

MENU	Carel Hecu programming - UMT/WG T MT (v.3.0.12)								Changed Settings		
	08/04/2019				UMTT 30 3.0.12	UMTT 45 3.0.012	UMTT 67 3.0.012	UMTT 100 3.0.012	Old Setting rev 3.000 (08/03/2019)	New Setting rev 3.101 (08/04/2019)	
WIZARD	Step 1: Wizard										
	Mask Index	Description	Default	UOM	Values	Values	Values	Values	Values	Note	
	Start up	Select config. item.	WIZARD	-	WIZARD	WIZARD	WIZARD	WIZARD	WIZARD		
	lb01	Type of installation:	Medium Temperature	-	Medium Temperature	Medium Temperature	Medium Temperature	Medium Temperature	Medium Temperature		
	lb02	Measure units:	°C/barg	-	°C/barg	°C/barg	°C/barg	°C/barg	°C/barg		
	lb03	Compressor config. Type:	SCROLL	-	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL		
		Compressor number:	1	-	1	1	1	1	1	Check unit model	
	lb04	Modulate speed device (Only for first compressor)	BLDC	-	BLDC	BLDC	BLDC	BLDC	BLDC	Check unit model	
	lb05	BLDC address:	1	-	1	1	1	1	1		
		Motor type:	TOSHIBA DY45N1F-10FU	-	TOSHIBA DY30N1F-10FU	TOSHIBA DY45N1F-10FU	TOSHIBA DY67N1F-10FU	TOSHIBA RY100N1F-10FU	TOSHIBA RY100N1F-10FU		
		Type drive	PSD1*102***	-	PSD1*102***	PSD1*102***	PSD2*162***	PSD1*184***	PSD1*184***	Read status: <connected>	
	lb11	Power+ type/set:	230V 36A/230V 10A	-	230V 36A/230V 10A	230V 36A/230V 10A	230V 36A/230V 16A	230V 36A/230V 10A	230V 36A/230V 10A		
	lb06	Regulation by:	PRESSURE	-	PRESSURE	PRESSURE	PRESSURE	PRESSURE	PRESSURE		
		Refrigerant:	R744	-	R744	R744	R744	R744	R744		
	lb07	Setpoint:	26.0	-	26.0	26.0	26.0	26.0	26.0		
		Differential:	12.0	-	12.0	12.0	12.0	12.0	12.0	see el. data	
	lb10	Enable fixed speed backup comp.:	NO	-	NO	NO	NO	NO	NO		
	lb91			-							
	lb92	Gas cooler config. -Modulate speed device (Only for first fan)	NONE	-	0-10V INVERTER-EC FANS	0-10V INVERTER-EC FANS	0-10V INVERTER-EC FANS	0-10V INVERTER-EC FANS	0-10V INVERTER-EC FANS		
	lb95	Regulation by:	Temperature	-	Temperature	Temperature	Temperature	Temperature	Temperature		
		Measure unit:	°C	-	°C	°C	°C	°C	°C		
		Refrigerant:	R744	-	R744	R744	R744	R744	R744		
	lb96	Regulation type:	PROPORTIONAL BAND	-	PROPORTIONAL BAND	PROPORTIONAL BAND	PROPORTIONAL BAND	PROPORTIONAL BAND	PROPORTIONAL BAND		
		Enable integral time action:	YES	-	YES	YES	YES	YES	YES		
	lb97	Setpoint:	24.0	-	24.0	24.0	24.0	24.0	24.0	Check selection	
		Differential:	4.0	-	4.0	4.0	4.0	4.0	4.0		
lb99	CO2 Valves: installed:	HPV	-	HPV+RPRV	HPV+RPRV	HPV+RPRV	HPV+RPRV	HPV+RPRV			
	Type:	UNIPOLAR	-	UNIPOLAR	UNIPOLAR	UNIPOLAR	UNIPOLAR	UNIPOLAR			
	Valves routing:	TWIN A->HPV, B->RPRV	-	SINGLE A->HPV	SINGLE A->HPV	SINGLE A->HPV	SINGLE A->HPV	SINGLE A->HPV			
	Status:	Disconnected	-	Connected	Connected	Connected	Connected	Connected	Readonly		
lb3A	Configuration complete		-						ENTER to continue		
	Visualize Report?	NO	-	NO	NO	NO	NO	NO	push down to continue		
	Boards necessary	1	-	1	1	1	1	1	Readonly - Press		
	Auto config.		-						ENTER to continue		
I/O CONFIGURATION	Step 2: Check I/O according to the wiring diagram (B.Input/Outputs-> a.Status->)										
	Mask Index	Description	Default	Type/Logic	Values	Values	Values	Values	Values	Note	
	a. digital inputs										
	Baa56	L1 - Common Low Pressostat	-	NC	-	-	-	-	-		
	Baa01	L1 - Common High Pressostat	-	NC	D12	D12	D12	D12	D12	check el. diagram	
	Baada	Comp. inverter warning	-	NO	-	-	-	-	-		
	Baa02	Alarm 1 compressor 1	-	NC	-	-	-	-	-		
	Baa58	Common oil Alarm	-	NC	-	-	-	-	-		
	Baa59	Liquid level alarm	-	NC	EVD D11	EVD D11	EVD D11	EVD D11	EVD D11	check el. diagram	
	Baadc	Fans inverter warning	-	NO	-	-	-	-	-		
	Baadf	HP prevent:	-	NC	-	-	-	-	-		
	Baabk	Fan common overload	-	NC	-	-	-	-	-		
	Baacz	On /Off parallel compressor	-	NC	-	-	-	-	-		
	Baacf/g/h/i/j	Generic DI F/G/H/I/J	-	NC	-	-	-	-	-		
	Baack	Unit ON/OFF	-	NO	ID1	ID1	ID1	ID1	ID1	check el. diagram	
	Baacy	Digital unit ON/OFF	-	NC	-	-	-	-	-		
	Baacn	prack working status	-	NC	-	-	-	-	-		
	Baade	HPV alarm:	-	NC	-	-	-	-	-		
	Baadf	RPRV Alarm:	-	NC	-	-	-	-	-		
	b. analogue inputs										
	Bab01	Suction pressure probe	-	0-5V	U6 (0-90)	U6 (0-90)	U6 (0-90)	U6 (0-90)	U6 (0-90)	Check measured value	
	Bab05	Suction temperature	-	NTC	U3	U3	U3	U3	U3	Check measured value	
	Bab11	Discharge temperature	-	HTNTC	B6	B6	B6	B6	B6	Check measured value	
	Bab07	Gas cooler pressure probe	-	4-20 mA	U7 (0-150)	U7 (0-150)	U7 (0-150)	U7 (0-150)	U7 (0-150)	Check measured value	
	Bab10	Gas cooler outlet temperature	-	NTC	U5	U5	U5	U5	U5	Check measured value	
	Bab02	Gas cooler backup t.	-	NTC	-	-	-	-	-		
	Bab70	Gas cooler inlet t.	-	NTC	-	-	-	-	-		
	Bab62	Oil receiver differential	-	4-20mA	-	-	-	-	-		
	Bab15	External temperature	-	NTC	U2	U2	U2	U2	U2	Check measured value	
	Bab16	Room temperature	-	NTC	-	-	-	-	-		
	Bab29	bldc disch. Temp.	-	NTC-HT	U4	U4	U4	U4	U4		
	Bab66	RPRV receiver pressure	-	0-5V	U10 (0-90)	U10 (0-90)	U10 (0-90)	U10 (0-90)	U10 (0-90)		
	Bab67	HPV feedback	-	0-10V	-	-	-	-	-		
	Bab68	RPRV feedback	-	0-10V	-	-	-	-	-		
	c. digital outputs										
	Bac02	Compressor 1	-	NO	-	-	-	-	-	check el. diagram	
	Baceo	BLdc crankase heater	-	NO	-	-	-	-	-		
	Bacbt/u/v	Fan 1/2/3	-	NO	-	-	-	-	-		
	Bacen	Serious alarm	-	NC	1	1	1	1	1	check el. diagram	
	Baceh	Life signal	-	NO	-	-	-	-	-		

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Bacei	BMS forced output	-	NO	-	-	-	-	-		
Baceo	Lamp1 HI LO Pressure	-	NO	-	-	-	-	-		
Baceq	Lamp2 Generic alarm	-	NC	-	-	-	-	-		
Bacep	Lamp3 Comp Running	-	NC	-	-	-	-	-		
d. analog outputs										
Bad01	Compressors inverter			Y2	Y2	Y2	Y2	Y2	see el. diagram	
Bad07	Fans inverter			Y1	Y1	Y1	Y1	Y1	see el. diagram	
Bad14	HPV valve		EVD	EVDA	EVDA	EVDA	EVDA	EVDA	see el. diagram	
Bad15	RPRV Valve		EVD	EVDB	EVDB	EVDB	EVDB	EVDB	see el. diagram	
Step 3:Check compressors sections (C. Compressors->)										
a.Line1										
a.I/O status	done with I/O configuration (step2)			-	-	-	-	-		
Caeq	Comp. 1 equal. Valve	-	NO	6	6	6	6	6	Check electrical diagram	
b. Regulation										
Cab01	Regulation by:	PRESSURE		PRESSURE	PRESSURE	PRESSURE	PRESSURE	PRESSURE		
	Regulation type:	FIXED SETPOINT		FIXED SETPOINT	FIXED SETPOINT	FIXED SETPOINT	FIXED SETPOINT	FIXED SETPOINT		
Cab02	Setpoint limits	10.0-40.0	bar	25.0-29.0	25.0-29.0	25.0-29.0	25.0-29.0	25.0-29.0		
Cab03	Setpoint:	26.0	bar	25.5	25.5	25.5	25.5	25.5		
Cab04	Energy saving; Maximum floating point:	40	bar	29	29	29	29	29		
	Energy saving; Minimum floating point:	26	bar	25,5	25,5	25,5	25,5	25,5		
Cab14	PID press. regulation; Prop. Band:	12	bar	6.0	6.0	6.0	6.0	6.0		
	PID press. regulation; Integral time:	50	s	90	90	90	90	90		
	Setup for force off:		bar	8.0	8.0	8.0	8.0	8.0		
Cab12	Power load to 100% min time:	15	s	30	30	30	30	30		
	Power load to 100% max time:	90	s	90	90	90	90	90		
Cab13	Power unload to 0% min time:	30	s	10	10	10	10	10		
	Power unload to 0% max time:	180	s	60	60	60	60	60		
c.Working Hour and d.Energy saving-> keep defaults										
Cad01	Enable suction setpoint compensation	NO		NO	NO	NO	NO	NO		
Cad02	Winter offset/Closing offset	0	bar	0	0	0	0	0		
Cad05	Change set by DI	NO		NO	NO	NO	NO	NO		
Cad14	Low amb. Temp. prevent Enable	NO		NO	NO	NO	NO	NO		
	Press. diff. Thres.	2.0	bar	2.0	2.0	2.0	2.0	2.0		
	Ext. Temp. thr.	-18	°C	-18	-18	-18	-18	-18		
	Compr. time thresh.	30	min	30	30	30	30	30		
Cad15	Low amb. Temp. prevent activation offset	8	bar	8	8	8	8	8		
	Time	2	min	2	2	2	2	2		
Cad16	Low amb. Temp. prevent deactivation compr. running time	10	min	10	10	10	10	10		
	Ext temp. diff.	8	°C	8	8	8	8	8		
e. Alarms										
Cae01	Number of alarms for compressor	1		0	0	0	0	0		
Cae02	Alarm description	Generic:Overload/HP/LP/Oil		Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil		
Cae04	Activ. Delay	0	s	-	-	-	-	-		
	Start up delay	0	s	-	-	-	-	-		
	Reset	AUTO		-	-	-	-	-		
	Priority	SERIOUS		-	-	-	-	-		
Cae24	Suction HP alarm:	ABSOLUTE		-	-	-	-	-		
	Threshold:	50	bar	52	52	52	52	52		
Cae25	Suction HP alarm diff.	1.0	bar	1	1	1	1	1		
	Alarm delay	120	s	120	120	120	120	120		
Cae26	Suction low pressure alarm:	ABSOLUTE		-	-	-	-	-		
	Threshold:	1.0	bar	15.0	15.0	15.0	15.0	15.0		
Cae27	Suction low pressure diff.:	1.0	bar	2.0	2.0	2.0	2.0	2.0		
	Alarm delay	5	s	0	0	0	0	0		
Cae30	Switch off compressor:	NO		YES	YES	YES	YES	YES		
	Low superheat alarm enable	NO		YES	YES	YES	YES	YES		
	Threshold	2.0	K	2.0	2.0	2.0	2.0	2.0		
	Alarm diff.:	1.0	K	1.0	1.0	1.0	1.0	1.0		
	Switch off compr.:	NO		NO	NO	NO	NO	NO		
	Reset:	MANUAL		AUTO	AUTO	AUTO	AUTO	AUTO		
	Alarm delay	30	s	120	120	120	120	120		
Cae41	Liquid flow back alarm			-	-	-	-	-		
	Startup delay:	15	min	-	-	-	-	-		
	Alarm delay:	60	s	-	-	-	-	-		
	Alarm delay defrost and washing funct:	180	s	-	-	-	-	-		
	Reset:	Manual		Auto	Auto	Auto	Auto	Auto		
	Alarm delay	30	s	-	-	-	-	-		
Cae42	High receiver alarm switch off compressor:	NO		-	-	-	-	-		
	Reset	Manual		-	-	-	-	-		
	Alarm delay	0	s	-	-	-	-	-		
f. Configuration										
Caf02/3/4	done with wizard			-	-	-	-	-		
Caf 18	Start up pressure differential control equalize by	DELTA PRESSURE		delta pressure	delta pressure	delta pressure	delta pressure	delta pressure	Equalize time is equal to min. off time	
Caf19	Oil Valve:			-	-	-	-	-		
	Solenoid:	NO		YES	YES	YES	YES	YES		
	HPV:	NO		NO	NO	NO	NO	NO		

COMPRESSOR

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	RPRV:		NO	NO	NO	NO	NO	NO		
Caf30	Start-up pressure diff. Control with HPV valve ; opening:		100	%	100	100	100	100		
Caf31	Start-up pressure diff. Control with RPRV valve ; opening:		100	%	100	100	100	100		
Caf32	Delay of deactivation:		0	s	2	2	2	2		
Caf15	Modulate speed device:		BLDC							
Caf17	Compressor controlled by BLDC, timings									
	Min on time		180	s	30	30	30	30		
	Min off time:		180	s	60	60	60	60		
	Min time to start same compressor		370	s	240	240	240	240		
Caf95	Compressor controlled by BLDC, force off enable:		YES		YES	YES	YES	YES		
	Threshold		20	bar	20	20	20	20		
	Differential		1.0	bar	2	2	2	2		
	Delay		0	s	15	15	15	15		
g. Advanced										
Cag03	Request in case of regulat.		0	%	0%	0%	0%	0%		
	Pumpdown:	DISABLE			DISABLED	DISABLED	DISABLED	DISABLED		
	Threshold:		2	bar	20	20	20	20		
	Max duration		5	min	5	5	5	5		
Cag13	Data communication Timeout		0	sec	30	30	30	30		
Cag43	BLDC settings crankcase heater Mode	OFF			COMP.OFF (39%)	COMP.OFF (39%)	COMP.OFF (35%)	COMP.OFF (24%)		
Cag44	Crankcase heater Ambient temp. control		NO		YES	YES	YES	YES		
	Threshold		0	°C	0	0	0	0		
	Diff		1.0	°C	3	3	3	3		
Cag49	Max pressure differential admitted		50	bar	1.0	1.0	1.0	1.0		
Cag29	Start up pressure differential control; equalization mode:	EQUALIZATION VALVE			EQUALIZATION VALVE	EQUALIZATION VALVE	EQUALIZATION VALVE	EQUALIZATION VALVE		
Cag50	Start up failure control; pressure difference Min. variation	(0,4)		bar	0,5	0,5	0,5	0,5		
	Control period:	(45)		s	15	15	15	15		
Cag51	Start up failure control; restart delay		30	s	30	30	30	30		
	Max retry number		5		5	5	5	5		
Cag52	Speed management Start up forced speed:		50	rps	50	50	50	50		
	Max speed :		100	rps	100	100	100	100		
	Min Speed:		25	rps	25	25	25	25		
Cag53	Speed management deceleration rate		1	rps/s	1	1	1	1		
	acceleration rate		1	rps/s	1	1	1	1		
	Switch-off rate		1	rps/s	1	1	1	1		
Cag54	Envelope control speed reduction rate		0,8	rps/s	0,8	0,8	0,8	0,8		
	Min speed permitted		25	rps	25	25	25	25		
Cag55	Out of envelope alarm timeout		60	s	60	60	60	60		
	Low pressure diff. Alarm timeout		60	s	60	60	60	60		
Cag57--> Hb02	Discharge gas control high discharge temp. limit		125	°C	125	125	125	125		
	High discharge gas alarm		130	°C	130	130	130	130		
Cag58 -->Hb03	Speed control due to discharge gas action distance		20	°C						
	action pause		90	s						
	Compressor speed reduction		3	%						
Cag63	Envelope control low ratio management by coimpr. Speed up		NO		NO	NO	NO	NO		
Cag64	Enable suction press. backup probe		NO		NO	NO	NO	NO		
Cag65	Enable anti liquid return MPX valve		NO		YES	YES	YES	YES		
Cag66	Enable extended envelope:		NO		NO	NO	NO	NO		
Cag--										
Step 4:Check condenser section (D. Condenser-->)										
a.I/O status	done with I/O configuration (step2)				-	-	-	-		
b.Regulation					-	-	-	-		
Dab01	Regulation by:		TEMPERATURE		-	-	-	-		
	Regulation type:		PROPORTIONAL BAND		-	-	-	-		
DAB02	Setpoint Limits (Min/Max)		12.0/38.0	°C	20.0/28.0	20.0/28.0	20.0/28.0	20.0/28.0		
	Setpoint		24.0	°C	28.0	28.0	28.0	28.0		
Dab04	Fans work only when at least one compressor work:		NO		YES	YES	YES	YES		
	Delay after compressor OFF		0	min	1	1	1	1		
	Restart with compr. request		NO		YES	YES	YES	YES		
Dab05	Cut-off enable		NO		-	-	-	-		
	Cut-off request		-	%	-	-	-	-		
	Setpoint:		20.0	°C	-	-	-	-		
	Diff:		15.0	°C	-	-	-	-		
	Hysteresis:		15.0	°C	-	-	-	-		
Dab08	Reg.type		PROP.+INT		PROP + INTEGRAL	PROP + INTEGRAL	PROP + INTEGRAL	PROP + INTEGRAL		
	Integral time:		180	s	-	-	-	-		
Dab09	Differential:		4.0	°C	7	7	7	7		
d.Energy Saving					-	-	-	-		
Dad01	Enable gas cooler setpoint compensation		NO		-	-	-	-		
Dad02	Winter offset/Closing offset		0	°C	-	-	-	-		
Dad04	Activ. Time bands		00:00--> 00:00		not used	not used	not used	not used		
Dad05	Enable floating condensing setpoint:		NO		YES	YES	YES	YES	external temp. needed	
Dad06	Offset for ext. Temperature		0.0	°C	3.0	3.0	3.0	3.0		
e.Alarms					-	-	-	-		

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CONDENSER	Dae01	Gas cooler pressure high alarm:	ABSOLUTE	-	-	-	-	-			
		Alarm delay:	5	s	5	5	5	5			
	Dae06	High gas cooler press. alarm thr.:	127	barg	106.0	106.0	106.0	106.0			
		Alarm diff.:	5	barg	10.0	10.0	10.0	10.0			
	Dae03	Gas cooler pressure low alarm:	ABSOLUTE	-	-	-	-	-			
		Alarm delay:	5	s	90	90	90	90	5	90	
	Dae07	Low gas cooler press. alarm thr.:	32		32.0	32.0	32.0	32.0			
		Alarm diff.:	5		5.0	5.0	5.0	5.0			
	Dae05	Common fan overload:	YES		-	-	-	-			
		Delay	30	s	-	-	-	-			
		Reset	AUTO		-	-	-	-			
	f.Configuration										
	DaF01	Number of present fan	3		1	1	1	1	1	for EC fans	
	DaF02/04	Done with wizard	-		-	-	-	-	-		
	DaF05	Devices rotation type	FIFO		-	-	-	-	-	used with step fans	
	g.Advanced										
	Dag01	Modulate speed device	0-10V INV. / EC FANS		-	-	-	-	-		
	Dag02	Neutral zone reg:			-	-	-	-	-		
		Min out value:	0.0	V	0	0	0	0	0		
		Max out value:	10.0	V	10.0	10.0	10.0	10.0	10.0		
	Min power ref.:	5	%	0	0	0	0	0			
	Max power refer.:	100	%	100	100	100	100	100			
Dag03	Rising/falling time	5s/5s	s	5/5	5/5	5/5	5/5	5/5			
	Num. Control. Fan:	1		1	1	1	1	1	set the number of fans		
Dag04	Split condenser:	DISABLE		-	-	-	-	-			
Dag10	Anti-noise:	DISABLE		-	-	-	-	-			
Dag13	Speed up:	DISABLE		ENABLE	ENABLE	ENABLE	ENABLE	ENABLE			
	Speed up time	5	s	5	5	5	5	5			
Dag14	Enable gas cooler press. backup probe	NO		YES	YES	YES	YES	YES	Backup probe is BPH1		
	Auto switch ext. Temp. if GC probe fault	NO		-	-	-	-	-			
Dag15	Request in case of regul. Probe fault	0	%	0%	0%	0%	0%	0%			
Step 5:Check Evaporator section (E. Evaporator)											
b.Settings											
Eab00	Store config.			-	-	-	-	-			
	N.of evaporators:	1		0	0	0	0	0			
	Ev. 1 Type:	-		MPX PRO	MPX PRO	MPX PRO	MPX PRO	MPX PRO			
Eab01	Ev.1:	4000	W	4000	4000	4000	4000	4000	Check if it's connected		
Eab02	Device number	1		1	1	1	1	1			
	Address	11		11	11	11	11	11			
	Description	evaporator1		-	-	-	-	-			
c. Regulation											
Eac01	Setpoint	0	°C	2	2	2	2	2	Only with MPX connected		
	Differential/Plv/Phs	4.0/4.0/9.0	°C	4/2/9	4/2/9	4/2/9	4/2/9	4/2/9	Only with MPX connected		
Ea02	SH setpoint	7	K	7	7	7	7	7	Only with MPX connected		
	SH gain	8	K	20	20	20	20	20	Only with MPX connected		
	SH integral	400	s	400	400	400	400	400	Only with MPX connected		
	SH derivative	0	s	5	5	5	5	5	Only with MPX connected		
	LSH threshold	3	K	4	4	4	4	4	Only with MPX connected		
Eac03	Smooth lines:	ENABLE		en	en	en	en	en	Only with MPX connected		
	PSP:	3	K	5	5	5	5	5	Only with MPX connected		
	PSI:	360	s	120	120	120	120	120	Only with MPX connected & Ultracella	0 120	
	PSD:	0	s	0	0	0	0	0	Only with MPX connected		
Eac04	Evaporator power	4000	W	4000	4000	4000	4000	4000	Only with MPX connected		
	Initial valve position at startup:	30	%	30	30	30	30	30	Only with MPX connected		
	Time after defrost	10	min	5	5	5	5	5	Only with MPX connected		
Step 5:Check Transcritical section (F. Other Function->I.Transcritical)											
b.Settings											
Fhb01	Enable HPV management	YES		-	-	-	-	-			
	Algorithm	CUSTOM		-	-	-	-	-			
Fhb02	Min.HPV opening during ON	0.0	%	-	-	-	-	-	Change to test output		
	Min.HPV opening during OFF	0.0	%	-	-	-	-	-			
Fhb03	Max HPV opening percent.	100.0	%	-	-	-	-	-			
	Max delta	10.0	%	10	10	10	10	10			
Fhb04	Pre-pos. Value	50.0	%	30.0	30.0	30.0	30.0	30.0			
	Pre- pos. Time	5	s	10	10	10	10	10			
Fhb05/06/07	Graph&values	109barg/104barg/82barg 31°C/20°C/6°C		104barg/102barg/78barg 31°C/20°C/6°C	104barg/102barg/78barg 31°C/20°C/6°C	104barg/102barg/78barg 31°C/20°C/6°C	104barg/102barg/78barg 31°C/20°C/6°C	104barg/102barg/78barg 31°C/20°C/6°C			
Fhb08	PI regulation: P:		%	3	3	3	3	3			
	I:		s	60	60	60	60	60			
Fhb09	HPV setpoint filter	NO		-	-	-	-	-			
Fhb10	Maximum HPV safety	90.0	barg	95.0	95.0	95.0	95.0	95.0			
	Minimum HPV setpoint	40.0	barg	50.0	50.0	50.0	50.0	50.0			

MENU	Carel Hecu programming - UMT/WG T MT (v.3.0.12)									Changed Settings	
	08/04/2019				UMTT 30 3.0.12	UMTT 45 3.0.012	UMTT 67 3.0.012	UMTT 100 3.0.012		Old Setting rev 3.000 (08/03/2019)	New Setting rev 3.101 (08/04/2019)
TRANSCRITICAL SETTINGS	Fhb13	Enable low temperature control	NO		NO	NO	NO	NO	NO		
	Fhb13	Safety HPV valve position	50.0	%	-	-	-	-	-		
	Fhb14	Delta temp. with GC probe error	3.0	°C	-	-	-	-	-		
	Fhb15	Enable HPV safeties by receiver press.	NO		YES	YES	YES	YES	YES		
	Fhb16	High receiver press. threshold	40.0	barg	60	60	60	60	60		
		Max receiver pressure	45.0	barg	70	70	70	70	70		
		Incr.set HPV	10.0	bar	-	-	-	-	-		
	Fhb17	Low receiver pressurethreshold	32.0	barg	35	35	35	35	35		
		Min receiver pressure	27.0	barg	29	29	29	29	29		
		Decr. Set HPV	10.0	barg	-	-	-	-	-		
	Fhb18	Force closing when compr. OFF	NO		NO	NO	NO	NO	NO		
		Delay after comp. OFF	10	s	10	10	10	10	10		
	Fhb20	Warning HPV	NO		-	-	-	-	-		
	Fhb21	Enable RPRV management	YES		YES	YES	YES	YES	YES		
	Fhb22	Min.RPRV opening during ON	0.0	%	-	-	-	-	-	Change to test output	
		Min.RPRV opening during OFF	0.0	%	-	-	-	-	-		
	Fhb23	Pre-pos. Value	50.0	%	20	20	20	20	20		
		Pre- pos. Time	5	s	-	-	-	-	-		
	Fhb24	Max HPV opening percent.	100.0	%	-	-	-	-	-		
		Max delta	10.0	%	-	-	-	-	-		
	Fhb25	CO2 receiver pressure setpoint	35.0	barg	45	45	45	45	45	Check selection	
		Prop.gain	20.0	%	5	5	5	5	5		
		Int. Time	60	s	120	120	120	120	120		
	Fhb26	Safety RPRV valve position	50.0	%	40	40	40	40	40		
	Fhb27	Force closing when compr. OFF	NO		yes	yes	yes	yes	yes		
		Delay after comp. OFF	10	s	5	5	5	5	5		
	Fhb28	High receiver Pressure alarm threshold	45.0	barg	70	70	70	70	70		
		Diff	5.0	barg	-	-	-	-	-		
		Delay	30	s	-	-	-	-	-		
		Reset	MANUAL		AUTO	AUTO	AUTO	AUTO	AUTO		
		Switch off comp.	NO		-	-	-	-	-		
	Fhb29	RPRV Setp. Comp OFF receiver pressure offset	10.0	barg	5	5	5	5	5		
		Time:	60	s	-	-	-	-	-		
Fhb30	HPV position warning enable	NO		-	-	-	-	-			
	HPV position warning; threshold alarm:			99.9	99.9	99.9	99.9	99.9			
	Alarm delay:		min	10	10	10	10	10			
Fhb31	RPRV position warning enable	NO		-	-	-	-	-			
	RPRV position warning; threshold alarm:		%	99.9	99.9	99.9	99.9	99.9			
	Alarm delay:		min	10	10	10	10	10			
Fhc01 (done with wizard)	CO2 Valves: installed:	HPV		HPV+RPRV	HPV+RPRV	HPV+RPRV	HPV+RPRV	HPV+RPRV			
	Type:	UNIPOLAR		UNIPOLAR	UNIPOLAR	UNIPOLAR	UNIPOLAR	UNIPOLAR			
	RPRV valve type	EXV CAREL		-	-	-	-	-			
GENERIC FUNC.	a.Thermostats										
	Efa05	GEN.Funct. 1	DISABLE		ENABLE	ENABLE	ENABLE	ENABLE	ENABLE		
	Efa06	Gen.stage1 reg. variable:	-		DISCH.TEMP.L1	DISCH.TEMP.L1	DISCH.TEMP.L1	DISCH.TEMP.L1	DISCH.TEMP.L1		
		Mode:	DIRECT		-	-	-	-	-		
	Efa07	Enable	-		-	-	-	-	-		
		Description	-		AKV INJECT	AKV INJECT	AKV INJECT	AKV INJECT	AKV INJECT		
	Efa08	Setpoint:	0.0	°C	110.0	110.0	110.0	110.0	110.0	Configure output and test it (->Efa21)	
		Differential:	0.0	°C	10.0	10.0	10.0	10.0	10.0		
	Efa09	High alarm	DISABLE		-	-	-	-	-		
		High alarm	-	°C	-	-	-	-	-		
		Delay time	-	s	-	-	-	-	-		
		Alarm type	NORMAL		-	-	-	-	-		
		Low alarm	DISABLE		-	-	-	-	-		
		Low alarm	-	°C	-	-	-	-	-		
	Delay time	-	s	-	-	-	-	-			
	Alarm type	NORMAL		-	-	-	-	-			
e. I/O status											
Efe21	Generic stage1	-	NO/NC	-	-	-	-	-	Check with electrical diagram		
OIL	Oil										
	b.settings										
	Fab15	Oil injection mode :	NONE		NONE	NONE	NONE	NONE	NONE		
		Oil recovery mode: speed boost:	NO		YES	YES	YES	YES	YES		
		Evapo. Washing:	NO		YES	YES	YES	YES	YES		
		Use analogue out	NO		NO	NO	NO	NO	NO		
	Fab23	Speed booster recovery speed thr.	35	rps	35	35	35	35	35		
		Thr diff	5	rps	5	5	5	5	5		
		Speed force	50	rps	40	40	40	40	40		
		Act. Delay	25	min	30	30	30	30	30		
		Force time	5	min	5	5	5	5	5		
Fab24	Evap. washing recovery	EACH EVAP PER TIME		-	-	-	-	-			
	TON(wash time)	180	s	180	180	180	180	180			
	n of washing per day	4		3	3	3	3	3			

MENU	Carel Hecu programming - UMT/WG T MT (v.3.0.12)								Changed Settings		
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DEFROST	Defrost	Min. compr.	25	%	25	25	25	25			
	b.regulation	Defrost mode:	MPX-air heaters	-	MPX-air heaters	MPX-air heaters	MPX-air heaters	MPX-air heaters			
	Fbab01	Compressor can start when reg. evap is higher than Reg.start for high suct. Pressure	60	%	5	5	5	5			
SAFETY	Step 6: Safeties (H. Safety)										
	c. alarm configuration										
	Hca01	Common HP alarm	AUTO	-	-	-	-	-	-	Manual by push button on electrical board	
		Common HP delay	1	s	0	0	0	0			
	Hca02	Common LP start delay	60	s	5	5	5	5			
		Common LP delay	20	s	-	-	-	-			
	Hca03	Time for semiautomatic evaluation	120	min	-	-	-	-			
		N° of retries before alarm becomes manual	5	-	-	-	-	-			
	Hca04	Liquid alarm delay	-	s	-	-	-	-			
		Oil alarm delay	-	s	-	-	-	-			
	Hca05	Leak detector alarm:	NO	-	NO	NO	NO	NO			
		Switch off comp.	NO	-	NO	NO	NO	NO			
		Switch on fans	NO	-	-	-	-	-			
		Leak alarm delay	1	s	-	-	-	-			
	Hca06	CO2 level alarm	NO	-	-	-	-	-			If there are 2 levels
	Hca07	BLDC Compressor envelope reset.	AUTO	-	AUTO	AUTO	AUTO	AUTO			
		Evaluation time	60	min	-	-	-	-			
		N° of retries before alarm becomes manual	5	-	-	-	-	-			
	Hca09	BLDC Compressor Power+ reset	AUTO	-	AUTO	AUTO	AUTO	AUTO			
		Eval. Time	60	min	-	-	-	-			
		N° of retries before alarm becomes manual	5	-	-	-	-	-			
	b. Prevent										
	Hba01	High pressure prevent enable	NO	-	YES	YES	YES	YES			
		High temperature prevent enable	NO	-	YES	YES	YES	YES			
	Hb01	High pressure prevent Manufacturer envelope/custom envelope	100.0	barg	Enabled 103barg	Enabled 103barg	Enabled 103barg	Enabled 103barg			
		Differential:	5.0	barg	8.0	8.0	8.0	8.0			
		Prevent max num.:	3	-	5	5	5	5			
	Gba03	Enable heat reclaim as first prevent step:	NO	-	-	-	-	-			
Hba05	Delay	10	s	10	10	10	10				
	Prevent max number eval. time	60	min	5	5	5	5				
	Reset automatic prevent	NO	-	-	-	-	-				
Hba06	Threshold:	120.0	°C	130.0	130.0	130.0	130.0				
	Differential:	5.0	°C	-	-	-	-				
	Prevent max num.:	3	-	-	-	-	-				
Hb02	Discharge gas control high discharge temp. limit	125	°C	125	125	125	125				
	High discharge gas alarm	130	°C	130	130	130	130				
Hb03	Speed control due to discharge gas action distance	20	°C	20	20	20	20				
	action pause	90	s	90	90	90	90				
	Compressor speed reduction	3	%	3	3	3	3				
INFO	Step 8 : Info (I. Info) & Language (G. settings)										
	I01	Software installed	FLSTdmcUSU ver. 2.1.462 21/06/17		FLSTdmcUSU ver. 3.0.012B 21/02/18	FLSTdmcUSU ver. 3.0.012B 21/02/18	FLSTdmcUSU ver. 3.0.012B 21/02/18	FLSTdmcUSU ver. 3.0.012B 21/02/18	FLSTdmcUSU ver. 3.0.012B 21/02/18	Take note of the version used	
	Gb01	Language	ENGLISH		ENGLISH	ENGLISH	ENGLISH	ENGLISH		Set the language	
		Other notes			-	-	-	-			
		Bios	Bios 6.44		Bios 6.44	Bios 6.44	Bios 6.44	Bios 6.44			
	Rev.1			-	-	-	-				