Control System Type ABS PCxop

SULZER
PCxop

7 PUMP STATUS	8 FLÖDES STATUS	9 ANALOG STATUS	+/- KVITTERA LARM FUNKTION
4 DIGITAL IN	5 DIGITAL UT	6 KVITTERA LARM	→
1 ANALOG IN	2 ANALOG UT	3 VISA LARM	←
PROG AVBRYT	0 ALTER-NERING	. HAND START	↵ <ENTER>

- SUPPLY WATCH DOG
- SWITCH P1 NOT IN AUTO
- SWITCH P2 NOT IN AUTO
- Remote/Lokal PersonalAlarm
- OVERFLOW
- REMOTE
- PUMP 1 RUNNING
- PUMP 2 RUNNING
- PersonalAlarm PRESS ENTER
- HIGH LEVEL
- A-ALARM
- Curr.Protector PUMP 1
- Curr.Protector PUMP 2
- B-ALARM
- Temp.protector PUMP 1
- Temp.Protector PUMP 2

Installation and Operating Instructions

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Contents

1 General information

PCx is a control system from Sulzer. It includes a control computer, PCx, an expansion module, PCxp, and operator panel PCxop. The communication between the units is through a CAN network.

The operator panel communicates and power supplies through the CAN-bus. The operator can easy can easily configure and monitor the system from the operator panel PCxop. The display on the operator panel has 4 rows with 20 characters per row. The panel has 20 LED indicators for different kind of status reports, alarms etc. The keyboard on the panel has 16 keys for putting information to the system.

PCx can have up to seven expansion units, PCxp, attached. The amount of in- and outputs for the PCx, the PCxp and a full system is shown in the table below:

	PCx	PCxp	PCx and 7 PCxp
Digital inputs	16	16	**128**
Digital outputs	8	8	**64**
Analogue inputs	4	4	**32**
Analogue outputs	**2**	**2**	**16**

2 Nomenclature

|	
AI	Analogue input.
AO	Analogue output.
CAN	Control Area Network, an interface for communication.
PCx	The PCx series electrical control processor unit.
DI	Digital input.
DO	Digital output.
I/O	In- and outputs, can be either analogue or digital.
PCxop	Permanent mounted operator panel.
RS232/485	Communication interfaces
PCxp	PCx series expansion unit for more I/O.

3   Installation of the operator panel

The PCx series operator panel PCxop, a panel that is permanent mounted. In chapter 3.1 is the PCxop described.

3.1   Installation of the permanent mounted operator panel, PCxop

When installing the PCxop it is required a rectangular hole with the height of 107 mm and width of 220 mm. With the PCxop are two tin-plates and four screws enclosed to fasten the PCxop in the hole, see figure below.
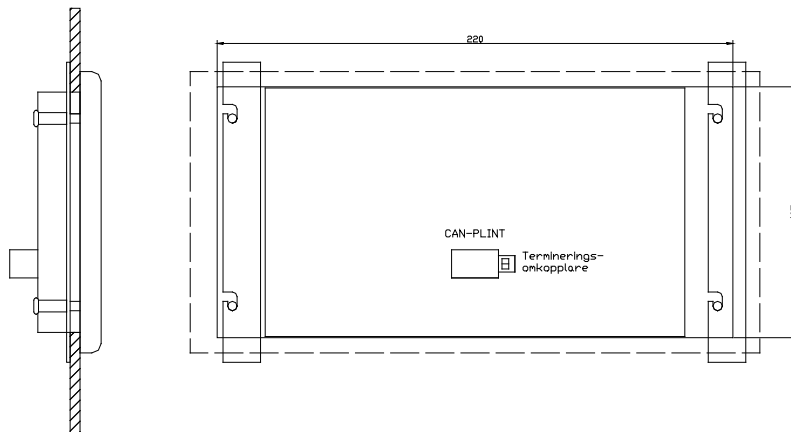
Left figure, panel fasten on a door, right figure, panel with tin-plates seen on the back with dimensions of the required hole.

3.1.1   CAN-socket on the PCxop

The PCxop has a CAN bus socket. The socket is numbered from 1-5. and is connected to the CAN cable as the table describes.

| Pin number	Cable	Description
1, 0V	Green	**Common**
2, CAN_L	White	**CAN low**
3, CAN_SHLD	Shield	**Cable shield**
4, CAN_H	Braun	**CAN High**
5, CAN_V+	**Yellow**	**Positive Power supply, (PCxop)**

All cables shall be connected to the PCxop.

3.1.2   Termination switch

The PCxop communicates with other units via CAN-network. A CAN network must have terminations at both ends of it. To place a termination at the PCxop this switch is set ON and if not it is set OFF. Two examples below show how the switch should be set depending on where the PCxop is placed in the network.
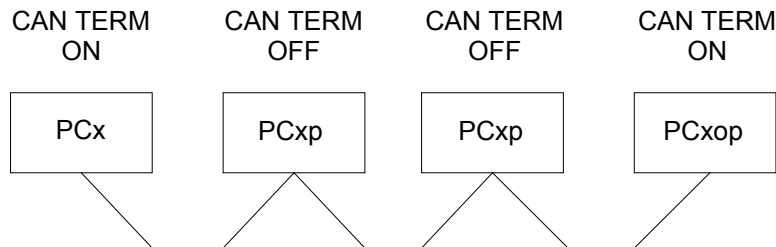
The first example is when the PCxop is placed at one of the CAN network ends, this yields that the switch should be set ON.
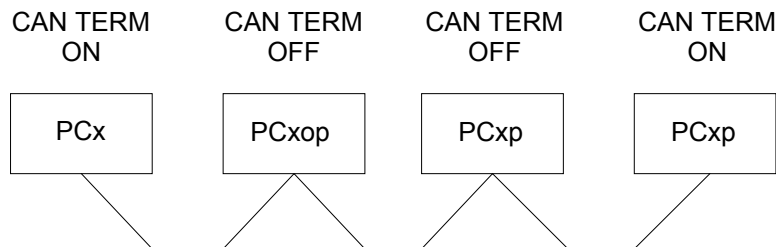
The second example is when the PCxop is not placed at one of the ends, the switch should be set OFF.

4   Indicators and settings

The operator panel has 20 LED indicators. The first SUPPLY/WATCHDOG is lit when the panel has found units to communicate with, otherwise it will flash green. The rest of the LED indicators are controlled with a PCx.

Figure is showing a PCxop

The text for the LED indicators on the panel can be changed. Loose the screws to panel and the strip of rubber to change the text papers. When putting together again check that the strip of rubber is properly in place.

The operator panel has a menu for configuration. It contains 6 parameters and 3 functions.

4.1   Three easy steps to show and edit the parameters for the PCxop

To open the menu
Press down both arrow keys at the same time.

Change parameter to view
Use the arrow keys

Edit a parameter
Press ENTER at the selected parameter. Change the parameter by the arrow keys or the key pad. Press ENTER to save the value or press PROG/CANCEL to abort the editing without saving

Close the menu
Press PROG/CANCEL

4.2   Description of the parameters for the PCxop

Parameter 1 LCD CONTRAST
The function changes the contrast on the display. The scaling is from 0-100% and is changes by pressing the arrow keys.

Parameter 2 BACKLIGHT TIMEOUT
The function changes the timer for the backlight of the display. The scaling is from 0-99 minutes, at 0 is the backlight always on.

Parameter 3 SETUP TIMEOUT
The function changes the timer which automatically closes the Setup menu after the last pressed key. The scaling is from 1-99 minutes.

Parameter 4 PCxop CAN ID
The function changes the value of the CAN-ID for the PCxop. Note that every unit connected to the CAN network must have an unique CAN-ID and when it is set wrong can result in loosing the connection. The PCxop shall always have CAN-ID 16.

Parameter 5 PCxop SERVER CAN ID
This function changes which CAN-ID the panel shall connect to. In example if the PCxop shall be connected to a PCx unit with CAN ID 1 this value should be 1. The possible values are 0-127. When the PCxop server value is set to 0, all units on the CAN-bus is received.

Parameter 6 CAN BAUD
The parameter shall be set on the correct baud rate for the CAN-bus. If wrongly set the connection will be lost. The default is 250 kbit/s. The baud rates are 125, 250 and 500 kbit/s.

Parameter 7 FACTORY DEFAULT SETTINGS
This function resets the memory on the PCxop to factory default settings. Press the <FUNCTION> key to activate the function. The factory settings are these

Parameter 1   90%
Parameter 2   5 minuter
Parameter 3   5 minuter
Parameter 4   16
Parameter 5   0
Parameter 6   250 Kbit/s

Parameter 8 LED TEST
This function tests all LED indicators on the PCxop.

Parameter 9 KEYBOARD TEST
This function tests all keys on the panel. The display shows which key to press and if the last key pressed was ok or not.

5   Technical data of the PCxop

CPU:	Philips XA-C3
Display:	Blue LCD with 4 rows and 20 characters/row
Keyboard:	16 keys
LED indicators:	20
Power supply:	9-34VDC
Maximum current:	< 76 mA at 24 VDC (all LED indicators on and Backlight on)
	< 138 mA at 12 VDC (all LED indicators on and Backlight on)

6   Accessories and part no.

Description	Part no.	Note.
PCx GB	15100015	
Installation manual PCx GB	81300040	
PCxp	15000002	Expansion module
Installation manual PCxp GB	81300042	
PCxop Panel GB	15000006	
Installation manual PCxop GB	81300044	
CAN-cable per meter	43320586	
CAN-cable 3 m	43360096	
PC-cable	43360094	9-pole D-contact – 5-pole Phoenix contact, Length 2 m.
System manual for PCx GB	81300046	
COMLI/Modbus-Manual GB	81300048	
Power supply 27,2 V/1,2 A dc	28000000	Without socket
11-pole socket	43190000	For power supply
Battery 12 V/4 Ah	47000000	2 are needed
Battery case	39000041	
AQUA PROG	71400006	PC-configuring program for PCx

Declaration of Conformity

As defined by:
EMC Directive 2014/30/EU, RoHS II Directive 2011/65/EU

(EN)	EC Declaration of Conformity	(SV)	EG-försäkran om överensstämmelse
(DE)	EG-Konformitätserklärung	(NO)	EUs Samsvarserklæring
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Sulzer Pump Solutions Ireland Ltd., Clonard Road, Wexford, Ireland

EN: Name and address of the person authorised to compile the technical file to the authorities on request:

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Frank Ennenbach, Director Product Safety and Regulations, Sulzer Management AG , Neuwiesenstrasse 15, 8401 Winterthur, Switzerland

EN:	Declare under our sole responsibility that the products:	SV:	Försäkrar under eget ansvar att produkterna:
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Control system type ABS PCxop

EN: to which this declaration relates are in conformity with the following standards or other normative documents:

DE: auf die sich diese Erklärung bezieht, den folgenden und/oder anderen normativen Dokumenten entsprechen:

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EMC: **EN 61326-1:2013**

Wexford 08-04-2022

Brendan Sinnott, General Manager,
Sulzer Pump Solutions Ireland Ltd.

SULZER

UK CA

UKCA Declaration of Conformity

Manufacturer: Sulzer Pump Solutions Ireland Ltd.
Address: Clonard Road, Wexford, Ireland

Declare under our sole responsibility that the product:
Control system type ABS PCxop

To which this declaration relates is in conformity with the following standards or other normative documents as defined by:
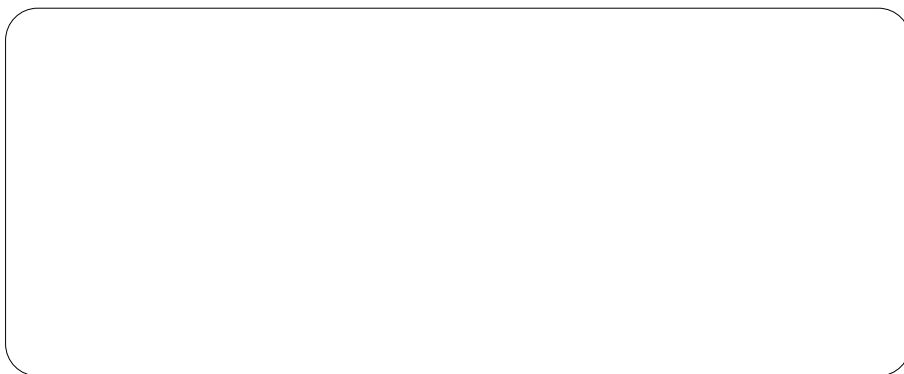Electromagnetic Compatibility Regulations 2016, S.I. 2016 No 1091
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, S.I. 2012 No 3133

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