

Rooftop Package Unit

Operation, Maintenance and Installation Manual

8 kW to 500 kW



ROOFTOP TYPE PACKAGE UNITS

1. Section – GENERAL MANUAL&MAINTENANCE

INTRODUCTION

Thank you for choosing CLIMACS® brand Roof Top Type Package Units.

In this User's Manual, you will find the technical specifications and functions, introductory information and information regarding operation and maintenance of our units. Please read this User's Manual carefully before starting up your units. Please fill the related commissioning form located at the last page of this manual or at www.acsklima.com and send it to ACS Klima for the commissioning of your device. Our Technical team will get in contact with you and check whether necessary operating conditions are met and arrive at your work-site in 7 to 10 workdays.

WARRANTY

Your devices are warrantied against material and workmanship faults for 2 (two) years.

Other than operation and maintenance procedures described in this manual, please do not interfere with any parts or settings of your devices. Original parts must be used when replacing parts.

Malfunctions caused due to unauthorized personnel interfering with the device or replacements made with unoriginal spare parts will not be covered by the warranty.

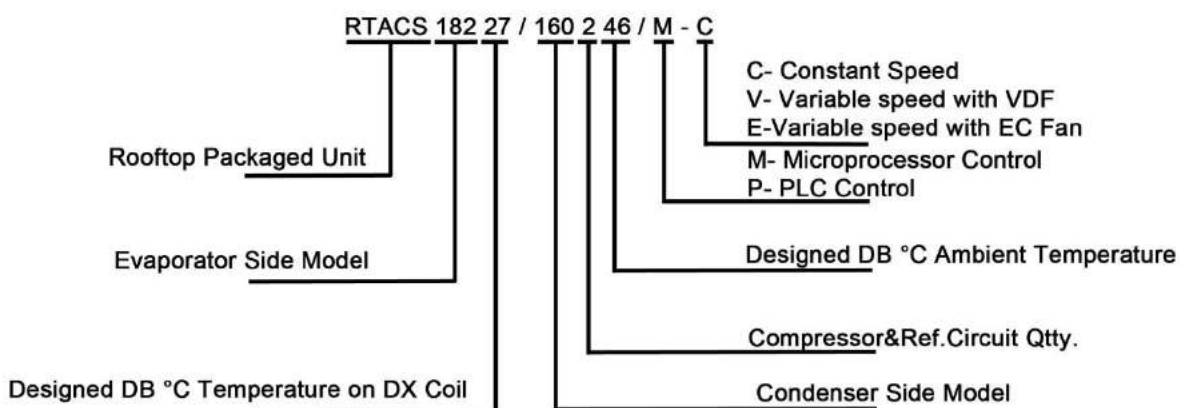
This device must only be operated under conditions that are fitting with its design goals and technical specifications.

Your device's warranty becomes void if:

- Malfunctions occur due to nonconformance with the directives of this manual or malfunctions due to lack of maintenance,
- Non-standard or improper assemblies or repairs are made,
- Handling of the device by unauthorized individuals,
- Operation of the device without ACS Klima's written consent,
- Electrical supply irregularities (extremely low or high voltages, frequent outages, etc.)

1- PRODUCT INTRODUCTION

1.1 TERMINOLOGY (Nomenclature)



1.2 Table of Dimensions and Capacity



RTACS SERIES TECHNICAL SPECIFICATIONS

RTACS SERIES		RTACS 7127			RTACS 7227			RTACS 9127			RTACS 9227		
ACU MODEL		40135	40146	40152	72135	72146	72152	94135	94146	94152	108135	108146	108152
Ambient Temperature	°C	35	46	52	35	46	52	35	46	52	35	46	52
	°F	95	115	126	95	115	126	95	115	126	95	115	126
Air Inlet Temperature DB	°C		27			27			27			27	
	°F		80,6			80,6			80,6			80,6	
Air Inlet Temperature WB	°C		19,5			19,5			19,5			19,5	
	°F		67,1			67,1			67,1			67,1	
Evaporator Side													
Total Cooling Capacity	kw	10	8,58	7,73	17,9	15,5	14,2	24,9	21,5	19,2	27,9	24,1	21,9
	TR	2,85	2,44	2,20	5,09	4,41	4,04	7,08	6,12	5,46	7,94	6,86	6,23
Sensible Cooling Capacity	kw		5,47			9,96			13,86			15,62	
			1,56			2,83			3,94			4,44	
Air Volume	m3 / h		1.400			2.550			3.550			4.000	
	cmf		828			1.509			2.101			2.367	
ESP	Pa		220			320			250			230	
Fan Type			Centrifugal			Centrifugal			Centrifugal			Centrifugal	
Motor Power	kw		0,37			0,75			1,10			1,10	
Motor Speed	rpm		1500			1500			1500			1500	
Face Velocity	m / s		1,21			1,83			2,29			2,10	
Condenser Side													
Air Volume	m3 / h		4.900			9.000			14.000			15.000	
			2.899			5.325			8.284			8.876	
Type			AXIAL			AXIAL			AXIAL			AXIAL	
Quantity	qty		1			1			1			1	
Total Fan Power	kw		0,34			0,60			1,97			1,97	
Compressor									SCROLL				
Compressor Type			SCROLL			SCROLL						SCROLL	
Quantity	qty		1			1			1			1	
Voltage	V		415			415			415			415	
Total Power	kw	2,38	3,13	3,63	4,15	5,35	6,14	5,55	7,22	8,38	6,16	7,86	8,99
Number Of Circuit	qty		1			1			1			1	
Total Power Input	kw	3,09	3,84	4,34	5,50	6,70	7,49	8,62	10,29	11,45	9,23	10,93	12,06
EER		3,24	2,23	1,78	3,25	2,31	1,90	2,89	2,09	1,68	3,02	2,20	1,82
Unit Dimension (L x W x H)	mm	1900	1000	1320	2100	1150	1520	2150	1250	1520	2250	1350	1820
Weight	kg		428			523			597			684	

RTACS SERIES		RTACS 10127			RTACS 10227			RTACS 12127			RTACS 12227		
ACU MODEL		125135	125146	125152	72235	72246	72252	81235	81246	81252	94235	94246	94252
Ambient Temperature	°C	35	46	52	35	46	52	35	46	52	35	46	52
	°F	95	115	126	95	115	126	95	115	126	95	115	126
Air Inlet Temperature DB	°C		27			27			27			27	
	°F		80,6			80,6			80,6			80,6	
Air Inlet Temperature WB	°C		19,5			19,5			19,5			19,5	
	°F		67,1			67,1			67,1			67,1	
Evaporator Side													
Total Cooling Capacity	kw	32,6	28,2	25,5	35,8	31	28,4	40,8	34,9	31,5	49,8	43	38,4
	TR	9,27	8,02	7,25	10,19	8,82	8,08	11,61	9,93	8,96	14,17	12,23	10,92
Sensible Cooling Capacity	kw		18,16			20,11			22,65			27,92	
			5,17			5,72			6,44			7,94	
Air Volume	m3 / h		4.650			5.150			5.800			7.150	
	cmf		2.751			3.047			3.432			4.231	
ESP	Pa		300			230			320			300	
Fan Type			Centrifugal			Centrifugal			Centrifugal			Centrifugal	
Motor Power	kw		1,5			1,50			2,20			2,20	
Motor Speed	rpm		1500			1500			1500			1500	
Face Velocity	m / s		1,92			2,52			2,37			2,59	
Condenser Side													
Air Volume	m3 / h		15.000			18.000			19.600			28.000	
			8.876			10.651			11.598			16.568	
Type			AXIAL			AXIAL			AXIAL			AXIAL	
Quantity	qty		1			2			4			2	
Total Fan Power	kw		1,97			1,20			1,36			3,94	
Compressor													
Compressor Type			SCROLL			SCROLL			SCROLL			SCROLL	
Quantity	qty		1			2			2			2	
Voltage	V		415			415			415			415	
Total Power	kw	7,19	9,29	10,75	8,30	10,70	12,28	9,40	12,20	14,10	11,10	14,44	16,76
Number Of Circuit	qty		1			2			2			2	
Total Power Input	kw	10,66	12,76	14,22	11,00	13,40	14,98	12,96	15,76	17,66	17,24	20,58	22,90
EER		3,06	2,21	1,79	3,25	2,31	1,90	3,15	2,21	1,78	2,89	2,09	1,68
Unit Dimension (L x W x H)	mm	2250	1650	1820	2900	1150	1520	2900	1250	1600	3050	1300	1700
Weight	kg		788			1031			1046			1256	

RTACS SERIES		RTACS 1527			RTACS 18127			RTACS 18227			RTACS 18327		
ACU MODEL		125235	125246	125252	144235	144246	144252	160235	160246	160252	190235	190246	190252
Ambient Temperature	°C	35	46	52	35	46	52	35	46	52	35	46	52
	°F	95	115	126	95	115	126	95	115	126	95	115	126
Air Inlet Temperature DB	°C		27			27			27			27	
	°F		80,6			80,6			80,6			80,6	
Air Inlet Temperature WB	°C		19,5			19,5			19,5			19,5	
	°F		67,1			67,1			67,1			67,1	
Evaporator Side													
Total Cooling Capacity	kw	65,2	56,4	51	75,2	64,4	57,8	82,6	69,8	62,4	95,6	82,04	73,4
	TR	18,55	16,05	14,51	21,39	18,32	16,44	23,50	19,86	17,75	27,20	23,34	20,88
Sensible Cooling Capacity	kw		36,51			41,79			45,30			53,11	
			10,39			11,89			12,89			15,11	
Air Volume	m3 / h		9.350			10.700			11.600			13.600	
	cmf		5.533			6.331			6.864			8.047	
ESP	Pa		320			350			350			350	
Fan Type			Centrifugal			Centrifugal			Centrifugal			Centrifugal	
Motor Power	kw		3			4,00			4,00			5,50	
Motor Speed	rpm		1500			1500			1500			1500	
Face Velocity	m / s		2,54			2,39			2,31			2,71	
Condenser Side													
Air Volume	m3 / h		30.000			36.000			42.000			56.000	
			17.751			21.302			24.852			33.136	
Type			AXIAL			AXIAL			AXIAL			AXIAL	
Quantity	qty		2			4			4			4	
Total Fan Power	kw		3,94			2,40			2,40			7,88	
Compressor													
Compressor Type			SCROLL			SCROLL			SCROLL			SCROLL	
Quantity	qty		2			2			2			2	
Voltage	V		415			415			415			415	
Total Power	kw	14,38	18,58	21,50	16,26	21,10	24,40	18,52	23,70	27,30	22,10	28,30	32,40
Number Of Circuit	qty		2			2			2			2	
Total Power Input	kw	21,32	25,52	28,44	22,66	27,50	30,80	24,92	30,10	33,70	35,48	41,68	45,78
EER		3,06	2,21	1,79	3,32	2,34	1,88	3,31	2,32	1,85	2,69	1,97	1,60
Unit Dimension (L x W x H)	mm	3200	1650	1900	3300	1750	2000	3300	1750	2100	3300	1750	2100
Weight	kg		1385			1518			1961			2318	

RTACS SERIES		RTACS 45027			RTACS 56127			RTACS 63127			RTACS 71127		
ACU MODEL		250235	250246	250252	310235	310246	310252	380235	380246	380252	250435	250446	250452
Ambient Temperature	°C	35	46	52	35	46	52	35	46	52	35	46	52
	°F	95	115	126	95	115	126	95	115	126	95	115	126
Air Inlet Temperature DB	°C		27			27			27			27	
	°F		80,6			80,6			80,6			80,6	
Air Inlet Temperature WB	°C		19,5			19,5			19,5			19,5	
	°F		67,1			67,1			67,1			67,1	
Evaporator Side													
Total Cooling Capacity	kw	126,4	109,4	99,4	159	135,4	122,2	195	167,4	150,4	252,8	218,8	198,8
	TR	35,96	31,12	28,28	45,24	38,52	34,77	55,48	47,63	42,79	71,92	62,25	56,56
Sensible Cooling Capacity	kw		71,07			87,87			108,56			130,82	
			20,22			25,00			30,89			37,22	
Air Volume	m3 / h		18.200			22.500			27.800			33.500	
	cmf		10.769			13.314			16.450			19.822	
ESP	Pa		280			330			400			550	
Fan Type			Centrifugal			Centrifugal			Centrifugal			Centrifugal	
Motor Power	kw		5,5			7,50			11,00			15,00	
Motor Speed	rpm		1500			1500			1500			1500	
Face Velocity	m / s		2,22			2,45			2,63			2,55	
Condenser Side													
Air Volume	m3 / h		70.000			87.000			104.000			140.000	
			41.420			51.479			61.538			82.840	
Type			AXIAL			AXIAL			AXIAL			AXIAL	
Quantity	qty		4			4			6			8	
Total Fan Power	kw		10,52			9,32			15,78			21,04	
Compressor													
Compressor Type			SCROLL			SCROLL			SCROLL			SCROLL	
Quantity	qty		2			2			2			4	
Voltage	V		415			415			415			415	
Total Power	kw	29,10	37,50	43,20	36,30	46,40	53,40	44,00	56,00	64,40	58,20	75,00	86,40
Number Of Circuit	qty		2			2			2			4	
Total Power Input	kw	45,12	53,52	59,22	53,12	63,22	70,22	70,78	82,78	91,18	94,24	111,04	122,44
EER		2,80	2,04	1,68	2,99	2,14	1,74	2,76	2,02	1,65	2,68	1,97	1,62
Unit Dimension (L x W x H)	mm	3500	1900	2200	3900	2100	2200	4550	1900	2200	5900	2100	2200
Weight	kg		2397			3797			5221			6960	

SELECTED RTACS MODEL FOR EVAPORATOR SIDE

SELECTED ACU MODEL FOR CONDENSER SIDE

RTACS SERIES		RTACS 80127			RTACS 90127			RTACS 90327			RTACS 90627		
ACU MODEL		310435	310446	310452	380435	380446	380452	310635	310646	310652	80635	380646	380652
Ambient Temperature	°C	35	46	52	35	46	52	35	46	52	35	46	52
	°F	95	115	126	95	115	126	95	115	126	95	115	126
Air Inlet Temperature DB	°C		27			27			27			27	
	°F		80,6			80,6			80,6			80,6	
Air Inlet Temperature WB	°C		19,5			19,5			19,5			19,5	
	°F		67,1			67,1			67,1			67,1	
Evaporator Side													
Total Cooling Capacity	kw	318	270,8	244,4	390	334,8	300,8	477	406,2	366,6	585	502,2	451,2
	TR	90,47	77,04	69,53	110,96	95,25	85,58	135,71	115,56	104,30	166,43	142,88	128,37
Sensible Cooling Capacity	kw		175,73			214,78			263,99			312,41	
			50,00			61,11			75,10			88,88	
Air Volume	m3 / h		45.000			55.000			67.600			80.000	
	cmf		26.627			32.544			40.000			47.337	
ESP	Pa		500			450			550			460	
Fan Type			Centrifugal			Centrifugal			Centrifugal			Centrifugal	
Motor Power	kw		18,5			22,00			30,00			30,00	
Motor Speed	rpm		1500			1500			1500			1500	
Face Velocity	m / s		2,58			2,35			2,43			2,45	
Condenser Side													
Air Volume	m3 / h		174.000			208.000			261.000			312.000	
			102.959			123.077			154.438			184.615	
Type			AXIAL			AXIAL			AXIAL			AXIAL	
Quantity	qty		8			12			12			18	
Total Fan Power	kw		18,64			31,56			27,96			47,34	
Compressor													
Compressor Type			SCROLL			SCROLL			SCROLL			SCROLL	
Quantity	qty		4			4			6			6	
Voltage	V		415			415			415			415	
Total Power	kw	72,60	92,80	106,80	88,00	112,00	128,80	108,90	139,20	160,20	132,00	168,00	193,20
Number Of Circuit	qty		4			4			6			6	
Total Power Input	kw	109,74	129,94	143,94	141,56	165,56	182,36	166,86	197,16	218,16	209,34	245,34	270,54
EER		2,90	2,08	1,70	2,76	2,02	1,65	2,86	2,06	1,68	2,79	2,05	1,67
Unit Dimension (L x W x H)	mm	7100	2200	2250	9100	2100	2200	10900	2100	2200	13000	2200	2250
Weight	kg		7280			7360			8383			8550	



1.3 SPECIFICATIONS:

RTACS Model Package Type Roof Top Type Package Unit's:

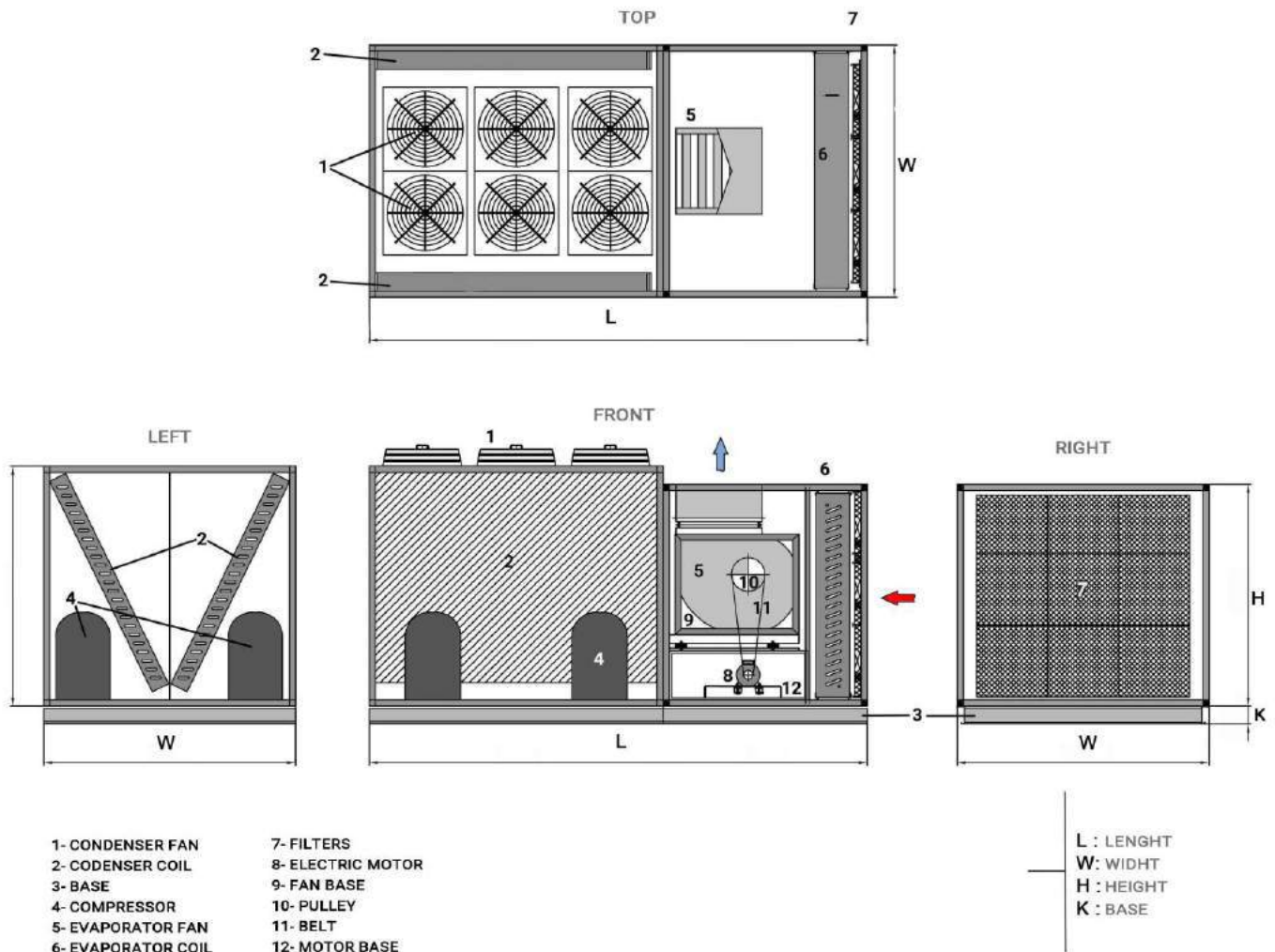
Evaporator Side consists of a carcass made up of specifically formed profiles and special corner pieces and sandwich panels with painted outer surfaces and sound and temperature isolated (with 30/ 50 mm polyurethane / rockwool) galvanized tin internal surfaces. Connection points between panels and carcasses are sealed with "epdm" to ensure impermeability. Fixed panels are screwed on the carcass from the outer portion and moving panels are fixated using special lock and hinge mechanisms that allow mobility. The fans in use are high quality and silent typed. Their static and dynamic balances were taken and in models that require belt and pulley systems, electrical motors were fixated on the carcass with vibration dampening rubbers and spring loaded isolators alongside the specially designed slideways that allow belt tensions to be held. Condensation pans of the cooling batteries are produced of stainless materials and they are shaped into double pitchers. The water that build up in the pans are exhausted with special siphons that are designed specifically for the internal pressure of fans. Blade tips of dampers that are formed out of specifically created aluminum profiles are sealed with rubber to ensure impermeability when in off status, and they were linked with one another using a gear mechanism that eases the mobility of servomotors and dampers.

Condenser side consists of the same base with electrostatic powder coated galvanized steel construction. Condenser batteries are calculated with the utmost care. They are produced using copper pipes and aluminum wings. High quality silent compressors and condenser fans and other high-quality cooling equipment are used to achieve highest EER and COP values while the devices are in operation.

Tests regarding both cooling-heating and air flow rates of Package Type Roof Top Package Units are conducted in the "conditioned test chambers" located at ACS Klima's factory in Torbalı. In regards to machine safety, EN-ISO-12100:2010, EN60204-1:2006/AC2010. 2006/42/EC Annex IIV requirements are met.

All painted parts of our device are subjected to 1080 hours of salt spray test, as per the standards of ASTM B117.

General View



Note: The configuration of the device in the picture is an example.

2 TRANSPORTATION

All Package Units produced by ACS KLİMA İMALAT SAN. TİC.LTD. ŞTİ. Are put through final checks before they are shipped. They are carefully loaded and shipped from the factory with no parts missing or no faults in the devices. Upon arrival at the site of assembly, the devices must be carefully unloaded and transported to the location of assembly. Utmost care must be taken to ensure that package type devices are not damaged during loading, transporting, unloading and positioning (please do note that these types of damages will void the warranty). These works must be carried out using forklifts, cranes or pallet trucks by personnel trained in the use of such equipment. Proper lifting techniques must be employed to prevent damage. Pallet trucks or forklifts may be used when moving smaller devices. Loading and unloading of heavier and larger devices must be carried out through the usage of properly equipped cranes. To ensure that the devices are not damaged while they are being lifted or lowered by crane, crane cables that are proper for the dimensions and the weight of the devices must be in use and extra metal cages or profiles that prevent the damages that might occur due to tension on the carcass of the device must also be used. The weight of the device must be distributed equally on the four corners of the device and safety measures that prevent the device from overturning or slipping must be taken. While the device is being lifted and moved, no one must stand under or in the space where the device is being moved through.



2.1 ACCEPTANCE AT WORK SITE AFTER SHIPPING

All devices are packaged specifically to prevent any damages that might occur during shipping, distribution and positioning. To ensure that no damages have occurred during shipping, please go through the following steps when the device has reached you:

- Before acceptance, ensure that there is nothing abnormal with the unit and ensure that packaging is not obviously damaged and the corners and edges of the package is in good condition.
- If the packaging is obviously damaged, open the package and check whether the device is damaged or not. If there is a damage, mark it on the receipt and do not accept the device. You must also check the auxiliary units.
- Check the unit for the damages that might be subtle.
- If you run into a subtle damage, do not move the device. The buyer is responsible with providing evidence showing that this damage has not occurred after the shipping. If you find such damages, halt the process of unloading and take pictures of the damage for reference.
- If a damage is found, notify the shipper and demand a joint examination with the shipper.
- Do not attempt repair before the examination of the shipper is carried out: since shipping is warranted, material losses will be prevented both your and our end if you take pictures of the damage and officially put it under a record.
- After the damage is confirmed, establish contact with related persons for replacement parts.

3- ASSEMBLY

The surface on which the Package Unit will be placed upon must be smooth, clean and level.

There are condensation pans under the DX Batteries which allow the exhaustion of condensate water. These sections especially must be level.

The service side of the device must have enough access space to allow ease of access to fans and motors, batteries, filters and control boards. This space must be proportionate to your package unit's width dimension.

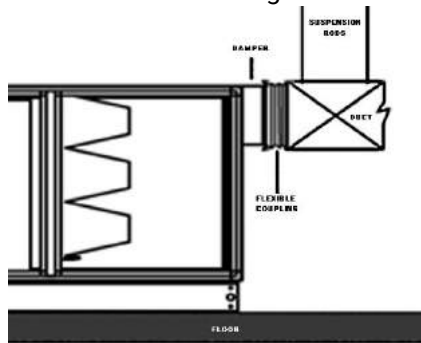
Fresh air pipe intakes must be "swan-neck" or "elbow" shaped in order to prevent the intake of rain, snow or dust and they must be positioned away from chimneys or other dirty air outlets.

4- CONNECTIONS

4.1- DUCT CONNECTIONS

Room air circulation, fresh air, exhaust air and supply (aspiration) air ducts must be connected to the device using flexible connections. Enough leak-tightness must be ensured to allow the desired levels of air flow. Bad device-duct connects or use of wrong sized, shaped or connection typed duct parts might cause the air flow values to change.

The air ducts and cables must not be in contact with the device in order to prevent them from transmitting vibrations to it, especially to the heating and cooling batteries. To this end, air intake and outtakes must be connected to the air ducts using flexible duct elements. While assembling flexible duct elements, special care must be taken to ensure that air duct connection flange and the flange on the device are on the same axis. Assembled length of the flexible duct element must be 75% of its stretched length.



Duct Connection Diagram

4.2- ELECTRICAL CONNECTIONS

All electrical connections must be made according to standards and National Electricity Administration demands. Switching equipment, cables and all related command and control equipment must be selected and designed according to device specifications.

Some fans located inside the Package Units are actuated through belt and pulley mechanisms.

Before shipping, all electrical connections of the device are completed and tested in the factory.

Supply electricity connections and other cabling works must be carried out by trained, experienced and qualified electricity technicians. (If required, you can request the cable power information from "ACS").

5- MAINTENANCE PROGRAM

Protective maintenance program is a cornerstone of an effective safety program. Maintenance works must be carried out by trained personnel. Do not attempt to carry out maintenance before cutting the power and securing the fans. Package type devices do not require special maintenance other than routine cleaning and maintenance. You can find the recommended maintenance program below. The frequency of maintenance periods must be adjusted according to region and climate conditions.

5.1 Weekly

1. Check the condition of the filters every week. If necessary, clean, wash or replace.
2. Check the condition of the condenser lamellar every week. If necessary, clean using a soft brush and water (do not use high pressure water).
3. Check the condition of the evaporator lamellar every week. If necessary, clean using a soft brush and water (do not use high pressure water).

5.2 Monthly

1. Check the tension and assembly of belt and pulley mechanism, make adjustments if necessary.
2. Check the water flow of the drainage pipe.
3. Check the isolation of the entry door and its state of its hinges.
4. Check and ensure that gas pressure inside the cooling system is within acceptable limits.

5.3 Every Six Months

1. Check the working current of the Electrical Motor.
2. Check the bearings of the motors and fans against high temperature and loud noise.
3. Check the sensors to ensure that they are working and displaying the right temperatures.
4. Check the condensation pan, condensation exhaust and drainage line.

5.4 Yearly

1. Check the filter frame seals.
2. Check serpentines and lamellars. Fix using a special comb if necessary.
3. Check serpentines against leakage.
4. If serpentines contain water, exhaust the air using the purger.
5. Replace the belts.
6. Check the tightness of fan and motor fixation bolts.
7. Check the bearings of motors and fans and check the condition of their greasing.
8. Check the dampers to ensure that they are working.
9. Check whether the unit doors are opening with ease or not.
10. Check the status of valves and fittings of the piping system.
11. Check all cables, control and isolation equipment, terminal connections, etc.

Refer to the applicable chapter of this manual if any replacements are made during the maintenance. When restarting the machine, follow the instructions for starting the machine.

6- WARNINGS

1. Connect the energy supply cables of the device properly.
2. To prevent damages to human life or property due to hazards such as fire, use the proper cable sections and fuses that the manufacturer has determined. (Take the length of the cables into account while making calculations for cables.
3. Ensure that there is an effective method of earthing within the electricity setup of the system.
4. Ensure that your hands are dry while interacting with the machine and if possible, use gloves.
5. Do not expose the electricity board of the device to liquids such as water.
6. Do not remove lid or door like parts of the device and do not leave such parts open.
7. Do not interfere with the mechanisms of the device while it is operating. Only interfere with the mechanisms of the device if the power is cut and the unit has completely stopped.
8. If the device emits unusual sounds, smells or smoke, cut the power of the device immediately and contact authorized service.
9. While installing the power line for the device, follow the international standards completely and ensure that the lines are completely encapsulated.
10. Do not use the water that has condensed in the device for anything.
11. Do not store flammable or explosive materials near the device or near the device's energy supply cables.
12. Use the device in a manner that is suitable to its design and without making any modifications.
13. In case of a malfunction, contact the authorized service.
14. Do clean the device with water.
15. Check the electrical and electronic parts of the device frequently and clean any dust, water or grease that might accumulate.
16. Do not install or operate the device in a manner that obstructs its air intakes and outlets.
17. Do not wash the dirty filters with water or pressurized air. Replace them.
18. Protect the device against animals such as birds, rats, etc.
19. Make sure to magnetic resistant materials on the supply line of the device.
20. Properly tighten the screws on the terminal blocks that are used for the connection of the supply line and double check them after tightening.
21. Do not remove the flange of the air duct connection flange and do not directly connect the air duct to the device.
22. Do not use external parts while connecting device modules. Use externally connected cell jointer parts that are pursuant to the related standards while assembling.
23. Do not install the device in closed environments where it cannot circulate air. If there are certain requirements that make this necessary due to the project, contact the manufacturer.

2. Section - AUTOMATIC CONTROL

(Reference number for the expression below is: "RTACSER88U ver1.2 B1 28/12/2017")

RTACS

For Compact Units



CTACSER88U ver1.2 B1 28/12/2017

TABLE OF CONTENTS

1. Introduction	4
1.1 Program Characteristics	4
2. Hardware Characteristics	5
2.1 mPC Small and Medium	5
2.2 Input/ Output Connections	6
2.3 Accessories	7
2.3.1 Pcoweb Card (PCO1000WB0)	7
2.3.2 BMS RS485 Serial Connection Card (PCOS004850)	7
3. User's screen	8
3.1 Screen Usage	9
4. Installation	10
4.1 Site Connection pLan	10
4.2 pLan Electrical Connections	11
4.3 pLan Configuration	13
4.3.1 Providing Terminal Address	13
4.2.2 Arranging Plan Address for Devices	14
4.3 Feeding Electricity to uPC	14
4.4 Premade Configurations and Supported Units	15
5. PROGRAM INTERFACE	27
5.1 Definitions for screen Sections	27
5.2 Password Management	29
5.3 MENU	30
6. I/O Settings	31
6.1 Digital Input Settings	31
6.2 Digital Output Settings	32
6.3 Analogue Input Settings	32

6.4 Analogue Output Settings.....	33
6.5 IO Test.....	33
7.MONITORING DISPLAYS.....	35
7.1 Primary screen.....	35
7.2 System Information screen.....	35
7.3 Expanded Information screens.....	37
8.ALARMS.....	39
8.1 ALARM Management	39
8.1.1 Tips for Resetting Alarms	40
8.1.2 Alarm Delays	40
8.1.3 Alarm History	40
8.3 PRESSURE AND OTHER DIGITAL INPUT ALARM SETTINGS.....	41
8.3.1 Device Interactions	42
8.3.2 Digital Input Alarms and Presurrestats.....	42
8.3.2 Probe Value Pressure Alarms	42
8.3.3 Prob Disconnection Alarms	43
8.4 TABLE OF ALARMS	45
Annex- 1 TABLE OF PARAMETERS	48

1. INTRODUCTION

1.1 Program Characteristics

Primary Characteristics	DX System with 8 Circuits Scroll Compressor Management One Compressor Management per Circuit 2 Condenser Fans per Circuit ON/OFF Air Supply Fans
Hardware	mPC Small, Medium PGD1 or PLD screen
Supported Languages	English
Units of Measurement	Temperature: °C Pressure: BarG Date Format dd/mm/yy, mm/dd/yy, yy/mm/dd
Control	P/PI/PID controls According to selectable temperature probes.
Planning by Date	4 different time zones, ability to set up 5 specific days, Capability to set up 10 different holiday periods and seasonal timers. Timer functions: Determining seasonal changes and active set points
Seasonal Changes	Through Keyboard Setup, Timer Based Outer Temperature Based Outer Temperature and Timer Based
Set Point	Comfort, Pre-Comfort and Economy Set Points Upper and lower limits for set points
Protections	High pressure protector, Low Pressure Protector, Limiting supply blowing temperatures
Alarm	Automatic/Manual/Semi-automatic Alarm Management Configurable Alarm Time Parameters Alarm History Flow keys for air supply Thermic Alarms for Compressors and Fans Low and High-Pressure Keys Filter pollution alarm Phase malfunction alarm

2. HARDWARE CHARACTERISTICS

2.1 mPC Small and Medium

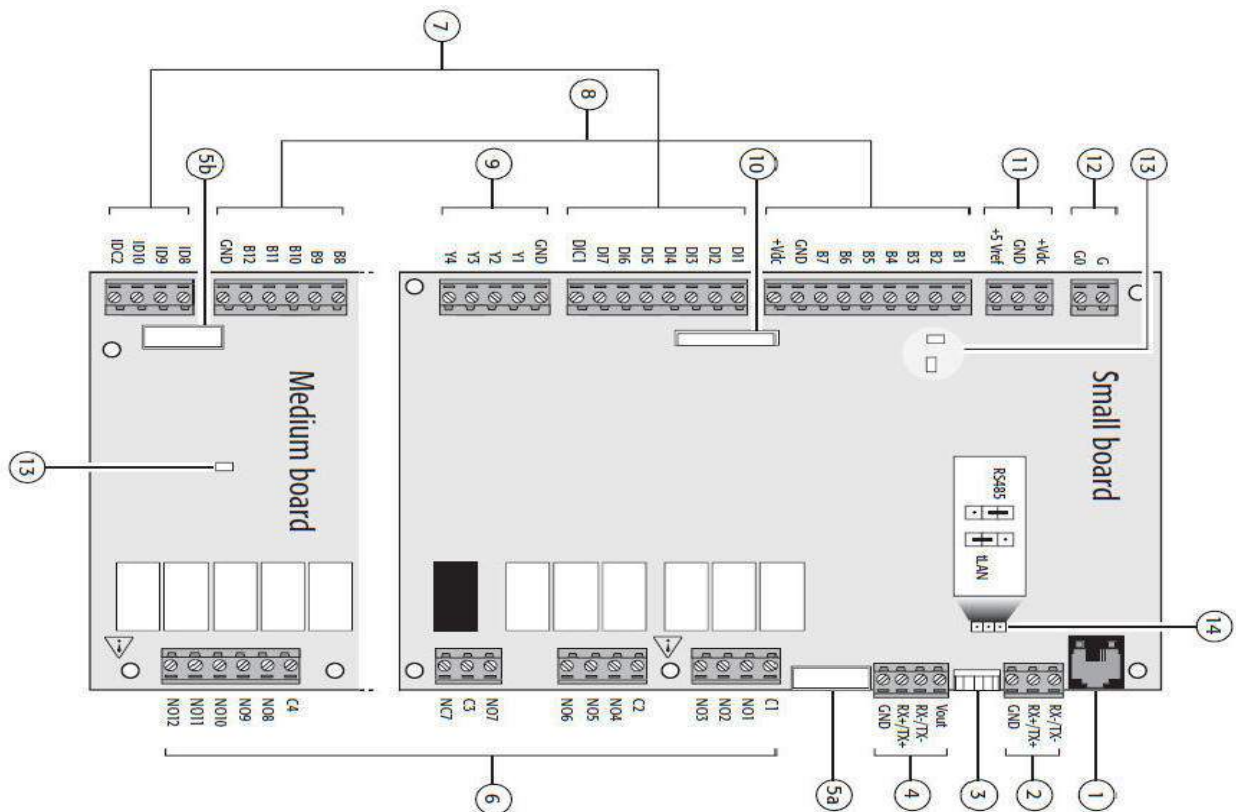


Figure 2.1: mPC Schematics

- 1 User Interface Terminal (pLD, PGD1) connection
- 2) mPC Bus. pLAN line
- 3) PLD terminal connection (Note4)
- 4) RS485/ tLAN connection (Note4)
- 5a) ExV connection - only available in certain models
- 5b) ExV connection 2 - only available in certain models
- 6) Digital output relays
- 7) Digital inputs
- 8) Analogue Inputs
- 9) Analogue Outputs
- 10) Serial Card Slot
- 11) Power supply for probes
- 12) Power Supply- 24 Vac for UPCB Models**
- 13) LED - Orange: Card Power Status, Green: BIOS Status
- 14) tLAN/ RS485 jumper

2.2 Input/ Output Connections

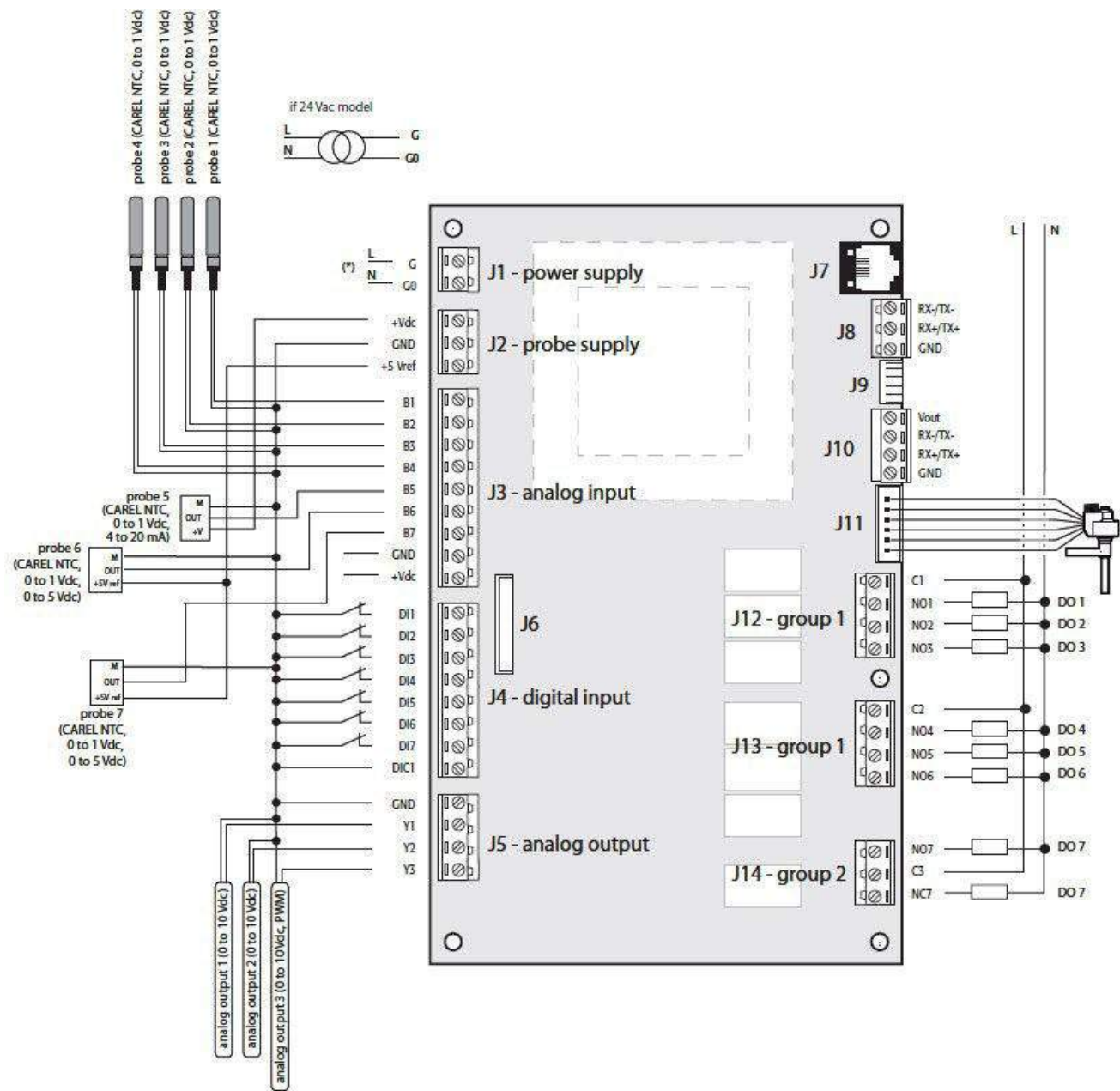


Figure 2.2: mPC Connection Schematics (Small Model)

Control Terminal	4-20mA probe	
GND	Cable-1	-
B1, B2,...,B12	Cable-2	-

Connecting the CAREL NTC Temperature Probes Which cable is GND and which cable is terminal is not relevant.

Control Terminal	0-5V probe	
+5 Vref	Power (Black)	
GND	Reference(Green)	
B6, B7, B11, B12	Signal (White)	

0..5V SPKT*R* series ratiometric pressure sensor probe connection

Control Terminal	4-20mA Probe	
+VDC	Cable-1	Power (Brown)
B5,B10	Cable-2	Signal (White)

4-20mA SPKT*C* series pressure sensor probe connection

Note 1: In analogue connections, **0-5V ratiometric probes can only be connected to B6, B7, B11 and B12 inputs.**

Note 2: 4-20 mA probes can only be connected to B5 and B10 inputs.

Note 3: Except the ones stated above, only 0-1V and Carel NTC probes are supported.

Note 4: The software only supports RS485. **Please ensure that the jumper indicated on the Figure 2.1 is on RS485 position.** Software connection for PLD is made through the output numbered J7 and using a s90 cable.

2.3 Accessories

2.3.1 Pcoweb Card (PCO10B1WB0)



PCOWEB modules can be installed to all PCO series controllers (except for PCOB). It allows a 10Mbps connection to the Ethernet web and it contains the following functions:

- Using a browser that installed on a computer, it allows access to controller data through a TCP/IP network that is connected to PCOWEB,
- Connection to the supervisor network which runs the protocols stated on the document



The software contains a premade PCOWEB interface. The card also allows communication with BacNET and SNMP after the necessary data is designated.



For more detailed information on Pcoweb card, refer to document coded CAREL + 030220471.

2.3.2 BMS RS485 serial connection card (PCOS004850)



Used to connect pCO to RS485 network. Supports baudrates up to 38400. Can be used on a BMS 1 port. Only used in situation here pCO is slave. (IE: PVPro Connection).



For more detailed information on this device, refer to document coded CAREL +050003237.

3. USER DISPLAY

The definitions of screens and buttons of pLD are provided below. The buttons are the same for PGD1 screen. Primary user screen for this software is pLD.



Figure 3.1: pLD User Interface

-  1- Alarm button: This is used to gain information on alarms in the system. If there is an active alarm within the system, this button will be lit up in red.
-  2- Program (PRG) Button: This button is used to navigate to system settings.
-  3- Escape (ESC) Button: This button used to navigate from any page to the main page.
-  4- Down Arrow Button: This button is used to navigate the next screen and to decrease any number by one.
-  5- Up Arrow Button: This button is used to enter the next screen and to increase any number by one.
-  6- Enter (Enter) Button: This button is used to apply changes.

3.1 Screen Usage

Making Selections on the screen



Figure 3.2 – pLD User interface

Unless the contrary is stated on the screen, you can press the “enter” button to navigate selectable items. The cursor will be moved on changeable items. When you reach the item that you are trying to modify, you can use arrow buttons to change the value. After you have entered the value you desire, use the enter button to apply it and move on to the next changeable item. The standard position of the cursor is the uppermost left corner of the screen.

Navigating between screens

When the cursor is at the standard position (the uppermost left corner), you can use the arrow buttons to move to the next or the previous screen.

Main menu and sub-menus

To enter a menu that you have navigated to on the main menu, use the enter button. You can use the “ESC” or “PRG” keys to return from a sub-menu to main menu. If the screen that was selected through the main menu has a sub-menu, “ESC” key will return you the previous sub-menu, not the main menu. In this case, if the “ESC” key is pressed while on the sub-menu, the user will be returned to the main menu.

Alarm button

When there is a system alarm, you can use the alarm button to navigate to the alarm page. You can use the “ESC” or “PRG” keys to return to the main menu. To reset the passive alarms within the system, press the alarm button twice.

Alarm LED (Only for PGD1 Screen)

When there is a system alarm, the alarm LED will flash in red. Even if the alarm is gone (passive state) the LED will keep flashing red. When the alarm button is pressed to navigate to alarm page, the red alarm LED will also start glowing.

4. Installation

4.1 Site Connection pLAN

To meet varying configuration requirements, the software can make up to 3 pco connections. Under article 4.4, you can view the card requirements of the configuration you want to install.

Figure 4.1 shows the site connection plan of the software.



Figure 4.1: Connection Plan

Figure 4.2 shows the connections for the screen. The terminal is connected to input J7 (Figure 2.2).

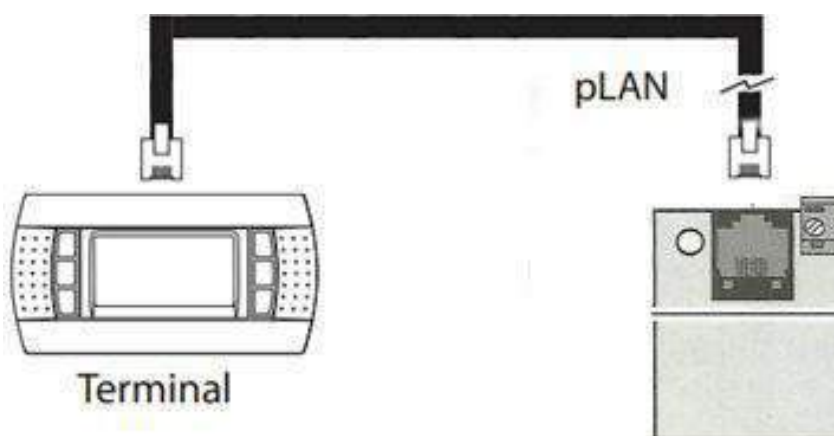


Figure 4.2: Terminal Connection

4.2 pLAN Electrical Connections

If the system configuration requires more than a single device, the devices must be connected to each other, using a twisted double shielded AWG20/22 cable and through the pLAN port J8.

When more than a single card is being connected through the pLAN network, electrical connections to the transformer must be made as shown below.

1. Method: Connection through the same transformer.

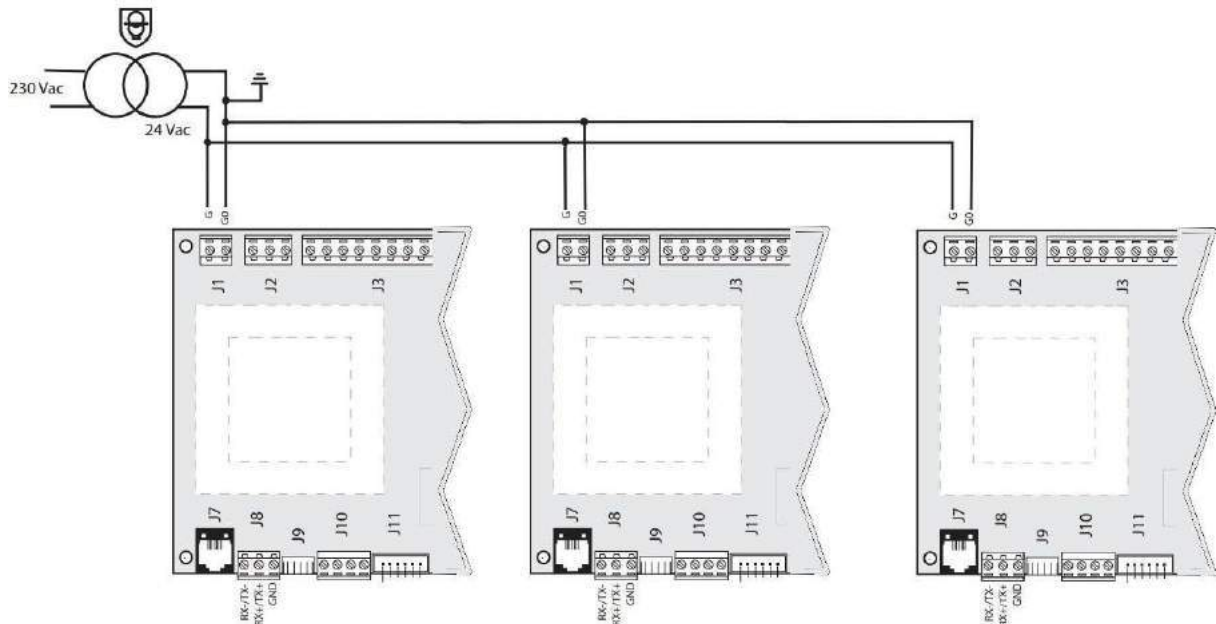


Figure 4.3 – Connection through the same transformer.

2. Method: Connection through a different transformer.

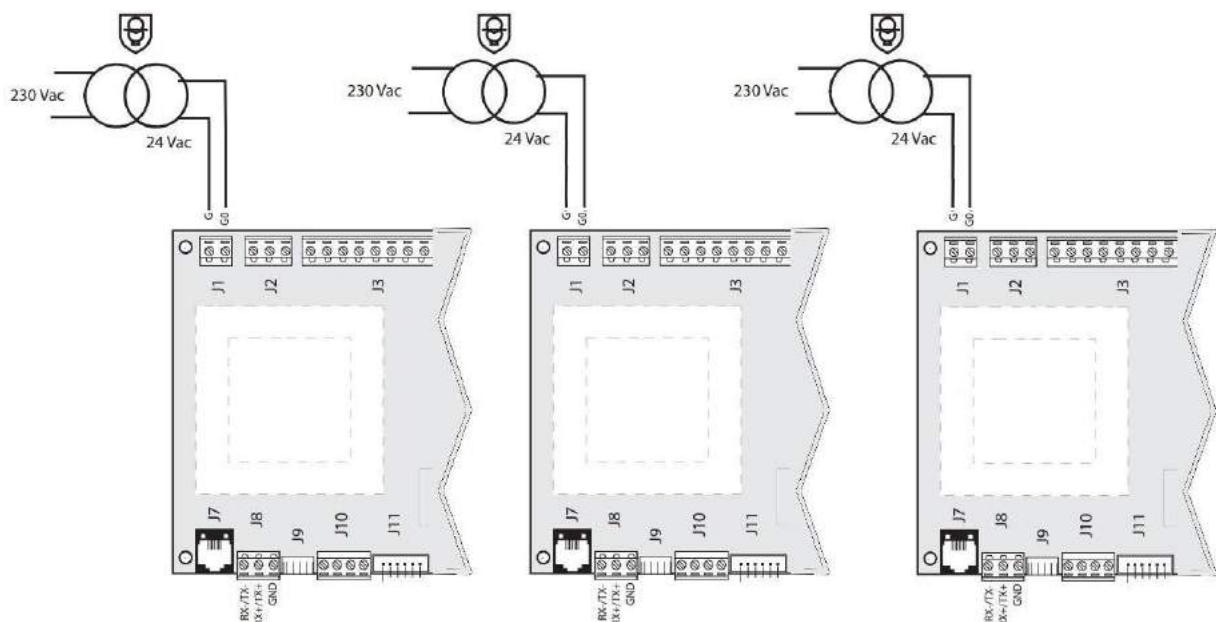


Figure 4.4 – Connection through a different transformer.

3.Method: Connection through a transformer which has only a single earthing connection.

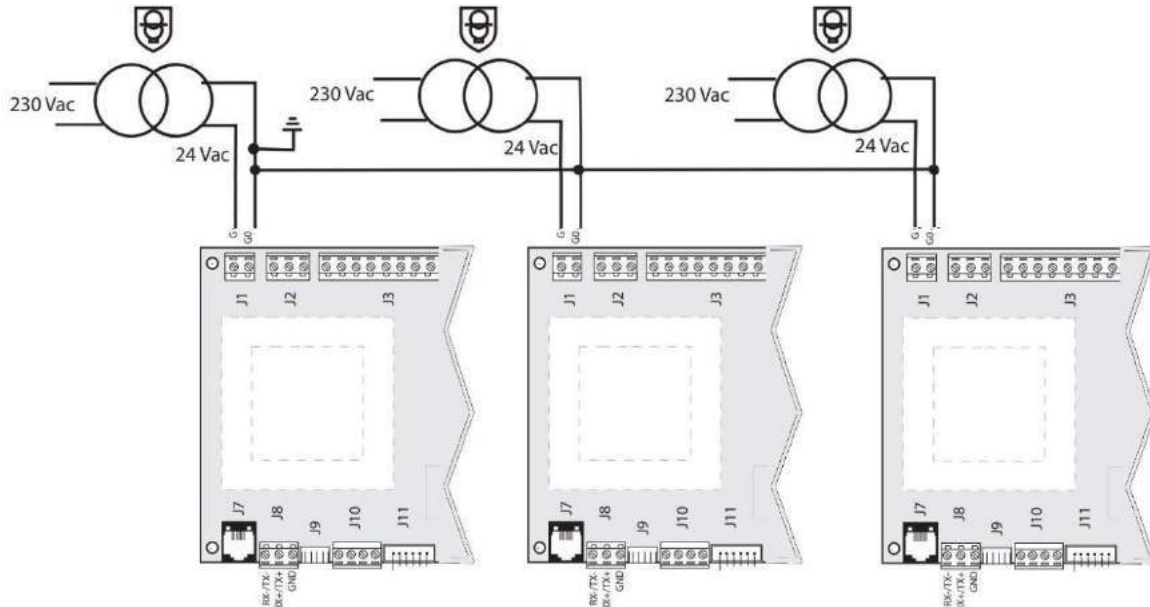


Figure 4.5 – Connection through a different transformer - 2.

Warning: Cross connecting or earthing with G and G0 in serially connected devices might permanently damage them.

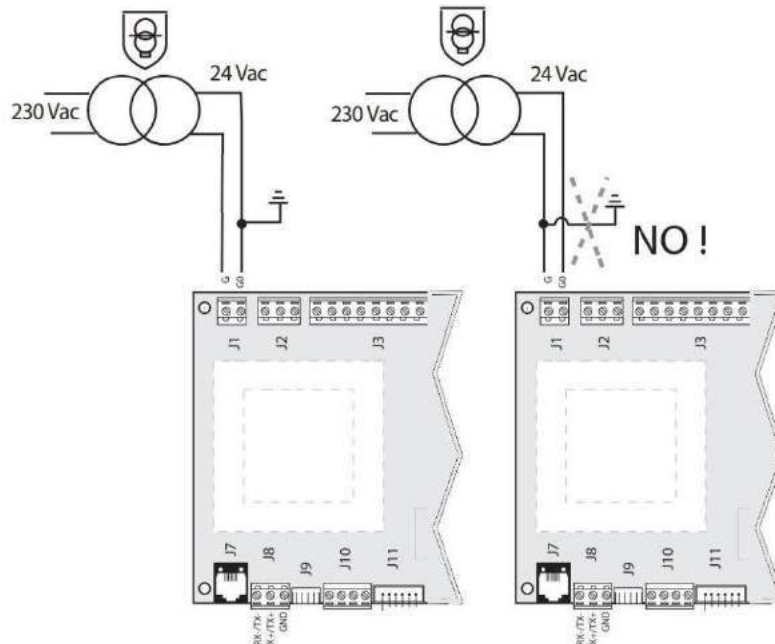


Figure 4.6 – Erroneous connection for G0 or G

Warning: The grid polarity needs to be monitored: RX/TX+ on a single card must be connected to the RX/TX+ on another card. The same situation also applied to RX/TX-.

4.3 pLAN Configuration

4.3.1 Defining the Terminal Addresses

The default addresses of PLD terminals in the software should be as follows.

- Terminal of the Master Device (Device with Address 1): **32**,
- Terminal of the Slave-1 Device (Device with Address 2): **31**,
- Terminal of the Slave-2 Device (Device with Address 3): **30**

. If the PLD screen address needs to be changed, you can follow the steps below.

1. Insert the cable and power on the screen.
2. Press the following buttons, at the same time, for at least 5 seconds: “Down Arrow”, “Up Arrow” and “Enter”. The screen below will be displayed.

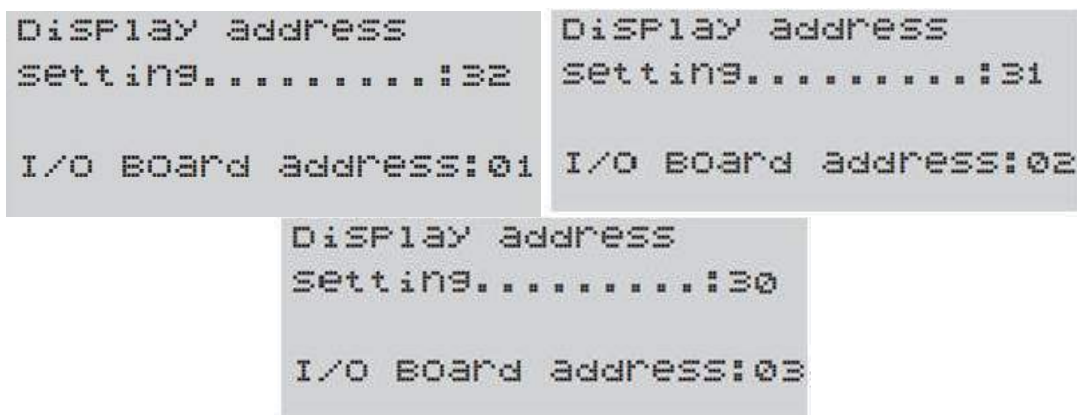


Figure 4.7 pLan address configuration screen

3. Navigate to the “Display address setting” parameter by pressing the enter button once.
4. Change the address of the screen by using Up and Down Arrow Buttons and apply using the enter key.
5. The new value will be recorded on the device memory and a text stating “Display address changed” will be displayed.

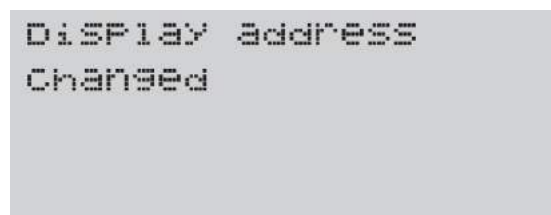


Figure 4.8 pLan address configuration screen

Note 1: If the address value is changed to 0, “I/O Board Address” Parameter will become invisible. This parameter is the address of the card which the screen is connected through.

Warning: If the screen configurations are made erroneously, the images and text on the screen may be displayed falsely.

4.2.2 Defining the pLAN Addresses for Devices

The standard address of the devices must be as follows:

- Master (Controller) Device: **1**
- Slave-1 (First I/O expansion card) Device: **2**
- Slave-2 (Second I/O expansion card) Device: **3**

. If the plan address needs to be changed, you can follow the steps below:

1. Set the terminal address of the PLD screen as "0" (how this could be done was relayed on the previous segment).
2. Cut the energy of the unit (pCO).
3. Remove the plan cable (J8) from the unit.
4. Power up the unit (pCO) and press  and  buttons at the same time.

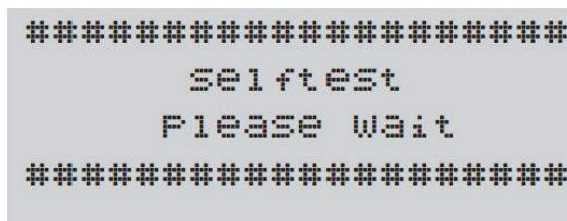


Figure 4.9 pLAN address configuration for the device

5. After the screen given in Figure 4.9 is displayed, continue pressing the related buttons for 10 more seconds.

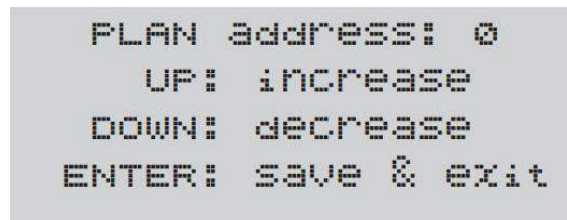


Figure 4.10 pLAN address configuration for the device

6. Press  and  buttons to define the plan address of the controller. Apply the change using the  button. After pressing the  button, the start-up procedure of the device will commence.

4.3 Powering up the uPC



Figure 4.11 - Splash Screen

The user will be met with the splash screen below whenever the pCO is powered. This screen also shows the version of the software.

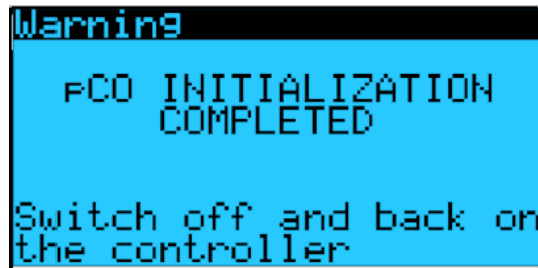


Figure 4.12 - End of the initial installation

When the pCO is first powered up, wait until the screen above is displayed. This screen will be displayed after pCO splash screen. This screen indicates that pCO installation is complete. Cut the power to pCO and resupply it afterwards.

4.4 Premade Configurations and supported Units

After the initial installation of pCO (the master device) is complete and the device is powered up Premade configuration screen (In01) will be displayed. From this screen, select the proper device model which the controller is placed unto. The hardware requirements of the installation you have chosen will be displayed on the next screen. pCO will automatically define input positions and their parameters will change depending on the configuration.



Figure 4.13 - Selection of a pre-made configuration

On the In02 screen:

- **M** : Indicates that the card size placed on the related address is “medium”.
- **S** : Indicates that the card size placed on the related address is “small”.
- ☒ : Indicates that the card size and plan communication at the related address is ready.
- ☐ : Indicates that the card size and plan communication at the related address is not ready.

Note 1: The selection setting of the pre-made configuration can only be done on the primary controller (master) card. These adjustments cannot be made on the I/O expansion (slave) cards.

The program includes setups for 11 different devices. These setups and their related input-output tables are provided further in this document.

PreConfig No: ACU-40146/190146

Comp. Number: 1

Number of Fans 1

BOARD -1
S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Empty
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -2
NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3
NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU-250146/380146

Comp. Number: 1

Number of Fans 2

BOARD -1

S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Empty
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -2

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU-72246/190246

Comp. Number: 2

Number of Fans: 2

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.2 Compressor 1
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.2 Fan 1
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Empty
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -2

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU-250246/310246

Comp. Number: 2

Number of Fans: 4

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.2 Compressor 1
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Fan 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -2

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 380246

Comp. Number: 2

Number of Fans: 6

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.1 Fan 3
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Compressor 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.2 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.2 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -2

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig ACU – 250446/310446

Comp. Number: 4

Fan Number: 8

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.2 Compressor 1
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Fan 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.3 Compressor 1
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.3 Fan 1
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Fan 2
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.4 Compressor 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.4 Fan 1

BOARD -2

S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.4 Fan 2
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 380446

Comp. Number: 4

Number of Fans: 12

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.1 Fan 3
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Compressor 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.2 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.2 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Compressor 1
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.3 Fan 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.3 Fan 2

BOARD -2

S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.3 Fan 3
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Circ.4 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Circ.4 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Circ.4 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Circ.4 Fan 3
S	Ch B 06	Empty	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

NONE

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Empty	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Empty	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 310646

Comp. Number: 6
Number of Fans: 12

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.2 Compressor 1
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Fan 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.3 Compressor 1
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.3 Fan 1
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Fan 2
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.4 Compressor 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.4 Fan 1

BOARD -2

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.4 Fan 2
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Circ.5 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Circ.5 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Circ.5 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Circ.6 Compressor 1
S	Ch B 06	High Pressure Circ.5	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Circ.6 Fan 1
S	Ch B 07	High Pressure Circ.6	Ch DI 07	Circ.5 Comp. Overload + High press.	Ch NO 07	Circ.6 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.5 Comp. Low pressure	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Circ.5 Cond. Fan Overload	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Circ.6 Comp. Overload + High press.	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

BOARD -3

S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.6 Comp. Low pressure	Ch NO 01	Empty
S	Ch B 02	Empty	Ch DI 02	Circ.6 Cond. Fan Overload	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 380646

Comp. Number: 6
Number of Fans: 18

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.1 Fan 3
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Compressor 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.2 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.2 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Compressor 1
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.3 Fan 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.3 Fan 2

BOARD -2

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.3 Fan 3
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Circ.4 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Circ.4 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Circ.4 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Circ.4 Fan 3
S	Ch B 06	High Pressure Circ.5	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Circ.5 Compressor 1
S	Ch B 07	High Pressure Circ.6	Ch DI 07	Circ.5 Comp. Overload + High press.	Ch NO 07	Circ.5 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.5 Comp. Low pressure	Ch NO 08	Circ.5 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.5 Cond. Fan Overload	Ch NO 09	Circ.5 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.6 Comp. Overload + High press.	Ch NO 10	Circ.6 Compressor 1
C	Ch B 11	Empty			Ch NO 11	Circ.6 Fan 1
C	Ch B 12	Empty			Ch NO 12	Circ.6 Fan 2

BOARD -3

S

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.6 Comp. Low pressure	Ch NO 01	Circ.6 Fan 3
S	Ch B 02	Empty	Ch DI 02	Circ.6 Cond. Fan Overload	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Empty	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Empty	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Empty	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Empty	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Empty	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Empty	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 310846

Comp. Number: 8
Number of Fans: 16

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.2 Compressor 1
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Fan 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.3 Compressor 1
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.3 Fan 1
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Fan 2
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.4 Compressor 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.4 Fan 1

BOARD -2

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.4 Fan 2
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Circ.5 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Circ.5 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Circ.5 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Circ.6 Compressor 1
S	Ch B 06	High Pressure Circ.5	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Circ.6 Fan 1
S	Ch B 07	High Pressure Circ.6	Ch DI 07	Circ.5 Comp. Overload + High press.	Ch NO 07	Circ.6 Fan 2
C	Ch B 08	Empty	Ch DI 08	Circ.5 Comp. Low pressure	Ch NO 08	Circ.7 Compressor 1
C	Ch B 09	Empty	Ch DI 09	Circ.5 Cond. Fan Overload	Ch NO 09	Circ.7 Fan 1
C	Ch B 10	Empty	Ch DI 10	Circ.6 Comp. Overload + High press.	Ch NO 10	Circ.7 Fan 2
C	Ch B 11	High Pressure Circ.7			Ch NO 11	Circ.8 Compressor 1
C	Ch B 12	High Pressure Circ.8			Ch NO 12	Circ.8 Fan 1

BOARD -3

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.6 Comp. Low pressure	Ch NO 01	Circ.8 Fan 2
S	Ch B 02	Empty	Ch DI 02	Circ.6 Cond. Fan Overload	Ch NO 02	Empty
S	Ch B 03	Empty	Ch DI 03	Circ.7 Comp. Overload + High press.	Ch NO 03	Empty
S	Ch B 04	Empty	Ch DI 04	Circ.7 Comp. Low pressure	Ch NO 04	Empty
S	Ch B 05	Empty	Ch DI 05	Circ.7 Cond. Fan Overload	Ch NO 05	Empty
S	Ch B 06	Empty	Ch DI 06	Circ.8 Comp. Overload + High press.	Ch NO 06	Empty
S	Ch B 07	Empty	Ch DI 07	Circ.8 Comp. Low pressure	Ch NO 07	Empty
C	Ch B 08	Empty	Ch DI 08	Circ.8 Cond. Fan Overload	Ch NO 08	Empty
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Empty
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

PreConfig No: ACU - 380646

Comp. Number: 8
Number of Fans: 24

BOARD -1

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Return Air Temp	Ch DI 01	Dirty Filter	Ch NO 01	Supply Fan Start
S	Ch B 02	Fresh Air Temp	Ch DI 02	Supply Air Flow Switch	Ch NO 02	Circ.1 Compressor 1
S	Ch B 03	Supply Air Temp	Ch DI 03	Phase Protect alarm	Ch NO 03	Circ.1 Fan 1
S	Ch B 04	Empty	Ch DI 04	Supply Fan Overload	Ch NO 04	Circ.1 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.1 Comp. Overload + High press.	Ch NO 05	Circ.1 Fan 3
S	Ch B 06	High Pressure Circ.1	Ch DI 06	Circ.1 Comp. Low pressure	Ch NO 06	Circ.2 Compressor 1
S	Ch B 07	High Pressure Circ.2	Ch DI 07	Circ.1 Cond. Fan Overload	Ch NO 07	Circ.2 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.2 Comp. Overload + High press.	Ch NO 08	Circ.2 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.2 Comp. Low pressure	Ch NO 09	Circ.2 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.2 Cond. Fan Overload	Ch NO 10	Circ.3 Compressor 1
C	Ch B 11	High Pressure Circ.3			Ch NO 11	Circ.3 Fan 1
C	Ch B 12	High Pressure Circ.4			Ch NO 12	Circ.3 Fan 2

BOARD -2

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.3 Comp. Overload + High press.	Ch NO 01	Circ.3 Fan 3
S	Ch B 02	Empty	Ch DI 02	Circ.3 Comp. Low pressure	Ch NO 02	Circ.4 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.3 Cond. Fan Overload	Ch NO 03	Circ.4 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.4 Comp. Overload + High press.	Ch NO 04	Circ.4 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.4 Comp. Low pressure	Ch NO 05	Circ.4 Fan 3
S	Ch B 06	High Pressure Circ.5	Ch DI 06	Circ.4 Cond. Fan Overload	Ch NO 06	Circ.5 Compressor 1
S	Ch B 07	High Pressure Circ.6	Ch DI 07	Circ.5 Comp. Overload + High press.	Ch NO 07	Circ.5 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.5 Comp. Low pressure	Ch NO 08	Circ.5 Fan 2
C	Ch B 09	Empty	Ch DI 09	Circ.5 Cond. Fan Overload	Ch NO 09	Circ.5 Fan 3
C	Ch B 10	Empty	Ch DI 10	Circ.6 Comp. Overload + High press.	Ch NO 10	Circ.6 Compressor 1
C	Ch B 11	High Pressure Circ.7			Ch NO 11	Circ.6 Fan 1
C	Ch B 12	High Pressure Circ.8			Ch NO 12	Circ.6 Fan 2

BOARD -3

C

Type	Analog Input		Digital Input		Digital Output	
S	Ch B 01	Empty	Ch DI 01	Circ.6 Comp. Low pressure	Ch NO 01	Circ.6 Fan 3
S	Ch B 02	Empty	Ch DI 02	Circ.6 Cond. Fan Overload	Ch NO 02	Circ.7 Compressor 1
S	Ch B 03	Empty	Ch DI 03	Circ.7 Comp. Overload + High press.	Ch NO 03	Circ.7 Fan 1
S	Ch B 04	Empty	Ch DI 04	Circ.7 Comp. Low pressure	Ch NO 04	Circ.7 Fan 2
S	Ch B 05	Empty	Ch DI 05	Circ.7 Cond. Fan Overload	Ch NO 05	Circ.7 Fan 3
S	Ch B 06	Empty	Ch DI 06	Circ.8 Comp. Overload + High press.	Ch NO 06	Circ.8 Compressor 1
S	Ch B 07	Empty	Ch DI 07	Circ.8 Comp. Low pressure	Ch NO 07	Circ.8 Fan 1
C	Ch B 08	Empty	Ch DI 08	Circ.8 Cond. Fan Overload	Ch NO 08	Circ.8 Fan 2
C	Ch B 09	Empty	Ch DI 09	Empty	Ch NO 09	Circ.8 Fan 3
C	Ch B 10	Empty	Ch DI 10	Empty	Ch NO 10	Empty
C	Ch B 11	Empty			Ch NO 11	Empty
C	Ch B 12	Empty			Ch NO 12	Empty

5. PROGRAM INTERFACE

5.1 Definitions of Screen Sections

There are three primary screens that are displayed for the user.

- Main Screen
- Menu Screen
- Parameter Adjustment Screen

Main Menu

This is the screen that the device will default to after no buttons are pressed for 5 minutes. When the program setup is completed, the user will see this screen after the initial splash screen. This screen and other monitoring screens provide information on the status of the system. No changes can be made through this screen.

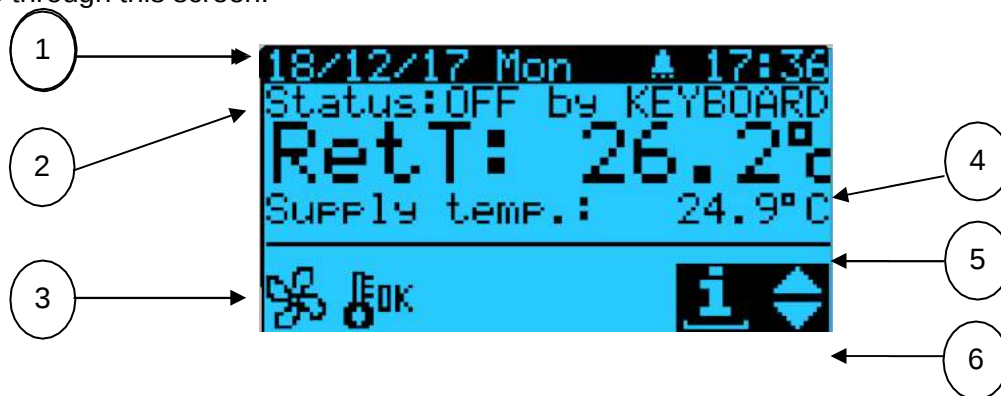


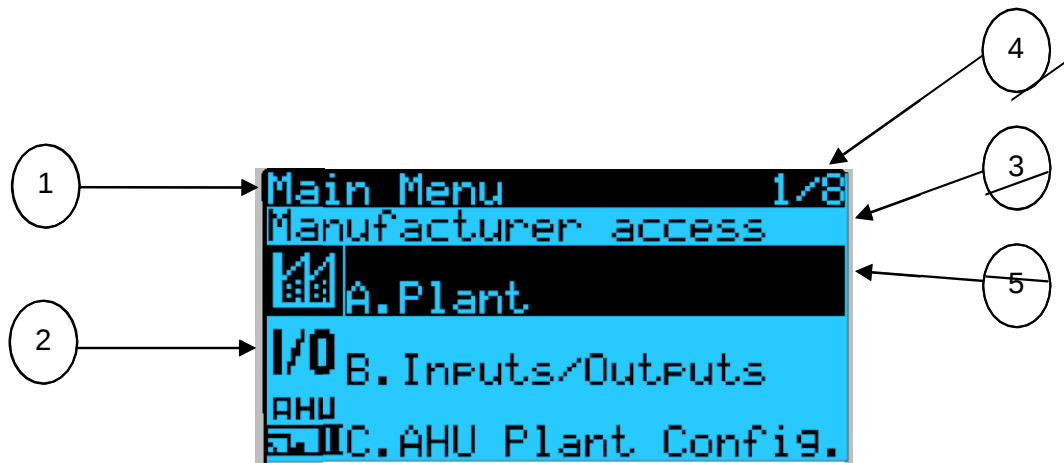
Figure 5.1 - Main Screen

The screen shown in Figure 5.1 includes:

1. Date and Time
2. Unit Status
3. Operating Season Mode, fan, compressor status
4. Value of one of the system probes, Other allowed probes can be viewed in this section after “ESC” button is pressed.
5. Second parameter of the main screen,
6. User menu. This menu is the only menu accessible to users. It can be reached from the main screen quickly and parameters that are allowed to be changed by the manufacturer can be changed. Detailed system information screens are also located under this menu. You can use up and down arrows and enter key to navigate to and enter the menu that you want to access.

Menu Screen

You can access the menu screen by pressing the “PRG” button located on the device. In the menu screen ↓ and ↑ buttons are used to move the black bar. ↩ Button is used to access the tab that the black bar is currently on the top. To ensure ease of usage, parameter pages are located under the menu tabs. You can use the menus to access the parameter page that you want to access



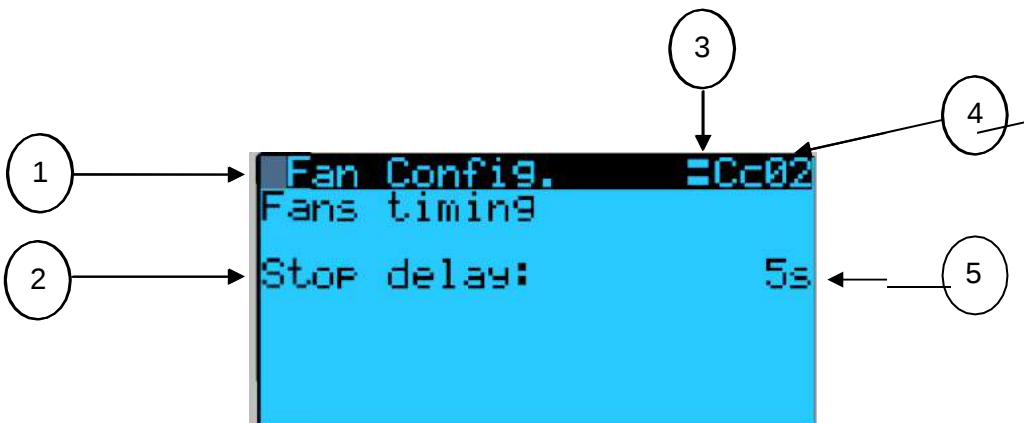
Figure_5.2 - Main Menu Screen

The Main Menu Screen shown in figure 5.2 includes:

1. Menu name,
2. Menu tabs,
3. Password level,
4. Maximum number of menu tabs and the number of the tab that the black bar is located on,
5. Black bar.

Parameter Adjustment Screen

Parameter screens are the pages where the system values are adjusted. Some parameter pages can only be modified by the manufacturer.



Figure_5.3 – Parameter Adjustment Screen

The Parameter Adjustment Screen shown in figure 5.2 includes:

1. Screen name
2. Parameter name,
3. Password level,
4. Screen code,
5. Parameter value.

5.2 Password Management

There are three password levels within the project:

- User level (user),
- Service password (service),
- Manufacturer password (manufacturer).

The manufacturer password can access and modify all parameters. Service password can view all screens but cannot modify all parameters.

On the device with a password, if no keys are pressed for 5 minutes after entering a menu, the password activation will be terminated. If “PRG” button is pressed to access the menu again, password will also be requested again.

The user password can only be used in the user menu. This password can be activated through Ag03. For this reason, to access some of the tabs in the user menu, a minimum level user password must be entered.

All passwords can access the segments that can be accessed by a lower level password.

Password level indicators:

- Page icon for service password=>



- Page icon for manufacturer password =>



5.3 MENU



	System information pages
	On/Off, Season Selection
	Set Points



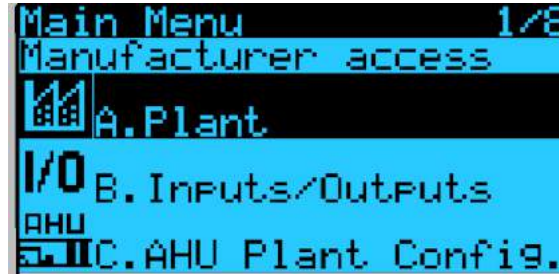
	A. Plant	a. On/Off b. PlantConfig. c. Setpoint d. Season Selection
I/O	B. Inputs/ Outputs	a. Digital Inputs b. Digital Inputs c. Analog Inputs d. An. Outputs e. Manual Mng. f. I/O Test
	C. AHU Plant Config.	a. Alarms b. Dampers c. Fans d. Functions
	D. DX System	a. Compressor b. Condenser c. Alarms Config.
	E. History	
	F. Setup	
	G. Settings	G. Communication H. Clock I. Display Settings J. Languages K. Password L. Safety M. Info
	H. Logout	

Denotes menus that can be accessed with User Password.

Denotes menus that can be accessed with Service Password.

Denotes menus that can be accessed with Manuf. Password.

6. I/O CONFIGURATION



Figure_6.1 - Main Menu Screen

In the menu page that is depicted in Figure 5.1, The black picture is moved on “B. Inputs/Outputs” using the arrow buttons and “Enter” button is pressed.

6.1 Digital Input Settings



Figure_6.2 - Digital input settings screen

For digital inputs in page coded Ba01 depicted in Figure_6.2:

- 1) Which information that it belongs to is written on line 2.
- 2) The terminal input position of the device can be adjusted.
- 3) The status of digital input relay can be viewed.
- 4) The logic state of the relay can be set as “NC, NO”.
- 5) The lowest line is the information that is sent to the system.

Explanation 1: The status being “CLOSE” means that the relay located at the digital input is in a closed position and that it is acting as a carrier. This situation is also applicable for “Normally Open” (NO) state. The opposite is true for “Normally Closed” (NC) logic status.

Explanation 2: The status being “OPEN” means that the relay located at the digital input is in a closed position and that it is not acting as a carrier. This situation is also applicable for “Normally Open” (NO) state. The opposite is true for “Normally Closed” (NC) logic status.

Note: “Function” is the latest value being read from the input. This is the information that is being sent to the algorithm.

6.2 Digital Output Settings



Figure_6.3 - Digital output settings screen

For digital outputs in page coded Bb01 depicted in Figure_6.3:

- 1) Which device that it belongs to is written on line 2.
- 2) The terminal output position of the device can be adjusted.
- 3) The status of digital output relay can be viewed.
- 4) The logic state of the relay can be set as “NC, NO”.
- 5) The lowest line is the information that received from the system.

Explanation 1: The status being “CLOSE” means that the relay located at the digital output is in a closed position and that it is acting as a relay. This situation is also applicable for “Normally Open” (NO) state. The opposite is true for “Normally Closed” (NC) logic status.

Explanation 2: The status being “OPEN” means that the relay located at the digital output is in a closed position and that it is not acting as a carrier. This situation is also applicable for “Normally Open” (NO) state. The opposite is true for “Normally Closed” (NC) logic status.

Note: “Function” is the information that is received from the system. It is the “status” information that allows the device the work in digital inputs.

6.3 Analogue Input Settings



Figure_6.4 - Analogue Input Settings Screen

For analogue inputs in page coded Bc05 depicted in Figure_6.2:

- 1) Which probe that it is related to is written on line 2.
- 2) The transducer signal type of the device can be changed.
- 3) The terminal input position of the device can be adjusted.
- 4) The value that is read from the analogue input can be viewed.
- 5) Calibration value of the analogue input can be adjusted.
- 6) The probe model in use can be changed.

Note: If the probe that is being used is of a special model, the minimum and maximum values of the reading scale located at the bottommost line can be adjusted.

6.4 Analogue Output Settings

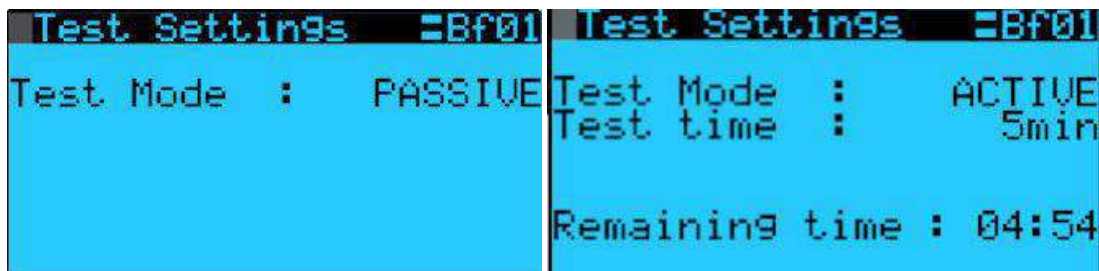


Figure_6.5 - Analogue Output Settings Screen

For analogue outputs of Bd01 coded page shown on Figure_6.5:

- 1) Which device that it belongs to is written on line 2.
- 2) The terminal input position of the device can be adjusted.
- 3) There are two values that can be read from the analogue output. This value ranges between 0 and 1000 and it corresponds to 0-10V scale at the analogue output.

6.5 IO Test

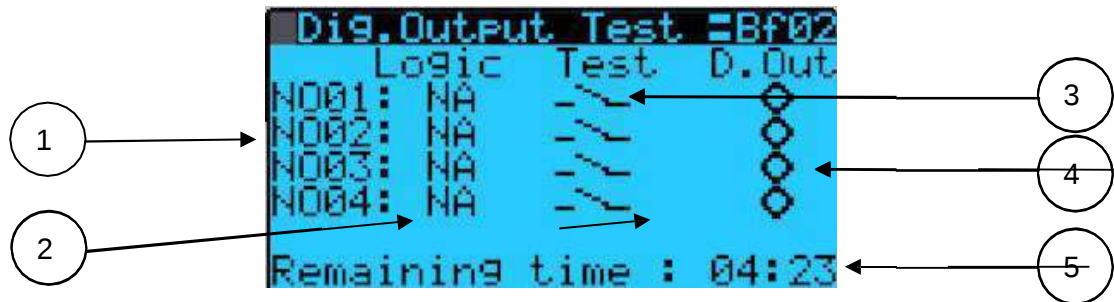


Figure_6.6 - Test Mode:

Activating the Test Mode: By pressing “ENTER” button while on the page coded Bf01 shown with Figure_6.6, you can select “Test Mode” variable and make a selection using arrow buttons. If “ACTIVE” is selected the test mode will be active and if “PASSIVE” is selected, the test mode will be passive.

Adjusting Test Duration By pressing “ENTER” button while on the page coded Bf01 shown with Figure_6.6, you can select “Test time” variable and adjust the test duration. After the determined test duration concludes, test mode is automatically terminated. The remaining time is indicated with the “Remaining Time” parameter. “Test time” variable can only be seen if test mode is activated.

Note: The system must be shut down to enable test mode. If the system is online, the page coded Bf01 will have a warning which states: “Test mode cannot be used when System ON”.



Figure_6.7 Digital output test

Page coded Bf02 shown on Figure_6.7 is the page where the digital output test values are inputted:

- 1) "NO01": Terminal name of digital output on pCO.
- 2) "Logic": Parameter which determines the logic value of the digital output. This parameter can be set as "NO" normally open and "NC" normally closed.
- 3) "Test": Test value is the value which the user inputs to the output which is being tested.
- 4) "D.Out": This displays the status of the digital output. "●" Indicates that digital output is active while "○" indicates that digital output is passive.
- 5) "Remaining time": This displays the amount of time left until the system concludes the test mode. Test mode is concluded after this duration ends.



Figure 6.8 Analogue output test

Page coded Bf04 shown on Figure_6.8 is the page where the analogue output test values are inputted:

- 1) "Y1": Terminal name of analogue output on pCO.
- 2) "Test": Percentage value of the analogue output for testing purposes. %0@0V, %100.0@10V

7.MONITORING SCREENS

7.1 Main Screen



Figure_7.1 Primary monitoring screen

- 1) In shown order: Date, day of the week, hour information.
- 2) One of the system sensor probes. Pressing the “ESC” button changes the sensor probe that is being displayed here. Which sensor probes will be shown can be set-up through the Gc01 screen.
- 3) The line that shows which devices are currently active within the system. From left to the right: Supply fan status, compressor status. The figures have animations which displays whether they are active.  Symbol indicates that at least one compressor is active and  symbol indicates that return air temperature is conforming with the reference values
- 4) Unit Status:
 - a. Unit ON: This indicates that the Unit is active.
 - b. OFF by Alarm: This indicates that the Unit was deactivated due to an alarm.
 - c. OFF by SPV: This indicates that the Unit was deactivated through the supervisor.
 - d. OFF by BLACKOUT: This indicates that the Unit was deactivated due to power outage.
 - e. OFF by KEYBOARD: This indicates that the Unit was deactivated through the screen.
 - f. MANUAL: This indicates that the Unit is operating in manual method.
 - g. Comfort: This indicates that the Unit is active in the comfort mode.
- 5) The information which are being shown here can be determined through Gc02 screen.
- 6) User menu. While on the main screen “DOWN” and “UP” arrow buttons can be used to navigate the menu tabs. “ENTER” button is used to enter the selected tab.

Note: Detailed system settings can be accessed by pressing “PRG” after a password is entered button on this menu.

7.2 System information pages



Figure_7.2 Main monitoring page 1 - Main regulation status

First line of the M001 page displays the mode of the regulation and immediate regulation requests. If regulation is disabled, the reason of being disabled and countdown -if there is one- are displayed. The second line displays the regulation set point and related heat sensor probes. The bottom line displays whether cooling battery is active or not.



Figure_7.3 Main monitoring page 2 - Supply fan status

Page M006 displays the status of the supply fan. If the fan is active, “ON” will be displayed. If the fan is on the flow check phase, “Flow check...” will be displayed on the status segment. If there is a fan alarm, status segment will display “alarm”.



Figure_7.3 Main monitoring page 3 - Compressor statuses

The screen above displays compressor information.

- 1) Active performance percentage and immediate operational need,
- 2) Status of the related circuit (Circ1-> 1st Circuit) compressor
- 3) Cycle status**

*Compressor status can display the following information:

Off: Compressor is off.

Start-up: Compressor is commencing start-up procedure.

On: Compressor is on.

Off wait ...s: Protective waiting period of the compressor is ongoing (depending on the minimum duration of the off state).

On wait ...s: Compressor's minimum active duration is being calculated.

Off by Alarm: Compressor is off due to a system alarm or an intrinsic alarm.

Manual: Compressor is active on manual mode.

**Cycle status can display the following information:

Stopped: System is turned off.

Waiting: Waiting for system needs.

Working: Compressor is active.

Waiting Fan: Waiting for the conclusion of fan flow check.

RegDelay: Waiting for power-on regulation delay.



Figure_7.6 Main monitoring page 4 - Condenser fan set

M012 screen displays the set point and differential values of condenser fans.



Figure_7.3 Main monitoring page 5 - Condenser fan statuses

The screen above displays condenser fan information.

- 1) Related circuit number and cycling status*
- 2) Operational status of the Fans (black filled fan symbol indicates operational fans)
- 3) High pressure sensor probe value of the related circuit
- 4) Immediate operational need

*Cycle status can display the following information:

Ready: Fans are ready to work

Manual: Fans are on manual.

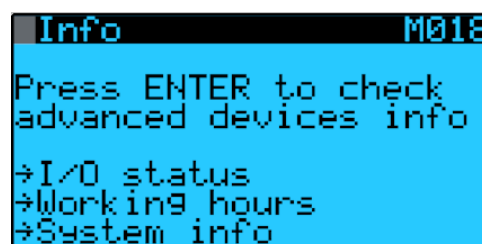
Work: Fan working.

Alarm: Thermal alarm of the fan is active.

PrbAl: High pressure sensor probe of the related circuit has malfunctioned.

7.3 Expanded information pages

Relay status and operation hours of the input/output terminals of the system and the devices that they are connected to can be viewed through these pages. Software tag is also located at the end of this page.



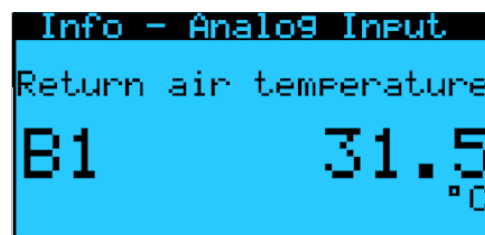
Figure_7.8: Expanded information pages

After reaching the end of the monitoring pages, you can press the “ENTER” button to navigate to detailed system information pages.



Figure_7.8: Digital Output Terminal NO2- Compressor 1

The picture above displays a digital output information page. If the digital output is connected to a device, the duration which the device was active for can be viewed through this page.



Figure_7.9: Analogue output terminal B1 - Return air temperature

The picture above displays an analogue output information page. The value of the sensor probe that is connected to the analogue input terminal can be viewed here.



Figure 7.10: Digital input terminal DI5 - Digital alarm for the 1st Circuit

The picture above displays a digital input page. If the digital input is connected to an alarm relay, its status will be displayed either as “Ok” or “Alarm”. If the digital input is not in the alarm status, this status will either be on or off.

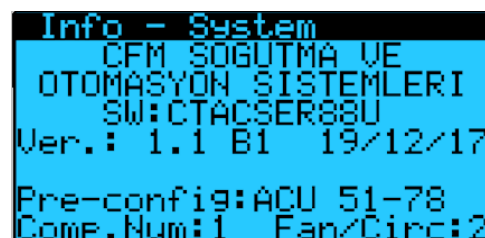


Figure 7.11: System tag

The screen above displays the version of the software, the name of the selected pre-made configuration, the number of compressors within the system and the number condenser fans per circuit.

8. ALARMS

CTACSER88U software can create alarms based on the information it gets from the digital/analogue inputs and the operation state of the system. The following may be checked for some of these alarms:

- Alarm activation,
- Alarm delay,
- Alarm effect,
- Alarm reset method (auto/manual)

Each alarm can have different effects on the system. For the effects that each alarm has on the device and the related characteristics, you can refer to the table of alarms.

Siren management was disabled on the mPC. Alarm symbol on the black line at the uppermost side of the main screen can be viewed instead. The image below shows the alarm symbol next to the clock at the upper right corner of the screen.



Figure 8.0 Alarm

8.1 ALARM MANAGEMENT

All alarms behave according to the principles below:

- Whenever an alarm becomes active, the red LED on the PGD1 screen will start flashing. PLD screen does not have a separate alarm LED and for this reason, alarm symbol is displayed at the main screen.
- If any alarms are active, alarm symbol will be on display constantly. If the alarm has moved onto a passive state but its related memory record is not deleted, the alarm symbol will be displayed in a clipped manner.
- If there are more than a single alarm in the system, up and down arrow buttons can be used on the alarm screen to view the alarms. If this is the case, down and up arrow buttons may start flashing on the alarm screens.
- Alarms can be reset by pressing the alarm button for 3-4 seconds. If this is done, inactive pages of inactive alarms will be purged. All alarms are recorded into the alarm history.

8.1.1 Alarm Reset Methods

System alarms can be automatically or manually reset.

- Manual: Manual alarm resets are carried out by pressing the alarm button twice. First button opens the alarm screens and silences the sirens. Second press (at least 3 seconds) terminates the alarm and the alarm page is closed. This will have no effect if there is an ongoing alarm event as the alarm screen will reappear. Alarm is then saved into alarm history.
- Automatic: After the alarm state has passed, alarm is automatically reset, however the screen will remain.

By pressing the Alarm button twice (and holding for 2 seconds on the second press) only the alarm screen will be removed. Alarm is then saved into alarm history.

The effect that manual alarms have on the system will continue until alarm reset is carried out and the related alarm will not occur again. For automatic alarms, the effect of the alarm will be removed immediately after the alarm state concludes, however, alarm may occur again.

8.1.2 Alarm delay

Alarms of the system may be set up with adjustable delays. There are two ways that an alarm can occur in the system.

- The digital input that the alarm is linked to being active and
- Sensor probe values that the alarm checks exceeding upper or lower limits.

When an alarm status occurs, system creates an alarm, and this will occur after a delay if one is set up. If the alarm status concludes before this delay period has passed, no alarm will occur. In this case, if an alarm status occurs again, this delay period will be reset. Since no alarm can be given before the alarm delay is over, there will be no effects on the system and an alarm screen will not pop up.

8.1.3 Alarm History

Alarm history can be accessed in three ways:

- "E.A" segment of the menu
- By pressing "ENTER" button at the last alarm screen which comes up after alarm button is pressed,



Figure 8.1 - Alarm Screen

The screen above shows an example of an alarm. The latest alarm can access the alarm history, as shown on the screen.



Figure 8.2 - Alarm history

Alarm history displays the following information:

- What the order number of the alarm among all recorded alarms is,
- Date and time at which the alarm has occurred,
- Short explanation of the alarm,
- Temperature of the supply air,
- Temperature of the return air,
- Temperature of fresh air (if available)

. 50 alarms will be recorded into the history, at most. The first alarm that will occur after the 50th alarm will overwrite the oldest alarm. The old alarm will be deleted.

Active alarms screen can be returned to by pressing “ENTER” button on the alarm history screen.

8.3 Pressure and OTHER DIGITAL INPUT ALARM SETTINGS

CTACSER88U software can create alarms based on the information provided by the pressurestat, other digital inputs or sensor probe values.

The pressurestat and other digital inputs can create the following alarms:

- High hold down pressure/compressor thermal alarm
- Pressurestat alarm for low pressure,
- Condenser fan thermal alarm,
- Filter pollution alarm,
- Phase protection alarm,
- Supply flow alarm,
- Supply fan thermal alarm,

Sensor Probe values can create following alarms:

- Sensor probe disconnection alarms,
- Condenser pollution alarms,
- High hold down pressure alarms

8.3.1 Device Interactions

Alarms that turn off the blower fans will shut the whole system down. Other than such alarms, effects of some alarms can be adjusted.

8.3.2 Digital input alarms and pressurestats

Low pressure pressurestat alarm

Reset method and delay can be set up for this alarm type. When this alarm occurs, operational compressor will be shut down without any protective period. After this alarm occurs for the first three times (adjustable), it must automatically reset. If more than three consecutive alarms occur, alarm must be reset manually. This alarm can only occur when the compressor is operational. Initial start-up of the compressor and continual operation of the compressor can have different delay settings.

Thermal Alarms (compressor, condenser fan and supply fan)

Reset method for these alarms can be set up. When an alarm occurs, the related device can be set to shut down.

Filter pollution alarm

This warning has no effect on the system. It indicates that maintenance and cleaning has become necessary. It resets automatically.

Condenser pollution alarm

If high pressure sensor probe reads values above 22.0 barg (adjustable) and if all condenser fans of the circuit runs for a minimum of 5 minutes (adjustable), a condenser pollution alarm occurs. It resets automatically. It has no effect on the system.

Flow Alarm

A flow warning occurs before this alarm shows up. The alarm delays for flow control can be set up differently for first operation of the fan and when the fan is operating continually. When a flow warning occurs, the related fan will be turned off for an adjustable period of time (Ca03). Then, it is restarted. If the restart fails and if the number of retries exceeds the maximum, a flow alarm occurs. The number of retries can be adjusted through Ca03.

8.3.3 Probe value-based pressure alarms

Parameters for these alarms can be adjusted through Dc02 and Dc03 screens.

Activation threshold and differentials can be adjusted. Low pressure transducer alarm, like pressurestat alarms, is half-automated reset typed. (Manual reset becomes necessary after 3 automatic resets)

Low pressure alarms operate as shown below.

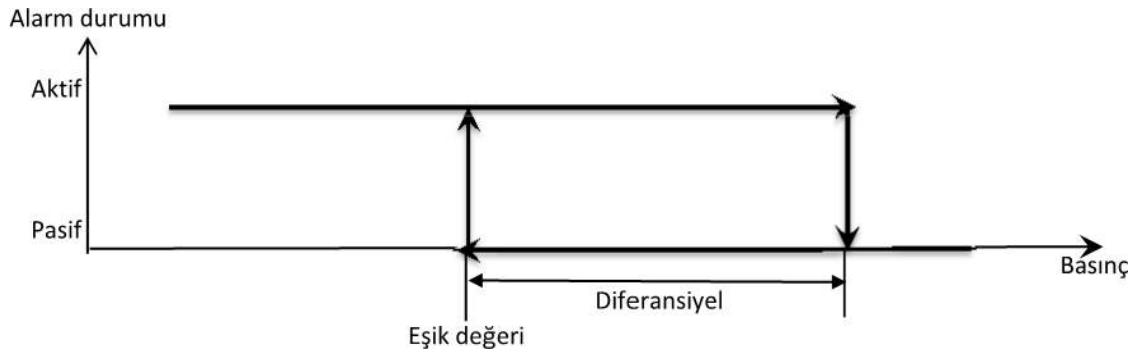


Figure 8.3 - Low pressure alarms

High pressure alarms operate as shown below.

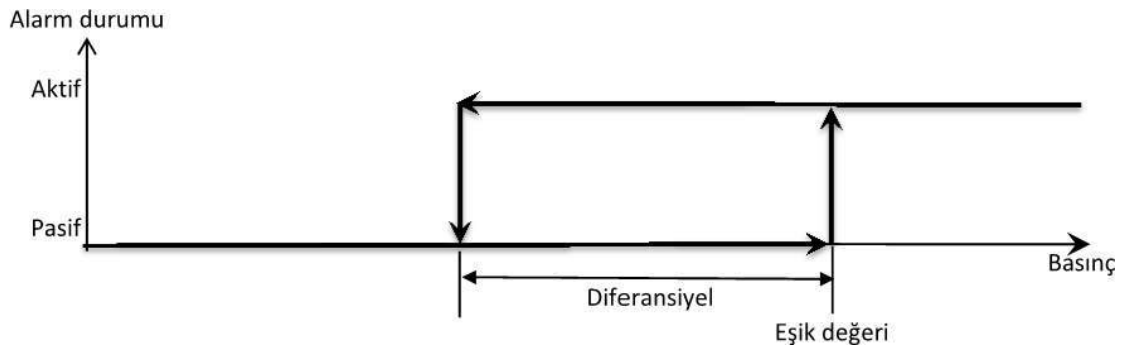


Figure 8.4 - High pressure alarms

System effects of different pressure alarms are as indicated below.

High hold down pressure alarm

This alarm does not have a delay. It shuts down the compressor.

Low intake pressure alarm.

Initial start-up of the compressor and continual operation of the compressor can have different delay settings for this alarm. It shuts down the compressor.

8.3.4 Sensor probe disconnection alarms

If sensor probes disconnect or malfunction, this alarm occurs in the system. They reset automatically. The effects that these alarms have on the system:

- If primary regulation sensor probe malfunctions, the system will be shut down.
- Having compressor shut down in an event of high pressure sensor probe malfunction is an option that can be toggled through Dc04. In addition, the operational level of the condenser fans for these situations can also be adjusted.

8.4 TABLE OF ALARMS

Alarm No	Alarm Name	Explanation	Effect
AL001	Clock card error	Clock card error	Warning
AL002	Extended permanent memory fault	Eeprom memory fault	Warning
AL003	BlackOut alarm	Power outage alarm	Warning
AL004	Phase protect alarm by digital input	Phase protection alarm	System is shut down
AL005	Regulation probe fault	Regulation probe fault	System is shut down
AL006	Supply fan flow alarm	Supply fan flow alarm	System is shut down
AL008	Supply fan overload alarm	Supply fan thermal alarm	System is shut down
AL012	x Supply fan flow lack warning	Supply fan air flow alarm	System is shut down for a certain amount of time
AL014	Dirty filter alarm by digital input	Filter pollution alarm	Warning
AL015	Supply fan maintenance alarm	Supply fan maintenance alarm	Warning
ALc01	Slave-1 pLAN Error	Alarm for no connection for 1st Additional Card	Inputs and outputs on the 1st additional card cannot be used for this reason related Compressors may be shut down.
ALc02	Slave-2 pLAN Error	Alarm for no connection for 2nd Additional Card	Inputs and outputs on the 2nd additional card cannot be used for this reason related Compressors may be shut down.
ALd01	Circuit-1 condenser pollution alarm	Circuit-1 condenser pollution alarm	Warning
ALd02	Circuit-2 condenser pollution alarm	Circuit-2 condenser pollution alarm	Warning
ALd03	Circuit-3 condenser pollution alarm	Circuit-3 condenser pollution alarm	Warning
ALd04	Circuit-4 condenser pollution alarm	Circuit-4 condenser pollution alarm	Warning
ALd05	Circuit-5 condenser pollution alarm	Circuit-5 condenser pollution alarm	Warning
ALd06	Circuit-6 condenser pollution alarm	Circuit-7 condenser pollution alarm	Warning
ALd07	Circuit-7 condenser pollution alarm	Circuit-7 condenser pollution alarm	Warning
ALd08	Circuit-8 condenser pollution alarm	Circuit-8 condenser pollution alarm	Warning
ALd09	Circuit 1 high disch. pressure from probe	Circuit 1 high pressure transducer alarm	Circuit 1 is shut down
ALd10	Circuit 2 high disch. pressure from probe	Circuit 2 high pressure transducer alarm	Circuit 2 is shut down
ALd11	Circuit 3 high disch. pressure from probe	Circuit 3 high pressure transducer alarm	Circuit 3 is shut down
ALd12	Circuit 4 high disch. pressure from probe	Circuit 4 high pressure transducer alarm	Circuit 4 is shut down
ALd13	Circuit 5 high disch. pressure from probe	Circuit 5 high pressure transducer alarm	Circuit 5 is shut down
ALd14	Circuit 6 high disch. pressure from probe	Circuit 7 high pressure transducer alarm	Circuit 7 is shut down

ALd15	Circuit 7 high disch. pressure from probe	Circuit 7 high pressure transducer alarm	Circuit 7 is shut down
ALd16	Circuit 8 high disch. pressure from probe	Circuit 8 high pressure transducer alarm	Circuit 8 is shut down
ALd17	Circuit 1 high press. /overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 1	Circuit 1 is shut down
ALd18	Circuit 2 high press. /overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 2	Circuit 2 is shut down
ALd19	Circuit 3 high press. /overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 3	Circuit 3 is shut down

ALd20	Circuit 4 high press./overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 4	Circuit 4 is shut down
ALd21	Circuit 5 high press./overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 5	Circuit 5 is shut down
ALd22	Circuit 6 high press./overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 7	Circuit 7 is shut down
ALd23	Circuit 7 high press./overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 7	Circuit 7 is shut down
ALd24	Circuit 8 high press./overload digital alarm	High pressure pressurestat or Compressor thermal alarm for Circuit 8	Circuit 8 is shut down
ALd25	Circuit 1 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 1	Circuit 1 is shut down
ALd26	Circuit 2 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 2	Circuit 2 is shut down
ALd27	Circuit 3 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 3	Circuit 3 is shut down
ALd28	Circuit 4 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 4	Circuit 4 is shut down
ALd29	Circuit 5 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 5	Circuit 5 is shut down
ALd30	Circuit 6 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 7	Circuit 7 is shut down
ALd31	Circuit 7 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 7	Circuit 7 is shut down
ALd32	Circuit 8 low suction pressure from switch	Low pressure pressurestat alarm for Circuit 8	Circuit 8 is shut down
ALd33	Circuit 1 condenser common alarm	Condenser alarm for Circuit 1	Warning
ALd34	Circuit 2 condenser common alarm	Condenser alarm for Circuit 2	Warning
ALd35	Circuit 3 condenser common alarm	Condenser alarm for Circuit 3	Warning
ALd36	Circuit 4 condenser common alarm	Condenser alarm for Circuit 4	Warning
ALd37	Circuit 5 condenser common alarm	Condenser alarm for Circuit 5	Warning
ALd38	Circuit 6 condenser common alarm	Condenser alarm for Circuit 7	Warning

ALd39	Circuit 7 condenser common alarm	Condenser alarm for Circuit 7	Warning
ALd40	Circuit 8 condenser common alarm	Condenser alarm for Circuit 8	Warning
ALd41	Compressor maintenance warnings	Compressor maintenance warnings	Warning
ALd42	Condenser fans maintenance warnings (Circ.1-Circi4)	Condenser fans maintenance warnings (For Circuits 1-4)	Warning
ALd43	Condenser fans maintenance warnings (Circ.5-Circi8)	Condenser fans maintenance warnings (For Circuits 5-8)	Warning
ALp04	Return air temperature probe fault or disconnected	Return air probe fault	If the faulty probe is a regulation probe, system is shut down
ALp05	Supply air temperature probe fault or disconnected	Supply air probe fault	If the faulty probe is a regulation probe, system is shut down
ALp06	Fresh air temperature probe fault or disconnected	Fresh air temperature probe fault	Warning
ALp09	High pressure circ.1 probe fault or disconnected	High pressure sensor probe for Circuit 1	Transducer alarms or condenser pollution alarms won't occur for Circuit 1 Condenser regulation cannot occur.
ALp10	High pressure circ.2 probe fault or disconnected	High pressure sensor probe for Circuit 2	Transducer alarms or condenser pollution alarms won't occur for Circuit 2 Condenser regulation cannot occur.
ALp11	High pressure circ.3 probe fault or disconnected	High pressure sensor probe for Circuit 3	Transducer alarms or condenser pollution alarms won't occur for Circuit 3 Condenser regulation cannot occur.
ALp12	High pressure circ.4 probe fault or disconnected	High pressure sensor probe for Circuit 4	Transducer alarms or condenser pollution alarms won't occur for Circuit 4 Condenser regulation cannot occur.
ALp13	High pressure circ.5 probe fault or disconnected	High pressure sensor probe for Circuit 5	Transducer alarms or condenser pollution alarms won't occur for Circuit 5 Condenser regulation cannot occur.
ALp14	High pressure circ.6 probe fault or disconnected	High pressure sensor probe for Circuit 7	Transducer alarms or condenser pollution alarms won't occur for Circuit 7 Condenser regulation cannot occur.
ALp15	High pressure circ.7 probe fault or disconnected	High pressure sensor probe for Circuit 7	Transducer alarms or condenser pollution alarms won't occur for Circuit 7 Condenser regulation cannot occur.
ALp16	High pressure circ.8 probe fault or disconnected	High pressure sensor probe for Circuit 8	Transducer alarms or condenser pollution alarms won't occur for Circuit 8 Condenser regulation cannot occur.

APPENDIX -1

RTACS Table of Parameters

CTACSER88U ver1.2 B1

28/12/2017

On Screen	Explanation	Default	Min.	Max.	Explanation of Possible Values
User-On/OFF					
On/Off Unit Mc01 Unit status: OFF	Unit Status	0	0	4	0=OFF 1=COMFORT 2=PRE COMFORT 3=ECONOMY 4=AUTO
Summer/Winter Mc02 Set season: SUMMER	Season Selection	0	0	1	0=SUMMER 1=WINTER
Log out Mc04 Logout: NO	Terminate user menu session	0	0	1	0=NO 1=YES
User-SET					
Setpoint Mb02 Comfort Temp. Summer 27.0°C	Summer set point for comfort	27.0	15.0	35.0	-
PRG=>A.Plant=>a.ON/OFF					
On/Off Unit Aa01 Unit status: OFF	Unit Status	0	0	4	0=OFF 1=COMFORT 2=PRE COMFORT 3=ECONOMY 4=AUTO
On/Off Aa02 Unit on delay after blackout: 60s	Start-up delay after power outage	60	0	999	-
Enable remote On/Off: NO Enable SPU On/Off: NO	Remote (Digital Input) ON/OFF Activation	0	0	1	0=NO 1=YES
	Supervisor ON/OFF activation	0	0	1	0=NO 1=YES
PRG=>A.Plant=>b.Main Config.					
M AC Main Config. Ab01 Main regulation probe selection Temperature: RETURN Humidity: NONE	Selection of regulation sensor probe	0	0	1	0=RETURN 1=SUPPLY
M AC Main Config. Ab02 Main device enable Fans: SUPPLY Coil: Direct Exchange	Selection of fans used in system	0	0	1	0=Supply 1=Supply+Return
Recovery: DISABLED	Battery Type	0	0	1	0=Direct Exchange
M AC Main Config. Ab04 Fans type: ON-OFF(Direct Start) Supply fan regulation: Return fan regulation:	Fan management type	0	0	1	0=Direct (ON/OFF) 1=Inverter (MODULATED)
M DX main conf. Ab13 Refrigerant type: R407C Circuit number: 1	Gas Type	3	0	21	2=R404A 3=R407C 4=R410A
	Number of Circuits	1	1	8	-
DX main conf. Ab14 Condenser fan number for each circuit: 2	Number of Condenser Fans (per Circuit)	1	1	3	-

APPENDIX -1

RTACS Table of Parameters

On Screen	Explanation		Min.	Max.	Possible Value Explanations
PRG=>A.Plant=>c.Setpoint					
AC Regulation =Ac01 Temperature set limits	Minimum summer set point	15.0	-99.9	99.9	-
Summer low: 15.0°C	Maximum summer set point	35.0	-99.9	99.9	-
Summer high: 35.0°C	Minimum winter set point	15.0	-99.9	99.9	-
Winter low: 15.0°C	Maximum winter set point	35.0	-99.9	99.9	-
Winter high: 35.0°C					
AC Regulation =Ac03 Comfort Temp. Summer 27.0°C	Summer set point for comfort	27.0	15.0	35.0	-
AC Regulation =Ac09 *Temperature reg.* Regulation delay: 6min	Regulation delay	6	0	30	0=PROPORTIONAL
Regulation type PROP.+INTEGRAL	Control type for system regulation	1	0	2	0=PROPORTIONAL 1=PROP.+INTEGRAL, 2=PID
Auto cool/heat: NO	Automated Cooling/heating mode selection	0	0	1	0:NO, 1:YES
Supply limits: LOW	Activating limiter for supply temperature	3	1	4	1=NONE, 2=HIGH 3=LOW, 4=HIGH/LOW
AC Regulation =Ac10 Cooling regulation	Differential value for cooling regulation	4.0	0.0	99.9	-
Differential: 4.0°C	Neutral zone value for cooling regulation	0	0.0	99.9	-
Neutral zone: 0.0°C					
T.Int:300s T.Der: -s					
AC Regulation =Ac12 Temp. supply limits Summer	Differential for supply temperature limiter	4.0	0.0	99.9	-
Low: 12.0°C	Regulation integral time for supply temperature limiter	0	0	999	-
Diff.: 4.0°C Ti: 0s					
Cond. Regul. =Ac20 Condenser regulation Set Point: 16.0barg	Condenser fan set point	16.0	-99.9	99.9	-
Differential: 2.0barg	Condenser fan differential	2.0	0	9999	-
Integral time: 0s	Integral duration for condenser fan	0	0	5000	-
Probe fail power: 100%	Condenser fan	100	0	100	-
Cond. Regul. =Ac25 Condenser regulation	Minimum duration between start of two fan phases	10	0	999	-
Load up time: 10s					
Load down time: 5s	Minimum duration between end of two fan phases	5	0	999	-
PRG=>B.Inputs/Outputs					
Digital Inputs =Bb01 Circ.1 digital alarm Position : 015	Digital alarm digital input position for Circuit 1	5	0	7	0= ---, 1=DI1, 2=DI2, ..., 7=DI7
Status : CLOSE	Digital alarm digital logic for Circuit 1	1	0	1	0=NC 1=NO
Logic : NO					
Function : Passive					
Digital Outputs =Bb01 Circuit 1 compressor Position : NO2	Compressor's digital output position for Circuit 1	2	0	7	0= ---, 1=NO01, 2=NO02, ..., 7=NO07
Status : OPEN	Compressor's digital logic for Circuit 1	1	0	1	0=NC 1=NO
Logic : NO					
Function : Passive					
Analog Inputs =Bc05 Return air temperature Type: CAREL NTC P: B1	Return air temperature probe type	0	0	1	0=CAREL NTC 1=CAREL HTNC
22.0%	Analogue input position for return air temperature probe	1	0	7	0= ---, 1=B1, 2=B2, ..., 7=B7
Offset: 0.0%	Offset value for return air temperature probe	0	-9.9	9.9	-
Analog Inputs =Bc18 High pressure circ.1 Type:0..5Volt P: B6	High pressure sensor probe type	0	1	2	0=0..5Volt, 1=4..20mA
14.8barg	Analogue input position for high pressure sensor probe	6	0	7	0=B1, 7=B7
Probe Code:SPKT0033R0	Calibration value for high pressure sensor probe	0	-999	999	-
Offset: 0.0barg	High pressure sensor probe code	0	0	4	0=SPKT0013R01=SPKT0033R0 2=SPKT00B6R0,3=SPKT0043R0 4=>>Custom<<

On Screen	Explanation		Min.	Max.	Possible Value Explanations
Manual MNG. =Bf01 Manual MNG.: ACTIVE Manual MNG time: 5min Remaining time : 04:57	Activating manual management	0	0	1	0=PASSIVE 1=ACTIVE
	Manual management duration	5	1	99	-
Manual MNG. =Bf02 Condenser manual mng.	Manual management for Circuit-1 fan-1	0	0	1	0=OFF 1=ON
Circuit 1 Fan 1:OFF Fan 2:OFF	Manual management for Circuit-1 fan-2	0	0	1	0=OFF , 1=ON
	Manual management for Circuit-2 fan-1	0	0	1	0=OFF , 1=ON
Circuit 2 Fan 1: -- Fan 2: --	Manual management for Circuit-2 fan-2	0	0	1	0=OFF 1=ON
Manual MNG. =Bf03 Comp. manual output Comp.1 circ.1: OFF Comp.1 circ.2: OFF	Manual management for Circuit-1 compressor-1	0	0	1	0=OFF 1=ON
	Manual management for Circuit-1 compressor-2	0	0	1	0=OFF 1=ON
Manual MNG. =Bf09 Vent. manual output Fan :OFF	Manual management for supply fan	0	0	1	0=OFF 1=ON
Test Settings =B901 Test Mode : ACTIVE Test time : 5min Remaining time : 04:58	Activating test mode	0	0	1	0=PASSIVE 1=ACTIVE
	Test mode duration	5	1	99	-
Dig. Output Test =B902 Logic Test D.Out NO01: NO // / NO02: NO // / NO03: NO // / NO04: NO // / Remaining time : 04:46	Test management relay logic for NO01 digital output	0	0	1	0=NA 1=NK
	Value for NO01 digital output test management	0	0	1	0=OFF (Key open) 1=ON (Key closed)
PRG=>C.AHU PLANT CONFIG =>a. Alarms					
AC Alarms Conf. =Ca01 Fans alarms	Thermal alarm type for fan	0	0	1	0=NONE 1=Supply
Overload: SUPPLY Air flow: SUPPLY	Fan flow information type	0	0	1	0=NONE 1=Supply
Air flow from:P.SWITCH	Fan flow information control type	0	0	1	0=P.SWITCH (With digital input) 1=P.TRANS.(With analogue input)
AC Alarms Conf. =Ca03 Fans flow alarm Start-up delay: 20s Running delay: 10s Flow warning retries:3	Flow control warning start-up delay duration	20	1	999	-
	Flow control warning delay duration while running	10	1	999	-
	Number of flow control attempts	3	0	99	-
AC Alarms Conf. =Ca04 Fans overload alarms reset type: AUTOMATIC	Supply fan thermal reset type	0	0	1	0=AUTOMATIC 1=MANUAL
AC Alarms Conf. =Ca11 Dirty filter alarm: ENABLE Alarm delay: 3s Reset type :AUTOMATIC Alarm action: SHOW ONLY MASK ALARM	Filter pollution alarm function status	1	1	999	0=DISABLE (PASSIVE) 1=ENABLE (ACTIVE)
	Alarm delay	3	1	999	-
	Alarm reset type	0			0=AUTOMATIC , 1=MANUAL
	Alarm effect on system	0	0	99	0=Show ...(Only displayed), 1= FORCE ...(Stop the System)
PRG=>C.AHU PLANT CONFIG =>c. Fans					
Fan Config. =Cc02 Fans timing Stop delay: 5s	Fan shut down delay	5	0	999	-

APPENDIX -1

RTACS Table of Parameters

On Screen	Explanation		Min.	Max.	Possible Value Explanations
Fan hours =C010 Working hours thres. Supply fan: 12000h	Number of operated hours required for supply fan maintenance alarm	12000	1000	99000	-
Fan hours =C011 Reset working hours Supply fan: NO	Resetting operation hour clock of the supply fan	0	0	1	0=NO 1=YES
PRG=>D.DX SYSTEM =>a. Compressors					
Comp. Config. =Da01 Disable compressors C1 C2 C3 C4 NO -- -- -- C5 C6 C7 C8 -- -- -- --	Deactivating related compressor	0	0	1	0=NO 1=YES
Comp. Config. =Da02 Common compressor safety times Min on time: 60s Min off time: 120s Min time to start same compressor: 360s	Compressor minimum operation time	60	0	999	-
	Compressor minimum operation time	120	0	999	-
	Necessary amount of time before 2nd start up of the compressor	360	0	999	-
Comp. Config. =Da03 Load up time 30s Load down time 10s	Minimum duration between starting two compressors	30	0	999	-
	Minimum duration between shutting down two compressors	10	0	999	-
Comp. Config. =Da04 Devices rotation type: FIFO	Compressor start-up mode	1	1	4	1:FIFO 2:LIFO 3:TIME 4:CUSTOM
Working Hours =Da07 Compressors working hours threshold: 88000h	Number of operated hours required for compressor maintenance alarm	88000	1000	99000	-
Working Hours =Da08 Reset working hours Compressor circ.1: NO	Resetting compressor operation hours	0	0	1	0=NO 1=YES
PRG=>D.DX SYSTEM =>b. Condensers					
Cond. config. =Db01 Condenser fans start with compressor: NO	Should condenser fan run jointly with the compressor?	0	0	1	0=NO 1=YES
Cond. config. =Db02 Condenser working hours Threshold: 30000h	Number of operated hours required for condenser fan maintenance alarm	30000	1000	99000	-
Cond. config. =Db03 Reset working hours Circ.1 fan 1: NO Circ.1 fan 2: NO	Resetting operation hour clock of the condenser fan	0	0	1	0=NO 1=YES

APPENDIX -1

RTACS Table of Parameters

On Screen	Explanation		Min.	Max.	Possible Value Explanations
PRG=>D.DX SYSTEM =>c. Alarms					
DX Alarm Conf. =Dc01 Overload+high pressure switch Reset type: AUTOMATIC	Alarm reset type of compressor thermal and high pressure switch	0	0	1	0=AUTOMATIC 1=MANUAL
DX Alarm Conf. =Dc02 Low pressure switch ENABLE	Activating low pressure switch alarm	1	0	1	0:DISABLE(PASSIVE),1:ENABLE (ACTIVE)
Start-up delay: 20s Running delay: 10s Max. retry in 1 hour:3	Low pressure switch alarm start-up delay duration	20	1	999	-
	Low pressure switch alarm delay duration while working	10	1	999	-
	Number of attempts for low pressure switch alarm	3	0	99	-
DX Alarm Conf. =Dc03 High discharge Press. from probe ENABLE	Activating high pressure alarm	1	0	1	0:DISABLE(PASSIVE),1:ENABLE (ACTIVE)
Setpoint: 25.0°C Differential: 2.0°C Delay: 10s Reset type: AUTOMATIC	Set Point	25.0	-99.9	99.9	-
	Differential	2.0	0	9.9	-
	Alarm delay	10	0	999	-
	Alarm reset type	0	0	1	0=AUTOMATIC 1=MANUAL
DX Alarm Conf. =Dc04 Probe alarm actions High pressure probe: SHOW ONLY MASK ALARM	High pressure alarm's effect on system	0	0	1	0=Show ...(Only Display), 1= FORCE ...(Stop the System)
DX Alarm Conf. =Dc05 Cond. common overload Alarm action: SHOW ONLY MASK ALARM Reset type: AUTOMATIC	Condenser common thermal alarm's effect on system	0	0	7	0=Show ...(Only Display), 1= FORCE ...(Stop the System)
	Alarm reset type	0	0	1	0=AUTOMATIC 1=MANUAL
DX Alarm Conf. =Dc06 DX critical error alarm action: DO NOTHING	DX critical Alarm's effect on system	0	0	1	0=DO NOTHING...(Only Display), 1= SHUT DOWN UNIT ...(Stop the System)
DX Alarm Conf. =Dc07 Condenser Pollution alarm: ENABLE	Activating Condenser pollution alarm	1	0	1	0:DISABLE(PASSIVE),1:ENABLE (ACTIVE)
Setpoint: 22.0bars Diff.: 2.0bars Alarm delay: 5min Reset type: AUTOMATIC	Set Point	22.0	-99.9	99.9	-
	Differential	2.0	0	9.9	-
	Alarm delay	5	0	999	-
	Alarm reset type	0	0	1	0=AUTOMATIC 1=MANUAL
DX Alarm Conf. =Dc08 pLAN offline alr.effect which IO is missing. Compressor will stop Dout Comp ON/OFF : ☒ Dout Fan ON/OFF : ☐ Din Come Alarm1 : ☒ Din LP Pressostat : ☒	Should Fan ON/OFF be affected when pLAN closed alarm occurs?	0	0	1	0:NO, 1:YES
	Should Komp Alarm-1 be affected when pLAN closed alarm occurs?	1	0	1	0:NO, 1:YES
	Should low pressure switch be affected when pLAN closed alarm occurs?	1	0	1	0:NO, 1:YES
PRG=>F.SETUP					
Initialization =F001 DEFAULT INSTALLATION Erase user settings and install global default value: NO	Load Factory Defaults	0	0	1	0=NO 1=YES
PRG=>G.Settings =>a. Communication					
Communication =Ga01 <Fieldbus Port > Address : 001 Protocol:Modbus EXT. Baudrate : 19200bps	PCO's address on the communication line	1	1	207	-
	Communication Protocol	2	0	2	0=CAREL, 1=MODBUS 2=MODBUS EXT.
	Device's communication speed	4	0	4	0=1200, 1=2400, 2=4800, 3=9600, 4=19200
Communication =Ga02 < BMS Port > Address : 001 BMS protocol: CAREL Baudrate : 19200bps	PCO's address on the communication line	1	1	207	-
	Communication Protocol	0	0	2	0=CAREL, 1=MODBUS 2=MODBUS EXT.
	Device's communication speed	4	0	4	0=1200, 1=2400, 2=4800, 3=9600, 4=19200

APPENDIX -1

RTACS Table of Parameters

On Screen	Explanation		Min.	Max.	Possible value explanations
PRG=>G.Settings =>b.Clock					
Clock =Gba1 Day :Monday Date :18/12/17 Hour :10:38 Date format:dd/mm/yy	Changing the Date (day/ month/ year)		*	*	-
	Changing the Hour (Hour: Minutes)		00:00	23:59	-
	Changing Date Format	2	1	3	1=dd/mm/yy, 2=mm/dd/yy, 3=yy/mm/dd
Clock =Gba2 DST: DISABLE Transition time: -min Start:--- in --- at -.00 End: --- in --- at -.00	Activating daylight saving time (the adjustment is applied on the system clock between the determined dates)	0	0	1	0=DISABLE 1=ENABLE
Scheduler =Gbb1 Daily scheduler: NO Day --- Copy to --- F1 --- F2 --- F3 --- F4 ---	Enabling the timer	0	0	1	0=HYR, 1=EVT
	Day Selection	0	0	6	0= MONDAY,....6=SUNDAY
	Selection of day to be copied	0	0	7	0= MONDAY,....6=SUNDAY, 7=ALL
	F1 configuring hour:minute	0	00:00	11:59 PM	-
	F1 Timer operation mode	0	0	3	0=OFF, 1=COMFORT 2=PRE-COMFORT, 3=ECONOMY
Scheduler =Gbb2 En.holiday period: NO Start End Set ---/---/--- ---/---/--- ---/---/---	Activating holiday timer	0	0	1	0=NO 1=YES
	Starting Date	0	01/01	31/12	-
	Ending Date	0	01/01	31/12	-
	Holiday time operation mode	0	0	3	0=OFF, 1=COMFORT 2=PRE-COMFORT, 3=ECONOMY
Scheduler =Gbb3 En.Special days: NO D1 ---/--- D2 ---/--- D3 ---/--- D4 ---/--- D5 ---/--- D6 ---/---	Activating Special days timer	0	0	1	0=NO 1=YES
	Selecting special day dates	0	01/01	31/12	-
	Special days operation mode	0	0	4	0=OFF, 1=COMFORT 2=PRE-COMFORT, 3=ECONOMY
PRG=>G.Settings =>c.Display Settings					
Big area config. Gc01 1:SupT 2:RetT 3:FrosT 4:Frat 5:Set1 6:HPC1 7:HPC2 8:HPC3 9:HPC4 10:HPC5 11:HPC6 12:HPC7 13:HPC8 14:VOC	Selection of values to be displayed on the large segment on the main screen		0	1	0=Don't Display 1=Display
Settings Gc02 Small area config: SUPPLY TEMP.	Selection of values to be displayed on the small segment on the main screen	2	0	7	0=NONE, 1=EXTERNAL TEMP. 2=SUPPLY TEMP., 3=RETURN TEMP.
PRG=>G.Settings =>e.Password					
Password =Ge02 Edit the new passwords User : 0000 Service : 7000 Manufacturer : 9000	New user password	0000	0	9999	-
	New service password	7000	0	9999	-
	New manufacturer password	9000	0	9999	-
Password =Ge03  Use User Password: ENABLE	Determining a password to allow user to access parameter values	1	0	1	0=DISABLE (No Password) 1=ENABLE (Password Protected)
PRG=>G.Settings =>f.Safety					
Alarm settings =Gf01 Probe alarm delay: 3s	Probe fault alarm delay	3	12:00 AM	999	-
Alarm settings =Gf02 Delete alarm history: NO	Resetting alarm history	0	00:00	1	0=NO 1=YES



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