Danfoss OP-MPHM007NFP00G Optyma Plus Controller Instruction Manual

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Controller Installation

Annex

Optyma™ Plus condensing units are pre-parameterized, depending on the model of compressor mounted and the type of refrigerant. Controller parameter “o30” for refrigerant is Factory Preset as per below table and must be changed for other refrigerants (see chapter Commissioning – Quick start of the unit / Refrigerant change).

Code (controller parameter o61)*	Model* Optyma™ Plus New Generation	Code-no.	Compressor*	Refrigerant (controller parameter o30)* (13 = user defined via Modbus / ADAP-KOOL®)														
	settings are adjustable*			Factory Presetting	R404A (19)	R507 (17)	R134a (3)	R513A (36)	R407C (20)	R22 (2)	R407A (21)	R407F (37)	R448A (40)	R449A (41)	R452A (42)	R1234yf (39)	R454C (51)	R455A (52)
1	OP-MPHM007NFP00G	114X4101	NF7MLX	R404A	X	X												
2	OP-MPHM010SCP00G	114X4102	SC10MLX	R404A	X	X												
3	OP-MPHM012SCP00G	114X4104	SC12MLX	R404A	X	X												
4	OP-MPHM015SCP00G	114X4105	SC15MLX	R404A	X	X												
5	OP-MPHM018SCP00G	114X4109	SC18MLX	R404A	X	X												
6	OP-MPGM034GSP00G	114X4210	GS34MFX	R134a			X											
7	OP-MPHM026GSP00G	114X4214	GS26MLX	R404A	X	X												
8	OP-MPHM034GSP00G	114X4229	GS34MLX	R404A	X	X												
9	OP-MPTM018DXP00G	114X4115	DX18Tba	R454C	X	X							X	X	X		X	X
10	OP-MPTM021DXP00G	114X4217	DX21Tba	R454C	X	X							X	X	X		X	X
10	OP-MPTM022DSP00G	114X4237	DS22TB	R454C	X	X							X	X	X		X	X
10	OP-MPTM038DSP00G	114X4218	DST38NA	R454C	X	X							X	X	X		X	X
11	OP-MPTM026DSP00G	114X4238	DS26TB	R454C	X	X							X	X	X		X	X
12	OP-MPTM026DSP00E	114X4239	DS26T3	R454C	X	X							X	X	X		X	X
13	OP-MPTM034DSP00E	114X4242	DS34T3	R454C	X	X							X	X	X		X	X
14	OP-MPTM034DSP00G	114X4241	DS34TB	R454C	X	X							X	X	X		X	X
16	OP-MPGM026DSP00G	114X4243	CS26TB	R1234yf			X	X								X		
17	OP-MPGM030DSP00G	114X4244	CS30TB	R1234yf			X	X								X		
18	OP-MPIM034MLP00G	114X4205	MLZ015T5LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM034MLP00E	114X4204	MLZ015T4LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM046MLP00G	114X4207	MLZ021T5LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM046MLP00E	114X4206	MLZ021T4LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM057MLP00G	114X4209	MLZ026T4LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM057MLP00E	114X4208	MLZ026T5LP9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM068MLP00E	114X4306	MLZ030T4LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM068MLP00G	114X4307	MLZ030T5LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM080MLP00E	114X4309	MLZ038T4LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM080MLP00G	114X4312	MLZ038T5LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM108MLP00E	114X4314	MLZ048T4LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM125MLP00E	114X4409	MLZ058T4LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
18	OP-MPIM162MLP00E	114X4410	MLZ076T4LC9B	R454C	X	X	X	X			X	X	X	X	X		X	X
19	OP-LPKM067LLP02E	114X3304	LLZ013T4LQ9B	R454C	X	X							X	X	X		X	X
19	OP-LPKM084LLP02E	114X3305	LLZ015T4LQ9B	R454C	X	X							X	X	X		X	X
19	OP-LPKM098LLP02E	114X3306	LLZ018T4LQ9B	R454C	X	X							X	X	X		X	X
19	OP-LPKM120LLP02E	114X3405	LLZ024T4LQ9B	R454C	X	X							X	X	X		X	X
19	OP-LPKM168LLP02E	114X3406	LLZ034T4LQ9B	R454C	X	X							X	X	X		X	X
20	OP-LPHM018SCP00G	114X3109	SC18CLX.2	R404A	X	X												
21	OP-LPHM026GSP00G	114X3217	GS26CLX	R404A	X	X												
22	OP-LPQM048NTP00G	114X3225	NTZ48-5VM	R452A	X	X									X			
22	OP-LPWM048NTP00G	114X3204	NTZ48-5VM	R454C	X	X									X		X	X
23	OP-LPQM048NTP00E	114X3233	NTZ48-4VM	R452A	X	X									X			
23	OP-LPWM048NTP00E	114X3205	NTZ48-4VM	R454C	X	X									X		X	X
24	OP-LPQM068NTP00G	114X3241	NTZ68-5VM	R452A	X	X									X			
24	OP-LPWM068NTP00G	114X3206	NTZ68-5VM	R454C	X	X									X		X	X
25	OP-LPQM068NTP00E	114X3249	NTZ68-4VM	R452A	X	X									X			
25	OP-LPWM068NTP00E	114X3207	NTZ68-4VM	R454C	X	X									X		X	X
26	OP-LPQM096NTP00E	114X3357	NTZ96-4VM	R452A	X	X									X			
27	OP-LPQM136NTP00E	114X3365	NTZ136-4VM	R452A	X	X									X			
28	OP-MPXM034MLP00G	114X4261	MLZ015T5LP9	R449A	X	X	X	X			X	X	X	X	X			
29	OP-MPXM034MLP00E	114X4264	MLZ015T4LP9	R449A	X	X	X	X			X	X	X	X	X			
30	OP-MPXM046MLP00G	114X4281	MLZ021T5LP9	R449A	X	X	X	X			X	X	X	X	X			
31	OP-MPXM046MLP00E	114X4284	MLZ021T4LP9	R449A	X	X	X	X			X	X	X	X	X			
32	OP-MPXM068MLP00G	114X4308	MLZ030T5LC9	R449A	X	X	X	X			X	X	X	X	X			
33	OP-MPXM068MLP00E	114X4311	MLZ030T4LC9	R449A	X	X	X	X			X	X	X	X	X			
34	OP-MPXM080MLP00G	114X4321	MLZ038T5LC9	R449A	X	X	X	X			X	X	X	X	X			
35	OP-MPXM080MLP00E	114X4324	MLZ038T4LC9	R449A	X	X	X	X			X	X	X	X	X			
36	OP-MPXM108MLP00E	114X4344	MLZ048T4LC9	R449A	X	X	X	X			X	X	X	X	X			
37	OP-MPXM125MLP00E	114X4414	MLZ058T4LC9	R449A	X	X	X	X			X	X	X	X	X			
37	OP-MPXM125MLP06E	114X4403	MLZ058T4LC9	R449A	X	X	X	X			X	X	X	X	X			
38	OP-MPXM162MLP00E	114X4434	MLZ076T4LC9	R449A	X	X	X	X			X	X	X	X	X			
38	OP-MPXM162MLP06E	114X4404	MLZ076T4LC9	R449A	X	X	X	X			X	X	X	X	X			
39	OP-LPQM120LLP02E	114X3485	LLZ024T4LC9	R452A	X	X							X	X	X			
39	OP-LPQM215LLP06E	114X3403	LLZ024T4LC9	R452A	X	X									X			
40	OP-LPQM168LLP02E	114X3486	LLZ034T4LC9	R452A	X	X							X	X	X			
40	OP-LPQM271LLP06E	114X3404	LLZ034T4LC9	R452A	X	X									X			
41	OP-MPXM057MLP00G	114X4290	MLZ026T5LP9	R449A	X	X	X	X			X	X	X	X	X			

42	OP-MPXM057MLP00E	114X4293	MLZ026T4LP9	R449A	X	X	X	X			X	X	X	X	X			
43	OP-LPOM067LLP02E	114X3371	LLZ013T4LC9	R452A	X	X							X	X	X			
44	OP-LPOM084LLP02E	114X3372	LLZ015T4LC9	R452A	X	X							X	X	X			
45	OP-LPOM098LLP02E	114X3373	LLZ018T4LC9	R452A	X	X							X	X	X			
46	OP-MPBM024AJP00G	114X4200	CAJ9513Z	R449A	X	X							X	X	X			
47	OP-MPBM026AJP00G	114X4212	CAJ4517Z	R449A	X	X							X	X	X			
48	OP-MPBM026AJP00E	114X4213	TAJ4517Z	R449A	X	X							X	X	X			
49	OP-MPBM034AJP00G	114X4226	CAJ4519Z	R449A	X	X							X	X	X			
50	OP-MPBM034AJP00E	114X4227	TAJ4519Z	R449A	X	X							X	X	X			
51	OP-LPQM026AJP00G	114X3216	CAJ2446Z	R452A	X	X									X			
52	OP-MPGM033AJP00G	114X4220	CAJ4511Y	R134a			X	X										
53	OP-LPQM074FHP00G	114X3252	FH2511Z	R452A	X	X									X			
54	OP-LPQM074FHP00E	114X3253	TFH2511Z	R452A	X	X									X			
55	OP-MPLM028VVZP01E	114X4300	VLZ028TGNE9	R404A	X	X					X	X						
55	OP-MPPM028VVZP01E	114X4302	VLZ028TGA	R449A	X	X					X	X	X	X				
56	OP-MPLM035VVZP01E	114X4315	VLZ035TGNE9	R404A	X	X					X	X						
56	OP-MPPM035VVZP01E	114X4316	VLZ035TGA	R449A	X	X					X	X	X	X				
57	OP-MPLM044VVZP01E	114X4333	VLZ044TGNE9	R404A	X	X					X	X						
57	OP-MPPM044VVZP01E	114X4334	VLZ044TGA	R449A	X	X					X	X	X	X				
58	OP-LPVM016DPP00G	114X3110	DPT16LA	R454C	X	X							X	X	X		X	X
59	OP-LPVM026DSP00G	114X3201	DST26NA	R454C	X	X							X	X	X		X	X
60	OP-LPVM034DSP00G	114X3202	DST34LA	R454C	X	X							X	X	X		X	X
64	OP-LPQM017MPP00G	114X3118	DPT16LA	R452A	X	X									X			
65	OP-MPOM008MYP00G	114X4119	DLY80RAb	R449A	X	X								X				
65	OP-MPTM008DLP00G	114X4107	DLY80RAb	R454C	X	X							X	X	X		X	X
66	OP-MPOM009MYP00G	114X4120	DLY90RAb	R449A	X	X								X				
66	OP-MPTM009DLP00G	114X4111	DLY90RAb	R454C	X	X							X	X	X		X	X
67	OP-MPOM012MPP00G	114X4121	DPT12RA	R449A	X	X								X				
67	OP-MPTM012DPP00G	114X4113	DPT12RA	R454C	X	X							X	X	X		X	X
68	OP-MPOM014MPP00G	114X4122	DPT14RA	R449A	X	X								X				
68	OP-MPTM014DPP00G	114X4114	DPT14RA	R454C	X	X							X	X	X		X	X
69	OP-MPBM018AJP00G	114X4230	CAJ9510Z	R449A	X	X							X	X	X			

Code (controller parameter o61): Code (Regler Parameter o61)/ Code (controller parameter o61)

Model :Model

Code-no.: Art-Nr

Compressor : Compresseur

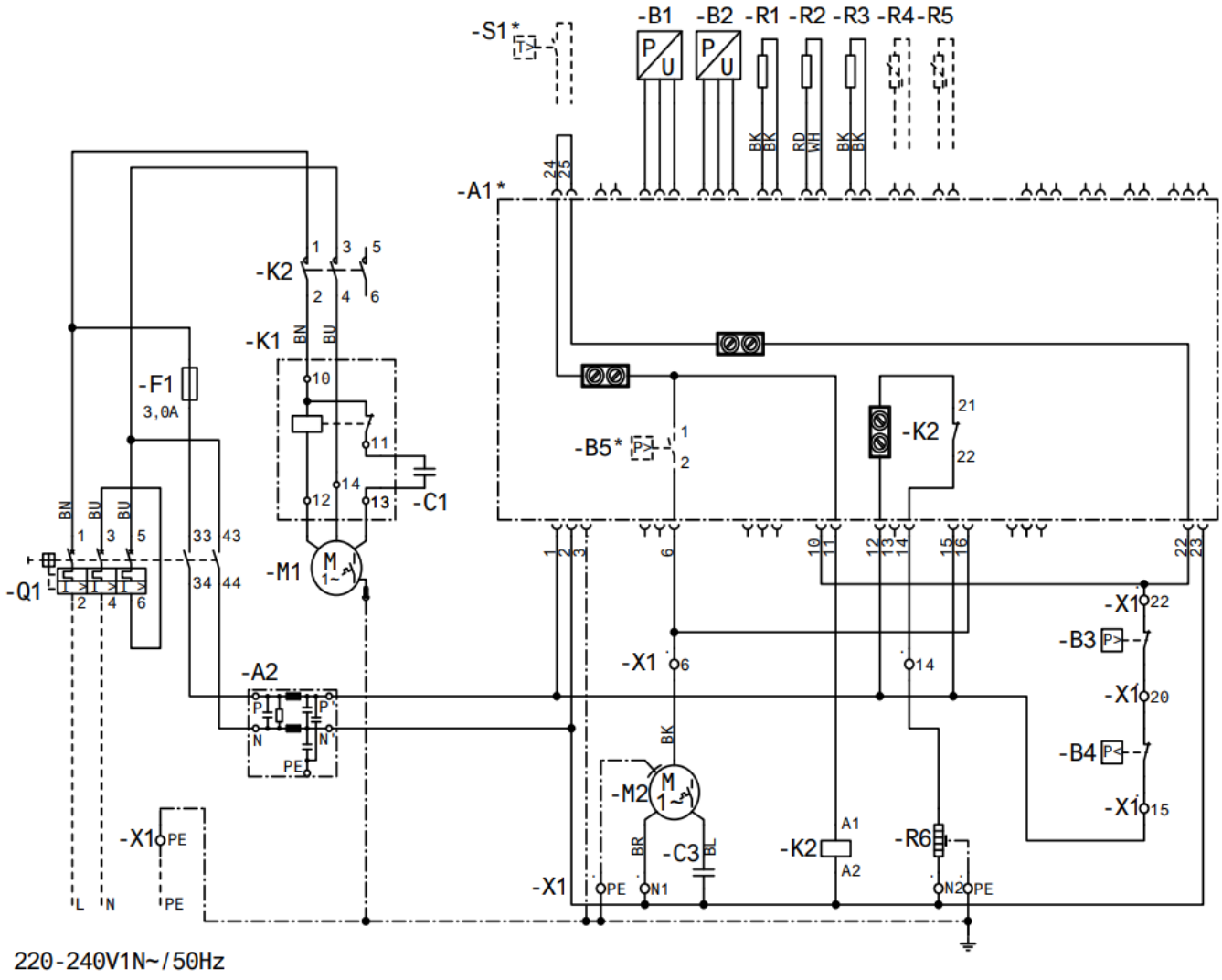
Refrigerant:

Settings are adjustable

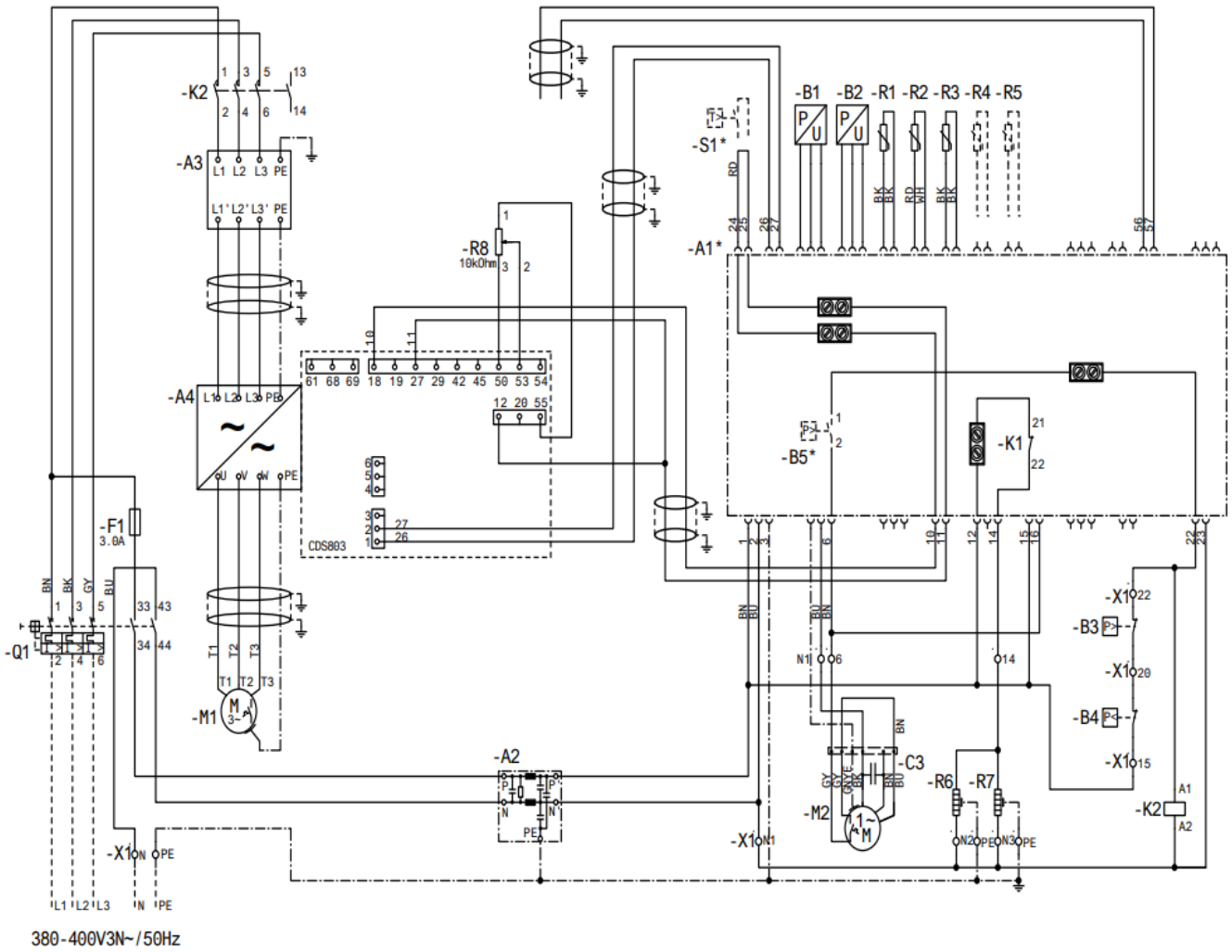
Controller parameter o61 (A2L models only)

Fluid Group	Refrigerant	Parameter (o61*)
A2L	R455A & R454C	LLZ LI compressors = 19 MLZ Scroll compressors = 18
A1	R134a, R404A/R507, R452A, R448A, R449A & R513A	Refer above table

Optyma™ Plus equipped with fixed speed compressor



Optyma™ Plus INVERTER equipped with variable speed compressor



Legend

A1* Controller (option)
A2 EMI lter (control circuit)
A3 EMC/RFI Filter (Compressor)
A4 Frequency Converter
B1 Condensing pressure transducer
B2 Suction pressure transducer
B3 High pressure switch
B4 Low pressure switch
B5* Fan speed controller/pressure switch (option)
C1 Start capacitor (compressor)
C3 Run capacitor (fan)
E1 Crankcase heater
F1 Fuse (control circuit)
K1 Start Relay
K2 Contactor
M1 Compressor
M2 Fan motor
Q1 Main switch
R1 Ambient temp. sensor
R2 Discharge temp. sensor
R3 Suction temp. sensor
R4,R5 Auxiliary temp. sensor
R7 Oil separator heater
R8 Potentiometer

S1* Room thermostat (option)
X Terminals

Commissioning

Electrical installations

- Arrange electrical connections as mentioned in the table below
- Remove temporarily bridge DI1 (terminals 24 – 25 of the controller) to get access to parameters and values of the controller without starting the condensing unit

Room Thermostat control without Pump Down function

- Connect room thermostat(24 – 25 i.e. DI1) to these terminals
- Connect power supply to main switch acc. wiring diagram, located in front door inner side

Pump Down control with factory delivered low pressure transmitter

- Connect power supply to main switch acc. wiring diagram, located in front door inner side
- Increase the Setting of controller Par. c33 (Pump Down CUT-OUT value):
  e.g. Piston : 0,7bar
  e.g. Scroll : 1,7bar
  Note: To avoid low pressure alarm, the Setting of c33 and r23 (for INVERTER units) should be higher than c75

Commissioning

Electrical installations

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  e.g. Piston : 0,7bar

e.g. Scroll : 1,7bar

Note: To avoid low pressure alarm, the Setting of c33 and r23 (for INVERTER units) should be higher than c75

Main display (after controller start-up)

- By default the controller's screen displays the Evaporating temp. in deg. C
- Press the lower button to see the condensing temp. in eg. c,
- The display returns to its default screen after few seconds if no key is pressed

Parameter Menu

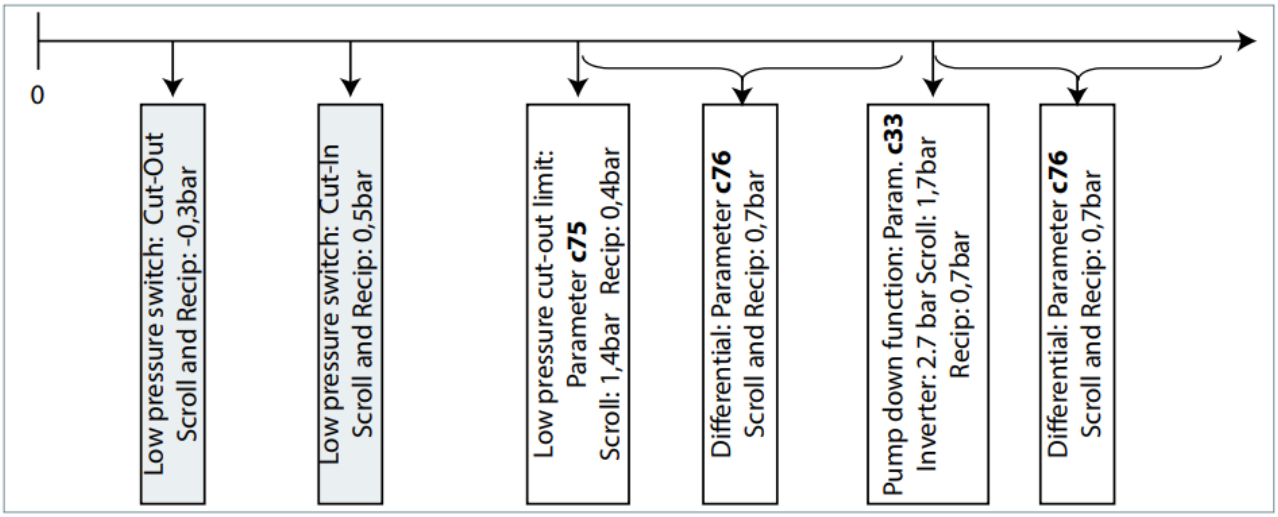
- Press upper button for 5 seconds to get access to parameter menu.
- After entering parameters menu "r05" will be shown on display.
- Press upper or lower button to go to other parameters.
- Press middle button to see the value of any parameter. 3 LEDs on controller will start flashing after this step.
- Press upper or lower button to change the value of that parameter. Press middle button to save the value. Or the value will be stored after 20 seconds if no key is pressed after changing the value.
- The display returns to its default screen if no key is pressed for 20 seconds.

Quick start of the unit / Refrigerant change

- Optyma™ Plus new generation is preset, depending on the compressor model and refrigerant type. In the case of a "multi-refrigerant" compressor, the controller of the condensing unit is Factory Preset as per above table (see table on page 4). If this factory setting fits for the requirement of your application, no controller parameter to be changed.
- For refrigerant change go into parameter menu (hold upper button for 5 seconds).
- Select parameter r12 from parameter menu by pressing lower button.
- Select r12 by pressing middle button, change value to ''0'' and save.
- Now select the parameter ''o30'' from parameter menu and set its value as per required refrigerant to 3 (R134a), 17 (R507), 20 (R407C), 19 (R404A), 21 (R407A), 37 (R407F), 40 (R448A), 41 (R449A), 42 (R452A), 36 (R513A)
- Again select parameter r12 and set its value to 1.
- Condensing unit will start after this step as per logic.
- After 20 seconds the display returns to the evaporation temperature in °C, the new refrigerant and all relevant parameters are changed

Pump Down – Function

- A "pump-down" limit can be activated with the setting of parameter c33
- To avoid unwanted low pressure alarms, the setting of this parameter should be higher than the low pressure cut-out limit parameter c75, … e.g. below



Day/Night – Function

In some areas it may be necessary to reduce noise level during night time.
This is possible with the “Day / Night” function of the Optyma™
Plus controller which limits the fan speed for all units and the compressor speed for INVERTER units. For activation follow the next steps …

- Activate the parameter menu (press upper button min. 5 sec.)
- Select parameter “r13” Night Offset (temperature offset related to condensing temperature setpoint for daytime which is parameter “r29”)
- Push middle button and set the desired value, e.g. 005 for 5 Kelvin
- Confirm the value with a short press on the middle button. Do the same with the next parameters which are required for the “Day / Night” – function …
- Select and set parameter “t17” Day start (hours), e.g. 006 for 06:00 a.m.
- Select and set parameter “t18” Night start (hours), e.g. 022 for 22:00 p.m.
- Select and set parameter “t07” Clock setting (hours), e.g. 011 for 11:xx a.m.
- Select and set parameter “t08” Clock setting (minutes), e.g. 035 for 11:35 a.m.
- Select and set parameter “t45” Clock setting (date), e.g. 010 for 10.xx.xx
- Select and set parameter “t46” Clock setting (month), e.g. 004 for 10.04.xx
- Select and set parameter “t47” Clock setting (year), e.g. 012 for 10.04.12
- All values will be stored with the middle button or after 20s without pressing any button

Service and Maintenance

Main Display

(Evaporating and Condensing Temperature, Setpoint Temperature Difference)

• The controller displays the evaporation temperature in °C (main screen)
• It will show condensing temperature in °C after pressing short the lower button
• The difference between condensing temp. and ambient temp. in deg. C can be shown by pressing middle button. It can be modified by pressing upper or lower button.
• The display returns to main screen after a few seconds without any action on the buttons

Operating Parameters

- Operation conditions of the condensing unit can be displayed in the parameter menu by selecting parameters “U” … below some examples

u01	Condensing Pressure
u10	Status of DI1 (room thermostat)
u21	Superheat
u37	Status of DI2 (frequency converter alarm)
u52	Compressor Capacity
U22	Condensing Temperature
U23	Evaporation Pressure
U24	Evaporation Temperature
U25	Ambient Temperature
U26	Discharge Temperature
U27	Suction Temperature
U44	Voltage on A01
U56	Voltage on A02

Alarm and Error Messages

- In case of “malfunctions” 3 small LED symbols will ash on the controller’s screen. Acknowledge with a short press on upper button. Here some examples below …

A2	Low Suction Pressure Alarm
A17	Safety Input Alarm (DI3: High condensing / low suction pressure)
A96	Discharge Gas Temperature High
A97	Digital Input Alarm (DI2: Frequency converter alarm)
E20	Condensing Pressure Transmitter Error
E31	Ambient Temperature Sensor Error
E32	Discharge Temperature Sensor Error
E33	Suction Gas Temperature Sensor Error
E39	Evaporating Pressure Transmitter Error

Repair

Controller failure

(if the controller fails, there is a possibility to run the condensing unit in “manual” mode. Proceed as follows)

Fixed speed units:

See wiring diagrams on page 5

- Disconnect the condensing unit from power supply (turn hardware main switch off)
- Remove wire from controller terminal 22 (safety input DI3) and terminal 25 (room thermostat DI1) and put them together
- Remove wire from controller terminal 24 (room thermostat DI1) and terminal 11 (compressor supply) and put them together
- Remove wire 6* and connect it with terminal bridge for wire 11 and 24.
- Remove wire from terminal 14 (crankcase heater) and connect it to compressor contactor K2 terminal 22
- Remove wire from controller terminal 12 (supply crankcase heater), extend this wire approximately 40cm and connect it to compressor contactor K2 terminal 21
- Pay attention: Remove the big terminal block from the controller or remove the complete controller
- Connect the condensing unit back to power supply (turn hardware main switch on)

Variable speed units:

See wiring diagrams on p. 5.

- Disconnect the condensing unit from power supply (turn hardware main switch off)

- Remove wire from controller terminal 22 (safety input) and terminal 6* (fan) and put them together
- Remove wire from controller terminal 10 (compressor relay) and terminal 24 (room thermostat) and put them together
- Remove wire from controller terminal 11 (compressor relay) and terminal 25 (room thermostat) and put them together
- Remove wire from Inverter terminal 50 and connect to Potentiometer terminal 3
- Remove wire from Inverter terminal 53 and connect to Potentiometer terminal 2
- Remove wire from Inverter terminal 55 and connect to Potentiometer terminal 1
- Remove wire from terminal 14 (crankcase heater) and connect it to compressor contactor K1 terminal 22
- Remove wire from controller terminal 12 (supply crankcase heater), extend this wire approximately 40cm and connect it to compressor contactor K1 terminal 21
- Pay attention: Remove the big terminal block from the controller or remove the complete controller
- Connect the condensing unit back to power supply (turn hardware main switch on)

Option: A fan pressure switch or fan speed controller can be connected in series to wire n°6

Factory reset

(all factory parameters can be restored by the following procedure)

- Turn OFF the main power switch
- While holding simultaneously the up and down button, turn ON the main switch
- Message FAC is displayed, means “FACTORY RESET” restores factory settings
- After a short time message “typ” appears on the screen
- Activate parameter menu and go to parameter o61 (unit type)
- Enter the value 1 to 57 depending on the type of condensing unit (see table 1 on page 3)
- Store the entered value by pressing the middle button of the controller
- After 15 seconds without action the message “ref” appears on the screen
- Activate parameter menu and go to parameter o30 (refrigerant)
- Change the value to 3 (for refrigerant R134a),17(R507), 20(R407C), 19(R404A), 21(R407A), 37(R407F), 40(R448A), 41(R449A), 42(R452A) or 36 (R513A)

For INVERTER units only:

- Turn OFF the main power switch
- While holding simultaneously the up and down button, turn ON the main switch
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- Activate parameter menu and go to parameter o61 (unit type)
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40(R448A), 41(R449A), 42(R452A) or 36 (R513A)

For INVERTER units only:

- Set parameter c71 to 2 (variable speed compressor)
- Set parameter o37 to 7 (frequency converter alarm on DI2)
- Store the entered value by pressing the middle button of the controller
- Go to parameter o67 (store values as factory setting)
- Change the value to “on”
- Validate the parameter entered by pressing the middle button of the controller
- After 15 seconds without action the message “OFF” appears on the screen
- Activate parameter menu and go to parameter r12 (main switch)
- Change the value to 1 (condensing unit will start if cooling demand from cold room controller)
- The “Day / Night” function must be reprogrammed too (see chapter Commissioning – Day/Night – Function)
  For Liquid injection models only (OP-xxxxxxxxxP02E), if o30 value is 19= R404A or 40=R448A or 41=R449A in controller,
- Push the upper or lower button to nd parameter code r84.
- Push the middle button until the value for this parameter is shown as 125
- Push the upper button to select the new value: 130.

Controller Replacement of a unit on site

- Turn OFF the main power switch
- Remove the new controller (remove all plugs, 2 x I-type screws and controller)
- Install the new controller
- Turn ON main power switch again, no factory reset needed
- After a short time message “typ” appears on the screen
- Follow same steps as shown in preceding chapter fifth row and following
  spare part code controller SINGLE pack: 118U3465

Control

Control of condensing pressure

- The setpoint condensing temperature is calculated from the measured ambient temperature plus an adjustable Temperature Offset (called Reference) and controlled by the fan speed
- Factory setting of Reference = 8.0K
- The Reference is accessible by pressing short the middle button of the controller
- When Reference is shown, it can be modified with the upper or lower button
- Additionally to this the control of the condensing temperature can be limited by following parameters:
  “r82” = minimal condensing temperature (factory set: 10.0°C)
  “r83” = maximal condensing temperature (factory set: 40.0°C)

Control of crankcase heater

- The controller optimizes the regulation of the crankcase heater itself. The heating power depends on the

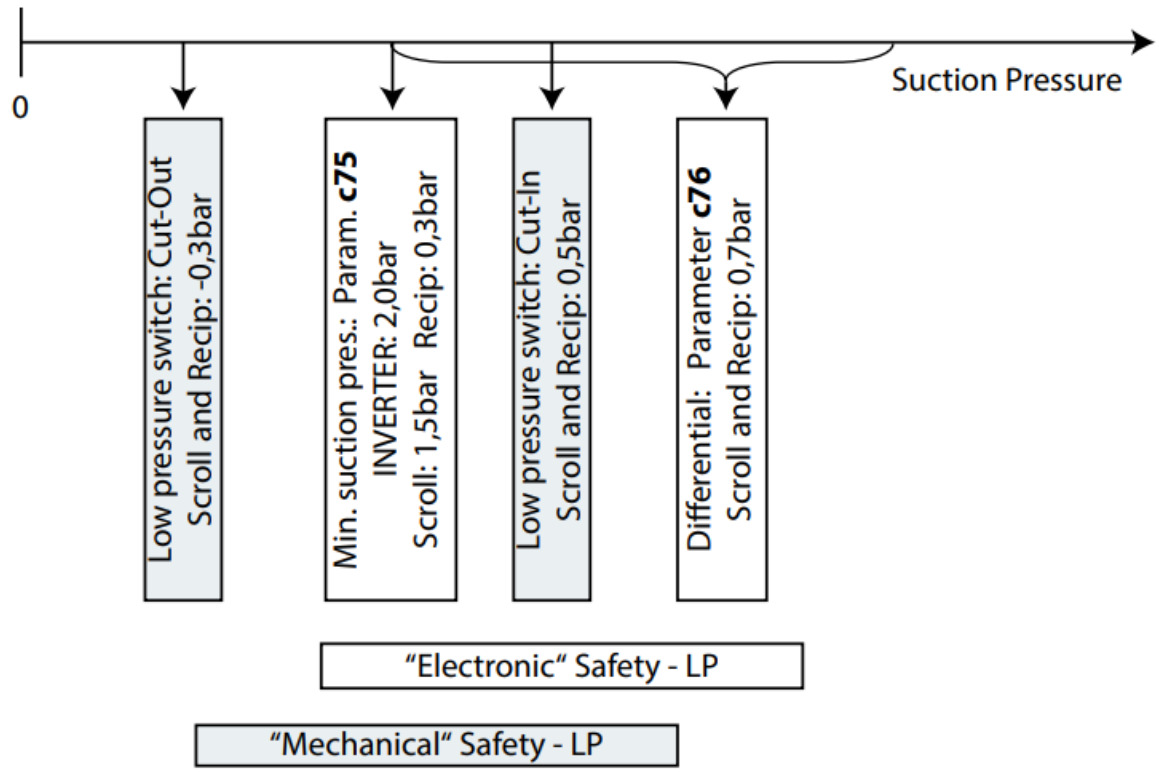
ambient temperature and suction pressure and is controlled by Pulse Width modulation

- There is no change of parameters “P45”, “P46” and “P47” necessary on site

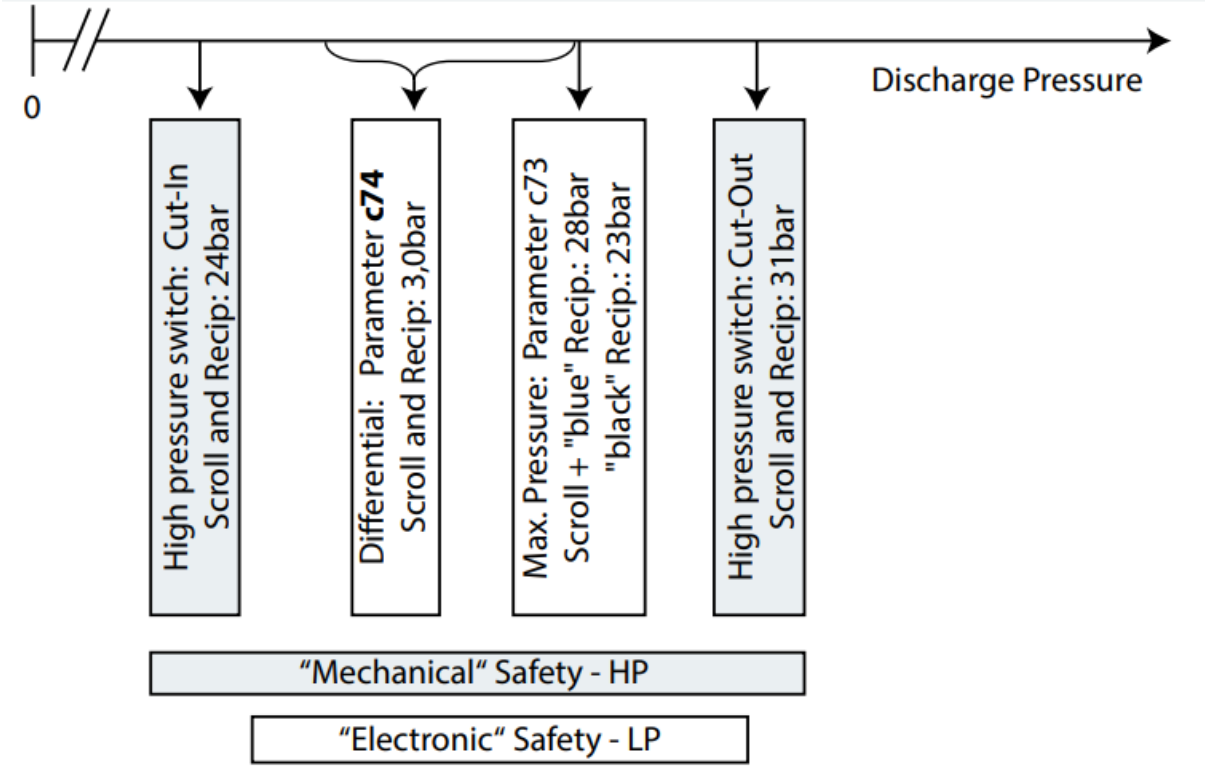
Control of Fan Speed

- The fan speed is controlled by PI-control, depends on the actual value and the setpoint of the condensing temperature
- There is no change of parameters “F14” and “F21” to be provided on site

Safety Parameter “Low Pressure” for R448A / R449A / R452A



Safety Parameter “High Pressure” for R448A / R449A / R452A



Documents / Resources

	Danfoss OP-MPHM007NFP00G Optyma Plus Controller [pdf] Instruction Manual OP-MPHM007NFP00G Optyma Plus Controller, OP-MPHM007NFP00G, Optyma Plus Controller, Plus Controller, Controller

References

- Read more on our commercial compressors | Danfoss | Danfoss
- User Manual