

CONTROL CENTRE FOR DUAL LINE GREASE LUBRICATION SYSTEM

CC1 MKII
Art. No. 907479

USER INSTRUCTIONS



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1. DESCRIPTION

The central control unit CC1 controls and monitors dual line grease lubrication systems.

FUNCTIONS

- Settable pump and pause periods.
- Pressure settings, in cases where pressure transducers are used.
- All settings are password-protected.
- Optional extra lubrication.
- Optional manual operation.
- Control via the lubricated machine.
- Output for operation indicator.
- Output for alarms - issuing alarms when the set pressure has not been reached during the pump period, when there is a low level in the drum of lubricant, short circuit in the pressure transducer, at pressure acknowledgement from the wrong line or at too high rest pressure.

DEFINITIONS

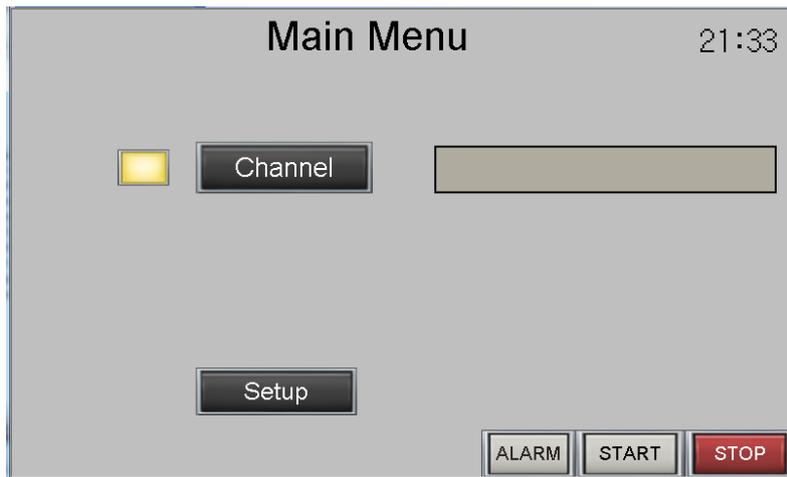
Line1, Line2	The two lines that are alternately pressurised in a 2 line lubrication system.
Pause time	Time from pump stop to pump start.
Pressure operating time	The time from pump start until its set pressure is achieved and the pump is stopped.
Extra pressure operating time	Settable extra time from pressure acknowledgement to depressurisation.
Pump time	Maximum pressure operating period before an alarm is issued.
Lubrication cycle	The time between lubrications of every individual lubrication point, i.e. two pressure operating periods and two pause periods.

2. DATA

Enclosure classification	IP 65
Dimension	400x400x200 (BxHxD)
Weight	12.5 kg
Power supply	100-240 VAC 1,8-0.9 A 50-60 Hz
Outputs:	Max load 80 VA resistiv load 100 W inductive load
	Alarm output Voltage-free change over contact
	Running output Voltage-free change over contact
	Voltage Built-in power source 24 V 3 A
Setting range	Pump time 1 - 9999 s
	Pause time 1 - 9999 min
	Pressure 1 - 250 bar

3. HANDLING

MAIN MENU



To get to the main menu, press  this button as available in all menus.

Start the control unit by pressing . The button becomes green () when the control unit is running.

The yellow lamp becomes green at ongoing lubrication.

PASSWORD

To make it impossible for any unauthorised persons to change the settings and configuration, these have been password-protected.

If the page is password protected you find an open  or closed  padlock in the lower left corner of the screen. If the padlock is closed  it is not possible to change any settings. Press the padlock  and type in the operator name and password. The padlock is then open  and it is possible to change the settings.

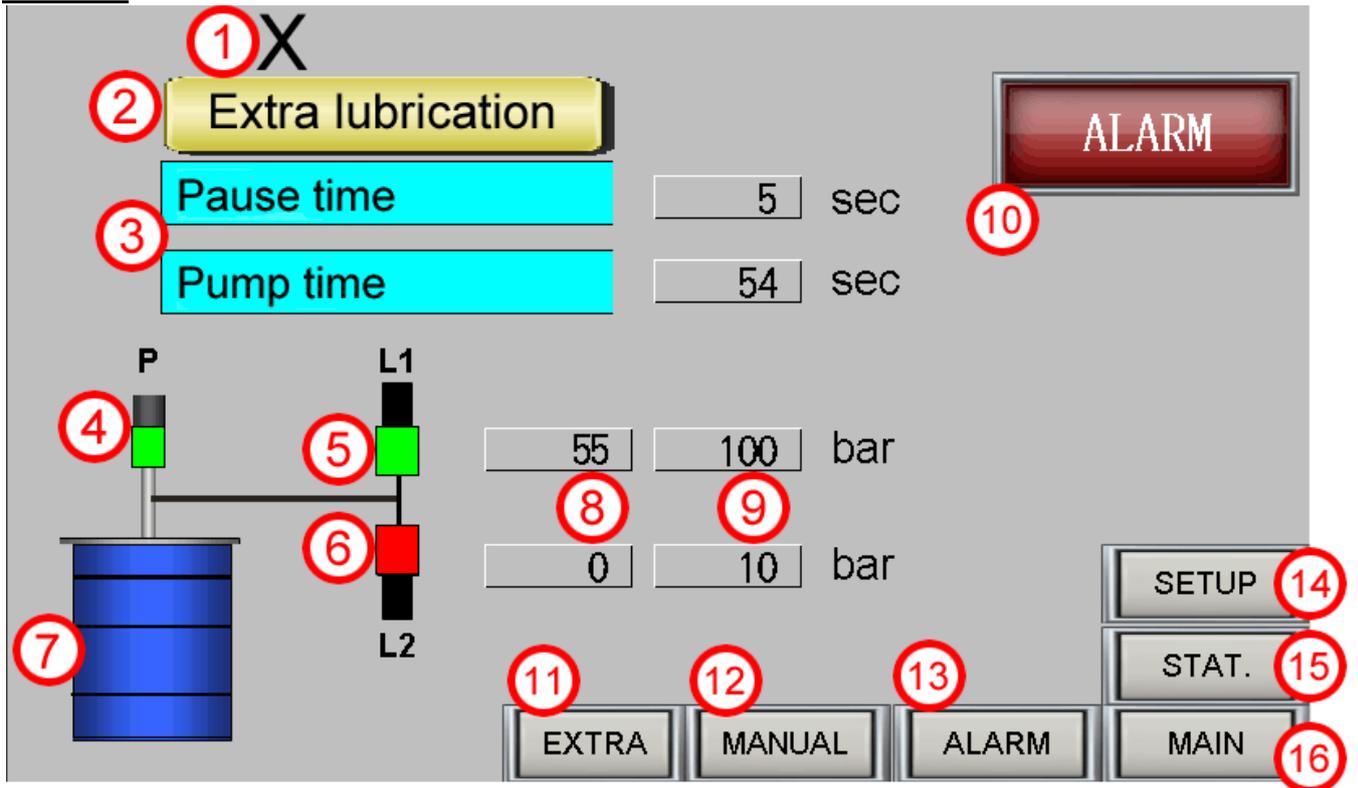
Press the padlock if you want to close it to protect the settings again.

At delivery the operator name is 1 and the password is 1234

SUB MENUS

To reach the required sub menu press Channel or Setup

CHANNEL



1. The name of the machine
2. Information text.
Show if the lubrication is machine stopped, if an extra lubrication is running, or if the control unit is in manual mode. Not running is shown if the control unit is stopped.
3. Lubrication status.
Show pump time and pause time.
4. Pump indication
Show green when the pump is running, if not, red.
5. Line indication
Show green when line 1 is open, if not, red.
6. Line indication
Show green when line 2 is open, if not, red.
7. Grease indication
Show blue when there are grease left, red at low level.
8. Pressure
Shows the pressure in line 1 and line 2
9. Set pressure
Shows the acknowledgement pressure and maximum rest pressure.
10. Alarm indication
Shows that there are an active alarm.
11. Button for extra lubrication.
12. Button for manual lubrication.
13. Button for alarm list.
14. Button for settings.
15. Button for statistics.
16. Button for main menu.

SETUP

The screenshot shows a 'Setup' window with a title bar. Below the title, there is a 'Name' label followed by a large empty text input field. Below this, there is a 'Funktion Interlock' button with a sub-button labeled 'NC'. At the bottom left, there are two small icons: a padlock and an information icon. At the bottom right, there are three buttons labeled 'ALARM', 'RETURN', and 'MAIN'.

Set the lubricated machine's name

The function for machine stop can be changed between NO and NC contact.

SETTINGS

The screenshot shows a 'Setup' window with a title bar. Below the title, there are seven rows of settings, each with a label, a numeric input field, and a unit: 'Pump Time' (0 sec), 'Pause Time' (0 min), 'Pressure' (0 bar), 'Extra pressuring time' (0 sec), 'Extra pause time' (0 sec), 'Extra machine stop time' (0 sec), and 'Max rest pressure' (0 bar). At the bottom left, there are two small icons: a padlock and an information icon. At the bottom right, there are three buttons labeled 'ALARM', 'RETURN', and 'MAIN'.

Set the **pump time**, **pause time** and **pressure**.

Extra pressuring time is the extra pressure operating period, must not be 0

Extra pause time is the time between pressurisations of both lines in the event of extra lubrication.

Extra machine stop time is the time the lubrication remains after machine stop.

Max rest pressure is the maximum pressure in line 2 when the lubrication of line 1 start (or the maximum pressure in line 1 when the lubrication of line 2 start.)

STATISTICS



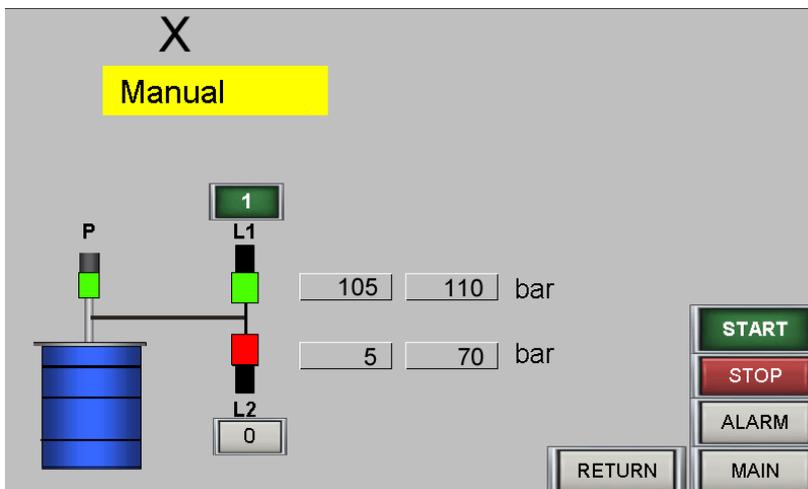
The number of lubrications are displayed on this screen.

The top row displays the total number of lubrications since the central control unit has been in operation.

The lower row shows the number of lubrications since the last zeroing. To reset the number of lubrications, press: .

MANUAL OPERATION

Both of the lines can be pressurised manually on this screen to facilitate troubleshooting etc.



Start the manual operation by pressing  that becomes green (.

Press the button  to pressurize the line., the button changes to .

Press the button again to release the pressure.

The pump starts once a line has been pressurised. The pump stops when the set pressure has been reached and the pressure is maintained. If the pressure should drop the pump is started again.

Conclude manual operations by pressing  . _____

ALARM



Alarm events are listed on this screen.

Low grease level. Show that the level is low in the drum of lubricant.

Pump time line 1. Show that there has been no pressure acknowledgement during the pump period

Pressure sensor line 1. Show abnormal pressure from line 1, indicating broken pressure sensor or short circuited cables.

Wrong line. Show pressure acknowledgement from wrong line, indicating that the pressure transducers wrongly connected.

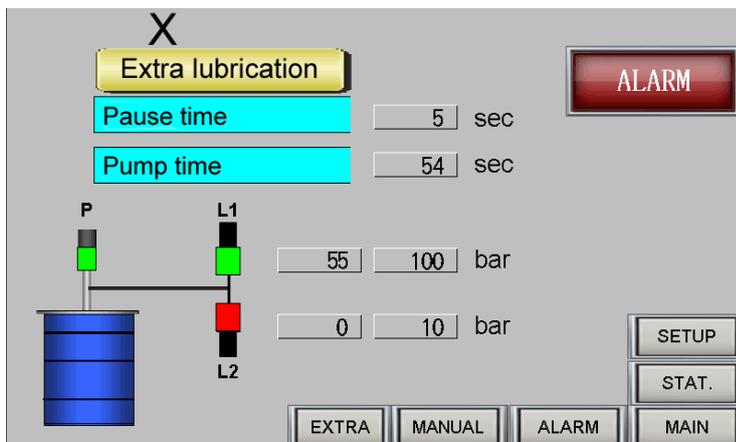
High rest pressure line 1. Show too high remaining pressure in line 1 when the lubrication of line 2 started.

Acknowledgement is carried out by pressing .

ALARM HISTORY

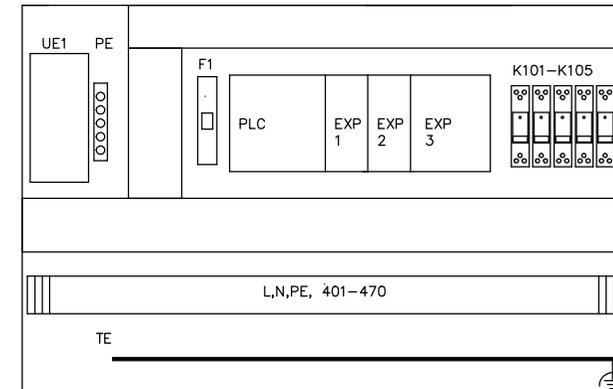
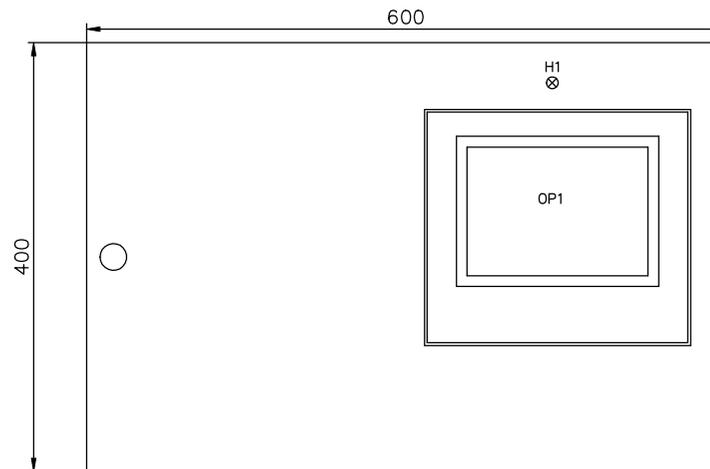
By pressing  a screen with the alarms is shown with information when they occurred.

EXTRA LUBRICATION



The extra lubrication is started by pressing .

D: 210



Nr.	Pos.	Name	Type	Data	Manufact.
1		CABINET	MAS0406021R5		NVENT ELDON
1		MOUNTING LUG	AW41		NVENT ELDON
1	F1	CIRCUIT BREAKER	19263	DPN C4A	SCHNEIDER ELECTRIC
1	H1	LAMP	XB4-BVB4		SCHNEIDER ELECTRIC
1	UE1	TRANSFORMER	NDR-120-24		CARLO GAVAZZI
1		COVER	L24 2	E2539789	FIBOX
1		TE-BAR	Cu 3x10mm	20-CONN	MERICON
1		PE-BAR	20 990 60		OEM AUTOMATIC
1	OP1	DISPLAY	GS2107-WTBD-N		MITSUBISHI
1		CABLE	GT01-C10R4-8P		MITSUBISHI
1	PLC	PLC	FX3G-14MR-ES/UL	8 DI /6 DO RELAY	MITSUBISHI
1	EXP1	DIGITAL EXP.MODULE	FX2N-8EX-ES/UL	8 DI	MITSUBISHI
1	EXP2	DIGITAL EXP.MODULE	FX2N-16EYR-ES/UL	16 DO RELAY	MITSUBISHI
1	EXP3	ANALOG EXP.MODULE	FX2N-8AD	8 AI	MITSUBISHI
5	K101-K105	RELAY + SOCKET	C10 A10 X24D + S10	24Vdc	RELECO
2	L1,N	TERMINAL	M4/6		ENTRELEC
1	PE	PE-TERMINAL	M4/6 P		ENTRELEC
40	401-440	TERMINAL	MA2,5/5		ENTRELEC
4	441, 460, 461, 470	TERMINAL	D2,5/6 DA		ENTRELEC
26	442-459, 462-469	TERMINAL	D2,5/6 D		ENTRELEC
1		CONNECTION	17803225	10-CONN	ENTRELEC
1		CONNECTION	17803326	20-CONN	ENTRELEC
2		FLANGE	FLG2133G		ELEKTROSKANDIA

Filnamn: 22754-01

Konstr. av: JeÅ

Ritad av:

Datum: 220926



Control Cabinet

CC4 MKII

907498

Layout / Component Specification

Proj.nr
22754

Ritn nr

22754-01

Kundens referens
54399Blad nr
201Forts.
401Rev.
-

HIGHEST O-NR.: 027

230V 50Hz
MAX 10A

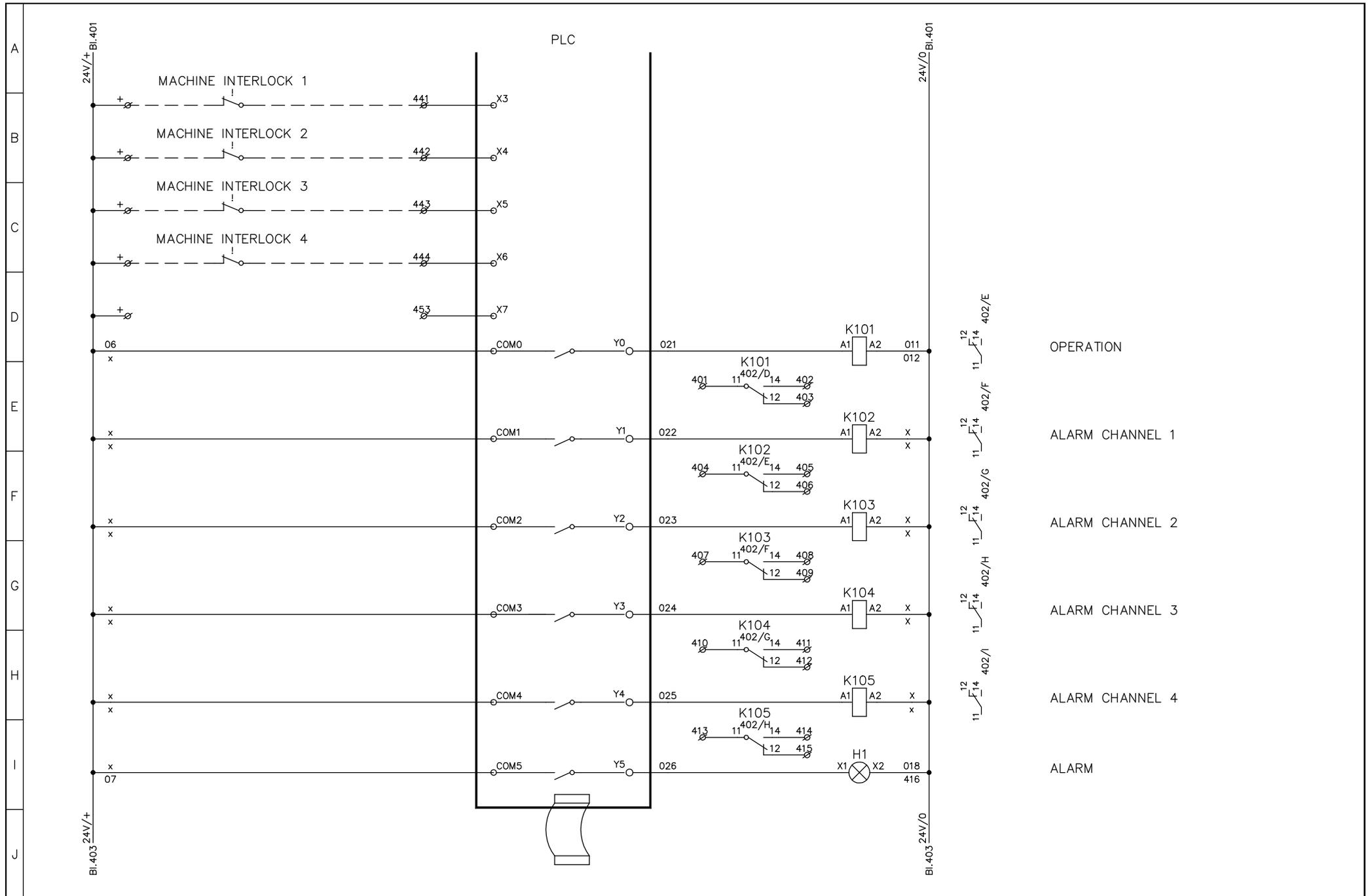
Bl:402 24V/+

Bl:402 24V/0

Filnamn: 22754-01
Konstr. av: JeÅ
Ritad av:
Datum: 220926

Control Cabinet
CC4 MKII
907498
Circuit Diagram

Proj.nr 22754	Blad nr 401
Ritn nr 22754-01	Forts. 402
Kundens referens 54399	Rev. -

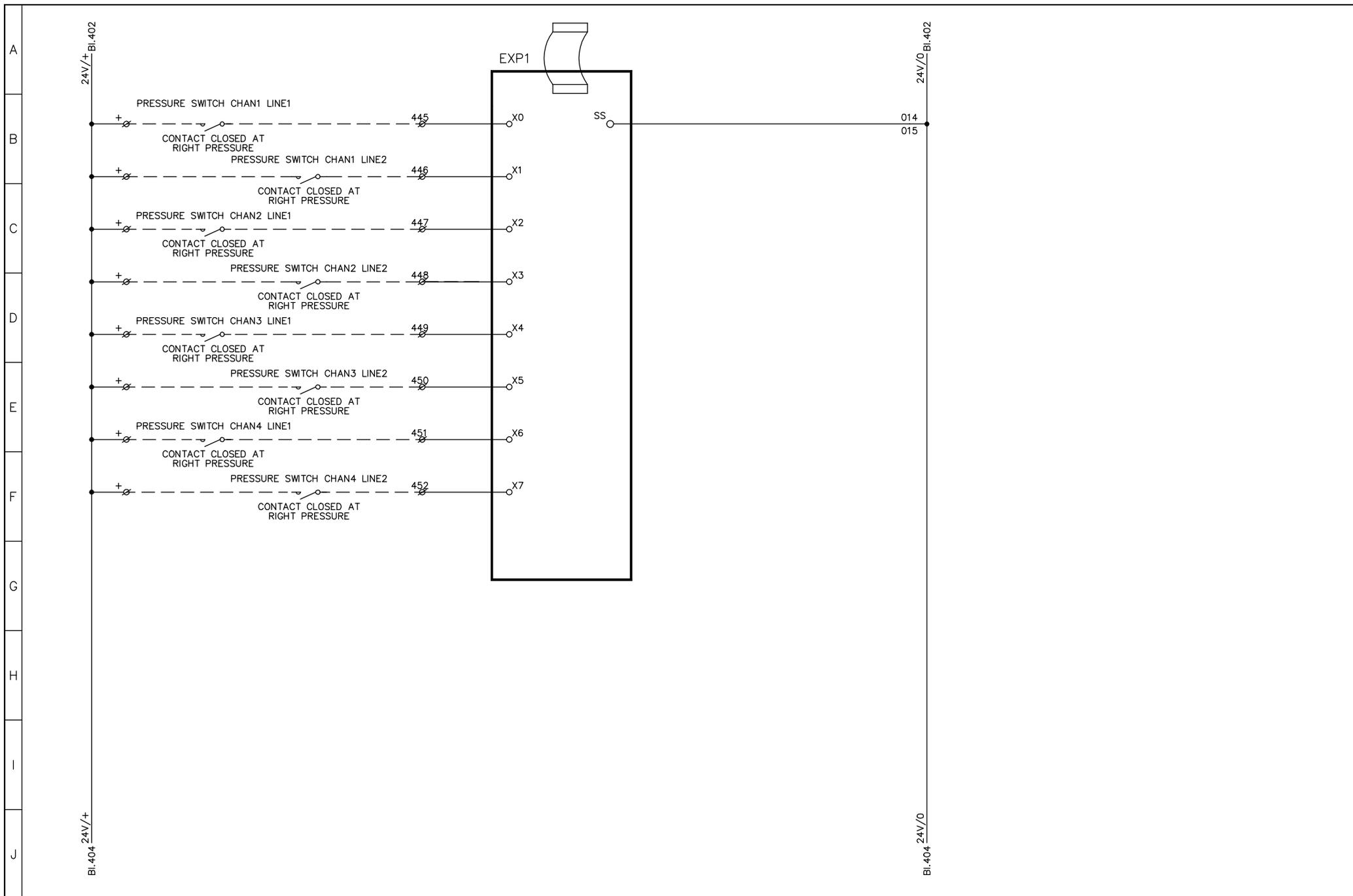


Filnamn: 22754-01
 Konstr. av: JeÅ
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 Datum: 220926



Control Cabinet
 CC4 MKII
 907498
 Circuit Diagram

Proj.nr 22754	Blad nr 402
Ritn nr 22754-01	Forts. 403
Kundens referens 54399	Rev. -

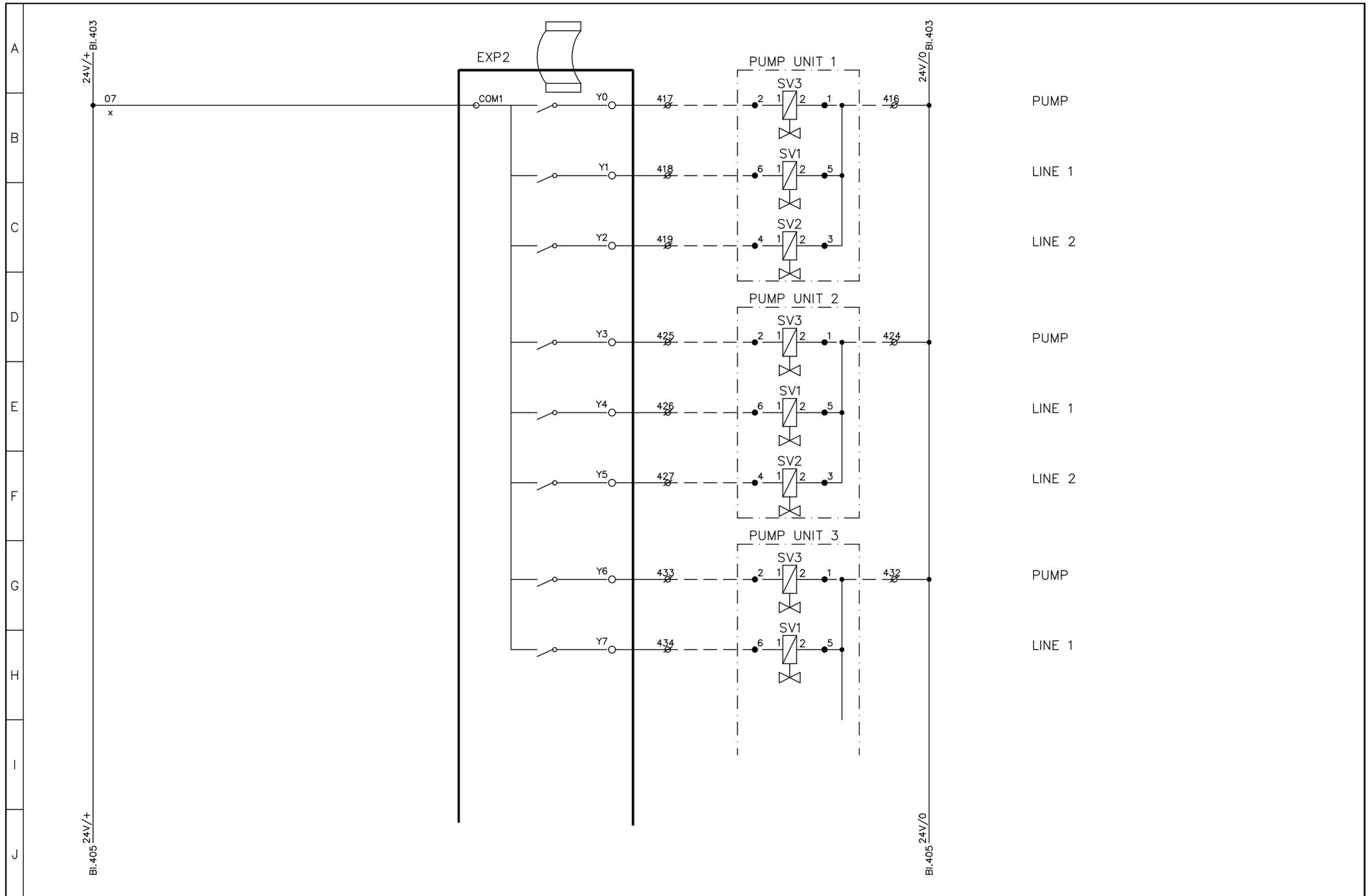


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Control Cabinet
 CC4 MKII
 907498
 Circuit Diagram

Proj.nr 22754	Blad nr 403
Ritn nr 22754-01	Forts. 404
Kundens referens 54399	Rev. -

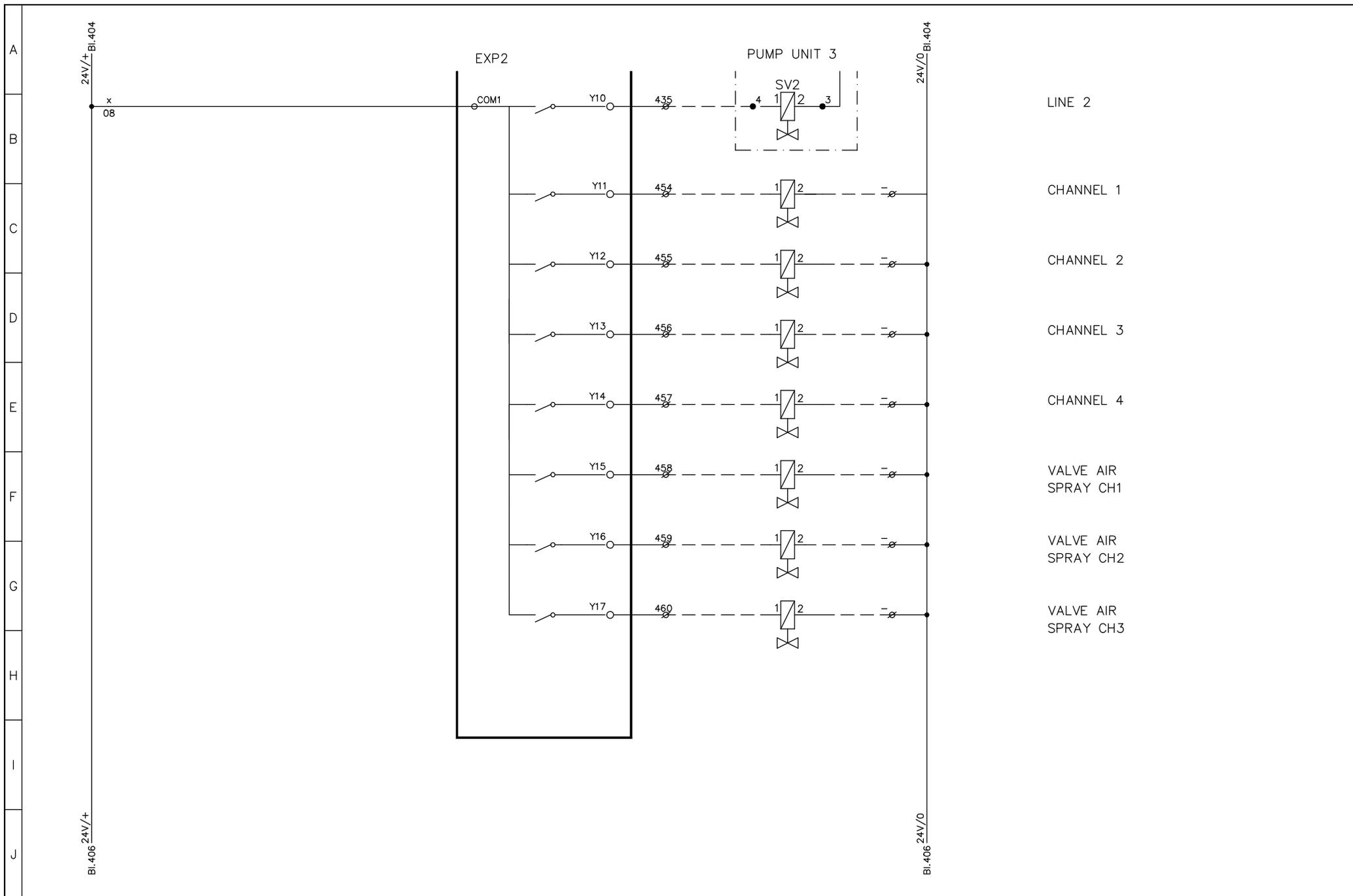


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Control Cabinet
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 Circuit Diagram

Proj.nr 22754	Blad nr 404
Ritn nr 22754-01	Forts. 405
Kundens referens 54399	Rev. -

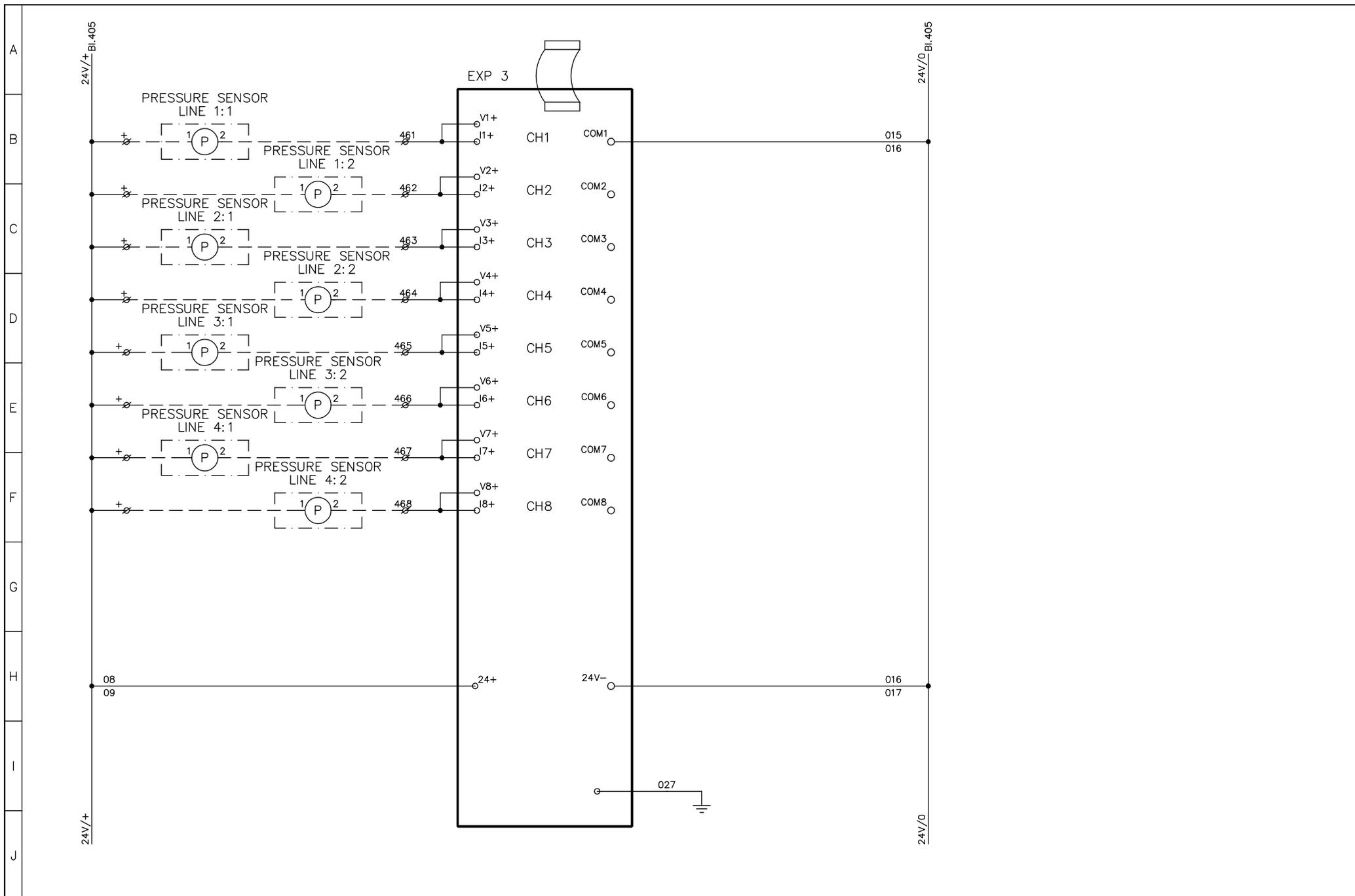


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Control Cabinet
 CC4 MKII
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 Circuit Diagram

Proj.nr 22754	Blad nr 405
Ritn nr 22754-01	Fort. 406
Kundens referens 54399	Rev. -



Filnamn: 22754-01
 Konstr. av: JeÅ
 Ritad av:
 Datum: 220926



Control Cabinet
 CC4 MKII
 907498
 Circuit Diagram

Proj.nr 22754	Blad nr 406
Ritn nr 22754-01	Fort. 501
Kundens referens 54399	Rev. -

A	CABLE				CABINET		RACEW	CONNECTION A			RACEW	CONNECTION B		INFORMATION	R
	Wire	Cable nr	Part nr	Note	Term. nr	Note		Device	Conn	Note		Device	Conn		
	-S 3-CONN		1		L1		POWER SUPPLY						230V 50Hz		
			2		N								MAX 10A		
			3		J										
B	-U 2-CONN		1		401		OPERATION						COMMON		
			2		402								NC		
					403								NO		
C	-U 2-CONN		1		404		ALARM CHANNEL 1						COMMON		
			2		405								NO		
					406								NC		
D	-U 2-CONN		1		407		ALARM CHANNEL 2						COMMON		
			2		408								NO		
					409								NC		
E	-U 2-CONN		1		410		ALARM CHANNEL 3						COMMON		
			2		411								NO		
					412								NC		
	-U 2-CONN		1		413		ALARM CHANNEL 4						COMMON		
			2		414								NO		
					415								NC		
F	-U 8-CONN		1		416		PUMP UNIT 1	1,3,5					COMMON. 0V		
			2		417			2					SV3 PUMP		
			3		418			6					SV1 LINE 1		
			4		419			4					SV2 LINE 2		
G			5		420			7					LEVEL SWITCH		
			6		421			8					"-		
			7		422										
			8		423										
H	-U 8-CONN		1		424		PUMP UNIT 2	1,3,5					COMMON. 0V		
			2		425			2					SV3 PUMP		
			3		426			6					SV1 LINE 1		
			4		427			4					SV2 LINE 2		
			5		428			7					LEVEL SWITCH		
I			6		429			8					"-		
			7		430										
			8		431										
J															

Filnamn: 22754-01
Konstr. av: JeÅ
Ritad av:
Datum: 220926



Control Cabinet
CC4 MKII
907498
Wiring Diagram

Proj.nr
22754
Ritn nr
22754-01
Kundens referens
54399

Blad nr
501
Forts.
502
Rev.
-

A	CABLE				CABINET		RACEW	CONNECTION A			RACEW	CONNECTION B		INFORMATION	R
	Wire	Cable nr	Part nr	Note	Term. nr	Note		Device	Conn	Note		Device	Conn		
B	-U 8-CONN		1		432		PUMP UNIT 3	1,3,5					COMMON. 0V		
			2		433			2					SV3 PUMP		
			3		434			6					SV1 LINE 1		
			4		435			4					SV2 LINE 2		
			5		436			7					LEVEL SWITCH		
			6		437			8					"_		
			7		438										
			8		439										
D	-U 2-CONN		1		+		MACHINE INTERLOCK CHANNEL 1	C					*1 Nc or No are selectable in operation panel.		
			2		-	441		*1							
E	-U 2-CONN		1		+		MACHINE INTERLOCK CHANNEL 2	C							
			2		-	442		*1							
F	-U 2-CONN		1		+		MACHINE INTERLOCK CHANNEL 3	C							
			2		-	443		*1							
G	-U 2-CONN		1		+		PRESSURE SWITCH CHANNNEL 1 LINE 1	C					CLOSED AT RIGHT PRESSURE		
			2		-	445		NO							
H	-U 2-CONN		1		+		PRESSURE SWITCH CHANNNEL 1 LINE 2	C					CLOSED AT RIGHT PRESSURE		
			2		-	446		NO							
I	-U 2-CONN		1		+		PRESSURE SWITCH CHANNNEL 2 LINE 1	C					CLOSED AT RIGHT PRESSURE		
			2		-	447		NO							
J	-U 2-CONN		1		+		PRESSURE SWITCH CHANNNEL 2 LINE 2	C					CLOSED AT RIGHT PRESSURE		
			2		-	448		NO							
J	-U 2-CONN		1		+		PRESSURE SWITCH CHANNNEL 3 LINE 1	C					CLOSED AT RIGHT PRESSURE		
			2		-	449		NO							

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Control Cabinet
CC4 MKII
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Wiring Diagram

Proj.nr
22754
Ritn nr
22754-01
Kundens referens
54399

Blad nr
502
Forts.
503
Rev.
-

A	CABLE				CABINET		RACEW	CONNECTION A			RACEW	CONNECTION B		INFORMATION	R
	Wire	Cable nr	Part nr	Note	Term. nr	Note		Device	Conn	Note		Device	Conn		
	-U 2-CONN		1		+			PRESSURE SWITCH	C					CLOSED AT RIGHT	
					-			CHANNEL 3 LINE 2						PRESSURE	
			2		450				NO						
B	-U 2-CONN		1		+			PRESSURE SWITCH	C					CLOSED AT RIGHT	
					-			CHANNEL 4 LINE 1						PRESSURE	
			2		451				NO						
C	-U 2-CONN		1		+			PRESSURE SWITCH	C					CLOSED AT RIGHT	
					-			CHANNEL 4 LINE 2						PRESSURE	
			2		452				NO						
D					+										
					-										
					453										
					+										
E	-U 2-CONN		1		-			VALVE CHANNEL 1	-					COMM. 0V	
			2		454				+						
					+										
	-U 2-CONN		1		-			VALVE CHANNEL 2	-					COMM. 0V	
			2		455				+						
F					+										
	-U 2-CONN		1		-			VALVE CHANNEL 3	-					COMM. 0V	
			2		456				+						
					+										
G	-U 2-CONN		1		-			VALVE CHANNEL 4	-					COMM. 0V	
			2		457				+						
					+										
	-U 2-CONN		1		-			VALVE AIR SPRAY CH1	-						
			2		458				+						
					+										
	-U 2-CONN		1		-			VALVE AIR SPRAY CH2	-						
			2		459				+						
					+										
	-U 2-CONN		1		-			VALVE AIR SPRAY CH3	-						
			2		460				+						
J															

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Control Cabinet
CC4 MKII
907498
Wiring Diagram

Proj.nr
22754
Ritn nr
22754-01
Kundens referens
54399

Blad nr
503
Forts.
504
Rev.
-

A	CABLE				CABINET		RACEW	CONNECTION A			RACEW	CONNECTION B		INFORMATION	R
	Wire	Cable nr	Part nr	Note	Term. nr	Note		Device	Conn	Note		Device	Conn		
	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 1 LINE 1		BROWN			COMM. 24V+		
			2		-	461				BLUE			SIGN. 4-20mA		
B	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 2 LINE 1		BROWN			COMM. 24V+		
			2		-	462				BLUE			SIGN. 4-20mA		
C	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 1 LINE 2		BROWN			COMM. 24V+		
			2		-	463				BLUE			SIGN. 4-20mA		
D	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 2 LINE 2		BROWN			COMM. 24V+		
			2		-	464				BLUE			SIGN. 4-20mA		
E	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 1 LINE 3		BROWN			COMM. 24V+		
			2		-	465				BLUE			SIGN. 4-20mA		
F	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 2 LINE 3		BROWN			COMM. 24V+		
			2		-	466				BLUE			SIGN. 4-20mA		
G	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 1 LINE 4		BROWN			COMM. 24V+		
			2		-	467				BLUE			SIGN. 4-20mA		
H	-U 2-CONN SHIELDED		1		+			PRESSURE SENSOR CHANNEL 2 LINE 4		BROWN			COMM. 24V+		
			2		-	468				BLUE			SIGN. 4-20mA		
I					+										
					-	469									
J					+										
					-	470									

Filnamn: 22754-01
Konstr. av: JeÅ
Ritad av:
Datum: 220926



Control Cabinet
CC4 MKII
907498
Wiring Diagram

Proj.nr
22754
Ritn nr
22754-01
Kundens referens
54399

Blad nr
504
Forts.
-
Rev.
-