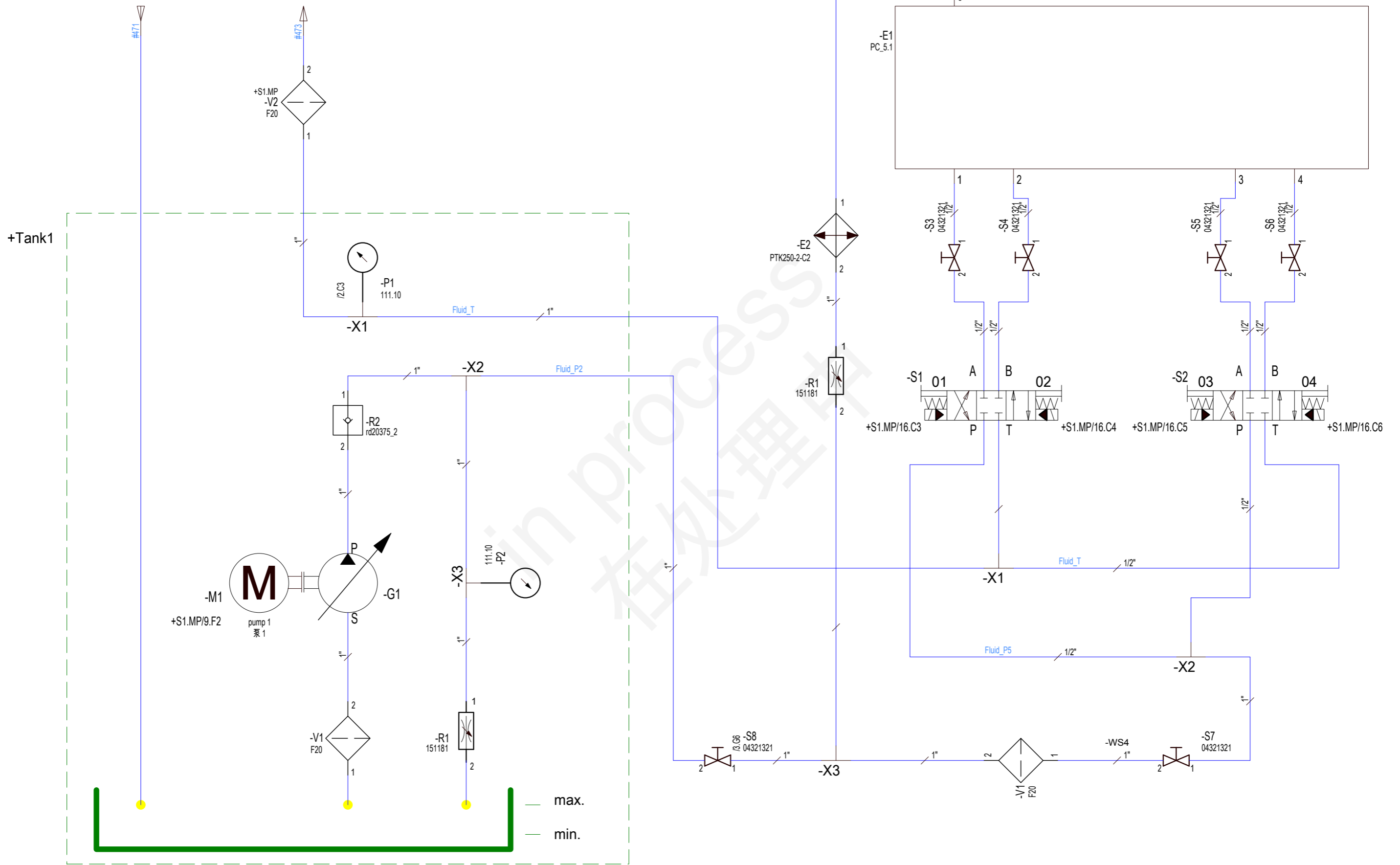


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date		2009-04-05		customer order number		Order		ZUKEN		Busbar system		Dr. nr: 0815		=A1	
User		ZE3-AS		Order										+S2.MP	
Proved		ZE3-BS		Repl. f.		Repl. by						special remark		Sheet 20	
Status	change	date	name	Standard	DIN EN 61346	Origin						Doc. nr: 4711		28 Sh.	





date	2009-04-05
User	ZE3-AS
Proved	ZE3-BS
Standard	DIN EN 61346

customer order number	
Order	
Origin	
Repl. f.	



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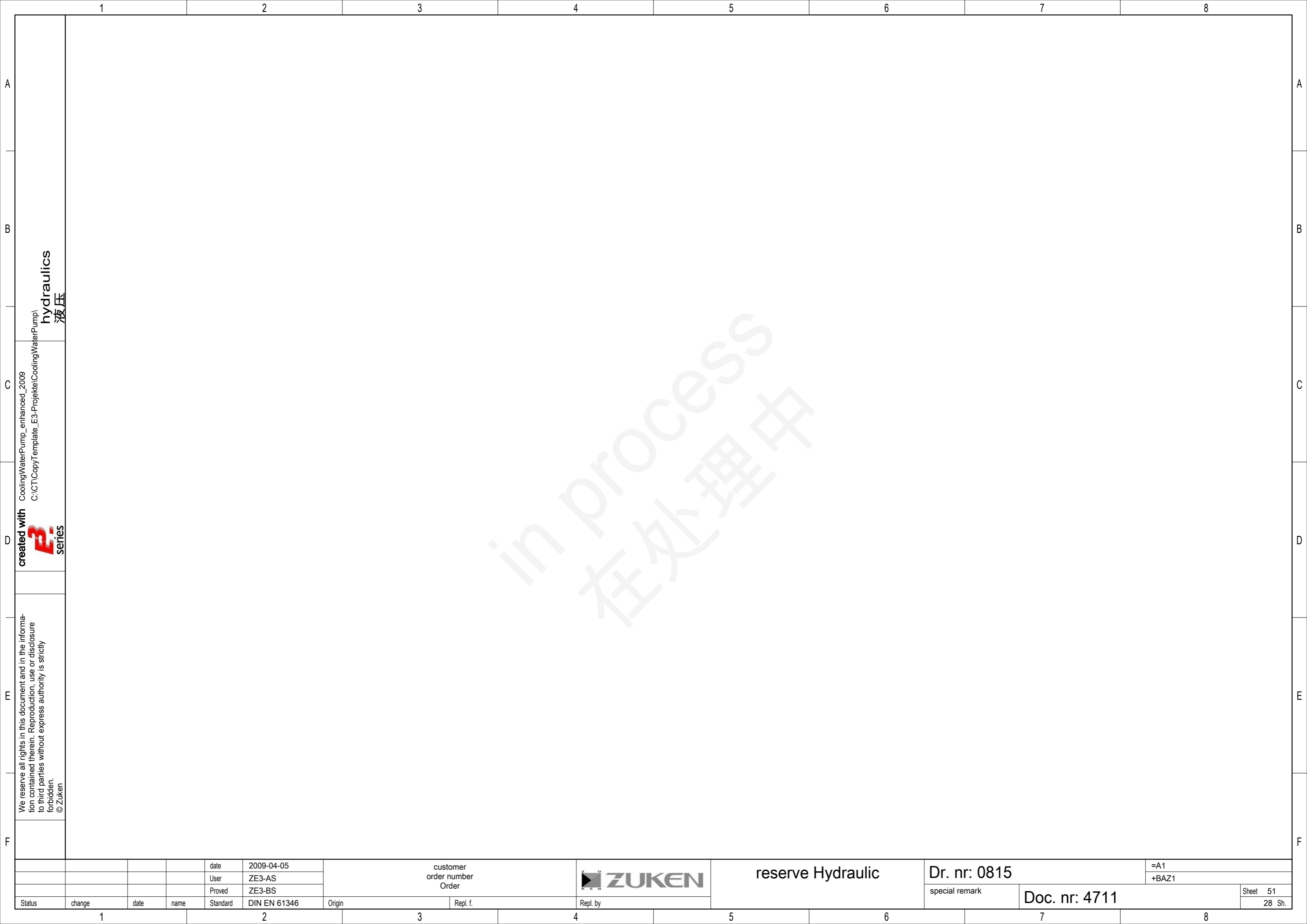
Dr. nr: 0815

special remark

Doc. nr: 4711

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+BAZ1

Sheet 50  
28 Sh.



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				date	2009-04-05	customer order number Order			reserve Hydraulic	Dr. nr: 0815		=A1
			User	ZE3-AS						+BAZ1		
			Proved	ZE3-BS								
Status	change	date	name	Standard	DIN EN 61346	Origin	Repl. f.	Repl. by		special remark	Doc. nr: 4711	Sheet 51 28 Sh.

1 2 3 4 5 6 7 8