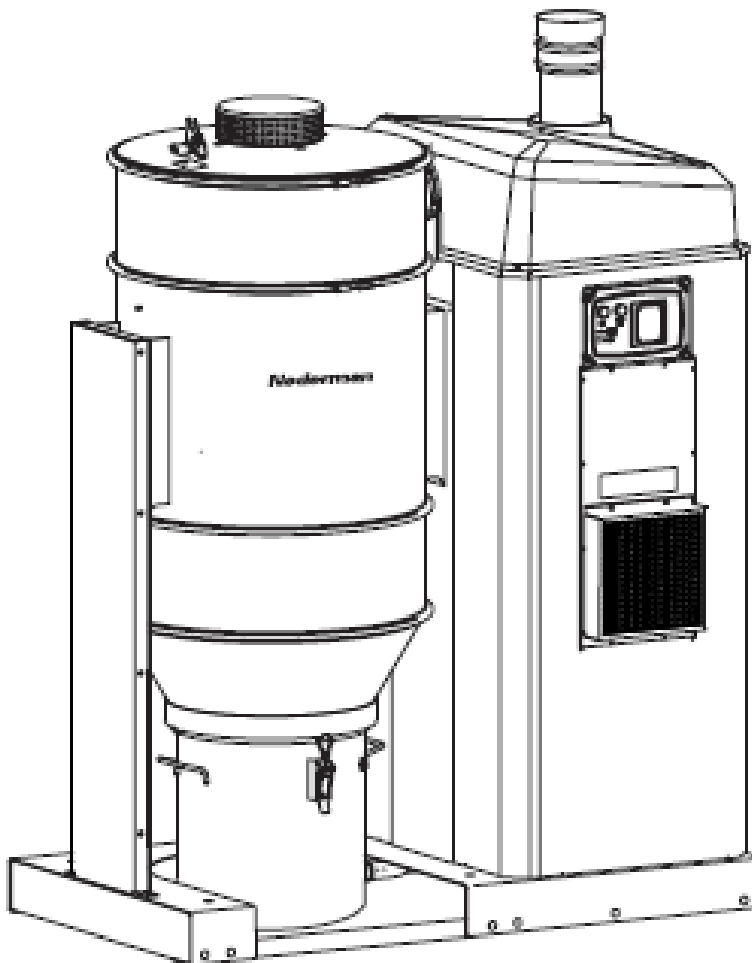


New Software Operator Instruction and Troubleshooting



2011-01-11

144439(02)

Content

This document is an information to install New software and an attachment to the original FlexPak manual (144209(00)) and review new software update and other improvement to the FlexPak system.

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- 2155786 ABB-ACS550 400V 20kPa27
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- 2155788 ABB-ACS550 460V 20kPa27
- 2155789 ABB-ACS550 460V 35kPa27
- 2157402 ABB-ACS550 230V 20kPa27
- 2157105 ABB-ACS550 230V 35kPa27

1. Firmware compatibility problem at L- Pak E-Pak and FlexPak

We have discovered that earlier spare part sells by Nederman to L-Pak- E-Pak and FlexPak has a major compatibility problem.

Attention!

It's not recommended to using a Logo! 5 Firmware to load a Logo 6! PLC

If the logo! 5 firmware is mounted in the PLC during any parameters changing the firmware will be reconfigured to Logo! 6 firmware and don't work to load software to a LOGO! 5.

If a reconfigured firmware accidental is use in a logo! 5 this unit will be out of order. Se below 1.2

Firm Ware = E-Prom + Software

1.1 E-prom Programming Compatibility LOGO! 5 VS LOGO! 6

If you use a Firmware programmed by an LOGO! 5 to load a LOGO! 6 the Hour running meter shows (9091h12mHou) in the main start menu.

The unit is still working without any further problem than the Hour running time interval is out of order. This is **not** recommendable then the Hour running timer is to prevent/protect against to long service intervals.

How to fix the problem

By accessing the parameter menu and change the interval you can reset the hour meter. Change hour meter interval time from 2000 to 1000 and press OK button. Change back to 2000 and press the OK button. Now hour meter is restored.

1.2 E-prom Programming Compatibility LOGO! 6 VS LOGO! 5

If an E-Prom programmed by an LOGO! 6 are used to load a LOGO! 5 the LOGO! 5 will stop running and a message will appear in the displays.

NO Program

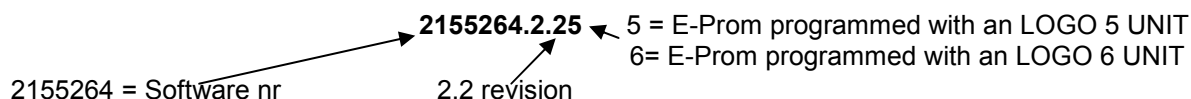
Press ESC

If this message is displaying it's **not** possible to start the unit and you have to reload the LOGO! 5 with an E-Prom programmed by a LOGO! 5.

It is not recommendable to use any unlabelled E-prom when loading software into a LOGO! 5 or LOGO! 6.

Technical information

1.3 Firmware reference table and software labeling



1.4 Identify the Software you can use due to FlexPak generation

Identify the unit's generation in table. Use standard software from the Table.

Firmware = E-prom with software	Spare part number	Software Rev	Part number	Machine Type	Info	R&D Info
2101824.1.55	40375362	2101824.1.5	2158058	FlexPAK 800 Generation I	Standard	Works with Loggo! 5
2101824.1.56	40375362	2101824.1.5	2158059	FlexPAK 800 Generation I	Standard	Works with Loggo! 6
2101428.1.55	40375363	2101428.1.5	2158060	FlexPAK 1000 Generation I	Standard	Works with Loggo! 5
2101428.1.56	40375363	2101428.1.5	2158061	FlexPAK 1000 Generation I	Standard	Works with Loggo! 6
2101824 .1.65	xxxx	2101824 .1.6	Obsolete	FlexPAK Generation II	Replaced by 2156347.2.15	Works with Loggo! 5
2101824 .1.66	xxxx	2101824 .1.6	Obsolete	FlexPAK Generation II	Replaced by 2156347.2.16	Works with Loggo! 6
2156347.2.15	xxxx	2156347.2.1	Obsolete	FlexPAK Generation II	Replaced by 2156347.2.25	Works with Loggo! 5
2156347.2.16	xxxx	2156347.2.1	Obsolete	FlexPAK Generation II	Replaced by 2156347.2.26	Works with Loggo! 6
2156347.2.25	xxxx	2156347.2.2	Obsolete	FlexPAK Generation II-III	Replaced by 2156347.2.36	Works with Loggo! 5
2156347.2.26	xxxx	2156347.2.2	Obsolete	FlexPAK Generation II-III	Replaced by 2156347.2.36	Works with Loggo! 6
2156347.2.35	40375250	2156347.2.3	2157850	FlexPAK Generation II-III	Standard	Works with Loggo! 5
2156347.2.36	40375250	2156347.2.3	2157851	FlexPAK Generation II-III	Standard	Works with Loggo! 6

Table 1

1.5 Firmware and software labeling

Firmware (E-Prom with Upgraded Software)

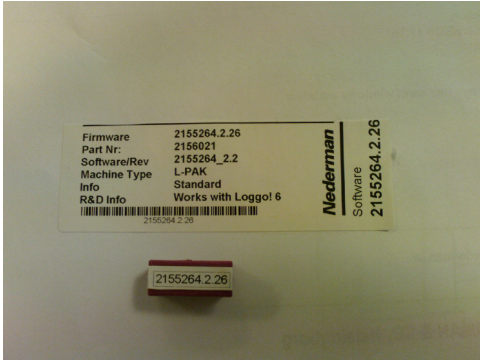


Fig 1

2. New software kit is available to purchase.

The new Firmware (Software) kit contain 2 new labelled E-prom dedicated to program each PLC model

The kit including 2 labelled E-Prom and a manual.

Kit	Purchase No
• L-Pak	40375152
• E-Pak 1000 AS	40780830
• FlexPak 800 generation I	40375362
• FlexPak 1000 generation I	40375363
• FlexPak 800-1000 generation II-III	40375250

2.1 Assistant Control Panel

To install the new software In FlexPak 800-1000 generation II-III it's necessarily to change the parameters in the frequency converter with an Assistant Control Panel

Unit	Purchase No
• Assistant Control Panel	40375311
• Manual on Web	http://www.abb.com/ Search: EN_ACS550_01_UM_G_A4_ScreenRes[1]

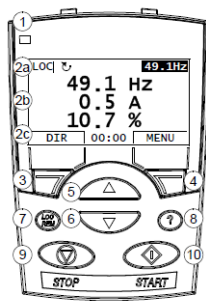


Fig 2 Assistant Control Panel

2.2 FlexPak 800-1000 kit

We recommend that a Nederman authorized technician do the installation, it's easy to accidentally change critical parameters.

The FlexPak kit is an extending kit with the new released upgrading software 2156347_2.3

- Upgrading software 2156347.2.3
- New Features
- New Electrical Schematics
- New Manual with Troubleshooting
- Guidelines to install the new software
- Guidelines to change parameter in the frequency converter.
- Frequency converter parameter list

3. New software 2156347.2.3 to FlexPak 800 – 1000

Note! Do not install the software if you don't have a Control Panel to change the parameters in the Frequency converter.

The new software is changed to help the service staff to do trouble shooting easier at Flex-PAK 800 and 1000.

The new software is compatible with LOGO! Version 4, 5, and 6 and is only compatible with Control cabinet generation II and III.

Don't install this program in a Generation I Control Cabinet!

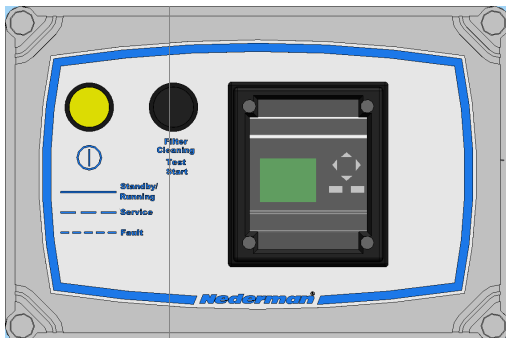


Fig 3 Generation I Control cabinet

No: 2101340

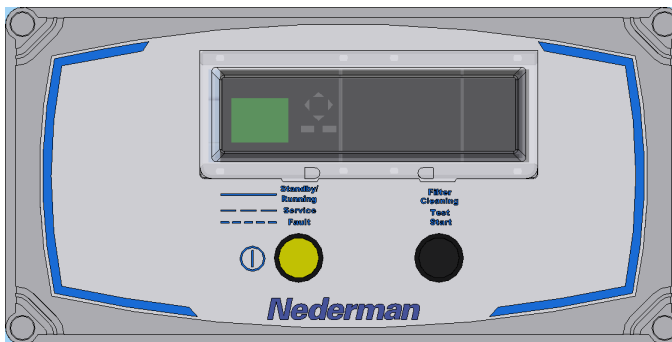


Fig 4 Generation II: Control cabinet with PT100 monitor

No: 2152027

And the same type of cabinet.

Generation III: Control cabinet with PT100 and PTC monitor.

No: 2156899

3.1 Summary software

The new software to FlexPak is developed to improve the operational characteristics, reduce wear and reduce noise level during idling. The new software also facilitates troubleshooting for maintenance staff.

All FlexPak Generation II units with previous software should be updated with the new software in order to ensure reliability and easier troubleshooting.

Old Software 2156347. 2.1 same as 2101824.1.6 it's adapted to LOGO! 6.

- 10 seconds after the pilot signal disappears the Cleaning valve open and Motor speed increased to 4200 rpm
- Hi Pressure level, FLT Drive Error and Fan over Temp level is a common alarm at one display.

New Software 2156347.2._3

- 10 seconds after the pilot signal disappears the Cleaning valve open and Motor speed decrease to 1200 rpm (idling) "improve the Energy efficiency at the unit"
- FLT Drive error is shown in a dedicated display
- Pump Error is a common alarm but extended with displaying the value of Pressure and Temperature
- New error messages to simplify trouble shooting. (Listed below).
- New error messages to simplify trouble shooting. (Listed below).

FlexPak unit with the new generation control cabinet generation III is equipped with PTC monitor and PTC sensors in the motor winding to monitor the motor temperature.

- Motor hi temp alarm is activated then motor temp is exceeding 140° C temp that is the maximum motor working temperature. This is future functions and is introduced in units during the spring 2010.

FlexPak unit with the new generation control cabinet generation II have not this feature available, then this units is not equipped with PTC monitor and PTC sensors.

In these units no hardware change is needed and the software default parameter settings are without PTC Monitoring.

In unit with PTC monitor a parameter has to be activated by a Soft key in logo. The parameter name is (PTCMonit) set the parameter to ON and the PTC monitoring is activated.

-

4. Fault message

4.1 Pump Error (common alarm)

Alert when the pressure level has been lower then - 36 kPa during 1 minute

Or alert when the blower exhaust air temperature exceed 135° C

Display explanation

P (Low Pressure Alarm)

The display shows the actual pressure level.
When the pressure level is higher than -35 kPa it is possible to reset the alarm.

If it displays any pressure level lower than 0 kPa when the motor is stopped the pressure measurement is faulty.

T (High Temperature Alarm)

The display shows the actual exhaust air temperature from the pump.

When the temperature is below 80 ° C it's possible to reset the alarm.
Usually the temperature is decreasing when the motor is stopped.
The temperatures decrease until its reach the environment temperature.

P	u	m	p	E	r	r	o	r	!	
P	-				-	2		k	P	a
T	-				1	5	0		C	
R	e	s	e	t	O	K	=	=	>	

Fig 5

If function Key (P/T Gauge) activates "ON" the display **Pump Error**, displays and it's possible to observe the pump exhaust temperature and the pressure in the system while running the unit.

By pressing Up and Down Arrow you alternate between main display and Pump Error display, to disable the display you only need to reset the error display by pressing OK button on PLC and the display disappear.

4.2 FLT Drive Error! (Common alarm)

Alert when the Frequency converter has an error.

This common alarm is set from the Frequency converter and it's usually possible to reset the error from the PLC as the display show.

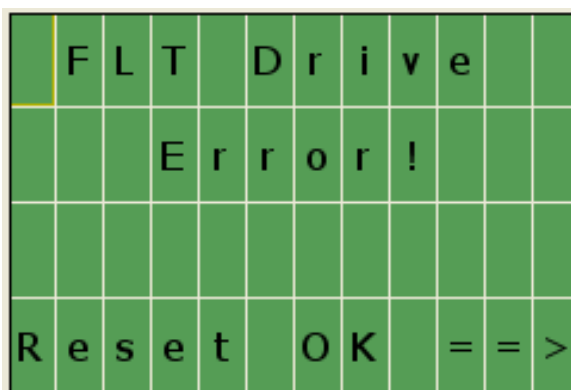


Fig 6

If the alarm is not resettable, then Contact Nederman technical support department to get information to proceed with trouble shooting and reset Frequency converter errors.

4.3 Motor Hi temp Alarm

Motor hi temp alarm is activated then motor temp is exceeding 140° C temp that is the maximum motor working temperature.

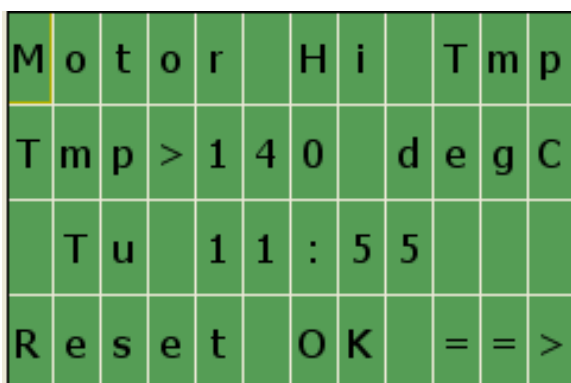


Fig 7

Next two messages have been necessarily to merge due to the Motor Hi Temp alarm.

Next two message have been replaced

F	i	l	t	e	r	C	l	o	g	d
O	r	A	U	X	A	l	a	r	m	
T	u	1	2	:	0	7				
R	e	s	e	t	O	K	=	=	>	

Fig 8

		C	A	S	<	3	B	a	r	
	T	h	0	1	:	0	0			
R	e	s	e	t	O	K	=	=	>	

Fig 9

By

F	i	l	t	e	r	C	l	o	g	d
C	A	S	,	A	U	X	L	a	r	m
T	u	1	1	:	4	7				
R	e	s	e	t	O	K	=	=	>	

Fig 10

Filter Clog or AUX is a warning signal and have to be activated in 30 minutes before the unit stop the motor. The alarm has to be reset on the PLC before the unit can be restarted.

If the compressed air pressure decrease below 3 Bar the CAS alarm activates instant and the motor stops immediately.

Se Chapter **I/O Display Explanations**, *Digital input display* to identify actual alarm

Se digital input

- DI:11 Filter Clog (DPS) Delta Pressure Switch at Dust Filter
- DI:4 CAS Compressed Air Switch
- DI:13 AUX (DPS) Delta Pressure Switch at Control filter

5. Load new software

If it's possible take notes of actual parameter settings.

Identify the LOGO! Model see below OK button on PLC and in table 1 identify that you use the appropriate E-prom. XXXX XXX-XXXX -OBA5 = LOGO5 XXXX XXX-XXXX -OBA6 = LOGO6.

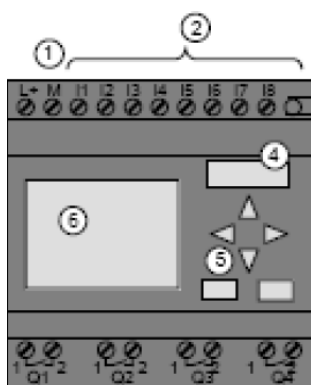


Fig 11

Upgrading the system

L- Pak unit hawed no display and buttons

1. Turn off the power supply.
2. Remove the cartridge covering (Refer to figure, no 11:4).
3. Insert the E-PROM.
4. Turn on the power supply and wait until the program has been loaded. This will take a few seconds.
5. Turn off the power and remove the E-PROM.
6. Mount the cartridge covering.
7. Turn on the power and make necessary parameter changes according to the manual for the starter, or change according to notes of previous settings.
8. Keep the E-Prom in a safe place.

6. PTC monitor settings

The newer FlexPAK Unit has a Termistor monitor and PTC sensor to protect the pump motor.

6.1 FlexPak units without PTC monitor generation II

FlexPak unit with the control cabinet generation II have not this feature available, then this units is not equipped with PTC monitor and PTC sensors.

In these units no hardware change is needed and the software default parameter settings are without PTC Monitoring.

6.2 FlexPak units with PTC monitor generation III

In unit with PTC monitor a parameter has to be activated by a Soft key in logo. The parameter name is (PTCMonit) set the parameter to On and the PTC monitoring is activated.

6.2.1 Fault hardware and software settings

If PTC monitor is connected to X1:10 and X1:9 and the PTC settings in logo is Off the Hi temp motor alarm is activated.

If PTC monitor is not connected to X1:10 and X1:9 and PTC settings in logo is On the Hi temp motor alarm is activated.

6.2.2 Correct hardware and software settings

If PTC monitor is connected to X1:10 and X1:9 and PTC settings in logo is On. The Hi temp motor alarm is activated when PTC monitor is activated. (System with PTC monitor)

If PTC monitor is not connected to X1:10 and X1:9 and PTC settings in logo is Off. The Hi temp motor alarm is disabled (System without PTC monitor)

7. New parameter setting in Frequency converter

To get the new functions in the new program to work you need to do changing parameters settings in the Frequency converter.

If you not are familiarly with Frequency converter control Pane its recommend to contact Nederman Technical Customers support Sweden to get instructions how to proceed with the settings in the Frequency converter.

It's advisable to check all parameters according to parameter list.

FlexPAK 800-1000 standard settings parameter.

New standard parameters for a FlexPAK 1000 and 800

Name	Param	Data
• Set Minimum Freq parameter	2007	20 Hz
• Maximum Freq	2008	72 Hz
• Constant speed select parameter D1,D2,D3	1201 =	12 Constant speed (idling)
• Const speed 4 parameter	1205	20 Hz
• Const speed 5 parameter	1206	72 Hz
• Motor Load curve	3007	85% 100 default
• Zero rpm Current	3008	50% 70 default
• Breakpoint HZ	3009	35Hz 35 Hz default?
• Acceler Time 1	2202	4 Seconds
• Deceler Time 1	2203	8 Seconds

Standard parameters for a FlexPAK 800

Name	Parameter	Data
• Internal setpnt parameter	4011	35 kPa

Standard parameters for a FlexPAK 1000

Name	Parameter	Data
• Internal setpnt parameter	4011	20 kPa

8. Trouble shooting

Note!

To carry out the trouble shooting it's necessary to have a multimeter with DC Volt and Ohm measuring.

8.1 Remove the lid of the Control cabinet

Unscrew the fore plastics screws in the corner of the control cabinet lift of the lid and identify the PLC and the terminals in the bottom of the cabinet.

8.2 Find out if. PT 100 Temp sensor is defect.

Disconnect the PT100 sensor wire from terminal 77 and measure the resistance between terminal 78 and the disconnected sensor wire.

Measure the resistance on the Sensor by using an Ohm meter. Table value is standard value so a deviation at the measuring value is normally.

0° C averaged output 100 (Ω) Ohm

20° C averaged output 110 (Ω) Ohm

80° C averaged output 131 (Ω) Ohm

135° C averaged output 150 (Ω) Ohm

If the sensor value (Ω) deviate more than $\pm 2\%$ from the table you have to change the sensor.

If the sensor has a resistance above 150 Ω you will get a High temperature Alarm?

To check if the sensor input is ok disconnect the PT100 wire at terminal 77 and connect a jumper between terminal 77 and 78. Push OK button at the PLC to reset the alert.

If the alert disappears then the PT100 input is ok, and you have to replace the PT 100 sensor.

Se Chapter **I/O Display Explanations**, Analog input display

8.3 Find out if the pressure sensor is defect.

The pressure sensor is connected to the PLC input 8 and the sensors measure range is 0 to -40kPa and the signal goes from 10 to 0 volt → 0 to -40kPa. This gives 10 volt at 0 kPa and 0 volt at -40kPa.

Measure the Volt signal between terminal 19 (+) and 17 (-) when the motor is off the volt signal has to be 10 Volt and then the motor is running the signal is between 0 → 10 Volt depend on the pressure level in the system.

To check if the sensor input is ok disconnect the pressure sensor wire at terminal 19 and connect a jumper between terminal 18 and 19 push OK button at the PLC to reset the alert.

If the alert disappears then the pressure sensor input is ok and you have to replace the pressure sensor.

Se Chapter **I/O Display Explanations**, Analog input display

8.4 CAS Compressed air switch function (accessories)

The CAS is a static ON/OFF detector with a specified working range

It's ON when the pressure is above 3 Bar and off below.

On = Pressure > 3Bar

Off = Pressure < 3Bar

The switch ensure that the FLC process work properly this process is depended on how fast the pneumatic piston lift the lid on the top of filter.

The faster the lid is open the faster the pressure rise in to the filter cavity

We want the (Pressure rise) / time (Pr/t) to be hi = efficiency cleaning of filter hose

If the pressure is below 1 Bar the Pr/t is significant lower and that result in an earlier filter clogging.

If lack of pressure or to low the piston can't open the FLC valve/lid properly and results in insufficient cleaning and earlier filter clogging

The CAS is connected to terminal X1:15 and X1:16 if the CAS not is installed a jumper is mounted at the terminals to ensure that the CAS message not activates in PLC Logo!

Se Chapter **I/O Display Explanations**, Digital input display

9. New function

9.1 TVFD

Activate TVFD, function

TvFdAkt
Switch = ON / OFF

To activate TVFD Press OK to go into menu use arrow up / down to set Switch to ON press OK to confirm.

Output Q8 = DO8 = V11 control lower valve/slide

Output Q9 = DO9 = V12 control upper valve/slide

9.2 EmtyTme

AEB and TVFD emptying interval

EmtyTme	
TH = 00:00s	Don't change
TL = 02:00h	Allowed to change depending on emptying needs minimum time 5 minute
Ta = 00:00S	Elapsed time during emptying sequence

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.3 OpenTme

TVFD and AEB opening time

OpenTme	
TH = 05:00S	Only allowed to be changed by authorized Nederman user → TH = 5s -2s= 3s (2s is standard opening delay at the lower valve/slide)
TL = 00:00S	Don't change always on 00:00s
Ta = 00:00S	Elapsed time emptying sequence

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.4 DampOpen (Block B14)

Opening temperature Damper in C° (Pump Cooling control)

Old software = 21563472.1 new software 2156347.2.2 and 2156347.2.3

DampOpen	
On = 85, 100	Only allowed to be changed by authorized Nederman user default = old software 85 new 100 FlexPak equipped with PTC in motor and PTC monitor default = 100
Off = 85, 100	Only allowed to be changed by authorized Nederman user default = old software 85 new 100 FlexPak equipped with PTC in motor and PTC monitor default = 100
Ax = -50	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.5 Damper opening parameter (Block B59)

Control opening speed of Damper

Th = 00:15s	Only allowed to be changed by authorized Nederman user default 15s
TL = 03:00s	Only allowed to be changed by authorized Nederman user default 3s
TA = 00:00	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.6 Damper Closing parameters (Block 60)

Control Closing speed of Damper

Th = 00:15s	Only allowed to be changed by authorized Nederman user default 15s
TL = 03:00s	Only allowed to be changed by authorized Nederman user default 3s
TA = 00:00	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.7 DampClos (Block B61)

Closing temperature Damper C° (Pump Cooling control)

Old software = 21563472.1 new software 21563472.2 and 21563472.3

DampClos	
On = 80, 95	Only allowed to be changed by authorized Nederman user default = old software 80 new 95 FlexPak equipped with PTC in motor and PTC monitor default =95
Off =80, 95	Only allowed to be changed by authorized Nederman user default= old software 80 new 95 FlexPak equipped with PTC in motor and PTC monitor default = 95
Ax = -50	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.8 PumpHTmp (Block B66)

Error Level High temperature Pump, Error

PumpHTemp	
On = 135	Only allowed to be changed by authorized Nederman user default 135 FlexPak equipped with PTC in motor and PTC monitor default = 135
Off = 80	Only allowed to be changed by authorized Nederman user default 80 FlexPak equipped with PTC in motor and PTC monitor default = 80
Ax = -50	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.9 PT100 setting (Block B101)

Setting PT100 sensor (temperature sensor at exhaust actual value to temp control)

This parameter is not aloud to change for anyone

A = 0.25	Only allowed to be changed by authorized Nederman user default +00,25
B = -50	Only allowed to be changed by authorized Nederman user default -00050
Ax = -50	

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.10 P/T Gauge

Activate pressure and pump exhaust temperature display

P/T Gauge

Switch = ON / OFF

Press OK to go into menu use arrow up / down to set Switch to ON press OK to confirm.

If Soft Key (P/T Gauge) activates "ON" the display **Pump Error**, displays and it's possible to observe the pump exhaust temperature and the pressure in the system while running the unit.

By pressing Up and Down Arrow you alternate between main display and Pump Error display, to disable the display, you disable the error display by pressing OK button on PLC.

9.11 LiAlarm

Dustbin level indicator Unit Stop Time delay.

When level indicator is set a time delay, 1 minute, is activated then the delay is elapsed a message Dustbin Full appears on the display and the timer start count down. When the setting time is elapsed (T = 30.00m) the unit stop.

LiAlarm

T = 30:00m Changes after the application's or sensor characteristics

Ta = 00:00 m Elapsed time the alert has been activated

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.12 DpsWarni

Delta pressure sensor, Filter clogged indicator, Unit warning Time delay.

When Delta pressure indicator is set the DpsWarni timer start count down. And when the setting time is elapsed (T = 01.00m) Then the message Filter Clogd appears on the display and the start /Stop button start to flash

DpsWarni

T = 01:00m Changes after the application's or sensor characteristics

Ta =0:04 m Elapsed time the alert has been activated

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.13 DpsAlarm

Delta pressure sensor, Filter clogged indicator, Unit Stop Time delay.

When DpsWarni timer has elapsed the DpsAlarm timer start count down. And when the setting time is elapsed (T = 30.00m) the unit stop.

Then the message Filter Clogd and the start /Stop button flashing remains on the display.

DpsAlarm	
T = 30:00m	Changes after the application's or sensor characteristics default 30m
Ta =0:04 m	Elapsed time the alert has been activated.

Press OK to go into menu use right arrow to move cursor use arrow up and down to set value press OK to confirm.

9.14 PTCMonitor setting

PTCMonit	
Switch = Off	Default settings = OFF (Generation II) Generation III has to be set to=On

Press OK to go into menu use arrow up / down to set Switch to ON press OK to confirm.

System without PTC monitor = Off

System with PTC monitor = On

9.15 Week Timer new setting

- Week Time 1 (No change see the original manual)
- Week Time 2 (No change see the original manual)
- Week Time 3 (No change see the original manual)
- Week Time 4 New setting always off

WeekTim4	
Pulse =off	Default settings = OFF (Generation III) Generation III has to be set to=off

Press OK to go into menu use arrow up / down to set Switch to ON press OK to confirm.

Off = Week timer off settings available

On = Week timer off setting not available

10. Pneumatic Filter Cleaning Valve (FLC)

10.1 Filter Cleaning Button

Man Filter button only work when the system is in stand by mode or in running mode.

10.1.1 FLC in Stand by mode

1. Start the FLC by press Start/Stop button

Now the system is in stand by mode

2. Start the FLC by Press filter Clean button

The motor start and the FLC valve close and pressure establish in the system.

The unit will know open and close the FLC valve 1 times and then let the FLC valve be in **Open** position. After the cleaning cycle the unit goes into Idling mode the unit wait for Pilot signal in 10 minutes if the pilot signal not appears during the 10 minutes the unit stop the motor.

During idling mode (10 min) its not possible to do a new FLC without an activation of pilot signal and go to Run Mode or by toggle Start/Stop button (go to Stand by Mode) and then press FLC button again.

10.1.2 FLC in Run mode

1. Start the FLC process by press start button

Now the system is in stand by mode

2. Activate the pilot signal by a Jumper on terminal X1:13 and X1:14

The motor start and the FLC valve close and the pressure establish in the system.

3. Start the FLC by Press filter Clean button

The unit will know open and close the FLC valve 3 times and then let the FLC valve be in **Close** position. After the last cleaning cycle the unit goes back to Running by mode and wait for absence of Pilot signal. Its possible to do multiple FLC cycles during Run Mode.

When the pilot signal disappear the unit run for 10 seconds (DIR Time)and then open the FLC valve and go into Idling mode. The unit waits for Pilot signal in 10 minutes if the pilot signal not appears during the 10 minutes the unit stop the motor.

1. The idling time is set by the SSR timer default 10 min

Technical information

- The DIR time is the delay after absence of Pilot signal to opening of FLC valve default 10 seconds.

10.2 Filter Cleaning Valve Function

The PLC output DO3 is set and send +24V to solenoid valve.

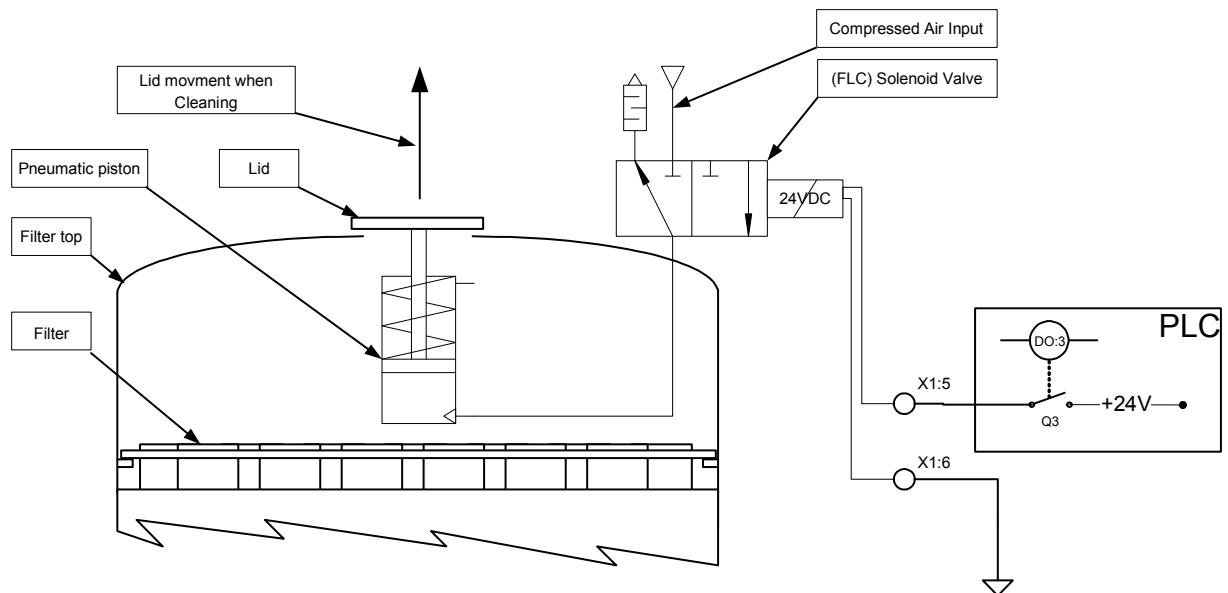
The solenoid valve open the air flow to the pneumatic piston that move the lid on top of the Filter upwards and let environmental air to flow in to the filter top. This sudden opening of the lid on the top lets in ambient air with great speed that creates a pressure rise suddenly above the filters.

This pressure increase is blowing air through the filters cartridges and removes the dust from the filters.

When absence of power to solenoid valve the Valve close and evacuate the Pneumatic piston and the lid fall down and close the opening of the filter top.

If the piston not fall down its possible that the piston not evacuates properly.

If you disconnect the compressed air input the piston should fall down and the lid close the filter top opening.



11. Attachment

11.1 Electrical Diagram 2101433

- Loggo PLC and Frequency Converter
- Digital I/O extension module DU2
- Terminal X1 and power Terminal UE1

1.2 Electrical Diagram 2151799

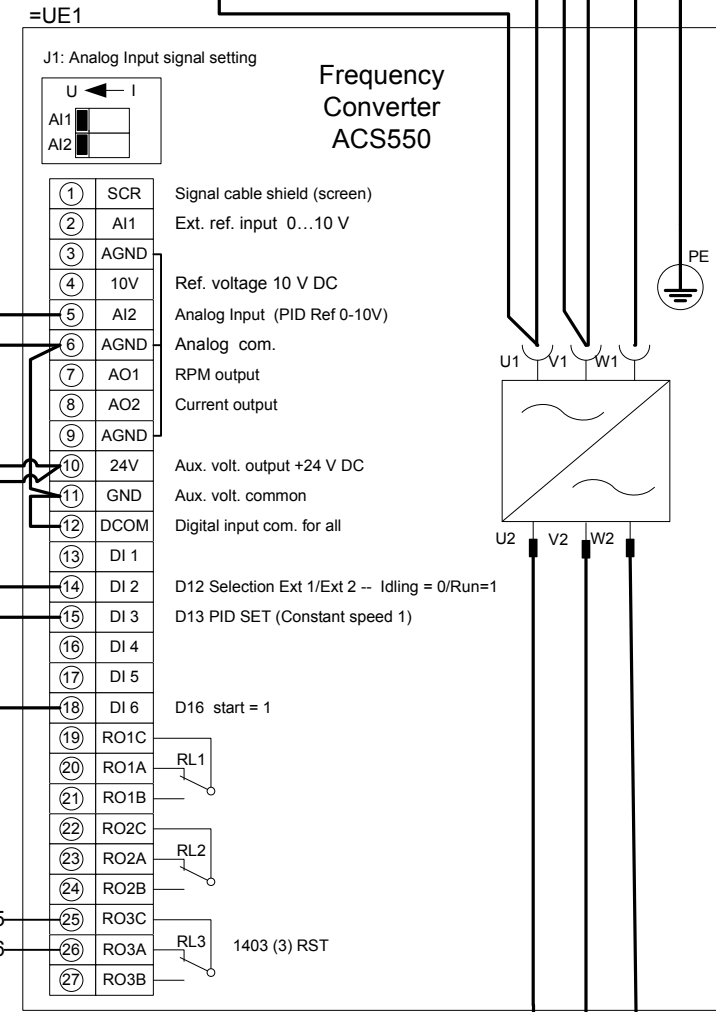
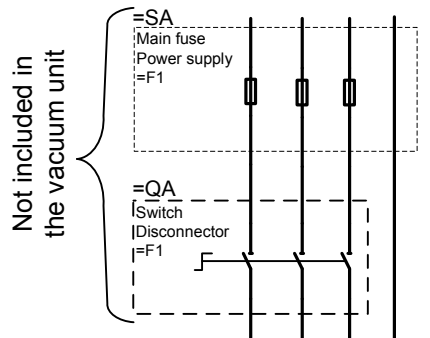
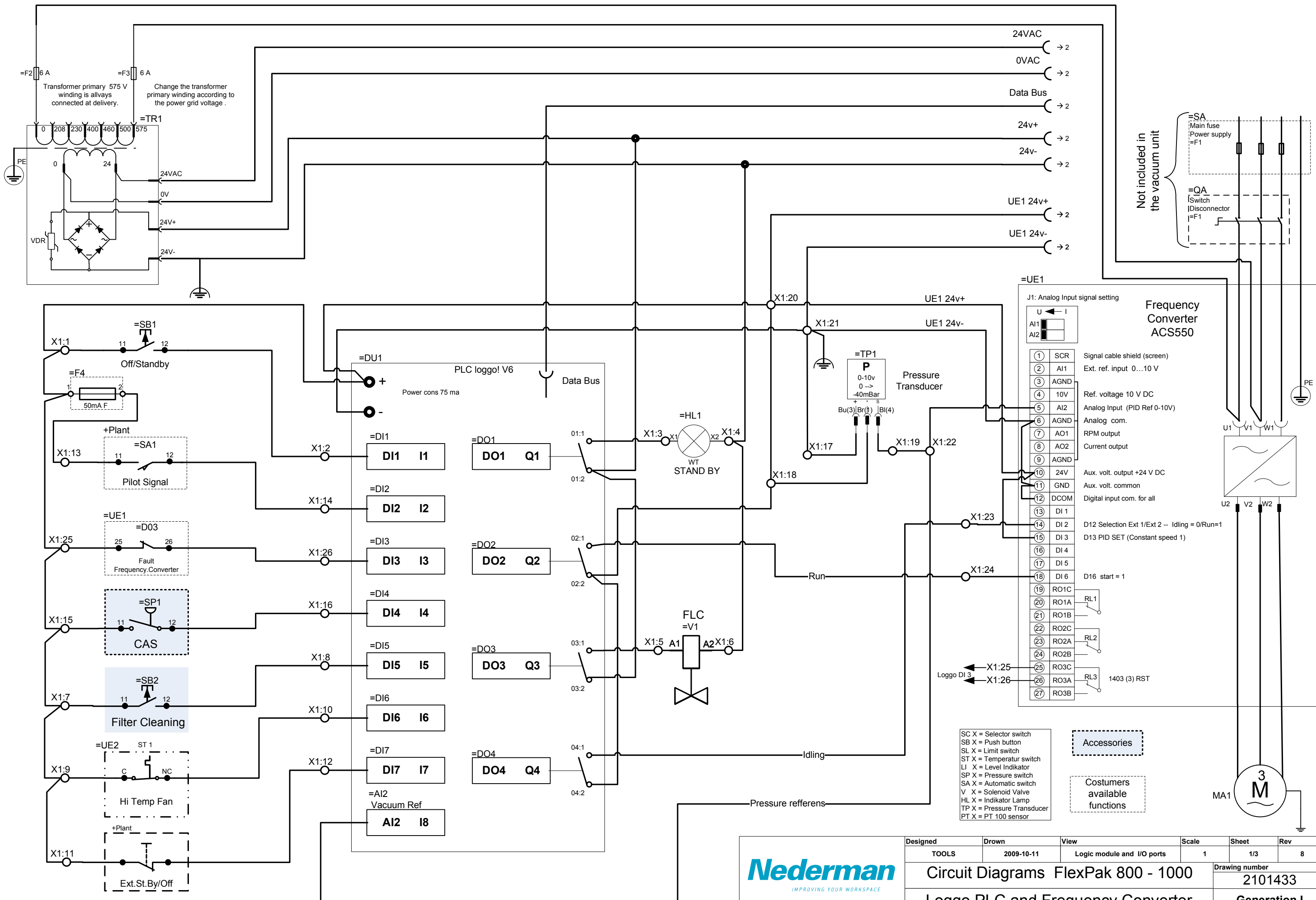
- Loggo PLC and Frequency Converter
- Digital I/O extension module DU2
- PT100 extension module

11.2 Electrical Diagram 2157538

- Loggo PLC and Frequency Converter
- Digital I/O extension module DU2
- Termistor monitor and PT100 extension module
- Terminal X1 and power Terminal UE1

11.3 Parameter list

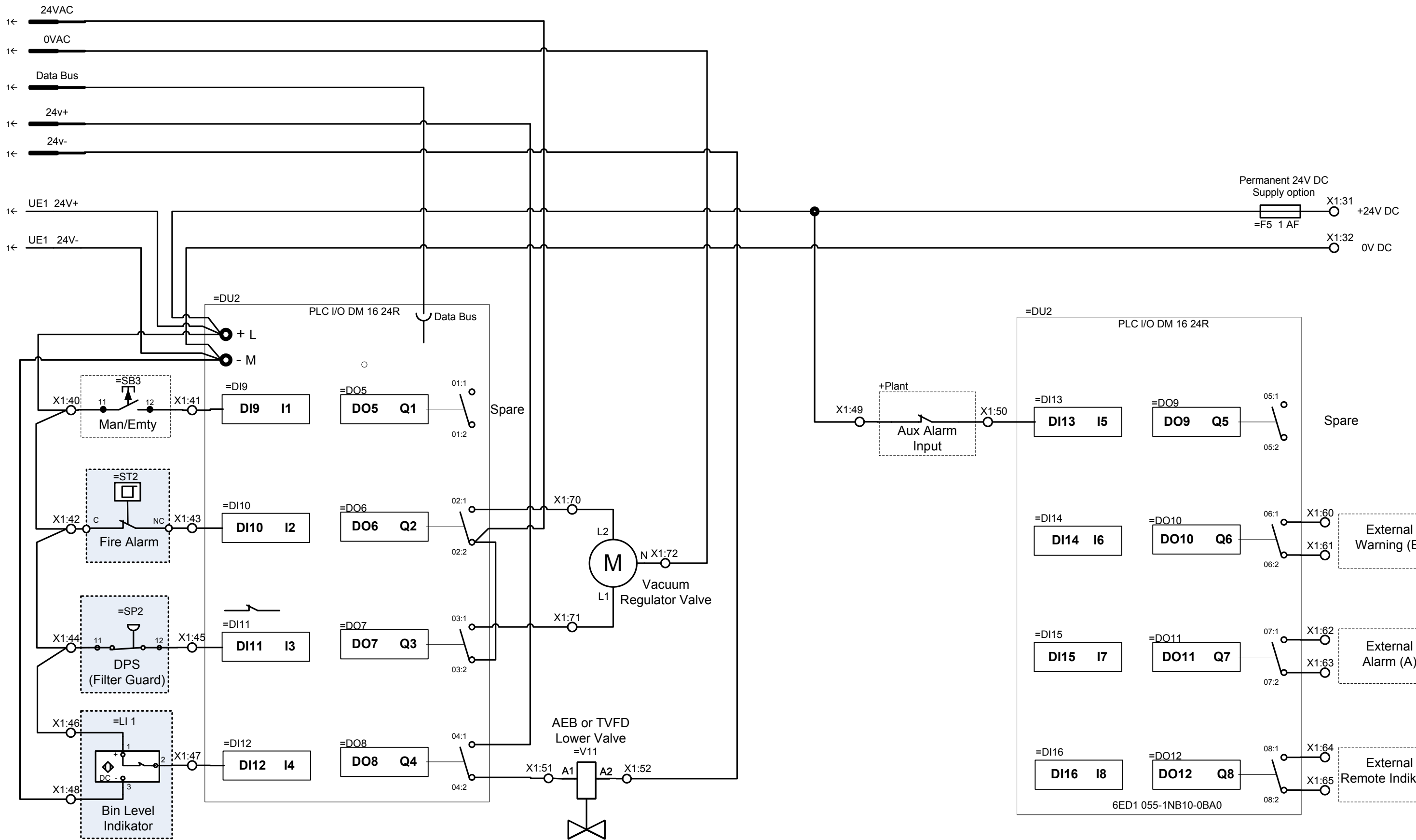
- 2155786 ABB-ACS550 400V 20kPa
- 2155787 ABB-ACS550 400V 35kPa
- 2155788 ABB-ACS550 460V 20kPa
- 2155789 ABB-ACS550 460V 35kPa
- 2157402 ABB-ACS550 230V 20kPa
- 2157105 ABB-ACS550 230V 35kPa



- Legend:
- SC X = Selector switch
 - SB X = Push button
 - SL X = Limit switch
 - ST X = Temperatur switch
 - LI X = Level Indikator
 - SP X = Pressure switch
 - SA X = Automatic switch
 - V X = Solenoid Valve
 - HL X = Indikator Lamp
 - TP X = Pressure Transducer
 - PT X = PT 100 sensor
- Accessories:
- Customer available functions



Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-10-11	Logic module and I/O ports	1	1/3	8
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Loggo PLC and Frequency Converter				2101433	
				Generation I	



SC X = Selector switch
 SB X = Push button
 SL X = Limit switch
 ST X = Temperatur switch
 LI X = Level Indikator
 SP X = Pressure switch
 SA X = Automatic switch
 V X = Solenoid Valve
 HL X = Indikator Lamp
 TP X = Pressure Transducer
 PT X = PT 100 sensor

Accessories

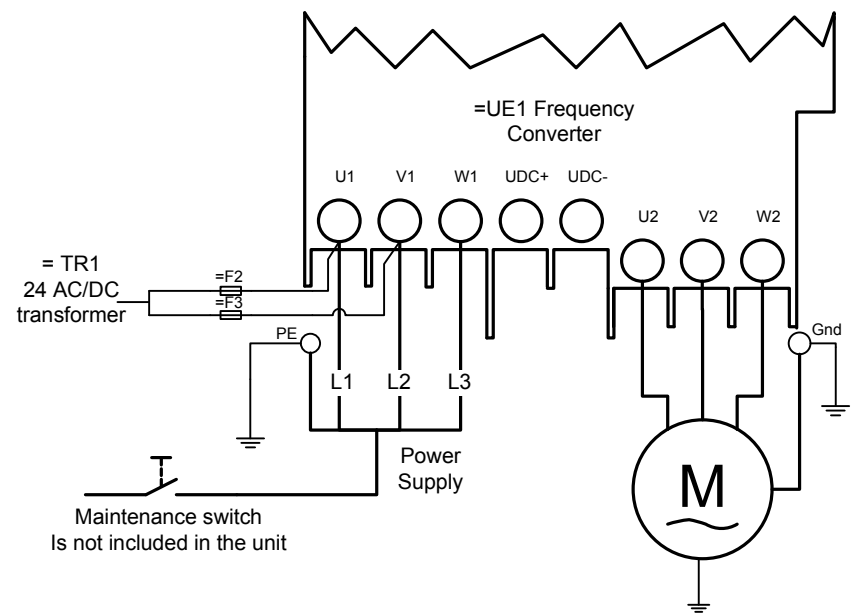
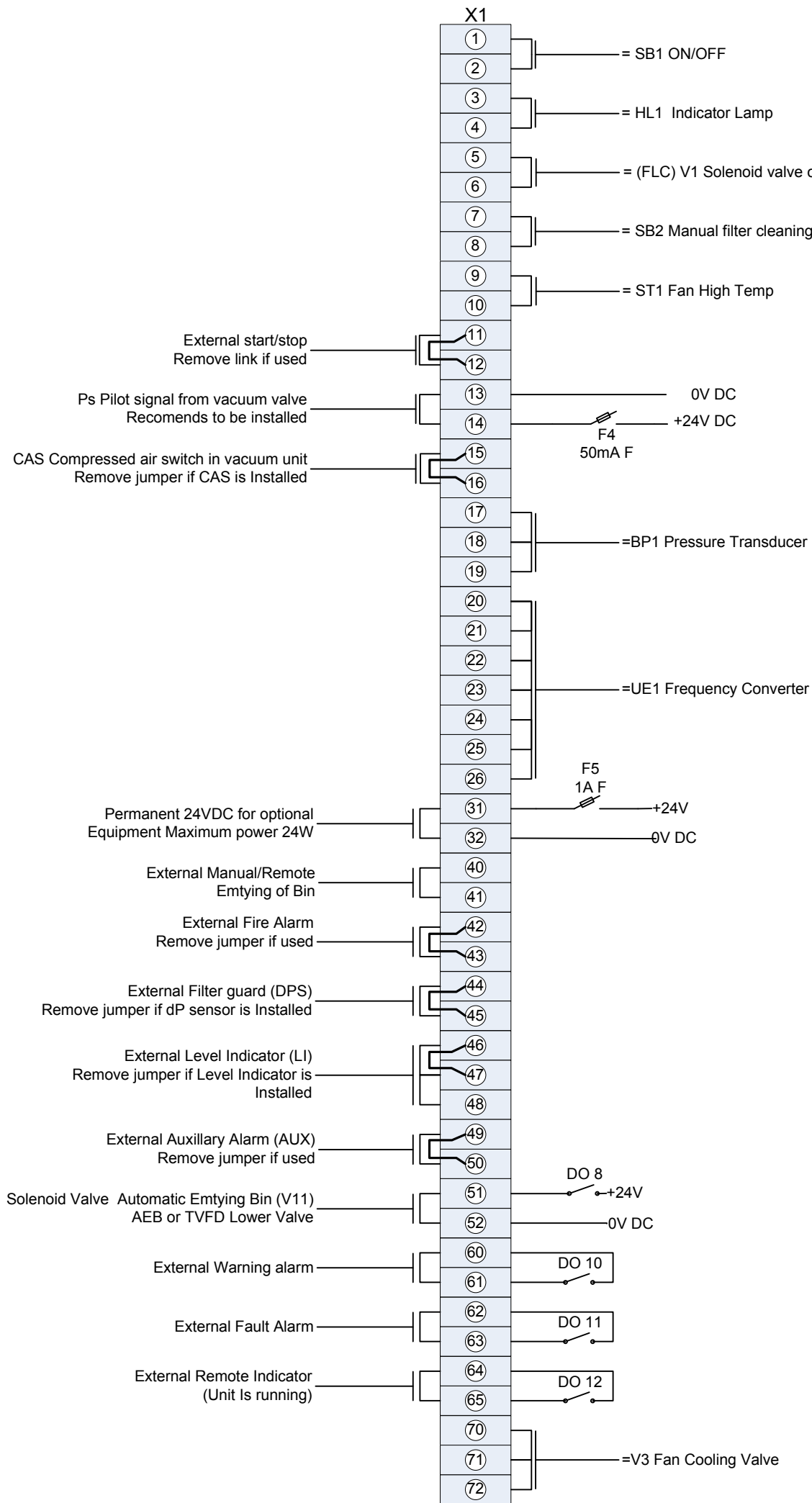
Costumers available functions



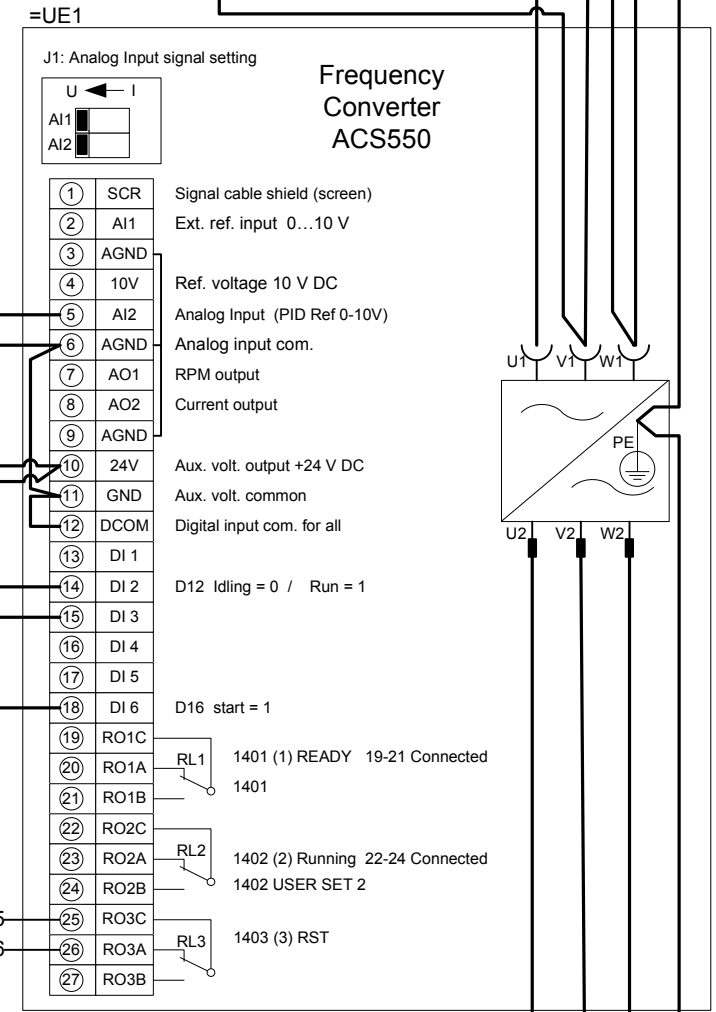
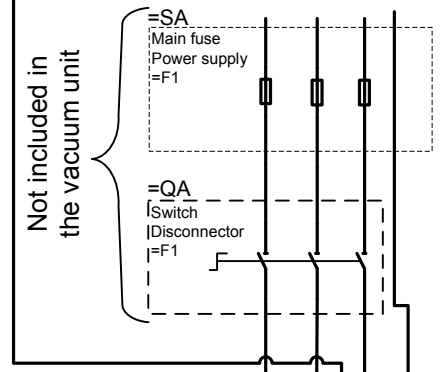
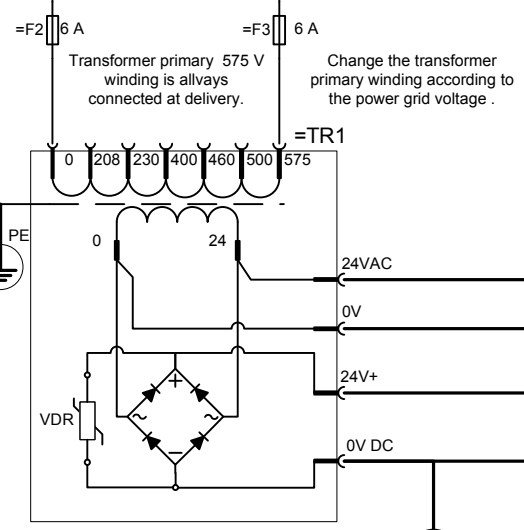
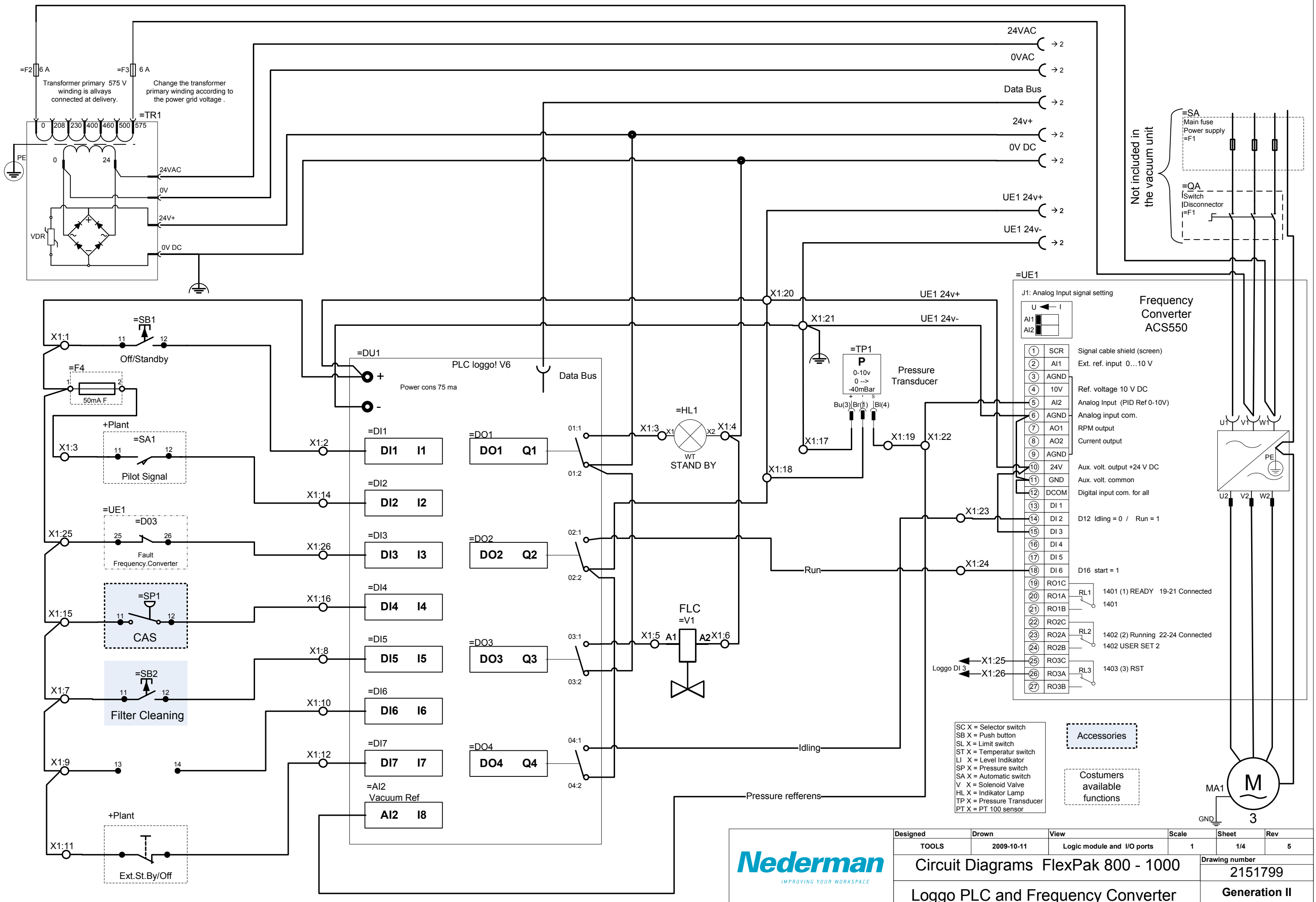
Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-10-05	Digital I/O Modules	1	2/3	8
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Digital I/O extension modul DU2				2101433	
				Generation I	

Customer Connection Extra equipment or Accessories

Internal Connection



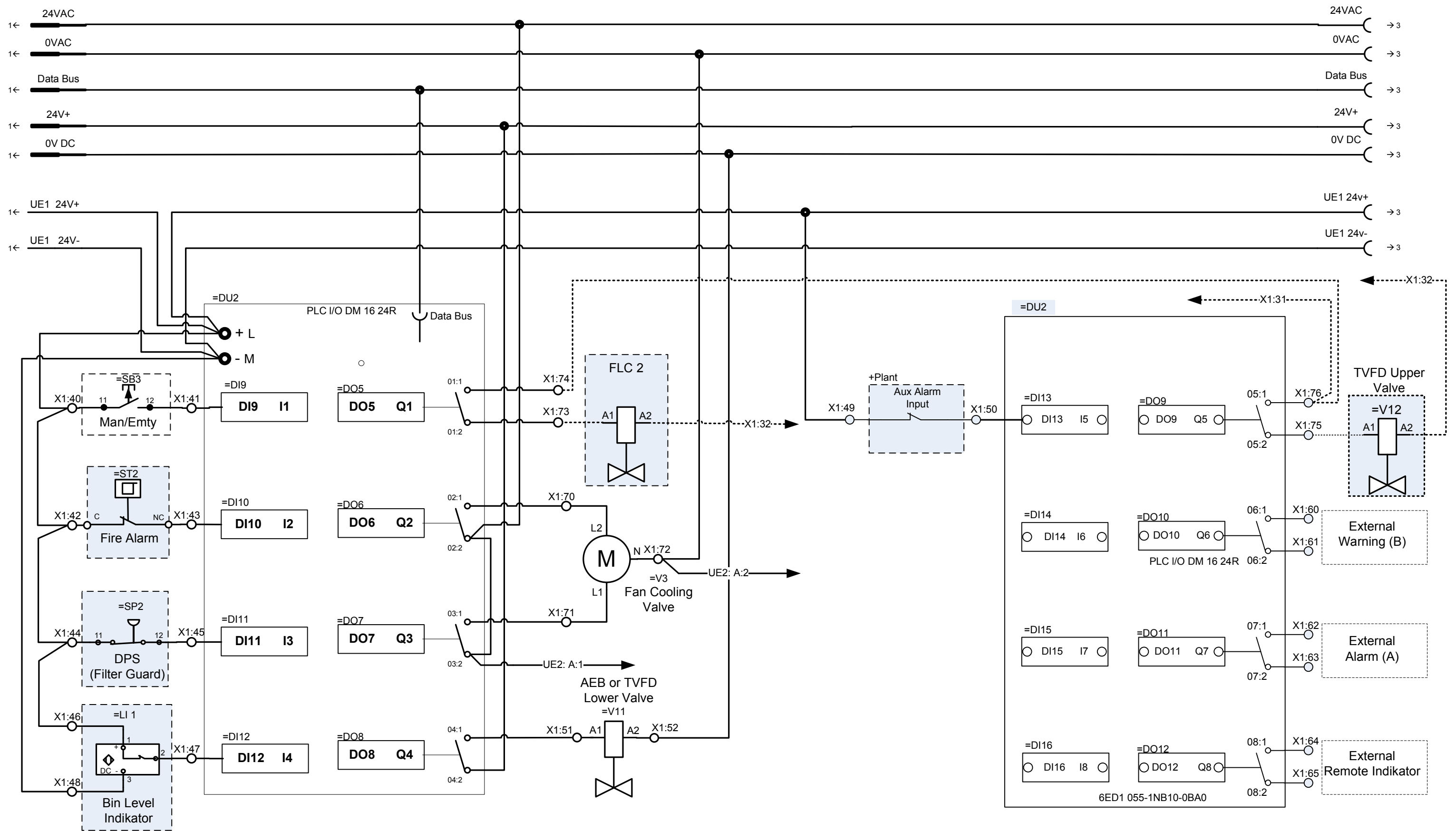
Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-11-30	Electrical Connection	1	3/3	8
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Terminal X1 and power Terminal UE1				2101433	
				Generation I	



- SC X = Selector switch
 - SB X = Push button
 - SL X = Limit switch
 - ST X = Temperatur switch
 - LI X = Level Indikator
 - SP X = Pressure switch
 - SA X = Automatic switch
 - V X = Solenoid Valve
 - HL X = Indikator Lamp
 - TP X = Pressure Transducer
 - PT X = PT 100 sensor
- Accessories**
- Costumers available functions**

Designed	Drawn	View	Scale	Sheet	Rev
TOOLS	2009-10-11	Logic module and I/O ports	1	1/4	5
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Loggo PLC and Frequency Converter				2151799	
				Generation II	



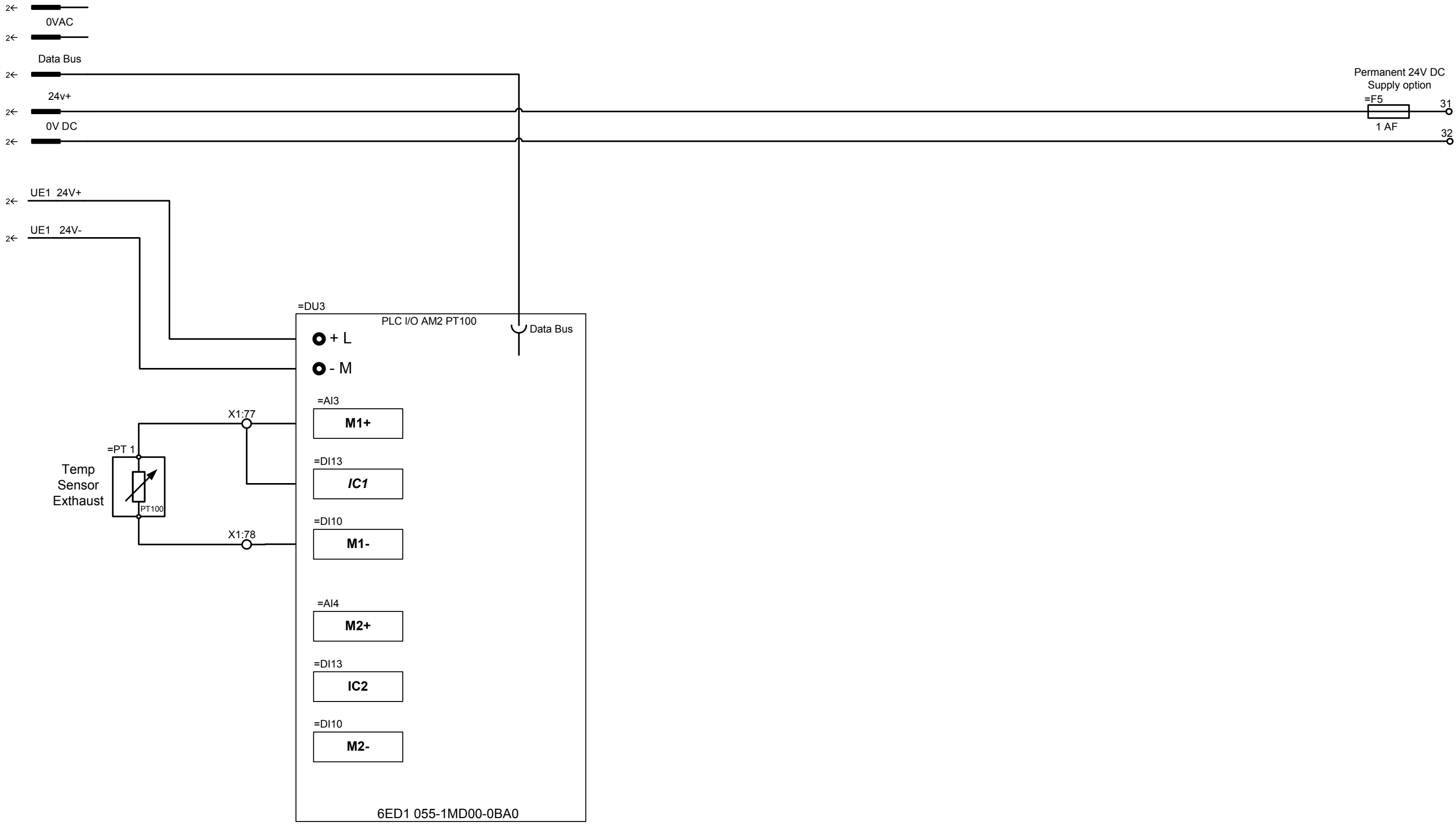


- SC X = Selector switch
- SB X = Push button
- SL X = Limit switch
- ST X = Temperatur switch
- LI X = Level Indikator
- SP X = Pressure switch
- SA X = Automatic switch
- V X = Solenoid Valve
- HL X = Indikator Lamp
- TP X = Pressure Transducer
- PT X = PT 100 sensor

- Accessories
- Costumers available functions



Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-10-05	Digital I/O Modules	1	2/4	5
Circuit Diagrams Flex Pak 800 - 1000				Drawing number	
Digital I/O extension modul DU2				2151799	
				Generation II	



SC X = Selector switch
 SB X = Push button
 SL X = Limit switch
 ST X = Temperatur switch
 LI X = Level Indikator
 SP X = Pressure switch
 SA X = Automatic switch
 V X = Solenoid Valve
 HL X = Indikator Lamp
 TP X = Pressure Transducer
 PT X = PT 100 sensor

Accessories

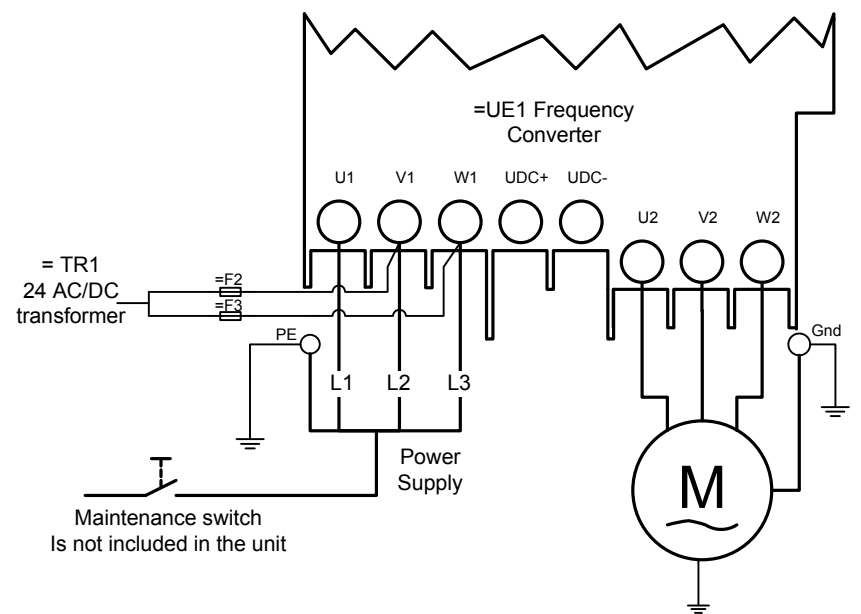
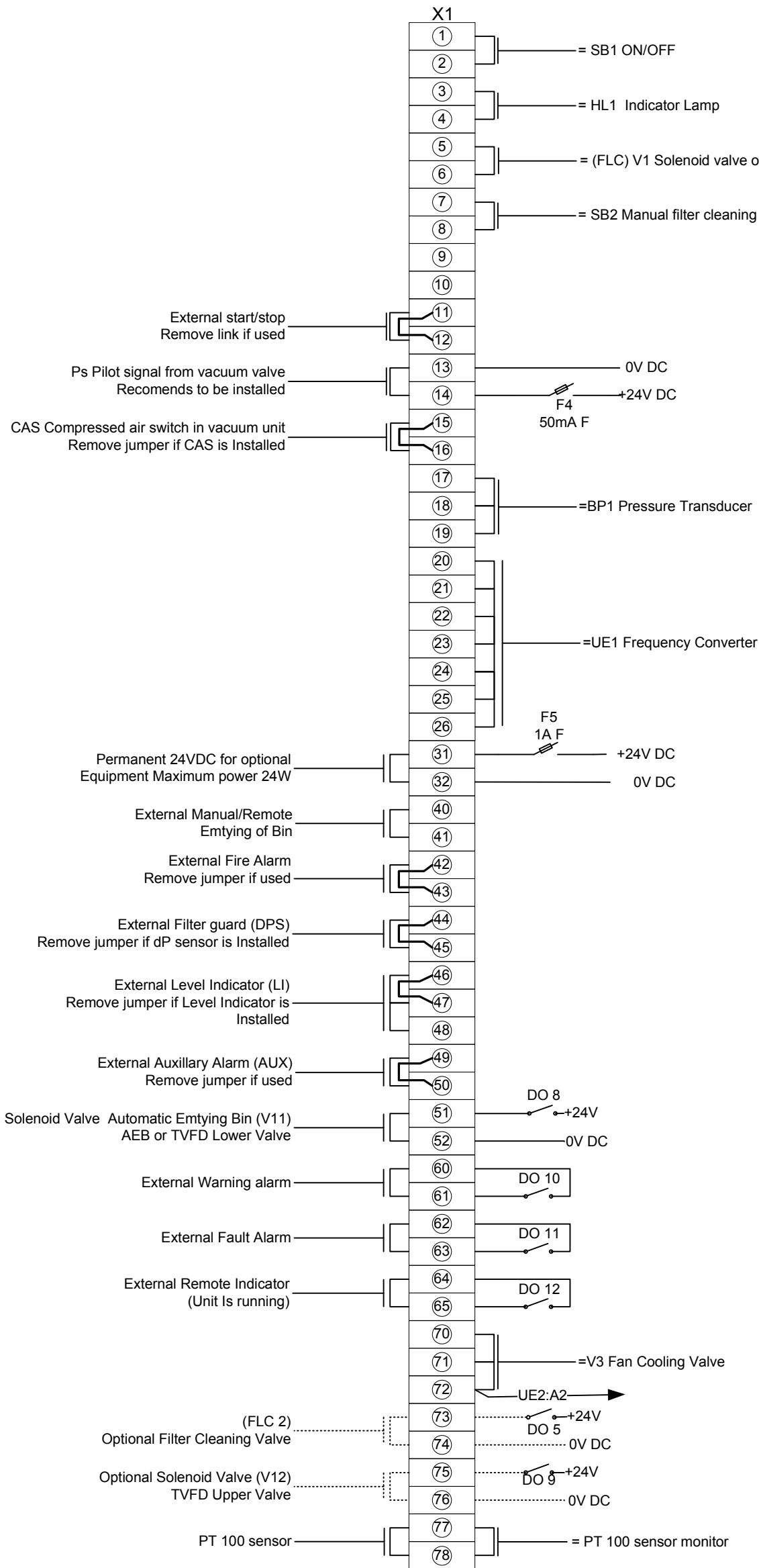
Costumers available functions



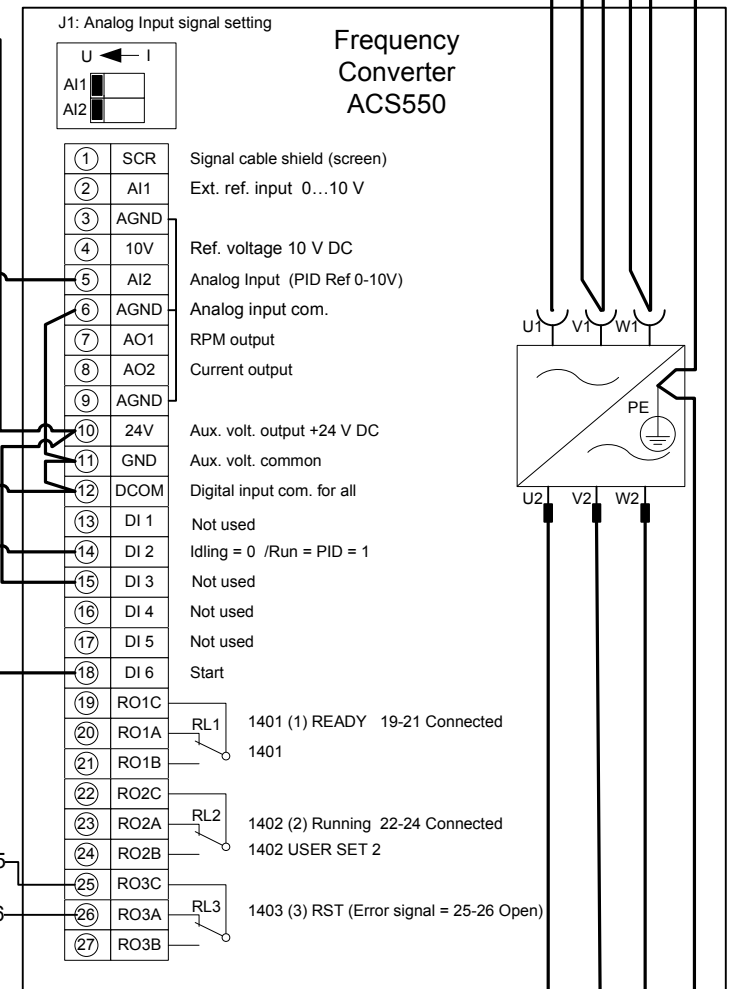
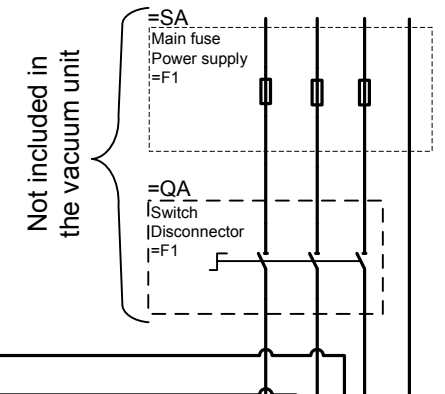
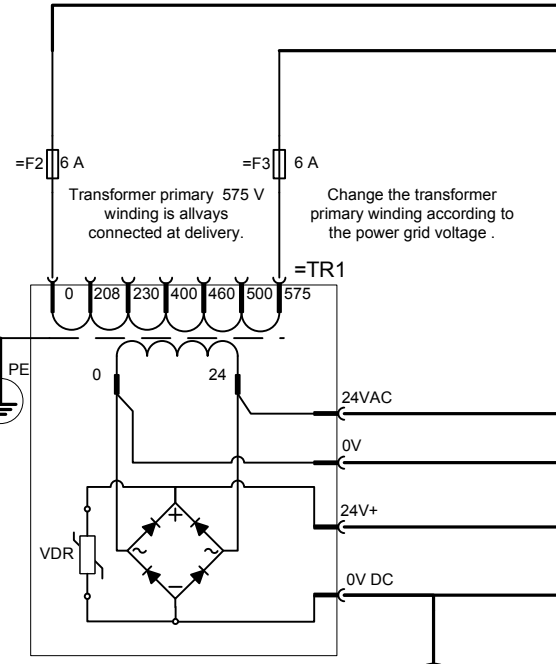
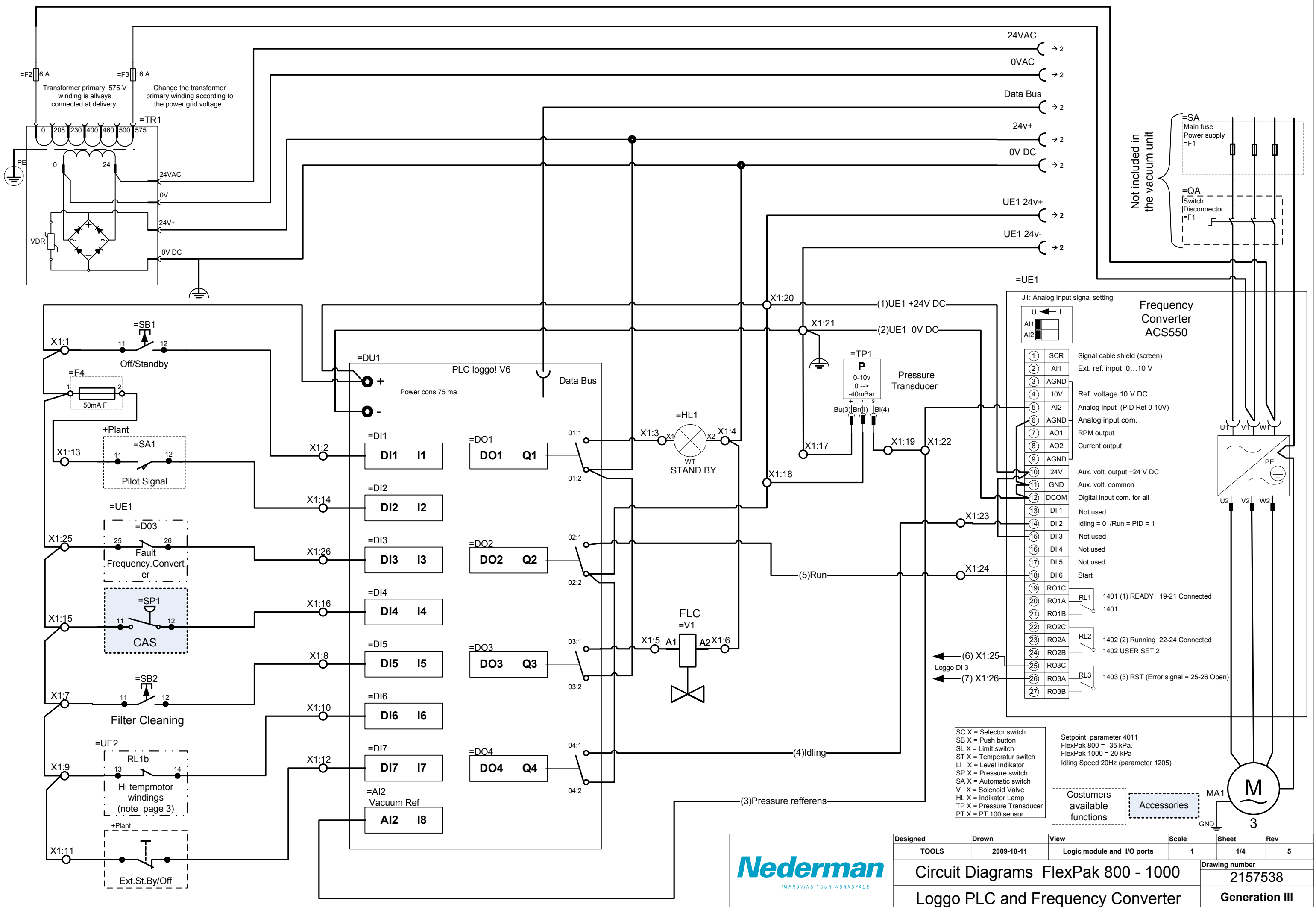
Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-10-05	Analoge PT100 extension I/O Modules	1	3/4	5
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
PT100 extension module				2151799	
				Generation II	

Customer Connection Extra equipment or Accessories

Internal Connection



	Designed	Drawn	View	Scale	Sheet	Rev	
	TOOLS	2009-11-30	Electrical Connection	1	4/4	5	
	Circuit Diagrams FlexPak 800 - 1000					Drawing number	
	Terminal X1 and power Terminal UE1					2151799	
						Generation II	



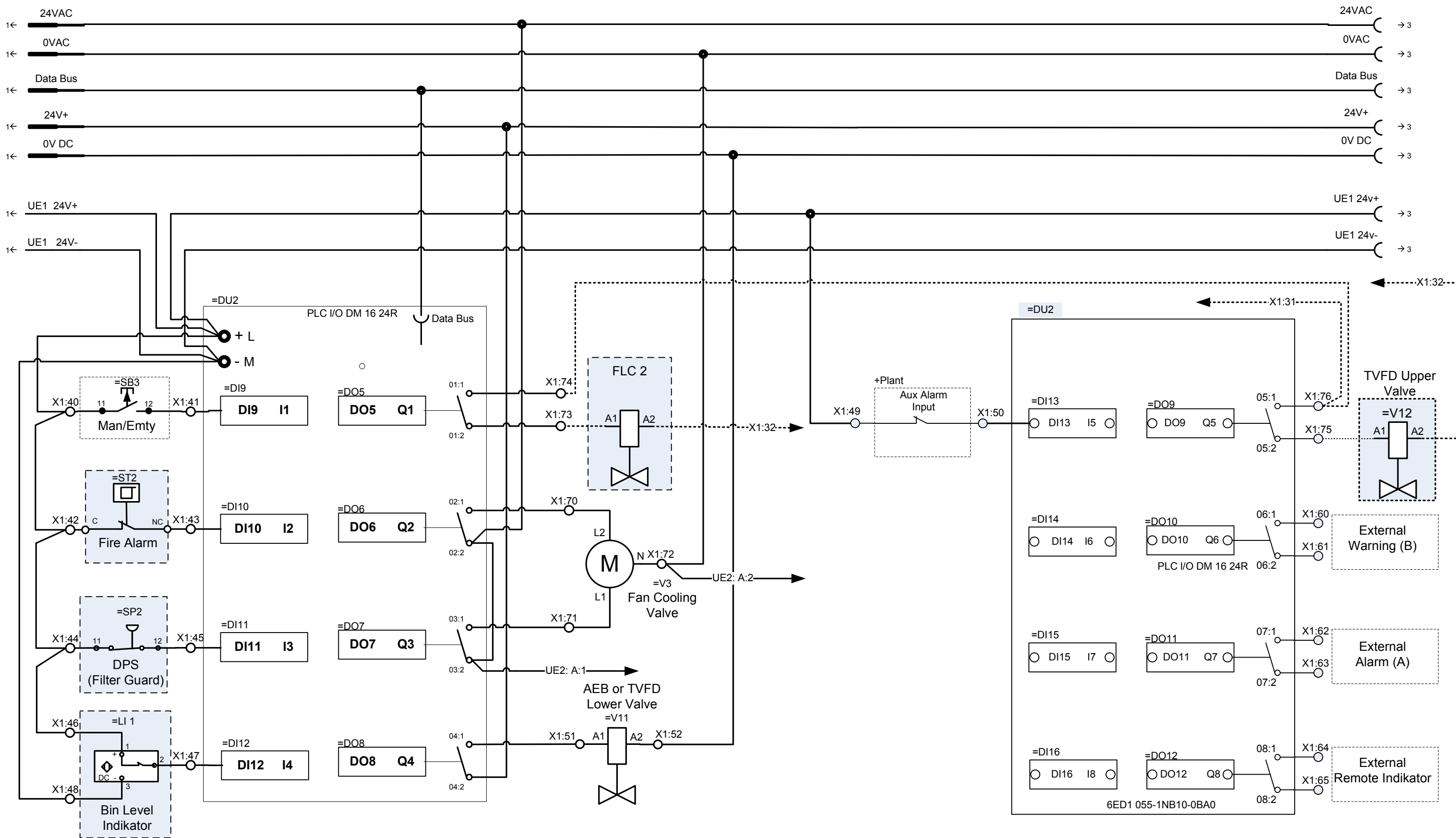
SC X = Selector switch
 SB X = Push button
 SL X = Limit switch
 ST X = Temperatur switch
 LI X = Level Indikator
 SP X = Pressure switch
 SA X = Automatic switch
 V X = Solenoid Valve
 HL X = Indikator Lamp
 TP X = Pressure Transducer
 PT X = PT 100 sensor

Setpoint parameter 4011
 FlexPak 800 = 35 kPa,
 FlexPak 1000 = 20 kPa
 Idling Speed 20Hz (parameter 1205)

Customers available functions
 Accessories




Designed	Drawn	View	Scale	Sheet	Rev
TOOLS	2009-10-11	Logic module and I/O ports	1	1/4	5
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Loggo PLC and Frequency Converter				2157538	
				Generation III	

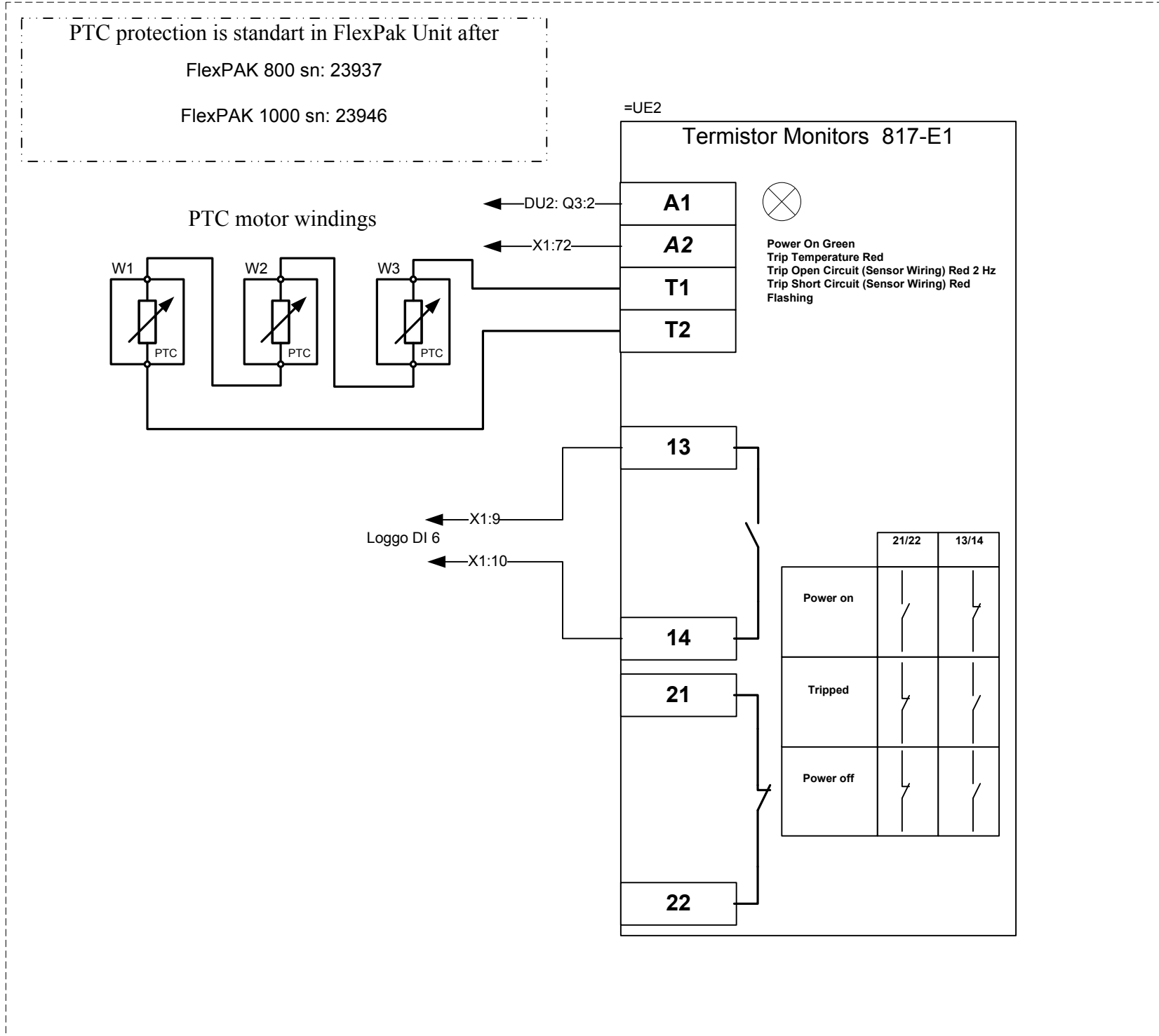
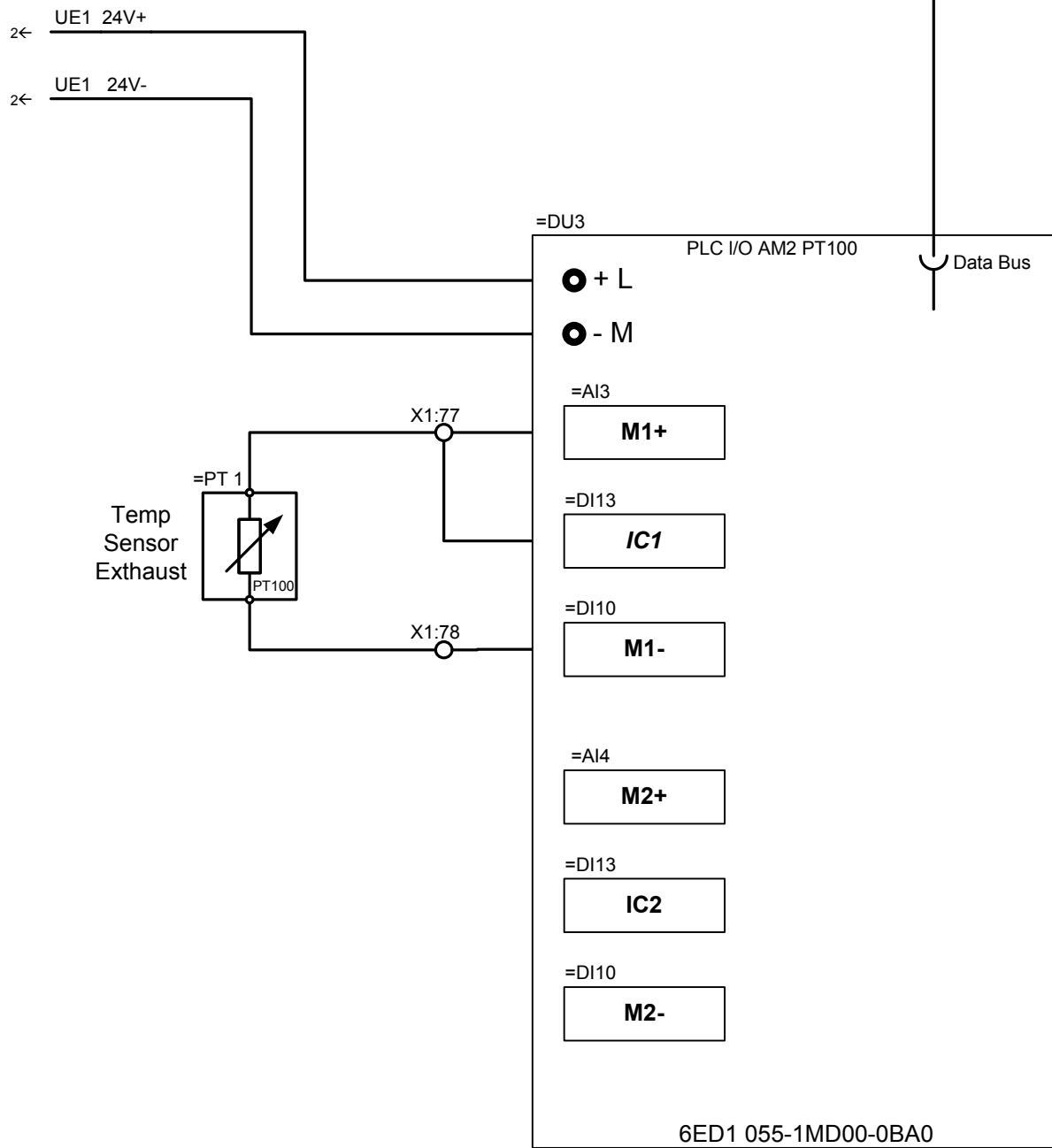
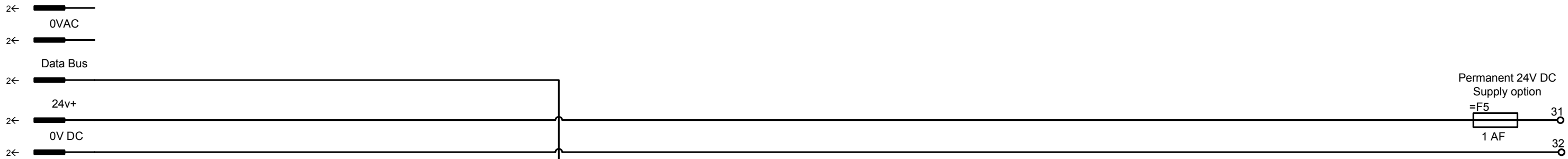


SC X = Selector switch
 SB X = Push button
 SL X = Limit switch
 ST X = Temperatur switch
 LI X = Level Indikator
 SP X = Pressure switch
 SA X = Automatic switch
 V X = Solenoid Valve
 HL X = Indikator Lamp
 TP X = Pressure Transducer
 PT X = PT 100 sensor

Accessories

Costumers available functions

	Designed	Drown	View	Scale	Sheet	Rev
	TOOLS	2009-10-05	Digital I/O Modules	1	2/4	5
	Circuit Diagrams Flex Pak 800 - 1000 Digital I/O extension modul DU2				Drawing number 2157538 Generation III	



- SC X = Selector switch
- SB X = Push button
- SL X = Limit switch
- ST X = Temperatur switch
- LI X = Level Indikator
- SP X = Pressure switch
- SA X = Automatic switch
- V X = Solenoid Valve
- HL X = Indikator Lamp
- TP X = Pressure Transducer
- PT X = PT 100 sensor

Accessories

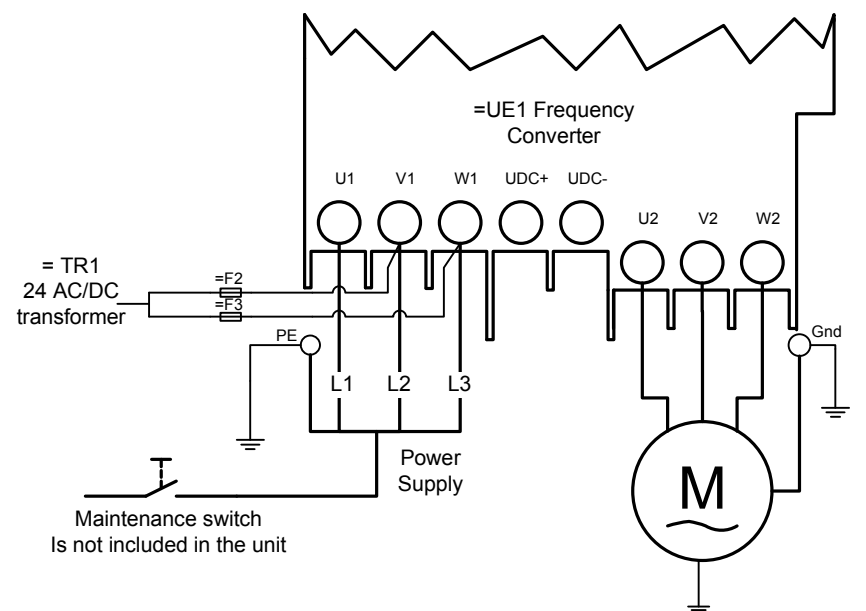
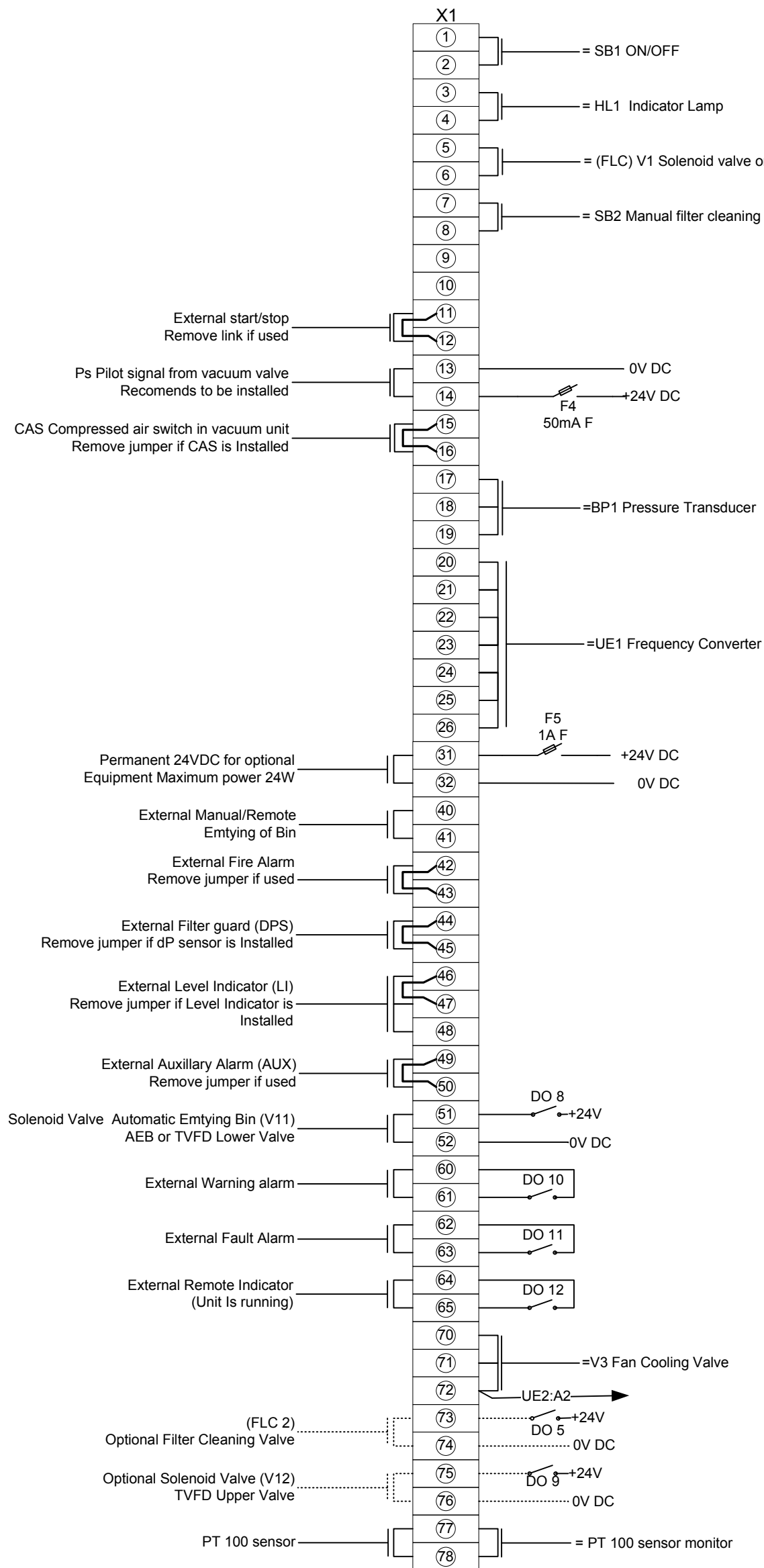
Costumers available functions



Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-10-05	Analoge PT100 extension I/O Modules	1	3/4	5
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Termistor monitor and PT100 extension module				2157538	
				Generation III	

Customer Connection and Extra equipment or Accessories

Internal Connection



Designed	Drown	View	Scale	Sheet	Rev
TOOLS	2009-11-30	Electrical Connection	1	4/4	5
Circuit Diagrams FlexPak 800 - 1000				Drawing number	
Terminal X1 and power Terminal UE1				2157538	
				Generation III	

Title: Parameter FlexPAK1000 400V 50Hz 20kPa
 Dokumentnr-rev: 2155786_V3
 Datum: 2010-02-23
 Konstruerad: RI
 File name: 2155786 ABB-ACS550 400V 20kPa_V3.xls
 ABB programvara **3.13D**
 Ändrad av TOOLS

Parameter to FlexPAK1000 400V 50Hz ABB ACS550-01-038A-4**Whit 18.5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	400	V
Motor nom curr	9906	36,5	A
Motor nom freq	9907	50	Hz
Motor nom speed	9908	2900	rpm
motor nom power	9909	18,5	kW
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm
Maximum Speed	2002	4320	rpm
Maximum Current	2003	31	A Derating motor
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds Time (2->8s)To protect against over voltage in DC stage
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve
Motor Load curve	3007	85%	100 default
Zero rpm Current	3008	50%	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	20	PID1 20 kPA internal reference

Title: Parameter FlexPAK 800 400V 50Hz 35kPa
 Dokumentnr-rev: 2155787_V3
 Datum: 2010-02-23
 Konstruerad: RI
 File name: 2155787 ABB-ACS550 400V 35kPa_V3.xls
 ABB programvara **3.13D**
 Ändrad av TOOLS

Parameter to FlexPAK 800 400V 50Hz ABB ACS550-01-038A-4**Whit 18,5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	400	V
Motor nom curr	9906	36,5	A
Motor nom freq	9907	50	Hz
Motor nom speed	9908	2900	rpm
motor nom power	9909	18,5	kW
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm
Maximum Speed	2002	4320	rpm
Maximum Current	2003	31	A Derating motor
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds Time (2->8s)To protect against over voltage in DC stage
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve
Motor Load curve	3007	85%	100 default
Zero rpm Current	3008	50%	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	35	PID1 36 kPA internal reference (Should be 1kPa higher than set point in PLC)

Title: Parameter FlexPAK1000 460V 60Hz 20kPa
 Dokumentnr-rev: 2155788_V3
 Datum: 2010-02-23
 Konstruerad: RI
 File name: 2155788 ABB-ACS550 460V 20kPa_V3 .xls
 ABB programvara **3.13D**
 Ändrad av TOOLS

Parameter to FlexPAK 1000 460V 60Hz ABB ACS550-01-038A-4**Whit 18,5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	460	V
Motor nom curr	9906	36,5	A
Motor nom freq	9907	60	Hz
Motor nom speed	9908	3500	rpm
Motor nom power	9909	21,5	kW
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm
Maximum Speed	2002	4320	rpm
Maximum Current	2003	31	A Derating motor
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds Time (2->8s)To protect against over voltage in DC stage
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve
Motor Load curve	3007	85%	100 default
Zero rpm Current	3008	50%	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	20	PID1 20 kPA internal reference

Title: Parameter FlexPAK 800 460V 60Hz 35kPa
 Dokumentnr-rev: 2155789_V3
 Datum: 2010-02-23
 Konstruerad: RI
 File name: 2155789 ABB-ACS550 460V 35kPa_V3.xls
 ABB programvara **3.13D**
 Ändrad av TOOLS

Parameter to FlexPAK 800 460V 60Hz ABB ACS550-01-038A-4**Whit 18,5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	460	V
Motor nom curr	9906	36,5	A
Motor nom freq	9907	60	Hz
Motor nom speed	9908	3500	rpm
motor nom power	9909	21,5	kW
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm
Maximum Speed	2002	4320	rpm
Maximum Current	2003	31	A Derating motor
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds Time (2->8s)To protect against over voltage in DC stage
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve
Motor Load curve	3007	85%	100 default
Zero rpm Current	3008	50%	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	35	PID1 36 kPA internal reference (Should be 1kPa higher than set point in PLC)

Title: Parameter Flex PAK 1000 230V 50Hz 20kPa
 Dokumentnr-rev: 2157402_V1
 Datum: 2010-02-23
 Konstruerad: TOOLS
 File name: 2157402 ABB-ACS550 230V 20kPa_V1
 ABB programvara 3.13D
 Ändrad av TOOLS

**Parameter Flex PAK 1000 230V 50Hz ABB ACS550-075A-2
 With 18,5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	230	V
Motor nom curr	9906	59,5	A 59,5A
Motor nom freq	9907	50	Hz
Motor nom speed	9908	2940	rpm
motor nom power	9909	18,5	kW
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm Idling Speed
Maximum Speed	2002	4320	rpm
Maximum Current	2003	59,5	A
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve 350seconds
Motor Load curve	3007	0,85	100 default
Zero rpm Current	3008	0,5	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1 Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	20	PID1 kPa internal reference

Title: Parameter FlexPAK800 230V 50Hz 35kPa
 Dokumentnr-rev: 2157105_V1
 Datum: 2010-02-23
 Konstruerad: TOOLS
 File name: 2157105 ABB-ACS550 230V 35kPa_V1
 ABB programvara 3.13D
 Ändrad av TOOLS

**Parameter FlexPAK800 230V 50Hz ABB ACS550-075A-2
 With 18,5kW Electrical motor**

<u>Name</u>	<u>Parameter code</u>	<u>Adjustment</u>	<u>Comments</u>
Application makro	9902	6	PID
Motor control mode	9904	3	SCALAR:FREQ
Motor nom volt	9905	230 V	
Motor nom curr	9906	59,5 A 59,5A	
Motor nom freq	9907	50 Hz	
Motor nom speed	9908	2940 rpm	
motor nom power	9909	18,5 kW	
Ext1 commands	1001	6	Start/stop through DI6
Ext1/Ext2 sel	1002	6	Start/stop through DI6
Constant speed sel	1201	12	Constant speed (idling) D1,D2,D3
Const speed 4	1205	20	Hz Idling speed 1200 rpm
Const speed 5	1206	72	Hz Anti Clogg speed 3420 rpm
Minimum AI2	1304	0	0-10V analog
Maximum AI2	1305	100	0-10V analog
Relay output 3	1403	15	FAULT (RST)
Run enable	1601	0	Not selected
Fault reset sel	1604	7	Start/stop cmd as fault reset
Minimum Speed	2001	1200	rpm Idling Speed
Maximum Speed	2002	4320	rpm
Maximum Current	2003	59,5	A
Minimum Freq	2007	20	Hz Affect, min speed to 1200RPM
Maximum Freq	2008	72	Hz
Maximum TORQ1	2017	100	%
Acceler Time 1	2202	4	Seconds
Deceler Time 1	2203	8	Seconds
Mot therm prot	3005	1	Fault- when calculated motor temperatur exceeds 110 dgrC the drive stops
Mot therm time	3006	350	Class 10 trip curve 350seconds
Motor Load curve	3007	85%	100 default
Zero rpm Current	3008	50%	70 default
Breakpoint HZ	3009	35Hz	35 Hz default?
Nr of trials	3101	3	Times
Trial time	3102	10	Seconds
Deley time	3103	2	Times
AR Overcurrent	3104	ENABLED	
AR Overvoltage	3105	ENABLED	
AR Undervoltage	3106	ENABLED	
Sensor Type	3501	Non	(N/A in this application)
Input Selection	3502	0	(N/A in this application)
Alarm Limit	3503	De-Activated	(N/A in this application)
Fault Limit	3504	De-Activated	(N/A in this application)
Gain	4001	1	PID1 Gain
Integration time	4002	1	PID1 1,0 S PI-reg. I part
Error value inv	4005	1	PID1 Inverted decrease in feedback signal
Unit	4006	23	PID1 Unit in kPA
Dsp format	4007	1	PID1 Decimal point
0% value	4008	40	PID1 0 kPA
100% value	4009	0	PID1 40 kPA
Set point sel	4010	19	PID1 Internal
Internal setpnt	4011	35	PID1 36 kPA internal reference (Should be 1kPa higher than set point in PLC)

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