pRack

Compressor rack controller

CAREL

ENG Quick Guide

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READ AND SAVE THESE INSTRUCTIONS

Integrated Control Solutions & Energy Savings

IMPORTANT

CAREL bases the development of its products on decades of experience in HVAC, on the continuous investments in technological innovations to products, procedures and strict quality processes with in-circuit and functional testing on 100% of its products, and on the most innovative production technology available on the market. CAREL and its subsidiaries nonetheless cannot guarantee that all the aspects of the product and the software included with the product respond to the requirements of the final application, despite the product being developed according to start-of-the-art techniques.
The customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific final installation and/or equipment.
CAREL may, based on specific agreements, act as a consultant for the positive commissioning of the final unit/application, however in no case does it accept liability for the correct operation of the final equipment/system.

The CAREL product is a state-of-the-art product, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website www.CAREL.com.
Each CAREL product, in relation to its advanced level of technology, requires setup / configuration / programming / commissioning to be able to operate in the best possible way for the specific application. The failure to complete such operations, which are required/indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases.
Only qualified personnel may install or carry out technical service on the product.
The customer must only use the product in the manner described in the documentation relating to the product.

In addition to observing any further warnings described in this manual, the following warnings must be heeded for all CAREL products:

- Prevent the electronic circuits from getting wet. Rain, humidity and all types of liquids or condensate contain corrosive minerals that may damage the electronic circuits. In any case, the product should be used or stored in environments that comply with the temperature and humidity limits specified in the manual.
- Do not install the device in particularly hot environments. Too high temperatures may reduce the life of electronic devices, damage them and deform or melt the plastic parts. In any case, the product should be used or stored in environments that comply with the temperature and humidity limits specified in the manual.
- Do not attempt to open the device in any way other than described in the manual.
- Do not drop, hit or shake the device, as the internal circuits and mechanisms may be irreparably damaged.
- Do not use corrosive chemicals, solvents or aggressive detergents to clean the device.
- Do not use the product for applications other than those specified in the technical manual.

All of the above suggestions likewise apply to the controllers, serial boards, programming keys or any other accessory in the CAREL product portfolio.
CAREL adopts a policy of continual development. Consequently, CAREL reserves the right to make changes and improvements to any product described in this document without prior warning.

The technical specifications shown in the manual may be changed without prior warning.

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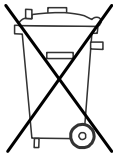
DISPOSAL



INFORMATION FOR USERS ON THE CORRECT HANDLING OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

In reference to European Union directive 2002/96/EC issued on 27 January 2003 and the related national legislation, please note that:

- WEEE cannot be disposed of as municipal waste and such waste must be collected and disposed of separately;
- the public or private waste collection systems defined by local legislation must be used. In addition, the equipment can be returned to the distributor at the end of its working life when buying new equipment;
- the equipment may contain hazardous substances: the improper use or incorrect disposal of such may have negative effects on human health and on the environment;
- the symbol (crossed-out wheeled bin) shown on the product or on the packaging and on the instruction sheet indicates that the equipment has been introduced onto the market after 13 August 2005 and that it must be disposed of separately;
- in the event of illegal disposal of electrical and electronic waste, the penalties are specified by local waste disposal legislation.

KEY TO THE ICONS

	NOTE: to bring attention to a very important subject; in particular, regarding the practical use of the various functions of the product.
	IMPORTANT: to bring critical issues regarding the use of the pRack PR100 to the attention of the user.
	TUTORIAL: some simple examples to accompany the user in configuring the most common settings.

1. START UP

After having correctly installed pRack, a number of preliminary operations are required to configure the installation.

Tutorial: pRack pR100 is ready to be configured immediately with system configurations that feature just one board and up to one terminal, by simply powering the board and connecting the terminal (if not built-in). Only for more complex configurations (e.g. more than one board in pLAN or multiple terminals) do additional operations need to be performed before switching on pRack pR100, as described in Appendix A.2 of User Manual.

The procedure for configuring an installation described below is the same for all system configurations that feature just one pRack pR100 board, and for system configurations with more than one board connected in a pLAN.

When first starting the pRack pR100 board, after waiting around 1 minute, a screen is shown for choosing the language used to display the program (English or Italian).
Press ENTER (↵) to select the language displayed.

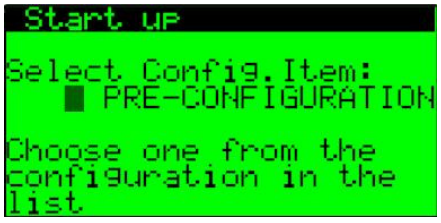
Note: If no option is chosen within a time set by parameter and visible on the screen, the current language remains selected.

After having selected the user interface language, the pRack pR100 software shows a screen for choosing between three possible system configuration solutions, as follows:

- pre-configurations,
- wizard,
- advanced configuration

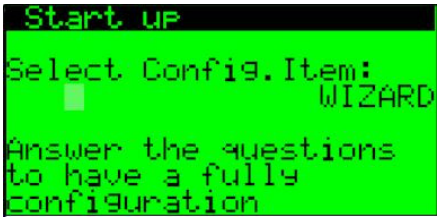
Note: after having selected a system configuration, it can be modified by repeating the same procedure.

1.1 Pre-configurations



This option is used to choose between fourteen configurations pre-loaded in the pRack pR100 software. For the description of the pre-configurations see the table in Chapter 2.

1.2 Wizard

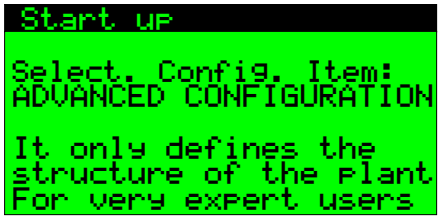


This is used to obtain the recommended configuration for the specific installation. By responding to a series of questions, screen by screen, the user is guided through the selection of the devices present.
Once the procedure for selecting the various factors that affect the final configuration has been completed, the end result (report) is shown, and if the configuration is suitable the parameters to start operation of the pRack pR100 can be installed directly.

Note: after having configured the parameters using the Wizard, the configuration can be modified manually, within the context of the selected system configuration.

Important: before starting the pRack pR100, carefully check the settings made automatically by the software.

1.3 Advanced configuration



This is used to establish the configuration of the pLAN structure required for correct system operation.
Once the procedure for selecting the various factors that affect the final configuration has been completed, the pRack pR100 software verifies whether the pLAN configuration is exact and prepares the user interface for configuration of the parameters that need to be set manually by the user.

Important: this configuration solution is only recommended for expert users, as all the system parameters need to be set manually.

2. PRE-CONFIGURATIONS

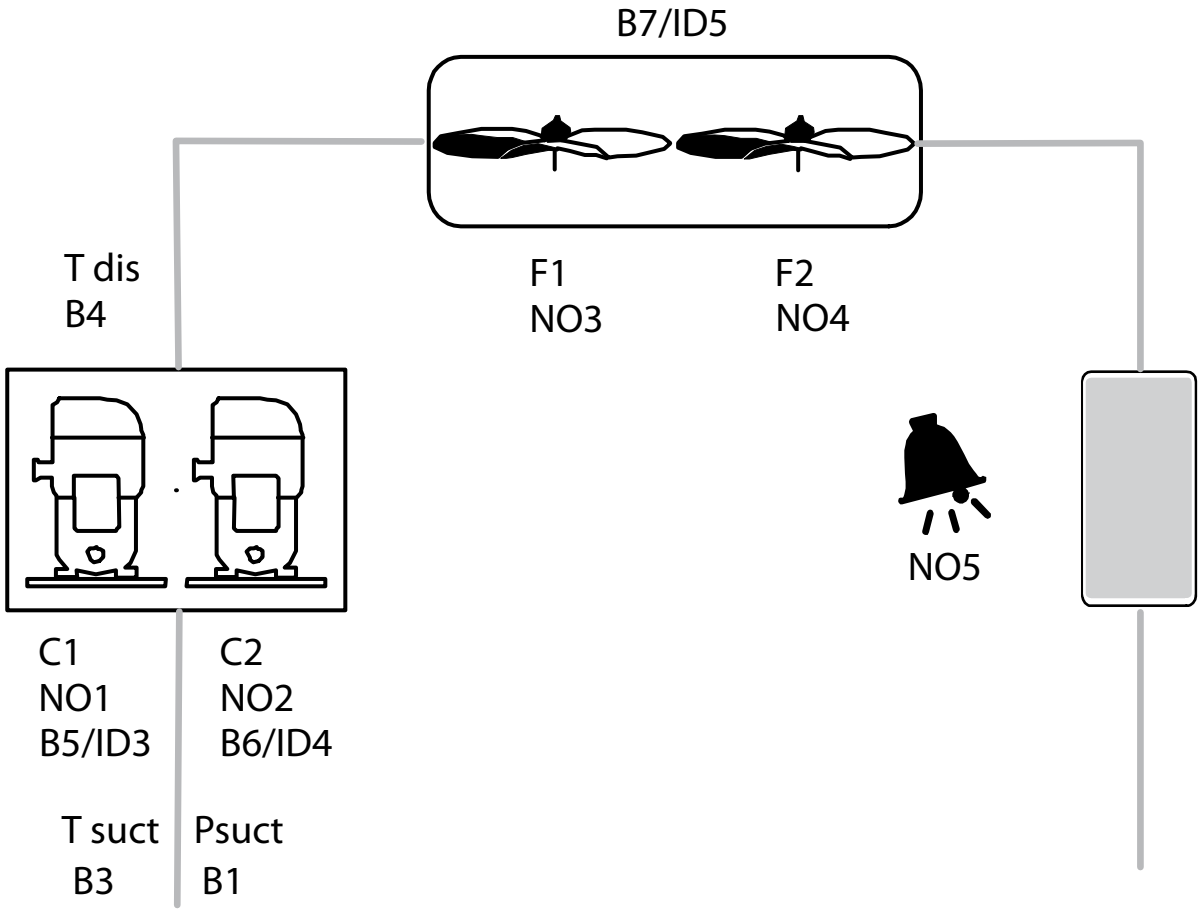
Here below there are listed the configuration pre-set in the pRack software with the related features.
To enter the pre-configuration list it is necessary to select the item PRE-CONFIGURATION in the screen shown by pRack software at start up (see Chapter 1).

Pre configurations

	Index	N° of lines	Compressors					Fans		pRack board size
			Type	N°	Unloaders	Modulating device	N° of alarms for each comp.	N°	Modulating device	
1	RS2	1	Reciprocating - Scroll	2	-	-	1	2	-	Compact
2	RS3	1	Reciprocating - Scroll	3	-	-	1	3	-	Small
3	RS3p	1	Reciprocating - Scroll	3	1	-	2	1	Inverter	Medium
4	RS3i	1	Reciprocating - Scroll	3	-	Inverter	3	1	Inverter	Medium
5	RS4	1	Reciprocating - Scroll	4	-	-	2	4	-	Medium
6	RS4i	1	Reciprocating - Scroll	4	-	Inverter	3	1	Inverter	Large
7	SL3d	1	Scroll	3	-	Digital Scroll™	1	2	-	Medium
8	SL5d	1	Scroll	5	-	Digital Scroll™	1	1	Inverter	Medium
9	SW1	1	Screw	1	2	-	2	2	-	Small
10	SW2	1	Screw	2	2	-	2	1	Inverter	Small
11	SW3 (*)	1	Screw	4	2	Stepless	2	1	Inverter	Medium + Small
12	d-RS2	2	Reciprocating - Scroll	2	-	-	1	2	-	Medium
				2	-	-	1			
13	d-RS3	2	Reciprocating - Scroll	3	-	-	1	3	-	Large
				3	-	-	1	3	-	
14	d-RS4	2	Reciprocating - Scroll	4	-	Inverter	3	1	Inverter	Medium + Medium

Important note: (*) this configuration is not available in first pRack release.

2.1 Pre-configuration 1: RS2



Description
2 reciprocating/ scroll compressors
2 fans
1 generic alarm for each compressor
1 generic alarm for condensers
HP/LP pressostats
pRack compact, PRK100X**

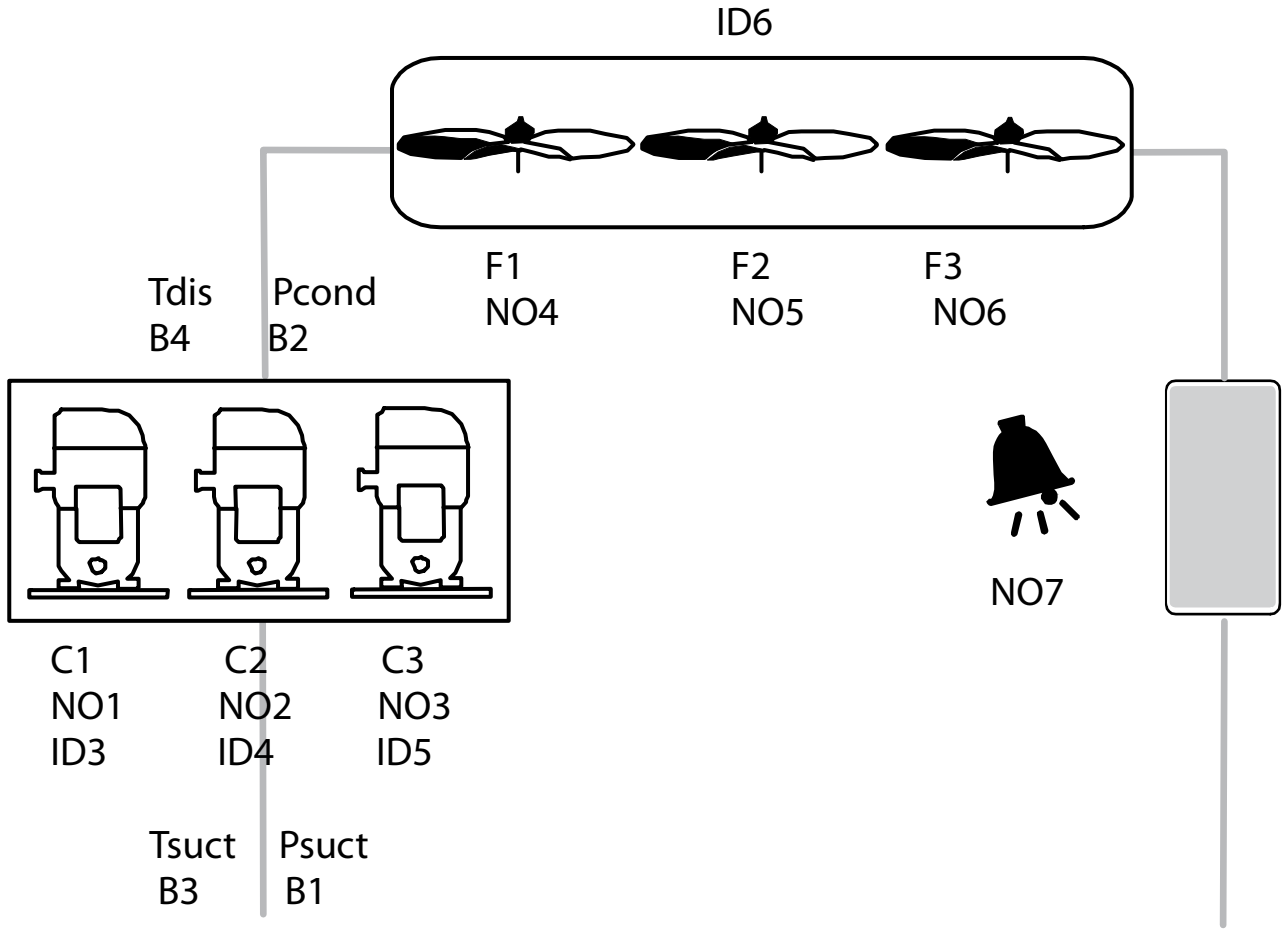
I/O list

Digital outputs				
pRack PR100 Compact	pRack PR100 S, M, L, XL			
NO1	NO1			Compressor 1
NO2	NO2			Compressor 2
NO3	NO3			Fan 1
NO4	NO4			Fan 2
NO5	NO5			Alarms output
Digital inputs				
ID1	ID1			Suction HP pressostat
ID2	ID2			Suction LP pressostat
B5	ID3			Generic compressor 1 alarm
B6	ID4			Generic compressor 2 alarm
B7	ID5			Generic condenser alarm
Analog inputs				
B1	B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B3	B3	Suction temperature probe	NTC	
B4	B4	Discharge temperature probe	HTNTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	TEMPERATURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	30,0 °C
Condenser differential	Dab09	2,0 °C
High condenser pressure alarm threshold	Dae01	55,0 °C
Low condenser pressure alarm threshold	Dae03	5,0 °C

2.2 Pre-configuration 2: RS3



Description
3 reciprocating/ scroll compressors
3 fans
1 generic alarm for each compressor
1 generic alarm for condenser
HP/LP pressostats
pRack S, PRK100S**

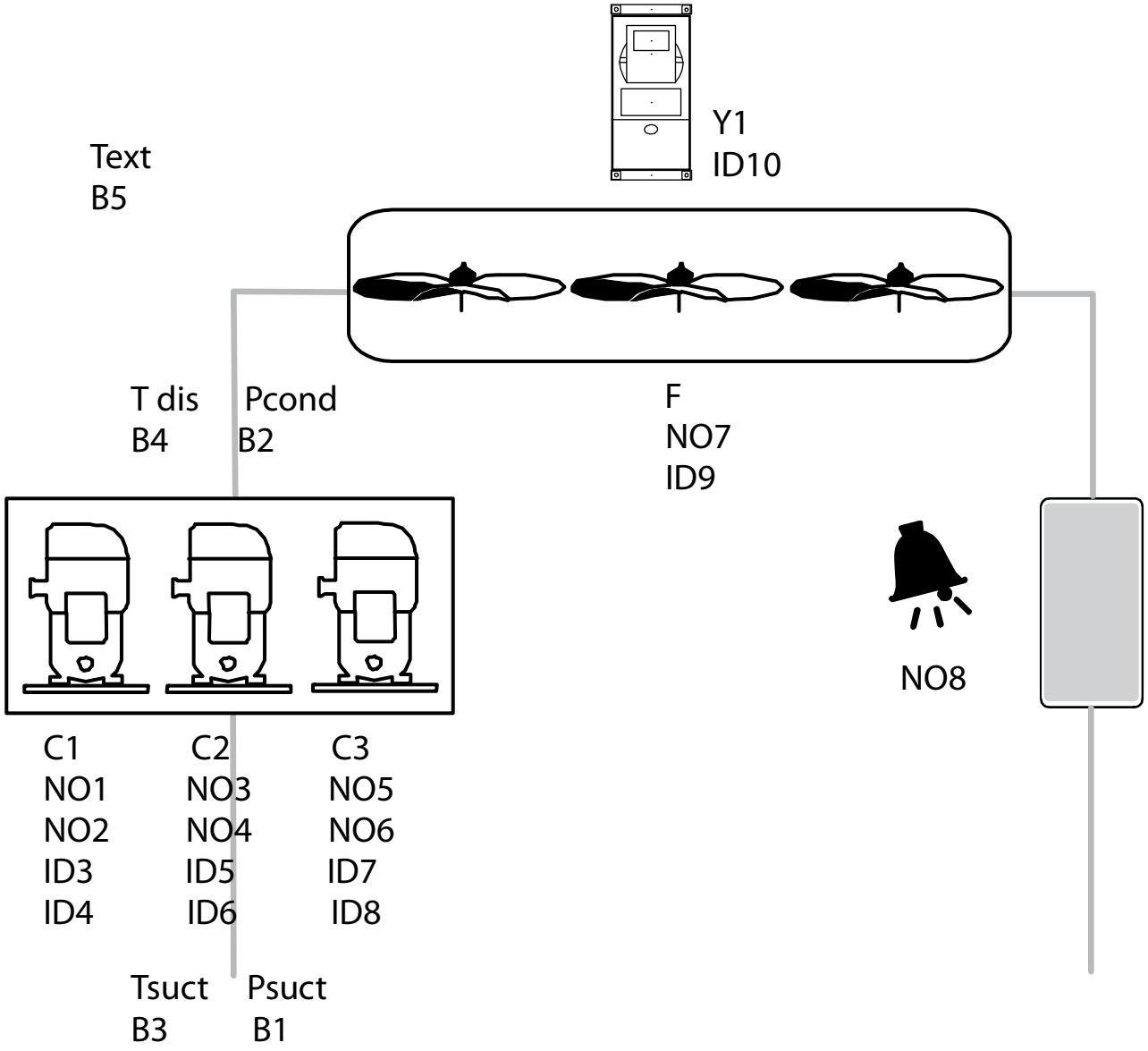
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Fan 1		
NO5	Fan 2		
NO6	Fan 3		
NO7	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Generic compressor 1 alarm		
ID4	Generic compressor 2 alarm		
ID5	Generic compressor 3 alarm		
ID6	Common fan overload		
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.3 Pre-configuration 3: RS3p



Description

3 reciprocating compressors with one unloader each
1 fan stage with inverter
2 alarms for each compressor: thermal overload, oil
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M*

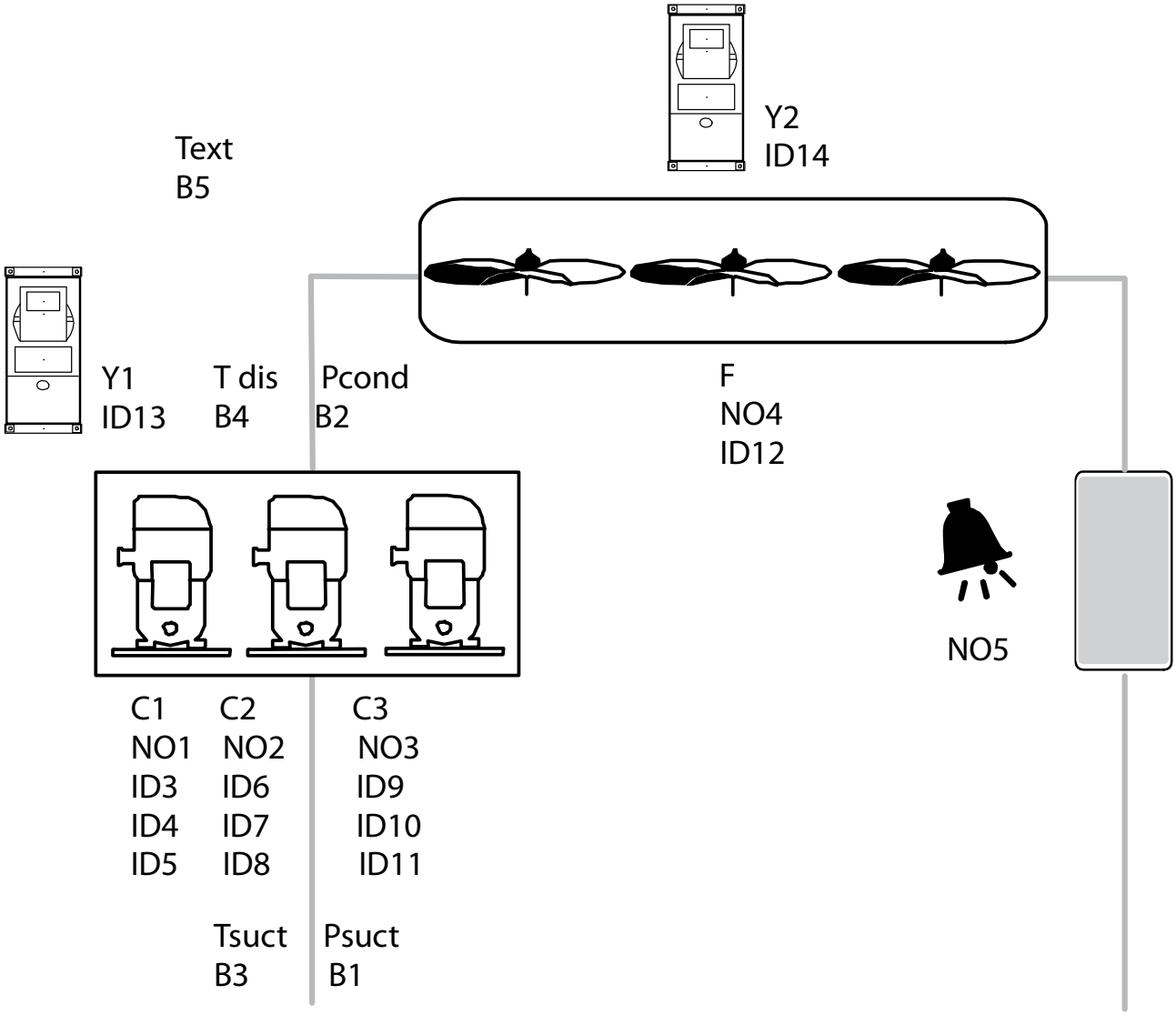
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 1, unloader		
NO3	Compressor 2		
NO4	Compressor 2, unloader		
NO5	Compressor 3		
NO6	Compressor 3, unloader		
NO7	Fan		
NO8	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, thermal overload alarm		
ID4	Compressor 1, oil alarm		
ID5	Compressor 2, thermal overload alarm		
ID6	Compressor 2, oil alarm		
ID7	Compressor 3, thermal overload alarm		
ID8	Compressor 3, oil alarm		
ID9	Common fan overload		
ID10	Inverter alarm		
Analog outputs			
Y1	Common condenser inverter		
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.4 Pre-configuration 4: RS3i



Description

3 reciprocating compressors, the first with inverter
1 fan stage with inverter
3 alarms for each compressor: thermal overload, oil, HP/LP
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M*

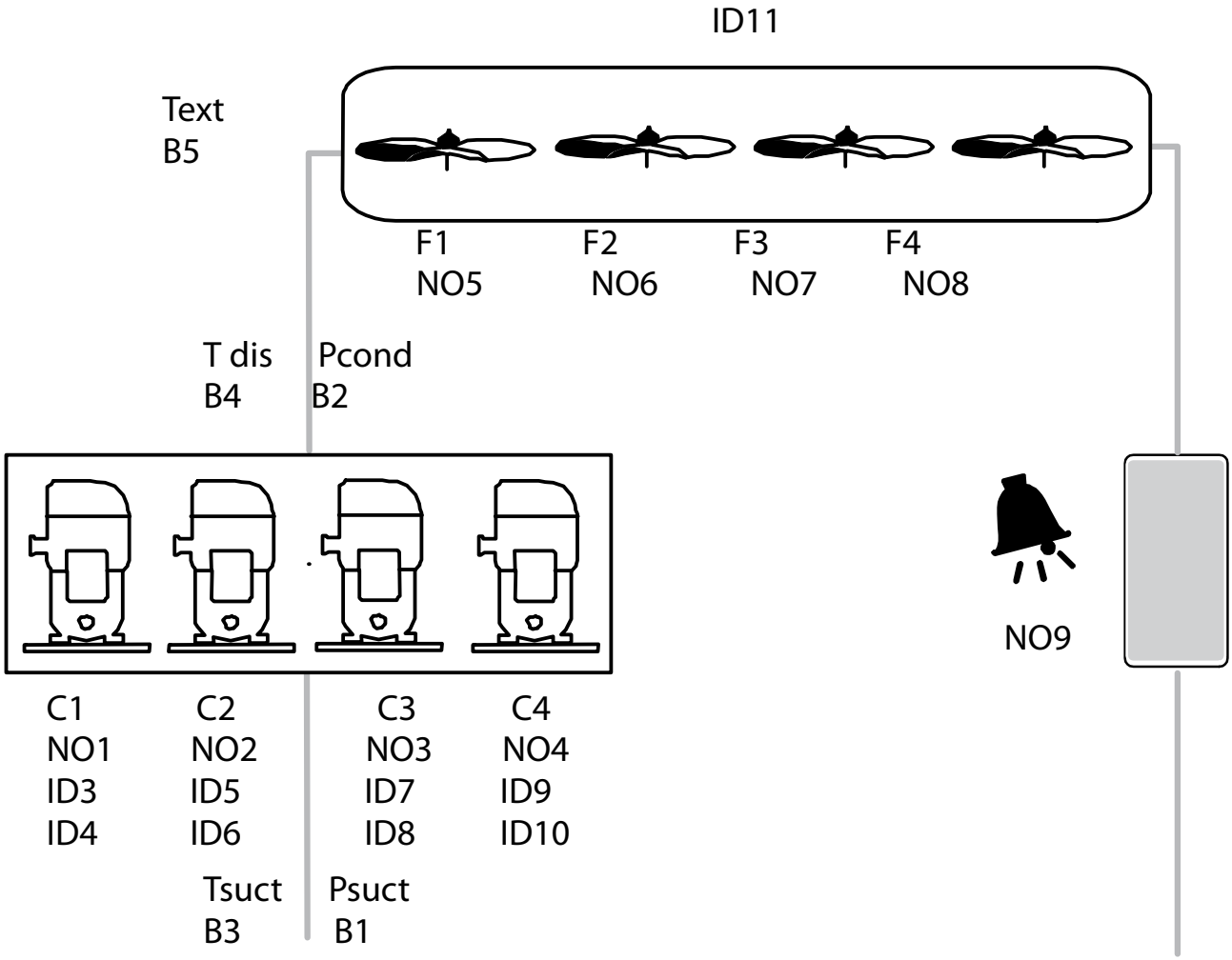
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Fan 1		
NO5	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, thermal overload alarm		
ID4	Compressor 1, oil alarm		
ID5	Compressor 1, HP/LP alarm		
ID6	Compressor 2, thermal overload alarm		
ID7	Compressor 2, oil alarm		
ID8	Compressor 2, HP/LP alarm		
ID9	Compressor 3, thermal overload alarm		
ID10	Compressor 3, oil alarm		
ID11	Compressor 3, HP/LP alarm		
ID12	Common fan overload		
ID13	Compressor inverter alarm		
ID14	Condenser inverter alarm		
Analog outputs			
Y1	First compressor inverter	0÷10 Vdc	
Y2	Condenser inverter	0÷10 Vdc	
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.5 Pre-configuration 5: RS4



Description

4 reciprocating/ scroll compressors
4 fans
2 alarms for each compressor: thermal overload, oil
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M*

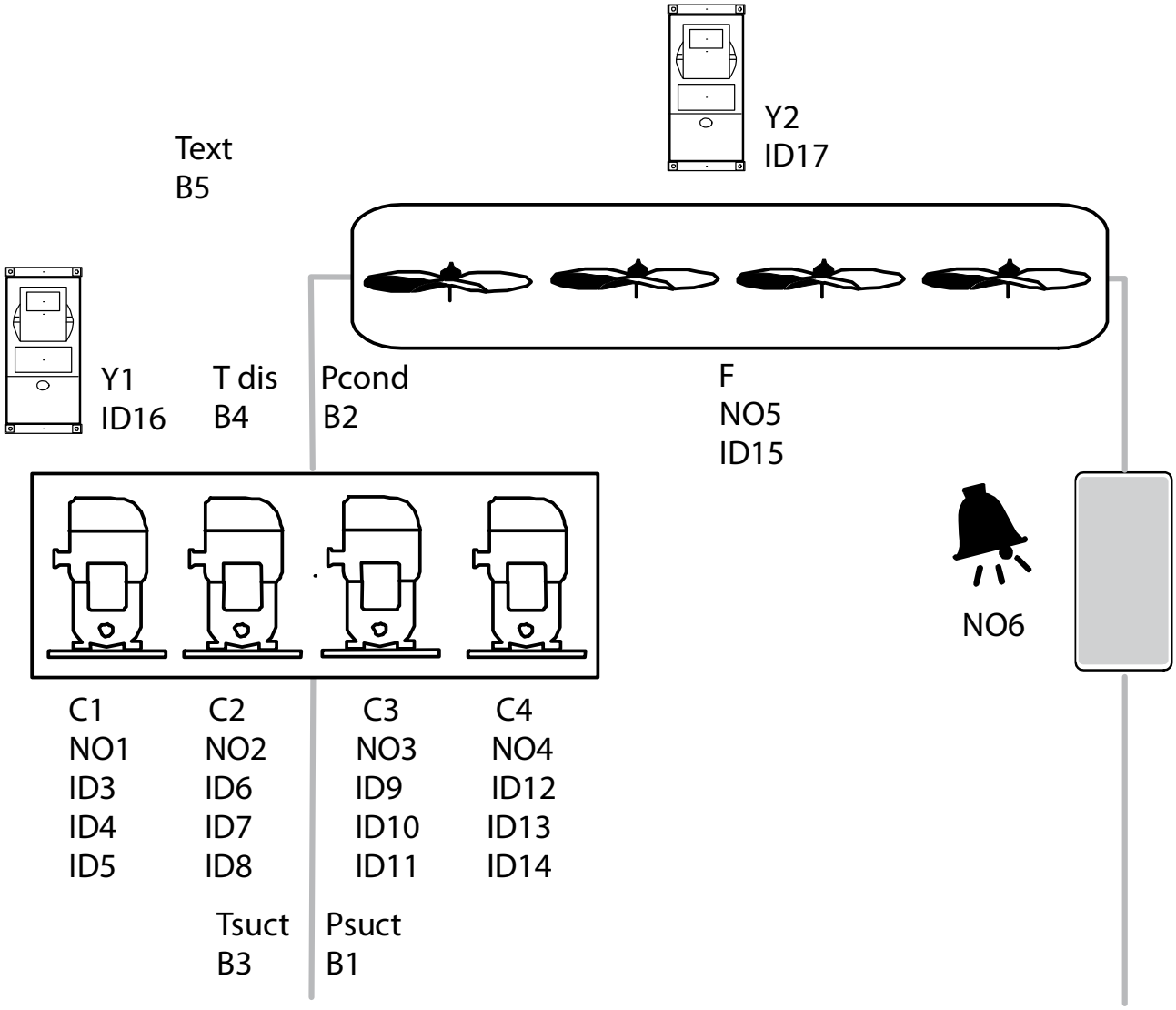
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Compressor 4		
NO5	Fan1		
NO6	Fan2		
NO7	Fan3		
NO8	Fan4		
NO9	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, thermal overload alarm		
ID4	Compressor 1, oil alarm		
ID5	Compressor 2, thermal overload alarm		
ID6	Compressor 2, oil alarm		
ID7	Compressor 3, thermal overload alarm		
ID8	Compressor 3, oil alarm		
ID9	Compressor 4, thermal overload alarm		
ID10	Compressor 4, oil alarm		
ID11	Common fan overload		
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.6 Pre-configuration 6: RS4i



Description

4 reciprocating/ scroll compressors, the first with inverter
1 fan stage with inverter
3 alarms for each compressor: thermal overload, oil differential, HP/LP
1 generic alarm for condenser
HP/LP pressostats
pRack L, PRK100L**

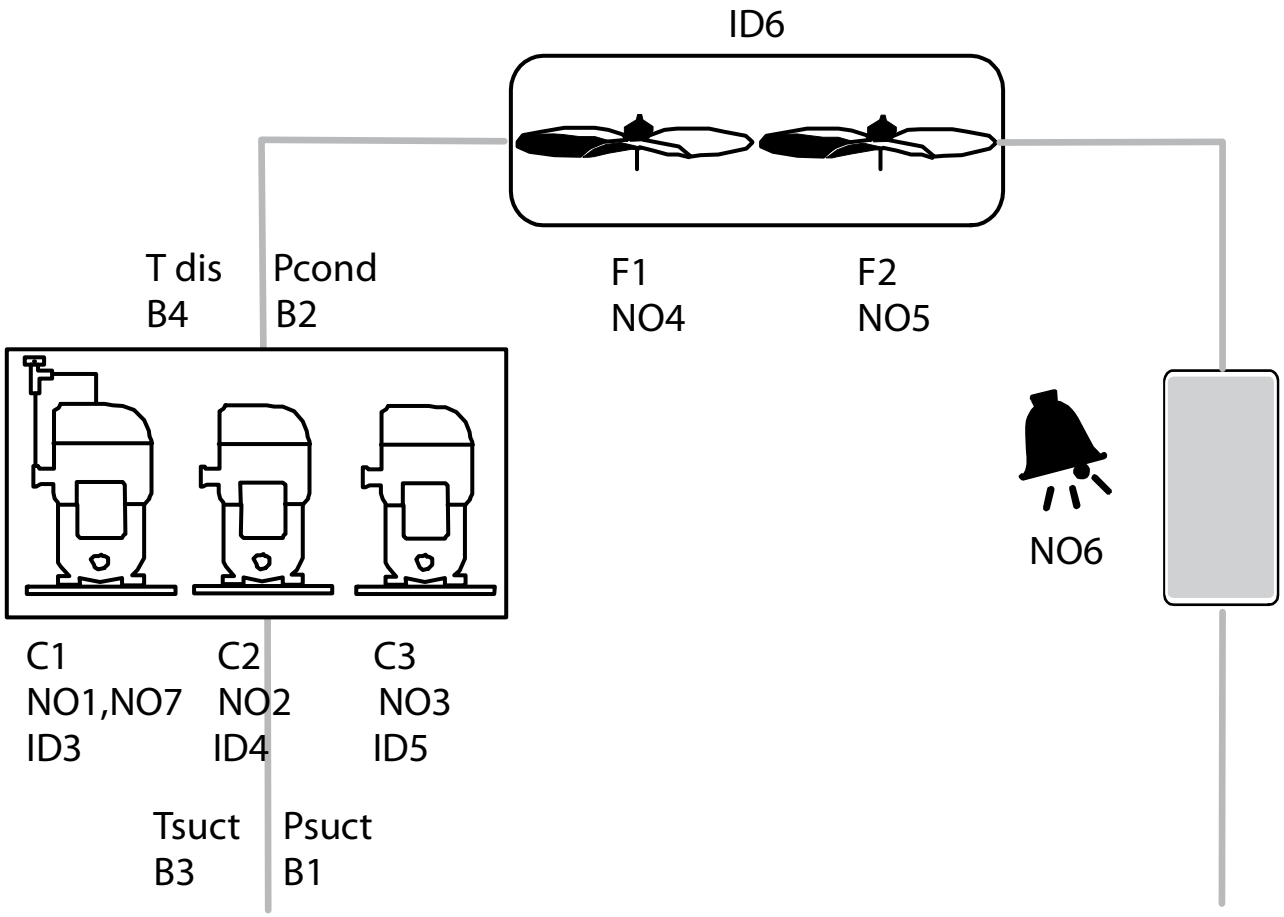
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Compressor 4		
NO5	Fan		
NO6	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, thermal overload alarm		
ID4	Compressor 1, oil differential alarm		
ID5	Compressor 1, HP/LP alarm		
ID6	Compressor 2, thermal overload alarm		
ID7	Compressor 2, oil differential alarm		
ID8	Compressor 2, HP/LP alarm		
ID9	Compressor 3, thermal overload alarm		
ID10	Compressor 3, oil differential alarm		
ID11	Compressor 3, HP/LP alarm		
ID12	Compressor 4, thermal overload alarm		
ID13	Compressor 4, oil differential alarm		
ID14	Compressor 4, HP/LP alarm		
ID15	Common fan overload		
ID16	Compressor inverter alarm		
ID17	Condenser inverter alarm		
Analog outputs			
Y1	First compressor inverter	0÷10 Vdc	
Y2	Common condenser inverter	0÷10 Vdc	
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Cab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.7 Pre-configuration 7: SL3d



Description

3 scroll compressors, the first Digital Scroll™
2 fans
1 generic alarm for each compressor
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M**

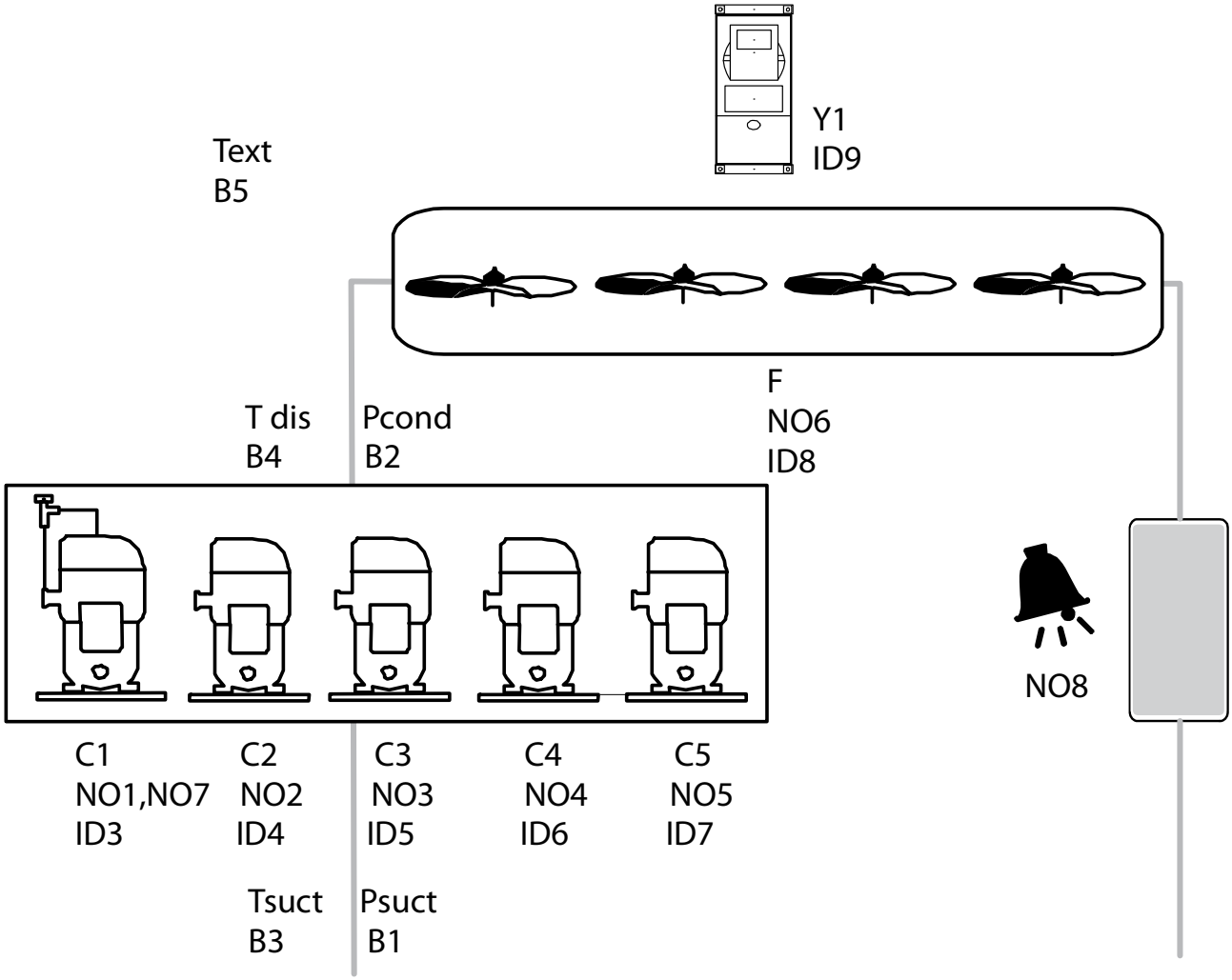
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Fan 1		
NO5	Fan 2		
NO6	Alarms output		
NO7 - SSR	Compressor 1 – Digital Scroll™		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, generic alarm		
ID4	Compressor 2, generic alarm		
ID5	Compressor 3, generic alarm		
ID6	Common fan overload		
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.8 Pre-configuration 8: SL5d



Description

5 scroll compressors, the first Digital Scroll™
1 fan stage with inverter
1 generic alarm for each compressor
1 generic alarm for condenser
HP/LP pressostats
pRack L, PRK100L**

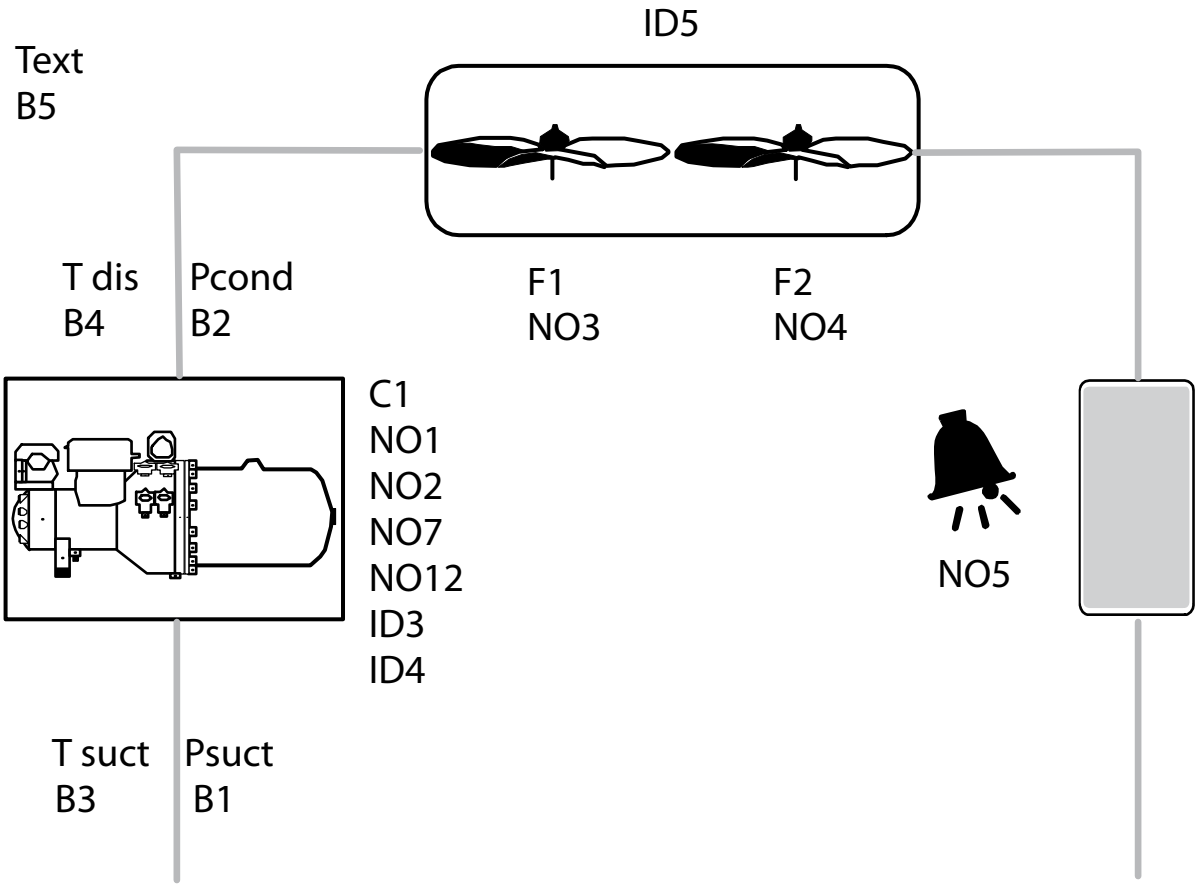
I/O list

Digital outputs			
NO1	Compressor 1		
NO2	Compressor 2		
NO3	Compressor 3		
NO4	Compressor 4		
NO5	Compressor 5		
NO6	Fan		
NO7 - SSR	Compressor 1 – Digital Scroll™		
NO8	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, generic alarm		
ID4	Compressor 2, generic alarm		
ID5	Compressor 3, generic alarm		
ID6	Compressor 4, generic alarm		
ID7	Compressor 5, generic alarm		
ID8	Common fan overload		
ID9	Condenser inverter alarm		
Analog outputs			
Y1	Common condenser inverter	0÷10 Vdc	
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.9 Pre-configuration 9: SW1



Description

1 screw compressor with continuous modulation
- 2 pulsing capacity valves
- 2 relays for start up

2 fan stages
2 alarms for each compressor: generic, oil warning
1 generic alarm for condenser
HP/LP pressostats
pRack S, PRK100S**

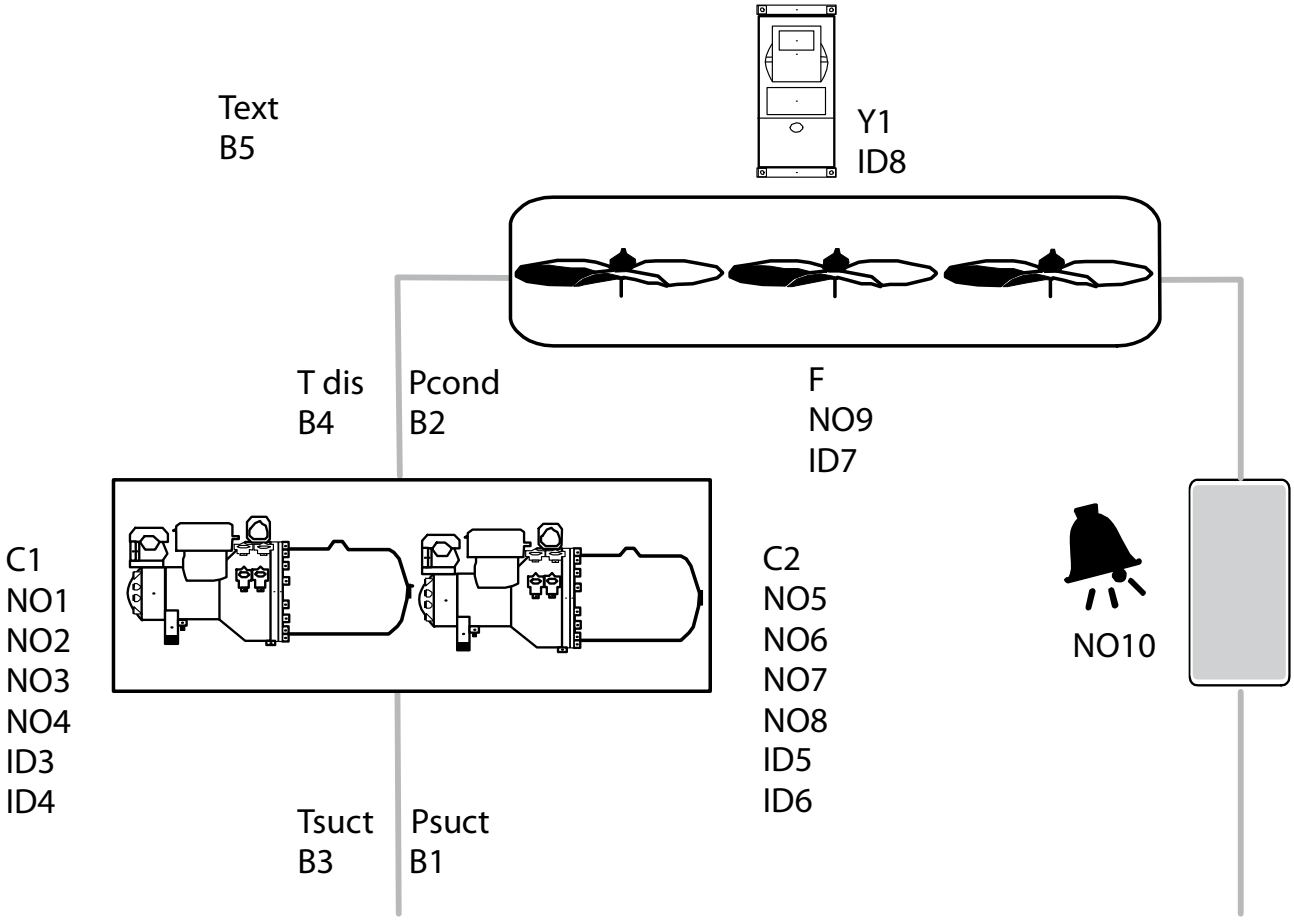
I/O list

Digital outputs			
NO1	Line relay		
NO2	Part winding		
NO3	Fan 1		
NO4	Fan 2		
NO5	Alarms output		
NO7 - SSR	CR1 pulsing capacity valve		
NO12 - SSR	CR2 pulsing capacity valve		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, generic alarm		
ID4	Compressor 1, oil flow warning		
ID5	Common fan overload		
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature	HTNTC	
B5	External temperature	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.10 Pre-configuration 10: SW2



Description

2 screw compressors
- 2 capacity valves each
- 2 relays for start up each

1 fan stage with inverter
2 alarms for each compressor: generic, oil warning
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M**

I/O list

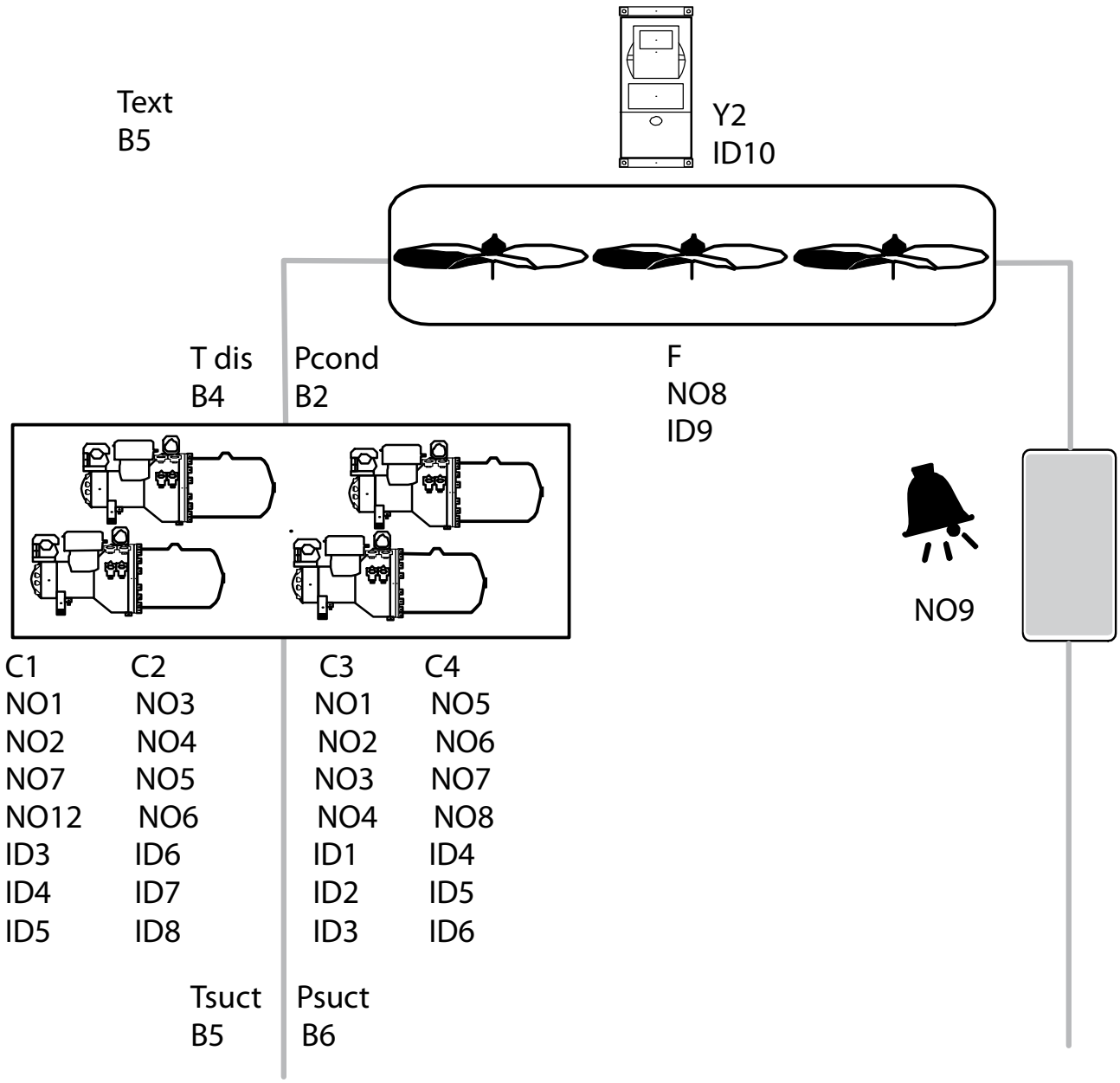
Digital outputs			
NO1	Screw compressor 1, line relay		
NO2	Screw compressor 1, part winding		
NO3	Screw compressor 1, CR1 valve		
NO4	Screw compressor 1, CR2 valve		
NO5	Screw compressor 2, line relay		
NO6	Screw compressor 2, part winding		
NO7	Screw compressor 2, CR1 valve		
NO8	Screw compressor 2, CR2 valve		
NO9	Fan 1		
NO10	Alarms output		
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, generic alarm		
ID4	Compressor 1, oil flow warning		
ID5	Compressor 2, generic alarm		
ID6	Compressor 2, oil flow warning		
ID7	Common fan overload		
ID8	Condenser inverter alarm		
Analog outputs			
Y1	Common condenser inverter	0÷10 Vdc	
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.11 Pre-configuration 11: SW3

Important note: (*) this configuration is not available in first pRack release.



Description

1 screw compressor with continuous modulation
3 screw compressors
- 2 capacity valves each
- 2 relays for start up each

1 fan stage with inverter
3 alarms for each compressor: thermal overload, oil differential, HP/LP
1 generic alarm for condenser
HP/LP pressostats
pRack M, PRK100M** + pRack S, PRK100S**

I/O list

Digital outputs			
pRack M		pRack S	
NO1	Screw compressor 1, line relay	NO1	Screw compressor 3, line relay
NO2	Screw compressor 1, part winding	NO2	Screw compressor 3, part winding
NO3	Screw compressor 2, line relay	NO3	Screw compressor 3, CR1 valve
NO4	Screw compressor 2, part winding	NO4	Screw compressor 3, CR2 valve
NO5	Screw compressor 2, CR1 valve	NO5	Screw compressor 4, line relay
NO6	Screw compressor 2, CR2 valve	NO6	Screw compressor 4, part winding
NO7 - SSR	Screw compressor 1, CR1 pulsing valve	NO7	Screw compressor 4, CR1 valve
NO8	Fan	NO8	Screw compressor 4, CR2 valve
NO9	Alarms output		
NO12 - SSR	Screw compressor 1, CR2 pulsing valve		
Digital inputs			
pRack M		pRack S	
ID1	Suction HP pressostat	ID1	Compressor 3, thermal overload alarm
ID2	Suction LP pressostat	ID2	Compressor 3, oil differential alarm
ID3	Compressor 1, thermal overload alarm	ID3	Compressor 3, HP/LP alarm
ID4	Compressor 1, oil differential alarm	ID4	Compressor 4, thermal overload alarm
ID5	Compressor 1, HP/LP alarm	ID5	Compressor 4, oil differential alarm
ID6	Compressor 2, thermal overload alarm	ID6	Compressor 4, HP/LP alarm
ID7	Compressor 2, oil differential alarm		
ID8	Compressor 2, HP/LP alarm		
ID9	Common fan overload		

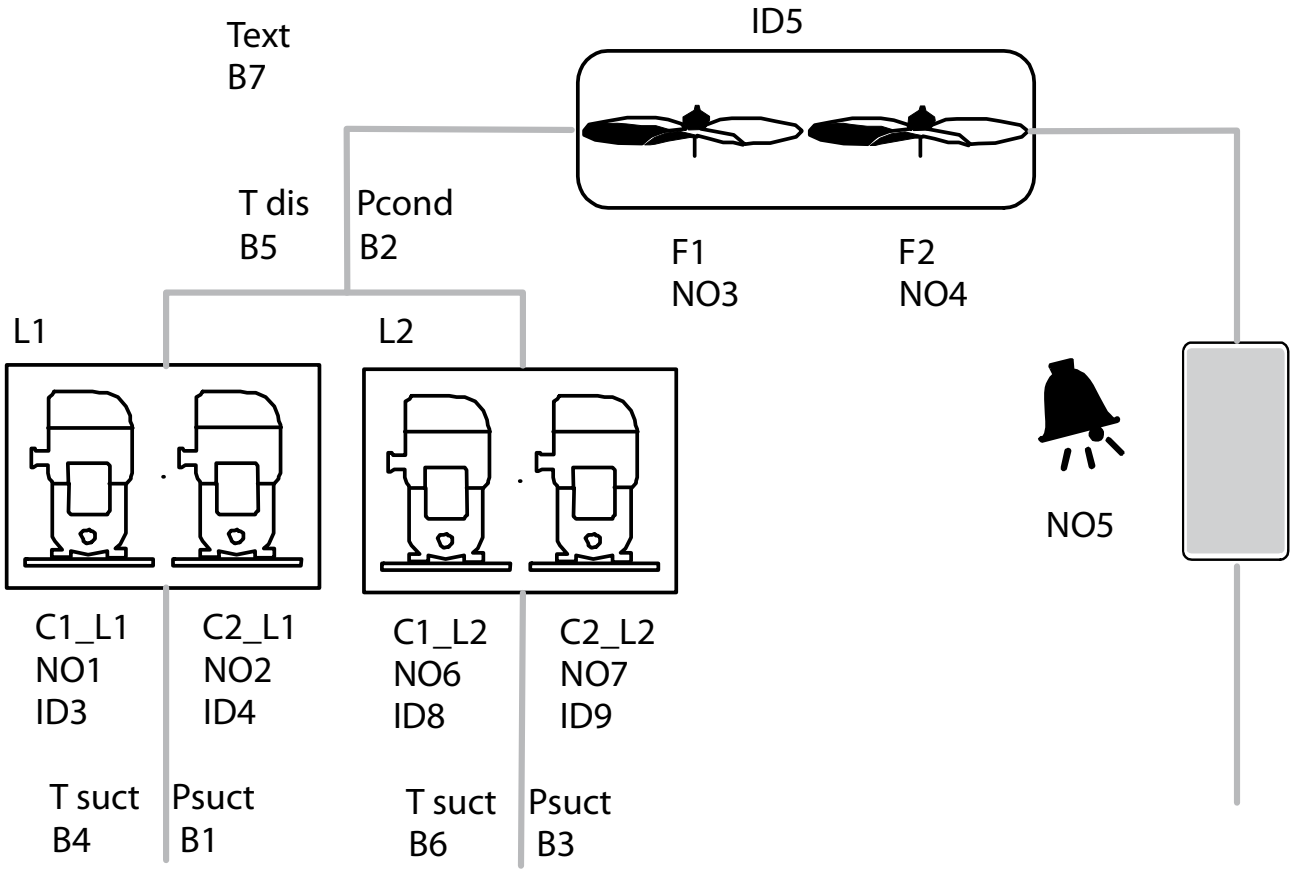
Analog outputs		
pRack S		
Y2	Common condenser inverter	0÷10 Vdc

Analogue inputs			
pRack M			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B3	Suction temperature probe	NTC	
pRack S			
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B4	Discharge temperature probe	HTNTC	
B5	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01	PRESSURE
Suction regulation type	Cab01	NEUTRAL ZONE
Suction setpoint	Cab03	3,5,barg
Suction differential	Cab08	0,3 barg
Compressors rotation type	Caf10	FIFO
Refrigerant	Caf04	R404A
High suction pressure alarm threshold	Cae24	6,0 barg
Low suction pressure alarm threshold	Cae26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.12 Pre-configuration 12: d-RS2



Description

Double suction line
2 reciprocating/ scroll compressors for each line
2 fans
1 generic alarm for each compressor
1 generic alarm for condenser
HP/LP1/LP2 pressostats
pRack M, PRK100M*

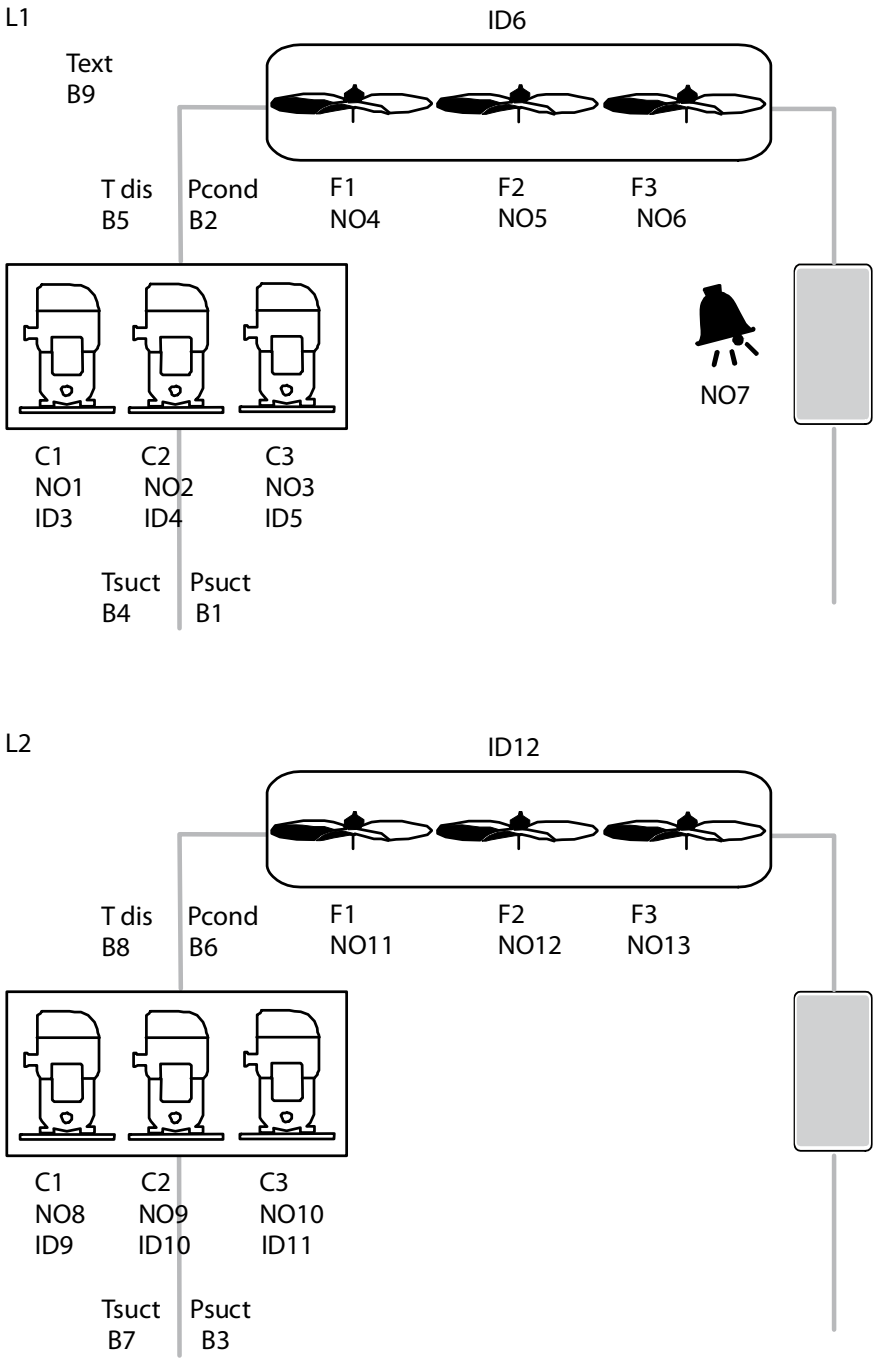
I/O list

Digital outputs			
NO1	L1-Compressor 1		
NO2	L1-Compressor 2		
NO3	Fan 1		
NO4	Fan 2		
NO5	Alarms output		
NO6	L2-Compressor 1		
NO7	L2-Compressor 2		
Digital inputs			
ID1	HP1 suction pressostat		
ID2	LP1 suction pressostat		
ID3	L1-Compressor 1, generic alarm		
ID4	L1-Compressor 2, generic alarm		
ID5	Common fan overload		
ID6	HP2 suction pressostat		
ID7	LP2 suction pressostat		
ID8	L2-Compressor 1, generic alarm		
ID9	L2-Compressor 2, generic alarm		
Analog inputs			
B1	Suction pressure probe L1	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction pressure probe L2	4-20 mA	-0,5÷7,0 barg
B4	Suction temperature probe L1	NTC	
B5	Discharge temperature probe	HTNTC	
B6	Suction temperature probe L2	NTC	
B7	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01/ Cbb01	PRESSURE
Suction regulation type	Cab01/ Cbb01	NEUTRAL ZONE
Suction setpoint	Cab03/ Cbb03	3,5,barg
Suction differential	Cab08/ Cbb08	0,3 barg
Compressors rotation type	Caf10/ Cbf10	FIFO
Refrigerant	Caf04/ Cbf04	R404A
High suction pressure alarm threshold	Cae24/ Cbe24	6,0 barg
Low suction pressure alarm threshold	Cae26/ Cbe26	0,0 barg
Condenser regulation by	Dab01	PRESSURE
Condenser regulation type	Dab01	PROPORTIONAL BAND
Condenser setpoint	Dab03	12,0 barg
Condenser differential	Dab07	2,0 barg
High condenser pressure alarm threshold	Dae01	24,0 barg
Low condenser pressure alarm threshold	Dae03	7,0 barg

2.13 Pre-configuration 13: d-RS3



Description

2 lines in the same board
3 reciprocating/ scroll compressors for each line
3 fans for each line
1 generic alarm for each compressor
1 generic alarm for each condenser
HP/LP pressostats
pRack L, PRK100L*

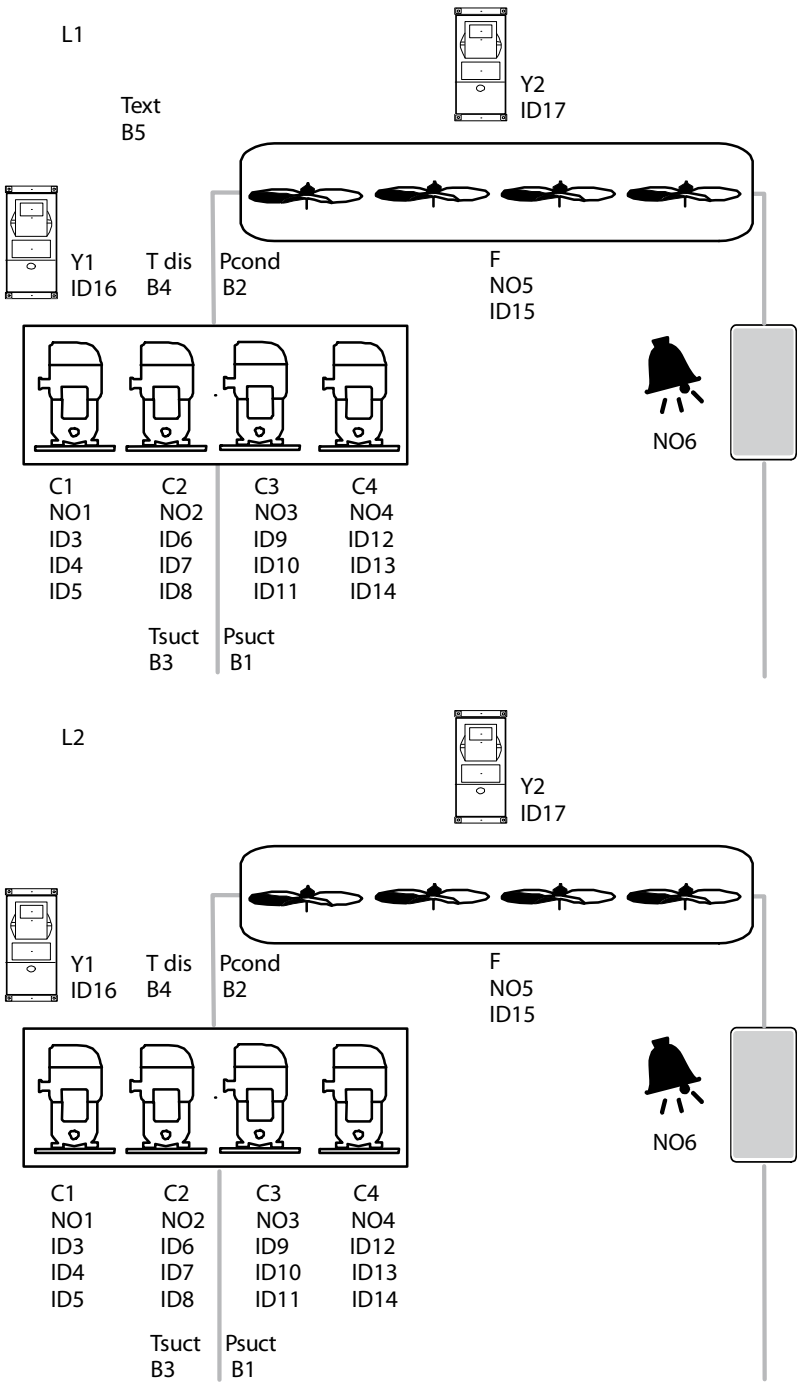
I/O list

Digital output			
NO1	L1-Compressor 1	NO8	L2-Compressor 1
NO2	L1-Compressor 2	NO9	L2-Compressor 2
NO3	L1-Compressor 3	NO10	L2-Compressor 3
NO4	L1-Fan 1	NO11	L2-Fan 1
NO5	L1-Fan 2	NO12	L2-Fan 2
NO6	L1-Fan 3	NO13	L2-Fan 3
NO7	Common alarms output		
Digital inputs			
ID1	L1-Suction HP pressostat		
ID2	L1-Suction LP pressostat		
ID3	L1-Compressor 1, generic alarm		
ID4	L1-Compressor 2, generic alarm		
ID5	L1-Compressor 3, generic alarm		
ID6	L1-Common fan overload		
ID7	L2-Suction HP pressostat		
ID8	L2-Suction LP pressostat		
ID9	L2-Compressor 1, generic alarm		
ID10	L2-Compressor 2, generic alarm		
ID11	L2-Compressor 3, generic alarm		
ID12	L2-Common fan overload		
Analog inputs			
B1	L1-Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	L1-Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	L2-Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B4	L1-Suction temperature probe	NTC	
B5	L1-Discharge temperature probe	HTNTC	
B6	L2-Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B7	L2-Suction temperature probe	NTC	
B8	L2-Discharge temperature probe	HTNTC	
B9	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01/ Cbb01	PRESSURE
Suction regulation type	Cab01/ Cbb01	NEUTRAL ZONE
Suction setpoint	Cab03/ Cbb03	3,5,barg
Suction differential	Cab05/ Cbb05	0,3 barg
Compressors rotation type	Caf10/ Cbf10	FIFO
Refrigerant	Caf04/ Cbf04	R404A
High suction pressure alarm threshold	Cae24/ Cbe24	6,0 barg
Low suction pressure alarm threshold	Cae26/ Cbe26	0,0 barg
Condenser regulation by	Dab01/ Dbb01	PRESSURE
Condenser regulation type	Dab01 /Dbb01	PROPORTIONAL BAND
Condenser setpoint	Dab03/ Dbb03	12,0 barg
Condenser differential	Dab07/ Dbb07	2,0 barg
High condenser pressure alarm threshold	Dae01/ Dbe01	24,0 barg
Low condenser pressure alarm threshold	Dae03/ Dbe03	7,0 barg

2.14 Pre-configuration 14: d-RS4



Description

2 lines in separated boards
4 reciprocating/ scroll compressors for each line
First compressor with inverter
1 fan stage with inverter for each line
3 alarms for each compressor: thermal overload, oil, HP/LP
1 generic alarm for each condenser
HP/LP pressostats
2 pRack M, PRK100M**, one for each line

I/O list for each board

Digital outputs			
NO1	Compressor 1	NO4	Compressor 4
NO2	Compressor 2	NO5	Fan
NO3	Compressor 3	NO6	Alarms output
Digital inputs			
ID1	Suction HP pressostat		
ID2	Suction LP pressostat		
ID3	Compressor 1, thermal overload alarm		
ID4	Compressor 1, oil differential alarm		
ID5	Compressor 1, HP/LP alarm		
ID6	Compressor 2, thermal overload alarm		
ID7	Compressor 2, oil differential alarm		
ID8	Compressor 2, HP/LP alarm		
ID9	Compressor 3, thermal overload alarm		
ID10	Compressor 3, oil differential alarm		
ID11	Compressor 3, HP/LP alarm		
ID12	Compressor 4, thermal overload alarm	ID15	Common fan overload
ID13	Compressor 4, oil differential alarm	ID16	Compressor inverter alarm
ID14	Compressor 4, HP/LP alarm	ID17	Condenser inverter alarm

Analog outputs			
Y1	First compressor inverter	0÷10 Vdc	
Y2	Common condenser inverter	0÷10 Vdc	
Analog inputs			
B1	Suction pressure probe	4-20 mA	-0,5÷7,0 barg
B2	Condensing pressure probe	4-20 mA	0,0÷30,0 barg
B3	Suction temperature probe	NTC	
B4	Discharge temperature probe	HTNTC	
B5 – only L1	External temperature probe	NTC	

Main parameters

Parameter	Mask index	Value
Suction regulation by	Cab01/ Cbb01	PRESSURE
Suction regulation type	Cab01/ Cbb01	NEUTRAL ZONE
Suction setpoint	Cab03/ Cbb03	3,5,barg
Suction differential	Cab05/ Cbb05	0,3 barg
Compressors rotation type	Caf10/ Cbf10	FIFO
Refrigerant	Caf04/ Cbf04	R404A
High suction pressure alarm threshold	Cae24/ Cbe24	6,0 barg
Low suction pressure alarm threshold	Cae26/ Cbe26	0,0 barg
Condenser regulation by	Dab01 /Dbb01	PRESSURE
Condenser regulation type	Dab01 /Dbb01	PROPORTIONAL BAND
Condenser setpoint	Dab03/ Dbb03	12,0 barg
Condenser differential	Dab07/ Dbb07	2,0 barg
High condenser pressure alarm threshold	Dae01/ Dbe01	24,0 barg
Low condenser pressure alarm threshold	Dae03/ Dbe03	7,0 barg

3. PARAMETERS TABLE

"Mask index": it indicates the unique address of each mask and therefore the path for reaching the parameters visible in that screen; for instance, for reaching the parameters related to the suction pressure probes, which have Mask index Bab01, it is necessary to follow these steps:


Main menu → I/O B.Input/Output → a.Status → b.Analog.inputs

Here below the table of the parameters that can be seen from the display.
The values '---' are meaningless or are not set, while the values '…' can be different according the configuration done and the possible choiches can be seen from the display. A row of '...' means that there are many parameters similar to the previous ones.

Note: Not all the screens and parameters listed in the table are visible/modificable, the screens and parameters visible/modifiable depend on the configuration and the access level

Mask index	Display description	Description	Default	UOM	Values
---	Insert password	Password for access levesl management	0000 (User) 1234 (Service) 1234 (Manufacturer)0	---	0….9999
A.Unit status					
Ab12	Setpoint	Setpoint without compensation (suction line 1)	3,5 barg	…	…(**)
Ab13	Setpoint	Setpoint without compensation (condensing line 1)	12,0 barg	…	…(**)
Ab14	Setpoint	Setpoint without compensation (suction line 2)	3,5 barg	…	…(**)
Ab15	Setpoint	Setpoint without compensation (condensing line 2)	12,0 barg	…	…(**)
Ac01	Status (only visualization)	State of unit	Off by keyboard	---	Waiting.. UnitOn Off by alarm Off by blackout Off by BMS Off by default Off by DIN Off by keyboard Manual work Prevent by HP
	---	Keyboard on-off (line 1)	OFF	---	OFF ON
Ac02	---	State of unit (only visualization)	Off by keyboard	---	…(See above)
	---	Keyboard on-off (line 1)	OFF	---	OFF ON
	---	Keyboard on-off (line 2)	OFF	---	OFF ON
Ac03	Enable of unit OnOff By digit input	Enabling of unit OnOff by digit input (line 1)	NO	---	NO YES
	By supervisor	Enabling of unit OnOff by supervisor (line 1)	NO	---	NO YES
	By black out	Enabling of unit OnOff by black out (line 1)	NO	---	NO YES
Ac04	Unit on delay after blackout	System on delay after black out (line 1)	0	s	0…999
Ac05	DI	Unit OnOff DI position (line 1)	---	---	---, 01…18, B1…B10
	Status (only visualization)	Status of turn on/off unit DI (line 1)	---	---	Close Open
	Logic	Logic of unit OnOff DI (line 1)	NC	---	NC NO
	Function (only visualization)	Unit OnOff by DI function status (line 1)	---	---	Not active Active
Ac06	Enable of unit OnOff By digit input	Enabling of unit OnOff by digit input (line 2)	NO	---	NO YES
…	…	…	…	…	…
Ac08	Function (only visualization)	Unit OnOff by DI function status (line 2)	---	---	Not active Active
I/O B.Input/Output *(Refer to Paragraph A3 of the User Manualefor the complete list of inputs and outputs available, the following are only examples)*					
Baa02	DI	Alarm 1 of compressor 1 DI position (line 1)	03	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of alarm 1 of compressor 1 DI (line 1)	---	---	Close Open
	Logic	Logic of alarm 1 of compressor 1 DI (line 1)	NC	---	NC NO
	Function (only visualization)	Alarm 1 of compressor 1 function status (line 1)	---	---	Not active Active
…	…	…	…	…	…

Mask index	Display description	Description	Default	UOM	Values
Bab01	---	Suction pressure probe position (line1)	B1	---	---, B1…B10 (****)
	---	Suct pressure probe type (line 1)	4-20mA	---	---- 0-1V 0-10V 4-20mA 0-5V
	--- (only visualization)	Suction pressure value (line 1)	---	…	…(**)
	Upper value	Suct pressure maximum value (line 1)	7,0 barg	…	…(**)
	Lower value	Suct pressure minimum value (line 1)	-0,5 barg	…	…(**)
	Calibration	Suction pressure probe adjustment (line 1)	0,0 barg	…	…(**)
…	…	…	…	…	…
Bac02	Line relay DO	Compressor 1 line DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)
	Part winding DO/ Star relay DO (*)	Compressor 1 part winding or star DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)
	---/ Delta relay DO (*)	Compressor 1 delta DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)
Bac03	DO	Compressor 1 unloader 1 DO position (line 1)	…	---	---, 01…29 (****)
	Status (only visualization)	Status of compressor 1 unloader 1 DO (line 1)	---	---	Close Open
	Logic	Logic of compressor 1 unloader 1 DO (line 1)	NO	---	NC NO
	Function (only visualization)	Compressor 1 unloader 1 function status (line 1)	---	---	Not active Active
…	…	…	…	…	…
Bad01	AO	Compressor modulating device AO position (line 1)	0	---	---, 01…06 (****)
	Status (only visualization)	Modulating device output value (line 1)	0	%	0,0…100,0
…	…	…	…	…	…
Bb01	Suction L1	Suction line 1 in manual mode	DIS	---	DIS EN
	Suction L2	Suction line 2 in manual mode	DIS	---	DIS EN
	Discharge L1	Condenser line 1 in manual mode	DIS	---	DIS EN
	Discharge L2	Condenser line 2 in manual mode	DIS	---	DIS EN
	Timeout	Manual mode duration after last key pressed	10	min	0…500
Bba02	Compressor 1 Force to	Manual stages request for compressor 1 (line 1)	OFF	---	OFF ON 2 STAGES (*) 3 STAGES (*) 4 STAGES (*)
…	…	…	…	…	…
Bbb05	Compressor 1 Force to	Manual request for continuous capacity of compressor 1 (line 1)	0,0	%	0,0…100,0
....	....	...	...	...	...
Bc01	Test Dout	Enabling of DO test mode	NO	---	NO YES
	Timeout	Duration of test mode after last key pressed	10	min	0…500
Bc02	Test Aout	Enabling of AO test mode	NO	---	NO YES
	Timeout	Duration of test mode after last key pressed	10	min	0…500
Bca10	DO1	DO 1 test logic	NO	---	NO NC
	---	DO 1 test value	OFF	---	OFF ON
…	…	…	…	…	…
Bcb10	AO1	AO 1 test value	0,0	---	0,0…100,0
…	…	…	…	…	…
C.Compressors (*)					
Caa01	DI	Alarm 1 of compressor 1 DI position (line 1)	03	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of alarm 1 of compressor 1 DI (line 1)	---	---	Close Open
	Logic	Logic of alarm 1 of compressor 1 DI (line 1)	NC	---	NC NO
	Function (only visualization)	Alarm 1 of compressor 1 function status (line 1)	---	---	Not active Active
…	…	…	…	…	…
Caa08	Line relay DO	Compressor 1 part winding or star DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)
	Part winding DO/ Star relay DO (*)	Compressor 1 delta DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)

Mask index	Display description	Description	Default	UOM	Values
	---/ Delta relay DO (*)	Compressor 1 line DO position and status (On/Off) visualization (line 1)	…	---	---, 01…29 (****)
…	…	…	…	…	…
Caa09	DO	Unloader 1 of compressor 1 DO position (line 1)	…	---	---, 01…29 (****)
	Status (only visualization)	Status of unloader 1 of compressor 1 DI (line 1)	---	---	Close Open
	Logic	Logic of unloader 1 of compressor 1 DI (line 1)	NC	---	NC NO
	Function (only visualization)	Unloader 1 of compressor 1 function status (line 1)	---	---	Not active Active
…	…	…	…	…	…
Caa14	AO	Compressor modulating device AO position (line 1)	0	---	---, 01…06 (****)
	Status (only visualization)	Modulating device output value (line 1)	0	%	0,0…100,0
…	…	…	…	…	…
Caaa1	---	Suction pressure probe position (line1)	B1	---	---, B1…B10 (****)
	---	Suct pressure probe type (line 1)	4-20mA	---	---- 0-1V 0-10V 4-20mA 0-5V
	--- (only visualization)	Suction temperature value (line 1)	---	…	…(**)
	Upper value	Suct pressure maximum limit (line 1)	7,0 barg	…	…(**)
	Lower value	Suct pressure minimum limit (line 1)	-0,5 barg	…	…(**)
	Calibration	Suction pressure probe adjustment (line 1)	0,0 barg	…	…(**)
…	…	…	…	…	…
Cab01	Regulation by	Compressors regulation done by temperature or pressure (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Regulation type	Compressors regulation type (line 1)	NEUTRAL ZONE	---	PROPORTIONAL BAND NEUTRAL ZONE
Cab02	Minimum	Compressors setpoint lower limit (line 1)	…(**)	…	…(**)
	Maximum	Compressors setpoint higher limit (line 1)	…(**)	…	…(**)
Cab03	Setpoint	Compressors setpoint (line 1)	…(**)	…	…(**)
Cab04/Cab6 (**)	Reg.type	Type of proportional regulation (line 1)	PROPORTIONAL	---	PROPORTIONAL PROP.+INT.
	Integral time	Integral time of proportional regulation (line 1)	---	s	0…999
Cab05/Cab7 (**)	Differential	Differential of proportional regulation (line 1)	…(**)	…	…(**)
Cab08/Cab10 (**)	NZ diff.	Neutral zone regulation differential (line 1)	…(**)	…	…(**)
	Activ.diff.	Neutral zone regulation differential for devices activation (line 1)	…(**)	…	…(**)
	Deact.diff.	Neutral zone regulation differential for devices deactivation (line 1)	…(**)	…	…(**)
Cab09/Cab11 (**)	En.force off power	Enabling of power immediate decreasing to 0 (line 1)	NO	---	NO YES
	Setp.for force off	Threshold for power decreasing to 0 (line 1)	…(**)	…	…(**)
Cab12	Power load to 100% min time	Minimum time to increase power request to 100%, neutral zone regulation (suction line 1)	15	s	0…9999
	Power load to 100% max time	Maximum time to increase power request to 100%, neutral zone regulation (suction line 1)	90	s	0…9999
Cab13	Power unload to 0% min time	Minimum time to decrease power request to 0%, neutral zone regulation (suction line 1)	30	s	0…9999
	Power unload to 0% max time	Maximum time to decrease power request to 0%, neutral zone regulation (suction line 1)	180	s	0…9999
Cac01	Compressor 1 Working hours	Compressor 1 working hours (line 1)	---	---	0…999999
	(Check in …)	Compressor 1 remaining working hours (line 1)	…	---	0…999999
…	…	…	…	…	…
Cac13	Compressor threshold Working hours	Compressor maintenance threshold hours (line 1)	88000	---	0…9999999
Cac14	Compressor hours reset	Reset of compressors working hours (line 1)	N	---	N Y
Cad01	Enable suction setpoint compensation	Enabling of setpoint compensation (suction line 1)	NO	---	NO YES
Cad02	Winter offset	Offset applied for Winter period	0,0	…	-999,9…999,9
	Closing offset	Offset applied for closing period	0,0	…	-999,9…999,9
Cad03	Enable setpoint compensation by scheduler	Enabling of scheduler setpoint compensation (suction line 1)	NO	---	NO YES
Cad04	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (suction line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (suction line	---	…	…

Mask index	Display description	Description	Default	UOM	Values
		1)			
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Cad05	Change set by DI	Enabling of setpoint compensation by digital input (suct/cond line 1)	NO	---	NO YES
Cad08	Enable floating suction setpoint	Enabling of floating setpoint (suction line 1)	NO	---	NO YES
Cad09	Maximum floating setpoint	Max compressor floating setpoint which can be set (line 1)	…(**)	…	…(**)
	Minimum floating setpoint	Minimum compressor floating setpoint which can be set (line 1)	…(**)	…	…(**)
Cad10	Max.setpoint variation accepted	Maximum delta admitted for floating setpoint (suction line 1)	…(**)	…	…(**)
	Offline decreasing time	Reduction time when supervisor is offline for floating setpoint (suction line 1)	0	min	0…999
Cae01	Number of alarms for each compressor	Number of alarms for each compressor (line 1)	1/4 (*)	---	0…4/7 (*)
Cae02	Alarm1 description	Selection of the first compressors alarm description: Generic, Overload, High pressure, Low pressure, Oil (line 1)	…	---	☒ (Not available) ☐ (Not selected) ☑ (Selected)
Cae03	Alarm1 description (*)	Selection of the first compressors alarm description: Rotation, Oil warning (line 1)	…	---	☒ (Not available) ☐ (Not selected) ☑ (Selected)
Cae04	Activ.delay	Activation delay for compressors alarm 1 during working (line 1)	0	s	0…999
	Start up delay	Activation delay for compressors alarm 1 at start up (line 1)	0	s	0…999
	Reset	Type of reset for compressors alarm 1 (line 1)	AUT.	---	AUT. MAN.
	Priority	Type of priority for compressors alarm 1 (line 1)	SERIOUS	---	LIGHT SERIOUS
…	…	…	…	…	…
Cae23	Common HP type	Type of reset for common HP alarm (line 1)	AUTO	---	AUTO MAN
Cae24	High alarm	High suction pressure alarm threshold	…(**)	…	…(**)
	Alarm diff.	High suction pressure alarm differential	…(**)	…	…(**)
Cae25	Suction pressure high alarm	Type of high suction pressure alarm threshold	ABSOLUTE	---	ABSOLUTE RELATIVE
	Alarm delay	High suction pressure alarm delay	120	s	0…999
Cae26	Low alarm	Low suction pressure alarm threshold	…(**)	…	…(**)
	Alarm diff.	Low suction pressure alarm differential	…(**)	…	…(**)
Cae27	Suction pressure low alarm	Type of low suction pressure alarm threshold	ABSOLUTE	---	ABSOLUTE RELATIVE
	Alarm delay	Low suction pressure alarm delay	30	s	0…999
Cae28	Enable oil temperature alarm management (*)	Enabling of Digital Scroll™ oil temperature alarm (line 1)	NO	---	NO YES
	Enable discharge temp. alarm management (*)	Enabling of Digital Scroll™ discharge temperature alarm (line 1)	NO	---	NO YES
Cae29	Low superheat alarm threshold	Threshold for low superheat alarm (line 1)	3,0	K	0,0…99,9
	Alarm diff.	Low superheat alarm differential (line 1)	1,0	K	0,0…9,9
	Alarm delay	Low superheat alarm delay (line 1)	30	s	0…999
Cae30	Time of semi-automatic alarm evaluation	Time of semi-automatic alarm evaluation for screw compressors out of envelop (line 1)	2	min	0…999
	N° of retries before alarms becomes manual	Number of retries before alarms becomes manual (line 1)	3	---	0…9
Caf02	Compressors type	Type of compressors (line 1)	RECIPROCATING	---	RECIPROCATING SCROLL SCREW
	Compressors number	Compressors number (line 1)	2/3 (*)	---	1…6/12 (*)
Caf03	Cmp1,…	Compressors enable (line 1)	EN	---	EN DIS
Caf04	Refrigerant type	Type of refrigerant (suction Line 1)	R404A	---	R22 R134a R404A R407C R410A R600a R717 R744 R728 R1270

Mask index	Display description	Description	Default	UOM	Values	
					R507A R290 R600	R417A R422D
Caf05	Min on time	Minimum compressors on time (line 1)	30	s	0…999	
	Min off time	Minimum compressors off time (line 1)	120	s	0…999	
	Min time to start same compressor	Minimum time between same compressor starts (line 1)	360	s	0…999	
Caf06	Ignition type	Type of compressors start up	DIRECT	---	DIRECT PART WINDING STAR DELTA	
Caf07	Star time	Star relay run time	0	ms	0…9999	
	Star line delay	Delay between star and line relay	0	ms	0…9999	
	Star delta delay	Delay between star and delta relay	0	ms	0…9999	
Caf08	Partwinding delay	Partwinding delay	0	ms	0…9999	
Caf09	Equalization	Enabling of compressors equalization at start up	NO	---	NO YES	
	Equalizat.time	Equalization duration	0	s	0…999	
Caf10	Devices rotation type	Type of rotation	FIFO	---	------ FIFO LIFO TIME CUSTOM	
Caf11	Dev.unload sequence	Sequence of unloaders respect compressors activation (C=compressor, p=unloader)	CpppCppp	---	-------- CCpppppp CpppCppp	
Caf12	Load up time	Delay between different compressors starts	10	s	0…999	
	Load down time	Delay between different compressors stops	0	s	0…999	
	Unloader delay	Delay between stages	0	s	0…999	
Caf13	Custom rotation ON order	Order of switch ON for compressors custom rotation	0: Higher	---	0: Higher … 15: Lower	
Caf14	Custom rotation OFF order	Order of switch OFF for compressors custom rotation	0: Higher	---	0: Higher … 15: Lower	
Caf15	Modulate speed device	Compressor driver type (line 1)	NONE	---	NONE INVERTER DIGITAL SCROLL STEPLESS SCREW	
Caf16	Min.frequency	Minimum inverter frequency	30	Hz	0…150	
Caf16	Max.frequency	Maximum inverter frequency	60	Hz	0…150	
Caf17	Min on time	Compressor controlled by inverter minimum ON time (line 1)	30	s	0…999	
	Min off time	Compressor controlled by inverter minimum OFF time (line 1)	60	s	0…999	
	Min time to start same compressor	Compressor controlled by inverter minimum time between same compressor starts (line 1)	180	s	0…999	
Caf18	Digital scroll comp. valve regulation	Digital Scroll™ comp. valve regulation type (line 1)	OPTIMIZED REGULATION	---	OPTIMIZED REGULATION CHANGEABLE CYCLE TIME CONSTANT CYCLE TIME	
	Cycle time	Cycle time value (line 1)	13	s	12…20	
Caf19	Oil dilution	Digital Scroll™, enabling of the oil temperature alarm (line 1)	ENABLE	---	DISABLE ENABLE	
	Disch.temper.	Digital Scroll™, enabling of the discharge temperature alarm (line 1)	ENABLE	---	DISABLE ENABLE	
Caf20	Compr.Manufacturer	Compressor manufacturer of screw compressors	GENERIC	---	GENERIC BITZER REFCOMP HANBELL	
	Compressor series	Compressor series	…(***)	---	…(***)	
Caf21	Number of valves	Number of valves used for capacity control	3	---	1…4	
	Stages configuration	Stages configuration	25/50/75/100	%	100; 50/100; 50/75/100; 25/50/75/100; 33/66/100	
Caf22	Common time	Enabling of common delay time (from one step and the following)	DISABLE	---	DISABLE ENABLE	
	Common time	Common delay time (from one step and the following)	0	s	0…999	
	From…to…	Minimum compressor delay time in order to reach each power capacity step from previous	…	s	0…999	
Caf23	Intermittent valve time	Intermittent time on/off of capacity control valves	10	s	0…99	
Caf24	Valve conf.	Configuration of the behaviour of the valves during start/stop and stages	…	---	O (ON) X (OFF) I (Intermittent)	

Mask index	Display description	Description	Default	UOM	Values
					P (Pulsing)
Caf25	Limit comp.permanence at min power	Enable time limit for permanence at minimum power	ENABLE	---	DISABLE ENABLE
	Max.perman.time	Max time of compressor permanence at minimum power	60	s	0…9999
	Lower limit for	Time for going back at minimum after the compressors was forced at second stage after staying at minimum for maximum time	0	s	0…9999
Caf26	Min.output power	Minimum compressor power in case of large power range (usually 25%), only for continuous compressors	25	%	0…100
Caf27	Compressor start-up phase duration	Start-up phase time (after electric start-up)	10	s	0…999
	Maximum power	Maximum time in order to reach maximum compressor power (continuous capacity control)	120	s	0…999
	Minimum power	Minimum time in order to reach minimum compressor power (continuous capacity control)	120	s	0…999
Caf28	Intermittent	Intermittent time on/off of capacity control valves	10	s	0…99
	Puls.Period	Pulsing period of valves (for continuous compressors)	3	s	1…10
	Min.Puls.Incr.	Minimum pulse time for increase capacity (valves control)	0,5	s	0,0…9,9
	Max.Puls.Incr.	Maximum pulse time for increase capacity (valves control)	1,0	s	0,0…9,9
	Min.Puls.Decr.	Minimum pulse time for decrease capacity (valves control)	0,5	s	0,0…9,9
	Max.Puls.Decr.	Maximum pulse time for decrease capacity (valves control)	1,0	s	0,0…9,9
Caf29	Valve conf.	Configuration of the behaviour of the valves during start/stop, incr.min% to 100%, decr.100% to min%, standby, decr.100% to 50%	…	---	O (ON) X (OFF) I (Intermittent) P (Pulsing)
Caf30	Eco/Liquid Injection	Selection of the valve function	NONE	---	NONE LIQUID INJECTION ECONOMIZER
	Setpoint	Setpoint to manage liquid injection/economizer according to discharge temperature	…(**)	…	…(**)
	Differential	Differential to manage liquid injection/economizer according to discharge temperature	…(**)	…	…(**)
Caf31	Min.power activ.	Minimum power for activation of economizer valve	75	%	0; 25; 50; 75; 100
	Cond.press.check	Enabling of economizer valve management by condenser temperature.	DIS	---	DIS EN
	Setpoint	Setpoint to manage economizer according to condensing pressure	60,0	°C/°F	…
	Diff.	Differential to manage economizer according to condensing pressure	5,0	°C/°F	…
Caf32	Number of valves	Number of unloader valves	1	---	1…4
	Stages configuration	Configuration of unloader stages	…	%	100; 50/100; 50/75/100; 25/50/75/100; 33/66/100
Caf33	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
Caf34	S1	Enable stages and stages of compressor group 1 (line 1)	YES 100	--- %	NO/YES. 100; 50/100; 50/75/100; 25/50/75/100; 33/66/100
	…	…	…	…	…
	S4	Enable stages and stages of compressor group 4 (line 1))	NO ---	--- kW	NO/YES. S1…S4
Caf35	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C12	Size group of compressor 6 (line 1)	S1	---	S1…S4
Cag01	Minimum voltage	Voltage corresponding at the minimum power of the inverter (line 1)	0,0	Hz	0,0…10,0
	Maximum voltage	Voltage corresponding at the maximum power of the inverter (line 1)	10,0	Hz	0,0…10,0
	Nominal freq.	Nominal frequency (nominal power at nominal frequency) (line 1)	50	Hz	0…150
	Nominal power	Nominal power of compressor managed by inverter at nominal frequency (line 1)	10,0	Kw	0,0…500,0

Mask index	Display description	Description	Default	UOM	Values
Cag02	Rising time	Time for passing from min power to max power for modulating device (line 1)	00	s	0…600
	Falling time	Time to pass from max power to min power for modulating device (line 1)	30	s	0…600
Cag03	Enable compressor modulation inside neutral zone	Enabling of compressor 1 modulation inside neutral zone (line 1)	YES	---	NO YES
Cag04	Enable suction press.backup probe	Enabling of masks for suction pressure backup probe configuration (line 1)	NO	---	NO YES
Cag05	Regulation value in case of probe fault	Value of compressors forcing in case of suction probes fault (line 1)	50,0	%	0,0…100,0
Cag06	Enable anti return of liquid	Enabling of anti liquid return function (line 1)	NO	---	NO YES
Cag07	Enable compressor envelop management (*)	Enabling of compressor envelop management	NO	---	NO YES
The following parameters are referred to line 2, for the details see corresponding parameters of line 1 above					
Cba01	DI	Alarm 1 of compressor 1 DI position (line 2)	03	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of alarm 1 of compressor 1 DI (line 2)	---	---	Close Open
	Logic	Logic of alarm 1 of compressor 1 DI (line 2)	NC	---	NC NO
	Function (only visualization)	Alarm 1 of compressor 1 function status (line 2)	---	---	Not active Active
…	…	…	…	…	…
Cbb01	Regulation by	Compressors regulation done by temperature or pressure (line 2)	PRESSURE	---	PRESSURE TEMPERATURE
	Regulation type	Compressors regulation type (line 2)	NEUTRAL ZONE	---	PROPORTIONAL BAND NEUTRAL ZONE
…	…	…	…	…	…
Cbc01	Compressor 1 Working hours	Compressor 1 max operating hours (line 2)	0	---	0…999999
…	…	…	…	…	…
Cbd01	Enable suction setpoint compensation	Enabling of setpoint compensation (suction line 2)	NO	---	NO YES
…	…	…	…	…	…
Cbe01	Number of alarms for each compressor	Number of alarms for each compressor (line 2)	0	---	0…7 (*)
…	…	…	…	…	…
Cbf02	Compressors type	Type of compressors (line 1)	RECIPROCATING	---	RECIPROCATING SCROLL SCREW
	Compressors number	Compressor number (line 1)	2/3 (*)	---	1…6/12 (*)
…	…	…	…	…	…
Cbg01	Mininum voltage	Voltage corresponding at the minimum power of the inverter (line 1)	0,0	Hz	0,0…10,0
	Maximum voltage	Voltage corresponding at the maximum power of the inverter (line 1)	10,0	Hz	0,0…10,0
	Nominal freq.	Nominal frequency (nominal power at nominal frequency) (line 1)	50	Hz	0…150
	Nominal power	Nominal power of compressor managed by inverter at nominal frequency (line 1)	10,0	Kw	0,0…500,0
…	…	…	…	…	…
D.Condensers					
Daa01	DI	Fan 1 overload DI position (line 1)	…	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of fan 1 overload DI (line 1)	---	---	Close Open
	Logic	Logic of fan 1 overload DI (line 1)	NC	---	NC NO
	Function (only visualization)	Fan 1 overload function status (line 1)	---	---	Not active Active
…	…	…	…	…	…
Daa18	---	Condensing pressure backup probe position (line1)	B1	---	---, B1…B10 (****)
	---	Condensing pressure backup probe type (line 1)	4-20mA	---	---- 0-1V 0-10V 4-20mA 0-5V
	--- (only visualization)	Condensing pressure backup probe value (line 1)	---	…	…(**)
	Upper value	Cond. pressure backup probe max. limit (line 1)	30,0 barg	…	…(**)
	Lower value	Cond. pressure backup probe min. limit (line 1)	0,0 barg	…	…(**)
	Calibration	Cond. pressure backup probe adjustment (line 1)	0,0 barg	…	…(**)
…	…	…	…	…	…
Daa21	DO	Fan 1 DO position (line 1)	03	---	---, 01…29 (****)

Mask index	Display description	Description	Default	UOM	Values
	Status (only visualization)	Status of fan 1 DO (line 1)	---	---	Close Open
	Logic	Logic of fan 1 DO (line 1)	NC	---	NC NO
	Function (only visualization)	Fan 1 function status (line 1)	---	---	Not active Active
…	…	…	…	…	…
Daa38	AO	Inverter fan AO position (line 1)	0	---	---, 01…06 (****)
	Status (only visualization)	Inverter fan output value (line 1)	0	%	0,0…100,0
…	…	…	…	…	…
Dab01	Regulation by	Condensers regulation done by temperature or pressure (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Regulation type	Condensers regulation type (line 1)	PROPORTIONAL BAND	---	PROPORTIONAL BAND NEUTRAL ZONE
Dab02	Minimum	Condensers setpoint lower limit (line 1)	…(**)	…	…(**)
	Maximum	Condensers setpoint higher limit (line 1)	…(**)	…	…(**)
Dab03	Setpoint	Condensers setpoint (line 1)	…(**)	…	…(**)
Dab04	Fan woks only when at least on compressor works	Enabling of fans working linked to compressors working	NO	---	NO YES
Dab05	Cut-Off enable	Enabling of fans cut-off function	NO	---	NO YES
	Cut-Off request	Cut-off value	0,0	%	0,0…100,0
Dab6/ Dab8 (**)	Reg.type	Type of proportional regulation (condensing line 1)	PROPORTIONAL	---	PROPORTIONAL PROP.+INT.
	Integral time	Integral time of prop. regulation (cond. line 1)	---	s	0…999
Dab7/ Dab9 (**)	Differential	Differential of proportional regulation (cond. line 1)	…(**)	…	…(**)
Dab10/Dab11 (**)	NZ diff.	Neutral zone regulation differential (line 1)	…(**)	…	…(**)
	Activ.diff.	Neutral zone regulation differential for devices activation (line 1)	…(**)	…	…(**)
	Deact.diff.	Neutral zone regulation differential for devices deactivation (line 1)	…(**)	…	…(**)
Dab12/Dab13 (**)	En.force off power	Enabling of power immediate decreasing to 0 (line 1)	NO	---	NO YES
	Setp.for force off	Threshold for power decreasing to 0 (line 1)	…(**)	…	…(**)
Dab14	Power load to 100% min time	Minimum time to increase power request to 100%, neutral zone regulation (condensing line 1)	15	s	0…9999
	Power load to 100% max time	Maximum time to increase power request to 100%, neutral zone regulation (condensing line 1)	90	s	0…9999
Dab15	Power unload to 0% min time	Minimum time to decrease power request to 0%, neutral zone regulation (condensing line 1)	30	s	0…9999
	Power unload to 0% max time	Maximum time to decrease power request to 0%, neutral zone regulation (condensing line 1)	180	s	0…9999
Dad01	Enable condensing setpoint compensation	Enabling of etpoint compensation (condensing line 1)	NO	---	NO YES
Dad02	Winter offset	Enabling of setpoint compensation (condensing line 1)	0,0	…	-999,9…999,9
	Closing offset	Offset applied for Winter period	0,0	…	-999,9…999,9
Dad03	Enable setpoint compensation by scheduler	Enabling of scheduler setpoint compensation (condensing line 1)	NO	---	NO YES
Dad04	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (suction line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (suction line 1)	---	…	…
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Dad05	Enable floating condensing setpoint	Enabling of floating setpoint (condensing line 1)	NO	---	NO YES
Dad06	Offset for external temperature	Delta of temperature for floating setpoint (condensing line 1)	0,0	…	-9,9…9,9
Dad07	Change set by digital input	Enabling of setpoint compensation by digital input (suct/cond line 1)	NO	---	NO YES
Dae01	Cond.pressure high alarm	Condenser high pressure threshold (line 1)	24,0 barg	…	…(**)
	Alarm diff.	Condenser high pressure differential (line 1)	1,0 barg	…	…(**)

Mask index	Display description	Description	Default	UOM	Values
Dae02	Cond.pressure high alarm	Type of alarm threshold for high condenser pressure (line 1)	ABSOLUTE	---	ABSOLUTE RELATIVE
	Alarm delay	High condenser pressure alarm delay (line 1)	60	s	0…999
Dae03	Cond.pressure low alarm	Condenser low pressure threshold (line 1)	7,0 barg	…	…(**)
	Alarm diff	Condenser low pressure differential (line 1)	1,0 barg	…	…(**)
Dae04	Cond.pressure low alarm:	Type of alarm threshold for low condenser pressure (line 1)	ABSOLUTE	---	ABSOLUTE RELATIVE
	Alarm delay	Low condenser pressure alarm delay (line 1)	30	s	0…999
Dae05	Common fan overload	Common fan overload (line 1)	YES	---	NO YES
Daf01	Number of present fans	Fans number (line 1)	3	---	0…16
Daf02	Fan1	Enabling of fan 1 (line 1)	EN	---	DIS EN
…	…	…	…	…	…
Daf03	Fan16	Enabling of fan 16 (line 1)	---	---	DIS EN
Daf04	Refrigerant type	Type of refrigerant (condensing line 1)	R404A	---	R22 R134a R404A R407C R410A R507A R290 R600 R600a R717 R744 R728 R1270 R417A R422D
Daf05	Devices rotation type	Type of devices rotation (condensing line 1)	FIFO	---	------ FIFO LIFO TIME CUSTOM
Daf07	Custom rotation ON order	Order of switch ON for fans custom rotation (condensing line 1)	0: Higher	---	0: Higher … 15: Lower
Daf08	Custom rotation OFF order	Order of switch OFF for fans custom rotation (condensing line 1)	0: Higher	---	0: Higher … 15: Lower
Dag01	Modulate speed device	Fan driver type (line 1)	NONE	---	NONE INVERTER PHASE CUT CONTROL
Dag02	Standby zone reg.	Fan regulation done also inside neutral zone (line 1)	NO	---	NO YES
	Min out value	Minimum voltage for compressor inverter (line 1)	0,0	V	0,0…9,9
	Max out value	Maximum voltage for compressor inverter (line 1)	10,0	V	0,0…99,9
	Min.power refer.	Minimum power of fan modulating device (line 1)	60	%	0…100
	Max.power refer.	Maximum power of fan modulating device (line 1)	100	%	0…999
Dag03	Rising Time	Time to pass from min power to max power for fan modulating device (line 1)	1200	s	0…32000
	Falling Time	Time to pass from max power to min power for fan modulating device (line 1)	1200	s	0…32000
	Num.control.fans	Number of fans under inverter (only for alarms enabling)	1	---	0…16
Dag04	Split Condenser	Enabling of split condenser (line 1)	NO	---	NO YES
	-Digital input	Split Condenser controlled by digital input (line 1)	---	---	NO YES
	-External temp.	Split Condenser controlled by external temperature (line 1)	---	---	NO YES
	-Scheduler	Split Condenser controlled by scheduler (line 1)	---	---	NO YES
Dag05	Ext.Temp.Thr	Split condenser by external temperature management setpoint (line 1)	10,0 °C	…	-99,9…99,9
	Ext.Temp.Diff	Split condenser by external temperature management differential (line 1)	2,5 °C	…	-99,9…99,9
Dag06	Split Condenser Type	Fans enabled with split condenser (line 1)	CUSTOM	---	CUSTOM ODD EVEN GREATER THAN LESS THAN
	---	Only when enabling type is GREATHER THAN or LESS THAN, number of fan to consider for splitting (line 1)	0	---	0…16
Dag07	DI	Split condenser DI position (line 1)	…	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of split condenser DI (line 1)	---	---	Close Open

Mask index	Display description	Description	Default	UOM	Values
	Logic	Logic of split condenser DI (line 1)	NC	---	NC NO
	Function (only visualization)	Split condenser function status (line 1)	---	---	Not active Active
Dag08	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Dag09	Disable split condenser as first stage of HP pressostat	Disabling of split condenser when high condensing pressure prevent occurs (line 1)	NO	---	NO YES
	for	Duration of split condenser deactivation for high condensing pressure prevent (line 1)	0	h	0…24
Dag10	Anti-noise	Enabling of anti-noise (line 1)	DISABLED	---	DISABLED ENABLED
	Max output	Maximum request admitted when anti noise function is active (line 1)	75,0 %	%	0,0…100,0
	-Digital input	Anti-noise controlled by digital input (condensing line 1)	NO	---	NO YES
	-Scheduler	Anti-noise controlled by scheduler (condensing line 1)	NO	---	NO YES
Dag11	DI	Anti-noise DI position (line 1)	…	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of anti-noise DI (line 1)	---	---	Close Open
	Logic	Logic of anti-noise DI (line 1)	NC	---	NC NO
	Function (only visualization)	Anti-noise function status (line 1)	---	---	Not active Active
Dag12	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Dag13	Speed Up	Enabling of speed up (condensing line 1)	YES	---	NO YES
	Speed Up time	Speed up time (condensing line 1)	5	s	0…60
	Ext.Temp.Manage	Enabling of speed up management by external temperature (condensing line 1)	DIS	---	DIS EN
	Ext.Temp.Thr.	External temperature threshold for speed up management (condensing line 1)	25,0 °C	…	-99,9…99,9
	Ext.Temp.Diff.	External temperature differential for speed up management (condensing line 1)	2,5 °C	…	-99,9…99,9
Dag14	Enable Condensing press.backup probe	Enabling of the masks for condensing pressure backup probe configuration (condensing line 1)	NO	---	NO YES
Dag15	Regulation value in case of probe fault	Value of fans forcing in case of condensing probes fault (line 1)	50,0	%	0,0…100,0
The following parameters are referred to line 2, for the details see corresponding parameters of line 1 above					
Dba01	DI	Fan 1 overload DI position (line 1)	…	---	---, 01…18, B1…B10 (****)
	Status (only visualization)	Status of fan 1 overload DI (line 1)	---	---	Close Open
	Logic	Logic of fan 1 overload DI (line 1)	NC	---	NC NO
	Function (only visualization)	Fan 1 overload function status (line 1)	---	---	Not active Active
…	…	…	…	…	…

Mask index	Display description	Description	Default	UOM	Values
Dbb01	Regulation by	Condensers regulation done by temperature or pressure (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Regulation type	Condensers regulation type (line 1)	PROPORTIONAL BAND	---	PROPORTIONAL BAND NEUTRAL ZONE
…	…	…	…	…	…
Dbd01	Enable condensing setpoint compensation	Enabling of etpoint compensation (condensing line 1)	NO	---	NO YES
…	…	…	…	…	…
Dbe01	Cond.pressure high alarm	Condenser high pressure threshold (line 1)	24,0 barg	…	…(**)
	Alarm diff.	Condenser high pressure differential (line 1)	1,0 barg	…	…(**)
…	…	…	…	…	…
Dbf01	Number of present fans	Fans number (line 1)	3	---	0…16
…	…	…	…	…	…
Dbg01	Modulate speed device	Fan driver type (line 1)	NONE	---	NONE INVERTER PHASE CUT CONTROL
…	…	…	…	…	…
E.Other funct.					
Eaaa04	---	Oil temperature probe position (line1)	B1	---	---, B1…B10 (****)
	---	Oil temperature probe type (line 1)	4-20mA	---	--- NTC PT1000 0-1V 0-10V 4-20mA 0-5V HTNTC
	--- (only visualization)	Oil temperature probe value (line 1)	---	…	…(**)
	Upper value	Oil temperature probe max. limit (line 1)	30,0 barg	…	…(**)
	Lower value	Oil temperature probe min. limit (line 1)	0,0 barg	…	…(**)
	Calibration	Oil temperature probe adjustment (line 1)	0,0 barg	…	…(**)
…	…	…	…	…	…
Eaab04	Oil pumps number	Oil pumps number for common oil cooler (line 1)	0	---	0…1 (analog output) 0…2 (digital output)
	Enable Aout pump	Enabling of AO of common oil cooler pump (line 1)	YES	---	NO (digital output) YES (analog output)
Eaab05	Setpoint	Common oil cooler setpoint (line 1)	0,0 °C	…	…(**)
	Differential	Common oil cooler differential (line 1)	0,0 °C	…	-9,9…9,9
Eaab06	Pump start delay	Time delay before the start-up of pump 2 after the pump1 turns on (line 1)	0	s	0…999
Eeab07	Oil pumps number	Screw compressors: number of oil cooler pumps enabled (line1)	0	---	0…1 (analog output) 0…2 (digital output)
	Enable Aout pump	Screw compressors: enabling of AO of oil cooler pump (line 1)	YES	---	NO (digital output) YES (analog output)
Eeab08	Setpoint	Screw compressors: oil temperature setpoint (line 1)	0,0	°C/°F	…
	Differential	Screw compressors: oil temperature differential (line 1)	0,0	°C/°F	…
Ecab04	Economizer	Enabling of economizer function (line 1)	NO	---	NO YES
	Compr.Power Thr.	Power percent threshold for economizer activation (line 1)	0	%	0…100
	Cond.Temp.Thr.	Condensing temperature threshold for economizer activation (line 1)	0,0 °C	…	-999,9…999,9
	Disch.Temp.Thr.:	Discharge temperature threshold for economizer activation (line 1)	0,0 °C	…	-999,9…999,9
Edaa01	---	Compressor 1 discharge temperature probe position (line1)	B1	---	---, B1…B10 (****)
	---	Compressor 1 discharge temperature probe type (line 1)	4-20mA	---	--- NTC PT1000 0-1V 0-10V 4-20mA 0-5V HTNTC
	--- (only visualization)	Compressor 1 discharge temperature probe value (line 1)	---	…	…(**)
	Upper value	Compressor 1 discharge temperature probe max. limit (line 1)	30,0 barg	…	…(**)
	Lower value	Compressor 1 discharge temperature probe min. limit (line 1)	0,0 barg	…	…(**)
	Calibration	Compressor 1 discharge temperature probe	0,0 barg	…	…(**)

Mask index	Display description	Description	Default	UOM	Values
		adjustment (line 1)			
…	…	…	…	…	…
Edaa07	DO	Compressor 1 injection valve DO position (line 1)	…	---	---, 01…29 (****)
	Status (only visualization)	Status of Compressor 1 injection valve DO (line 1)	---	---	Close Open
	Logic	Logic of Compressor 1 injection valve (line 1)	NO	---	NC NO
	Function (only visualization)	Compressor 1 injection valve function status (line 1)	---	---	Not active Active
Edab01	Liquid Injection	Enabling of liquid injection function (line 1)	DIS	---	DIS EN
	Threshold	Liquid injection setpoint (line 1)	70,0 °C	…	… (**)
	Differential	Liquid injection differential (line 1)	5,0	…	… (**)
Edab02	Alarm setp.	Discharge temperature alarm threshold (line 1)	85,0 °C	…	… (**)
	Differential	Discharge temperature alarm differential (line 1)	5,0	…	… (**)
Eeaa02	Din position	Heat reclaim from digital input DI position (line 1)	…	---	---, 01…18, B1…B10 (****)
	Status	Status of heat reclaim DI (line 1)	---	---	Close Open
	Logic	Logic of heat reclaim DI (line 1)	NC	---	NC NO
	Function	Status of heat reclaim from digital input DI function (line 1)	---	---	Not active Active
Eeaa03	DO	Heat reclaim pump DO position (line 1)	---	---	---, 01…29
	…	…	…	…	…
	Function	Status of heat reclaim pump (line 1)	---	---	Not active Active
Eeaa04	AO	Heat reclaim damper DO position (line 1)	---	---	---, 01…29
	…	…	…	…	…
	Status	Heat reclaim damper output (line 1)	---	---	Not active Active
Eeab01	Enable Heat Reclaim	Enabling of heat reclaim function (line 1)	NO	---	NO YES
Eeab02	Condensing Pressure Lower Limit	Condensing pressure lower limit for heat reclaim (line 1)	0,0 barg	…	… (**)
Eeab03	Modulation by temperature	Enabling of heat reclaim control by discharge temperature (line 1)	NO	---	NO YES
Eeab04	Setpoint	Heat reclaim: discharge temperature setpoint (line 1)	0,0 °C	…	… (**)
	Differential	Heat reclaim: discharge temperature differential (line 1)	0,0 °C	…	0,0…99,9
Eeab05	Enable activation by Scheduler	Enabling of heat reclaim control by scheduler (line 1)	NO	---	NO YES
Eeab06	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (condensing line 1)	---	…	…
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Efa05	Gen.Funct.1	Enabling of generic stage function 1	DISABLE	---	DISABLE ENABLE
	…	..	…	…	…
	Gen.Funct.5	Enabling of generic stage function 5	DISABLE	---	DISABLE ENABLE
Efa06	Regulation variable	Regulation variable for generic stage function 1	---	---	…
	Mode	Direct or reverse regulation	DIRECT	---	DIRECT REVERSE
Efa07	Enable	Enabling variable for generic stage function 1	---	---	…
	Description:	Enabling of description change	SKIP	---	SKIP CHANGE
	----------	Description	---	---	…
Efa08	Setpoint	Setpoint of generic stage function 1	0,0 °C	…	… (**)
	Differential	Differential of generic stage function 1	0,0 °C	…	… (**)
Efa09	High alarm	High alarm enabling for of generic stage function 1	DISABLE	---	DISABLE

Mask index	Display description	Description	Default	UOM	Values
					ENABLE
	High alarm	High alarm threshold for generic stage function 1	0,0 °C	…	… (**)
	Delay time	High alarm delay for generic stage function 1	0	s	0…9999
	Low alarm	Low alarm enabling for generic stage function 1	DISABLE	---	DISABLE ENABLE
	Low alarm	Low alarm threshold for generic stage function 1	0,0 °C	…	… (**)
	Delay time	Low alarm delay for generic stage function 1	0	s	0…9999
…	…	…	…	…	…
Efb05	Gen.Modulat.1	Enabling of generic modulating function 1 management	DISABLE	---	DISABLE ENABLE
	Gen.Modulat.2	Enabling of generic modulating function 2 management	DISABLE	---	DISABLE ENABLE
Efb06	Regulation variable	Regulation variable for of generic modulating function 1	---	---	…
	Mode	Direct or reverse modulating	DIRECT	---	DIRECT REVERSE
Efb07	Enable	Enabling variable for of generic modulating function 1	---	---	…
	Description	Enabling of description change	SKIP	---	SKIP CHANGE
	----------	Description	---	---	…
Efb08	Setpoint	Setpoint of generic modulating function 1	0,0 °C	…	… (**)
	Differential	Differential of generic modulating function 1	0,0 °C	…	… (**)
Efb09	High alarm	High alarm enabling for of generic modulating function 1	DISABLE	---	DISABLE ENABLE
	High alarm	High alarm threshold for generic modulating function 1	0,0 °C	…	… (**)
	Delay time	High alarm delay for generic modulating function 1	0	s	0…9999
	Low alarm	Low alarm enabling for generic modulating function 1	DISABLE	---	DISABLE ENABLE
	Low alarm	Low alarm threshold for generic modulating function 1	0,0 °C	…	… (**)
	Delay time	Low alarm delay for generic modulating function 1	0	s	0…9999
Efb010	Out upper limit	Output upper limit for generic modulating function 1	100,0	%	0…100
	Out lower limit	Output lower limit for generic modulating function 1	0,0	%	0…100
	Enable cutoff	Enabling of cut off function for generic modulating function 1	NO	---	NO YES
	Cutoff diff	Differential of cut off for generic modulating function 1	0,0 °C	…	… (**)
	Cutoff hys.	Hysteresis of cut off for generic modulating function 1	0,0 °C	…	… (**)
…	…	…	…	…	…
Efc05	Gen.Alarm 1	Enabling of generic alarm function 1 management	DISABLE	---	DISABLE ENABLE
	Gen.Alarm 2	Enabling of generic alarm function 2 management	DISABLE	---	DISABLE ENABLE
Efc06	Regulation variable	Monitored variable for generic alarm function 1	---	---	…
	Enable	Enabling variable of generic alarm function 1	---	---	…
	Description	Enabling of description change	SKIP	---	SKIP CHANGE
	----------	Description	---	---	…
Efc07	Alarm type	Alarm type of generic alarm function 1	NORMAL	---	NORMAL SERIOUS
	Delay time	Delay of generic alarm function 1	0	s	0…9999
…	…	…	…	…	…
Efd05	Generic function scheduler	Enabling of generic scheduler function	DISABLE	---	DISABLE ENABLE
	Gen.func.scheduling connected to global scheduling	Generic function scheduler considers the same special days and periods of global scheduler	NO	---	NO YES
Efd06	Enable	Enabling variable for of generic scheduler function	---	---	…
Efd07	TB1: --:-- -> --:--	Time band 1 enabling and definition: starting hour and minute, ending hour and minute (suction line 1)	---	…	…
	…	…	…	…	…
	TB4: --:-- -> --:--	Time band 4 enabling and definition: starting hour and minute, ending hour and minute (suction line 1)	---	…	…
	Changes	Time band changes action	---	---	--- CONFIRM&SAVE

Mask index	Display description	Description	Default	UOM	Values
					LOAD PREVIOUS CLEAR ALL
	Copy to	Copy settings to other days	0	---	MONDAY...SUNDAY; MON-FRI; MON-SAT; SAT&SUN; ALL DAYS
Efe05	Gen.A Measure	Generic analog input A measure unit selection	°C	---	°C; °F; barg; psig; %; -
	…	…	…	…	…
Efe06/Efe07 (**)	---	Generic probe A position	B1	---	---, B1…B10 (****)
	---	Generic probe A type	4-20mA	---	…(**)
	--- (only visualization)	Generic probe A value	---	…	…(**)
	Upper value	Generic probe A max. limit	30,0 barg	…	…(**)
	Lower value	Generic probe A min. limit	0,0 barg	…	…(**)
	Calibration	Generic probe A adjustment	0,0 barg	…	…(**)
…	...	...	…	…	…
Eeaa02	DI	Generic digital input F DI position	---	---	---, 01…18, B1…B10 (****)
	Status	Status of generic digital input F DI	---	---	Close Open
	Logic	Logic of generic digital input F DI	NC	---	NC NO
	Function	Status of generic digital input F DI	---	---	Not active Active
…	...	...	…	…	…
Efe21	DO	Generic stage 1 DO position	…	---	---, 01…29 (****)
	Status (only visualization)	Status of generic stage 1 DO	---	---	Close Open
	Logic	Logic of generic stage 1 DO	NO	---	NC NO
	Function (only visualization)	Generic stage 1 DO function status	---	---	Not active Active
…	…	…	…	…	…
Efe29	Modulating1	Generic modulating 1 AO position	0	---	---, 01…06 (****)
	Status (only visualization)	Generic modulating 1 output value	0	%	0,0…100,0
…	…	…	…	…	…
Efe29	Modulating1	Generic modulating 1 output posistion	0	---	---, 01…06
	Status	Generic modulating output	0,0	---	0,0…99,9
…	…	…	…	…	…
Egaa01	DI	ChillBooster fault DI position (line 1)	---	---	---, 01…18, B1…B10 (****)
	Status	Status of ChillBooster fault DI (line 1)	---	---	Close Open
	Logic	Logic of ChillBooster fault DI (line 1)	NC	---	NC NO
	Function	Status of ChillBooster fault (line 1)	---	---	Not active Active
Egaa02	DO	ChillBooster DO position (line 1)	…	---	---, 01…29 (****)
	Status (only visualization)	Status of ChillBooster DO (line 1)	---	---	Close Open
	Logic	Logic of ChillBooster DO (line 1)	NO	---	NC NO
	Function (only visualization)	Status of ChillBooster function (line 1)	---	---	Not active Active
Egab01	Device present	Enabling of ChillBooster function (line 1)	NO	---	NO YES
	Deactivation when fans power falls under	Fans power under which ChillBooster is deactivated (line 1)	95	%	0…100
Egab02	Before the activation, fans at max for	Fans work at maximum power at least for this time before ChillBooster activation (line 1)	5	min	0…300
	Ext.Temp.Thr	External temperature threshold for ChillBooster activation (line 1)	30,0 °C	…	…(**)
Egab03	Sanitary proc.	Enabling of sanitary procedure (line 1)	DISABLE	---	DISABLE ENABLE
	Start at	Sanitary procedure starting time (line 1)	00:00	---	…
	Duration	Sanitary procedure duration (line 1)	0	min	0…30
	Ext.temp.thr	External Temperature threshold for sanitary procedure activation (line 1)	5,0 °C	…	…(**)
Egab04	Chillbooster requires maintenance after	ChillBooster running maximum time (line 1)	200	h	0…999
	Reset maintenance time	ChilllBooster maintenance time reset (line 1)	NO	---	NO YES
Ehb01	Avoid simultaneous pulse betw. lines	Enabling of simultaneus compressors start up inhibition	NO	---	NO YES
	Delay	Delay between compressors of different lines start up	0	s	0…999

Mask index	Display description	Description	Default	UOM	Values
Ehb03	Force off L2 Comp.s for line 1 fault	Enabling of line 2 compressors switch OFF due to line 1 compressors fault	NO	---	NO YES
	Delay	Delay of line 2 compressors switch off after serious alarm of line 1 compressors	0	s	0…999
Ehb04	Switch on L1 Comp.s for L2 activation	Enabling of line 1 compressors switch ON due to line 2 compressors switch ON	NO	---	NO YES
	Delay	Delay of line1 compressors switch on for line 2 compressors switch on	0	s	0…999
The following parameters are referred to line 2, for the details see corresponding parameters of line 1 above					
Eaba04	---	Oil temperature probe position (line 2)	B1	---	---, B1…B10 (****)
	---	Oil temperature probe type (line 2)	4-20mA	---	--- NTC PT1000 0-1V 0-10V 4-20mA 0-5V HTNTC
	--- (only visualization)	Oil temperature probe value (line 2)	---	…	…(**)
	Upper value	Oil temperature probe max. limit (line 2)	30,0 barg	…	…(**)
	Lower value	Oil temperature probe min. limit (line 2)	0,0 barg	…	…(**)
	Calibration	Oil temperature probe adjustment (line 2)	0,0 barg	…	…(**)
…	…	…	…	…	…
Eabb04	Oil pumps number	Oil pumps number for common oil cooler (line 2)	0	---	0…1 (analog output) 0…2 (digital output)
	Enable Aout pump	Enabling of AO of common oil cooler pump (line 2)	YES	---	NO (digital output) YES (analog output)
…	…	…	…	…	…
Ebbbxx	Subcooling control	Type of subcooling control (line 2)	BY COND.&LIQUID TEMP	---	BY COND.&LIQUID TEMP ONLY BY LIQUID TEMP.
	Threshold	Subcooling threshold (line 2)	0,0 °C	…	-999,9…999,9
Ecbb04	Economizer	Enabling of economizer function (line 2)	NO	---	NO YES
	Compr.Power Thr.	Power percent threshold for economizer activation (line 2)	0	%	0…100
	Cond.Temp.Thr.	Condensing temperature threshold for economizer activation (line 2)	0,0 °C	…	-999,9…999,9
	Disch.Temp.Thr.:	Discharge temperature threshold for economizer activation (line 2)	0,0 °C	…	-999,9…999,9
Edba01	---	Compressor 1 discharge temperature probe position (line 2)	B1	---	---, B1…B10 (****)
	---	Compressor 1 discharge temperature probe type (line 2)	4-20mA	---	--- NTC PT1000 0-1V 0-10V 4-20mA 0-5V HTNTC
	--- (only visualization)	Compressor 1 discharge temperature probe value (line 2)	---	…	…(**)
	Upper value	Compressor 1 discharge temperature probe max. limit (line 2)	30,0 barg	…	…(**)
	Lower value	Compressor 1 discharge temperature probe min. limit (line 2)	0,0 barg	…	…(**)
	Calibration	Compressor 1 discharge temperature probe adjustment (line 2)	0,0 barg	…	…(**)
…	…	…	…	…	…
Edbb01	Liquid Injection	Enabling of liquid injection function (line 2)	DIS	---	DIS EN
	Threshold	Liquid injection setpoint (line 2)	70,0 °C	…	… (**)
	Differential	Liquid injection differential (line 2)	5,0	…	… (**)
…	…	…	…	…	…
Eeba02	Din position	Heat reclaim from digital input DI position (line 2)	…	---	---, 01…18, B1…B10 (****)
	Status	Status of heat reclaim DI (line 2)	---	---	Close Open
	Logic	Logic of heat reclaim DI (line 2)	NC	---	NC NO
	Function	Status of heat reclaim from digital input DI function (line 2)	---	---	Not active Active
Eebb01	Enable Heat Reclaim	Enabling of heat reclaim function (line 2)	NO	---	NO YES

Mask index	Display description	Description	Default	UOM	Values
…	…	…	…	…	…
Egba01	DI	ChillBooster fault DI position (line 2)	---	---	---, 01…18, B1…B10 (****)
	Status	Status of ChillBooster fault DI (line 2)	---	---	Close Open
	Logic	Logic of ChillBooster fault DI (line 2)	NC	---	NC NO
	Function	Status of ChillBooster fault DI (line 21)	---	---	Not active Active
…	…	…	…	…	…
Egbb01	Device present	Chillbooster function enable (line 2)	NO	---	NO YES
	Deactivation when fans power falls under	Fans power under which ChillBooster is deactivated (line 2)	95	%	0…100
…	…	…	…	…	…
F.Settings					
Faaa01	Summer/Winter	Enabling of Summer/Winter period management (line 1)	NO	---	NO YES
	Special days	Enabling of special days management (line 1)	NO	---	NO YES
	Holiday periods	Enabling of holiday period management (line 1)	NO	---	NO YES
Faaa02	Begin	Summer period beginning date (line 1)	---	---	01/JAN…31/DEC
	End	Summer period ending date (line 1)	---	---	01/JAN…31/DEC
Faaa03	Day 01	Special day 1 date (line 1)	---	---	01/JAN…31/DEC
…	…	…	…	…	…
Faaa04	Day 10	Special day 10 date (line 1)	---	---	01/JAN…31/DEC
Faaa05	P1	Holiday period P1 beginning date (line 1)	---	---	01/JAN…31/DEC
	---	Holiday period P1 ending date (line 1)	---	---	01/JAN…31/DEC
	…	…	…	…	…
	P5	Holiday period P5 beginning date (line 1)	---	---	01/JAN…31/DEC
	---	Holiday period P5 ending date (line 1)	---	---	01/JAN…31/DEC
Faab01	Date format	Date format	dd/mm/yy	---	---- dd/mm/yy mm/dd/yy yy/mm/dd
Faab02/Faab 03/Faab04	Hour	Hour and minute	…	…	…
	Date	Date	…	…	…
	Day (only visualization)	Day of the week calculated from current date	…	…	Monday… Sunday
Faab05	Daily saving time	Enable the daily saving time	ENABLE	---	DISABLE ENABLE
	Transition time	Offset time	60	---	0…240
	Start	Starting week, day and month and hour of daylight saving time	…	…	…
	End	Ending week, day and month and hour of daylight saving time	…	…	…
Fb01	Language	Current language	ENGLISH	---	ENGLISH, ITALIANO
Fb02	Disable language mask at start-up	Disabling of the change language screen at start-up	YES	---	NO YES
	Countdown	Starting value of countdown, time of permanence on change language mask.	60	s	0…60
Fb03	Main mask selection	Main mask selection	LINE 1	---	LINE 1 LINE 2 DOUBLE SUCT. DOUBLE COND.
Fca01	Address	Address of the controller in a supervisory system network (line 1)	196	---	0…207
	Protocol	Protocol of supervisor communication (line 1)	pRACK MANAGER	---	-- CAREL SLAVE LOCAL CAREL SLAVE REMOTE MODBUS SLAVE pRACK MANAGER CAREL SLAVE GSM
	Baudrate	Baudrate of supervisor communication (line 1)	19200	---	1200…19200
Fd01	Insert password	Password	0000	---	0…9999
Fd02	Logout	Logout	NO	---	NO YES
Fd03	User	User password	0000	---	0…9999
	Service	Service password	1234	---	0…9999
	Manufacturer	Manufacturer password	1234	---	0…9999
The following parameters are referred to line 2, for the details see corresponding parameters of line 1 above					
Faaa01	Summer/Winter	Enabling of summer/winter period management (line 2)	NO	---	NO YES

Mask index	Display description	Description	Default	UOM	Values
	Special days	Enabling of special days management (line 2)	NO	---	NO YES
	Holiday periods	Enabling of holiday period management (line 2)	NO	---	NO YES
…	…	…	…	…	…
Fcb01	Address	Address of the controller in a supervisory system network (line 2)	196	---	0…207
	Protocol	Protocol of supervisor communication (line 2)	pRACK MANAGER	---	-- CAREL SLAVE LOCAL CAREL SLAVE REMOTE MODBUS SLAVE pRACK MANAGER CAREL SLAVE GSM
	Baudrate	Baudrate of supervisor communication (line 2)	19200	---	1200…19200
G.Safety					
Gba01	Prevent enable	Enabling of condenser pressure prevent (line 1)	NO	---	NO YES
Gba02	Setpoint	Condenser pressure prevent threshold (line 1)	0,0 barg	…	… (**)
	Differential	Condenser pressure prevent differential (line 1)	0,0 barg	…	0,0…99,9
	Decrease compressor power time	Decreasing power time (line 1)	0	s	0…999
Gba03	Enable Heat Reclaim as first prevent step	Enabling heat reclaim as first step for condensing HP prevent (line 1)	NO	---	NO YES
	Offset HeatR.	Offset beetween heat reclaim and prevent setpoint (line 1)	0,0 barg	…	0,0…99,9
Gba04	Enable ChillBooster as first prevent step	Enable ChillBooster as first step for condensing HP prevent (line 1)	NO	---	NO YES
	Offset Chill.	Offset beetween ChillBooster and prevent setpoint (line 1)	0,0 barg	…	0,0…99,9
Gba05	Prevent max.num	Maximum number of prevent allowed before locking compressor (line 1)	3	---	1…5
	Prevent max.number evaluation time	Prevent maximum number evaluation time	60	h	0…999
	Reset automatic prevent	Reset number of prevent (line 1)	NO	---	NO YES
Gca01	Common HP delay	High common condensing pressure delay (line 1)	10	s	0…999
Gca02	Common LP start delay	Low common condensing pressure delay at start up (line 1)	60	s	0…999
	Common LP delay	Low common condensing pressure delay during working (line 1)	20	s	0…999
Gca03	Time of semi-automatic alarm evaluation	Period of LP number evaluation (line 1)	120	min	0…999
	N° of retries before alarm becomes manual	Number of LP in period after which the alarm becomes manual (line 1)	5	---	0…999
Gca04	Liquid alarm delay	Liquid level alarm delay (line 1)	0	s	0…999
	Oil alarm delay	Common oil alarm delay (line 1)	0	s	0…999
The following parameters are referred to line 2, for the details see corresponding parameters of line 1 above					
Gbb01	Prevent enable	Enablig of condenser pressure prevent (line 2)	NO	---	NO YES
…	…	…	…	…	…
Gcb01	Common HP delay	High common condensing pressure delay (line 2)	0	s	0…999
…	…	…	…	…	…
H.Info *(No parameters under this section)*					
I.Setup					
Ia01	Pre-configuration	Number of preconfiguration selected	01. RS2	---	--NOT USED-- 01. RS2 02. RS3 03. RS3p 04. RS3i 05. RS4 06. RS4i 07. SL3d 08. SL5d 09. SW1 10. SW2 11. SW3 12. d-RS2 13. d-RS3 14. d-RS4
Ib01	Type of Installation	Type of plant	SUCTION & CONDENSER	---	SUCTION CONDENSER SUCTION & CONDENSER
Ib02	Measure Units	Measure unit	°C/barg	---	°C/barg °F/psig
Ib03	Compressors type	Type of compressors (line 1)	RECIPROCATING	---	RECIPROCATING SCROLL SCREW
	Compressors number	Compressors number (line 1)	2/3 (*)	---	1…6/12 (*)

Mask index	Display description	Description	Default	UOM	Values
Ib04	Number of alarms for each compressor	Number of alarms for each compressor (line 1)	1	---	0…4/7 (*)
Ib05	Modulate speed device	Modulating speed device for first compressor (line 1)	NONE	---	NONE INVERTER ---/DIGITAL SCROLL (*) ---/STEPLESS (*)
Ib30	Compressors sizes	Compressors sizes (line 1)	EQUAL SIZE & EQ.STAGES CONFIG	---	EQUAL SIZE & EQ.STAGES CONFIG EQUAL SIZE & DIFF.STAGES CONFIG DEFINE SIZES
Ib34	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
Ib35	S1	Enable stages and stages of compressor group 1 (line 1)	YES 100	--- %	NO/YES. 100; 50/100; 50/75/100; 25/50/75/100; 33/66/100
	…	…	…	…	…
	S4	Enable stages and stages of compressor group 4 (line 1))	NO ---	--- kW	NO/YES. S1…S4
Ib36	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C12	Size group of compressor 12 (line 1)	S1	---	S1…S4
Ib10	Compr.Manufacturer	Compressor manufacturer of screw compressors	GENERIC	---	GENERIC BITZER REFCOMP HANBELL
	Compressor series	Compressor series	…(***)	---	…(***)
Ib11	Compressors sizes	Compressors sizes (line 1)	EQUAL SIZE	---	EQUAL SIZE DEFINE SIZES
Ib16	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
Ib17	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C06	Size group of compressor 12 (line 1)	---	---	S1…S4
Ib20	Compressors sizes	Compressors sizes (line 1)	EQUAL SIZE	---	EQUAL SIZE DEFINE
Ib21	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
Ib22	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C12	Size group of compressor 6 (line 1)	S1	---	S1…S4
Ib40	Regulation by	Compressor regulation done by temperature or pressure (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Measure unit	Measure unit (line 1)	barg	---	…
	Refrigerant	Type of refrigerant (suction Line 1)	R404A	---	R22 R134a R404A R407C R410A R507A R290 R600 R600a R717 R744 R728 R1270 R417A R422D
Ib41	Regulation type	Compressors regulation type (line 1)	NEUTRAL ZONE	---	PROPORTIONAL BAND NEUTRAL ZONE
	Enable integral time action	Enabling of integral time for proportional suction line regulation (line 1)	NO	---	NO YES
Ib42	Setpoint	Setpoint without compensation (suction line 1)	3,5 barg	…(**)	…(**)
	Differential	Differential (suction line 1)	0,3 barg	…(**)	…(**)
Ib43	Configure another suction line?	Second suction line configuration	NO	---	NO YES

Mask index	Display description	Description	Default	UOM	Values
lb45	Dedicated pRack board for suction line	Suction lines in different boards	NO	---	NO YES
lb50	Compressors type	Type of compressors (line 2)	RECIPROCATING	---	RECIPROCATING SCROLL
	Compressors number	Compressor number (line 2)	3	---	1…12
lb51	Number of alarms for each compressor	Number of alarms for each compressor (line 2)	1	---	0…4
lb52	Modulate speed device	Modulating speed device for first compressor (line 2)	NONE	---	NONE INVERTER ---/DIGITAL SCROLL (*)
lb70	Compressors sizes	Compressors sizes (line 1)	EQUAL SIZE & EQ.STAGES CONFIG	---	EQUAL SIZE & EQ.STAGES CONFIG EQUAL SIZE & DIFF.STAGES CONFIG DEFINE SIZES
lb74	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
lb75	S1	Enable stages and stages of compressor group 1 (line 1)	YES 100	--- %	NO/YES. 100; 50/100; 50/75/100; 25/50/75/100; 33/66/100
	…	…	…	…	…
	S46	Enable stages and stages of compressor group 4 (line 1))	NO ---	--- kW	NO/YES. S1…S4
lb76	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C12	Size group of compressor 6 (line 1)	S1	---	S1…S4
lb60	Compressors sizes	Compressors sizes (line 1)	EQUAL SIZE	---	EQUAL SIZE DEFINE
lb61	S1	Enable size and size of compressor group 1 (line 1)	YES 10,0	--- kW	NO/YES. 0,0…500,0
	…	…	…	…	…
	S4	Enable size and size of compressor group 4 (line 1)	NO ---	--- kW	NO/YES. 0,0…500,0
lb62	C01	Size group of compressor 1 (line 1) or presence of inverter	S1	---	S1…S4/INV
	…	…	…	…	…
	C12	Size group of compressor 6 (line 1)	S1	---	S1…S4
lb80	Regulation by	Compressor regulation done by temperature or pressure (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Measure unit	Measure unit (line 1)	barg	---	…
	Refrigerant	Type of refrigerant (suction Line 1)	R404A	---	R22 R134a R404A R407C R410A R507A R290 R600 R600a R717 R744 R728 R1270 R417A R422D
lb81	Regulation type	Compressors regulation type (line 1)	NEUTRAL ZONE	---	PROPORTIONAL BAND NEUTRAL ZONE
	Enable integral time action	Enable integral time for proportional suction line regulation (line 2)	NO	---	NO YES
lb82	Setpoint	Setpoint without compensation (suction line 2)	3,5 barg	…(**)	…(**)
	Differential	Differential (suction line 2)	0,3 barg	…(**)	…(**)
lb90	Dedicated pRack board for condenser line	Suct.line(s) and cond.line(s) in different boards, that is condensing line(s) on dedicated board	NO	---	NO YES
lb91	Fans number	Fans number (line 1)	3	---	0…16
lb54	Modulate speed device	Fan modulating speed device (line 1)	NONE	---	NONE INVERTER PHASE CUT CONTROL
lb93	Regulation by:	Fans regulation done by temperature or pressure value (line 1)	PRESSURE	---	PRESSURE TEMPERATURE
	Measure unit	Measure unit (line 1)	barg	---	…
	Refrigerant	Type of refrigerant (condensing line 1)	R404A	---	R22 R134a R404A R407C R410A R507A R600a R717 R744 R728 R1270 R417A

Mask index	Display description	Description	Default	UOM	Values	
					R290 R600	R422D
Ib94	Regulation type	Fan regulation type (line 1)	PROPORTIONAL BAND	---	PROPORTIONAL BAND NEUTRAL ZONE	
	Enable integral time action	Enabling of integral time for proportional band regulation	NO	---	NO YES	
Ib95	Setpoint	Setpoint without compensation (condensing line 1)	12,0 barg	…(**)	…(**)	
	Differential	Differential (condensing line 1)	2,0 barg	…(**)	…(**)	
Ib96	Configure another condensing line?	Second condensing line configuration	NO	---	NO YES	
Ib1a	Fans number	Fans number (line 2)	3	---	0…16	
…	…	…	…	…	…	
Ib1e	Differential	Differential (condensing line 2)	2,0 barg	…(**)	…(**)	
Ic01	Type of Installation	Type of plant	SUCTION & CONDENSER	---	SUCTION CONDENSER SUCTION & CONDENSER	
Ic02	Measure Units	Measure unit	°C/barg	---	°C/barg °F/psig	
Ic03	Number of suction lines	Number of suction lines	1	---	0…2	
Ic04	Dedicated pRack board for suction line	Suction lines are in different boards	NO	---	NO YES	
Ic05	Compressors type	Type of compressors (line 1)	RECIPROCATING	---	RECIPROCATING SCROLL SCREW	
	Compressors number	Compressor number (line 1)	4	---	1…6/12 (*)	
Ic06	Compressors type	Type of compressors (line 2)	RECIPROCATING	---	RECIPROCATING SCROLL SCREW	
	Compressors number	Compressor number (line 2)	0	---	1…6	
Ic07	Number of condensing line	Number of condensing lines of the plant	1	---	0…2	
Ic08	Line1	Fans number (line 1)	4	---	0…16	
	Line2	Fans number (line 2)	0	---	0…16	
Ic09	Dedicated pRack board for condenser line	Condenser lines are in different boards	NO	---	NO YES	
Id01	Save configuration	Storage of Manufacturer configuration	NO	---	NO YES	
	Load configuration	Manual installation of Manufacturer configuration	NO	---	NO YES	
Id02	Restore default	Manual installation of Carel default values	NO	---	NO YES	

(*) According compressor type
(**) According measure unit selected
(***) According compressor manufacturer
(****) According hardware size

CAREL

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+040000071 pRack– rel 1.0 – 14/12/2009