

**Carel Hecu programming - UMT/WG T BT (v3.0.12)**

**Changed Settings**

MENU	08/04/2019						Old Setting rev <b>2.001</b> (08/03/2019)	New Setting rev <b>2.110</b> (08/04/2019)
				UMTT BT 30_30 3.0.012	UMTT BT 45_45 3.0.012	UMTT BT 67_67 3.0.012		
WIZARD	<b>Step 1: Wizard (only for first configuration)</b>							
	<b>Mask Index</b>	<b>Description</b>	<b>Default</b>	<b>UOM</b>	<b>Values</b>	<b>Values</b>	<b>Values</b>	
	Start up	Select config. Item:	WIZARD		WIZARD	WIZARD	WIZARD	
	Ib01	Type of installation:	Medium Temperature	-	Low Temperature	Low Temperature	Low Temperature	
	Ib02	Measure units:	°C/barg	-	°C/barg	°C/barg	°C/barg	
	Ib03	Compressor config. Type:	SCROLL	-	SCROLL	SCROLL	SCROLL	
		Compressor number:	1	-	1	1	1	
	Ib04	Modulate speed device (Only for first compressor)	BLDC	-	BLDC	BLDC	BLDC	
	Ib05	BLDC address:	1	-	1	1	1	
		Motor type:	TOSHIBA DY45N1F-10FU		TOSHIBA DY30N1F-10FU	TOSHIBA DY45N1F-10FU	TOSHIBA DY67N1F-10FU	
		Type drive	PSD1*102***		PSD1*102***	PSD*****	PSD*****	
	Ib11	Power+ type/set:	230V 36A/230V 10A		230V 36A/230V 10A	230V 36A/230V 10A	230V 36A/230V 10A	
	Ib06	Regulation by:	PRESSURE	-	PRESSURE	PRESSURE	PRESSURE	
		Refrigerant:	R744	-	R744	R744	R744	
	Ib07	Setpoint:	26.0	-	26.0	26.0	26.0	
		Differential:	12.0	-	12.0	12.0	12.0	
	Ib10	Enable fixed speed backup comp.:	NO	-	NO	NO	NO	
	Ib91							
	Ib92	Gas cooler config -Modulate speed device (Only for first fan)	NONE	-	<b>0-10V INVERTER-EC FANS</b>	<b>0-10V INVERTER-EC FANS</b>	<b>0-10V INVERTER-EC FANS</b>	
	Ib95	Regulation by:	Temperature	-	Temperature	Temperature	Temperature	
		Measure unit:	°C	-	°C	°C	°C	
		Refrigerant:	R744	-	R744	R744	R744	
	Ib96	Regulation type:	PROPORTIONAL BAND	-	PROPORTIONAL BAND	PROPORTIONAL BAND	PROPORTIONAL BAND	
		Enable integral time action:	YES	-	YES	YES	YES	
	Ib97	Setpoint:	24.0	°C	24.0	24.0	24.0	
		Differential:	4.0	°C	4.0	4.0	4.0	
	Ib99	CO2 Valves: installed:	HPV	-	HPV	HPV	HPV	
		Type:	UNIPOLAR	-	UNIPOLAR	UNIPOLAR	UNIPOLAR	
		Valves routing:	TWIN A->HPV, B->RPRV	-	SINGLE A->HPV	SINGLE A->HPV	SINGLE A->HPV	
		Status:	Disconnected	-	Connected	Connected	Connected	
Ib3A	Configuration complete	-	-	-	-	-		
	Visualize Report?	NO	-	NO	NO	NO		
Ib3a	Boards necessary	1	-	1	1	1		
Auto config.	.....							
RATION	<b>Step 2: Check I/O according to the wiring diagram (B.Input/Outputs--&gt; a.Status--&gt;)</b>							
	<b>Mask Index</b>	<b>Description</b>	<b>Default</b>	<b>Type/Logic</b>	<b>Values</b>	<b>Values</b>	<b>Values</b>	
	<b>a. digital inputs</b>							
	Baa56	L1 - Common Low Pressostat	-	NC	-	-	-	
	Baa57	L1 - Common High Pressostat	-	NC	<b>DI2</b>	<b>DI2</b>	<b>DI2</b>	
	Baada	Comp. inverter warning	-	NO	-	-	-	
	Baa02	Alarm 1 compressor 1	-	NC	-	-	-	
	Baa58	Common oil Alarm	-	NC	-	-	-	
	Baa59	Liquid level alarm	-	NC	<b>EVD DI1</b>	<b>EVD DI1</b>	<b>EVD DI1</b>	
	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	-	-	-	
	Baacy	Digital unit ON/OFF	-	NC	-	-	-	
	Baacn	prack working status	-	NC	-	-	-	
	Baade	HPV alarm:	-	NC	-	-	-	
	Baadf	RPRV Alarm:	-	NC	-	-	-	
	<b>b. analogue inputs</b>							
Bab05	Suction pressure probe	-	0-5V	<b>U9 (0-90)</b>	<b>U9 (0-90)</b>	<b>U9 (0-90)</b>		
Bab07	Suction temperature	-	NTC	<b>U8</b>	<b>U8</b>	<b>U8</b>		
Bab08	Discharge Pressure LT	-	0-5V	<b>B6 (0-90)</b>	<b>B6 (0-90)</b>	<b>B6 (0-90)</b>	<b>Not Configured</b>	
Bab07	Gas cooler pressure probe	-	4-20 mA	<b>U7 (0-150)</b>	<b>U7 (0-150)</b>	<b>U7 (0-150)</b>		

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MENU	I/O CONFIGU			UMTT BT 30_30 3.0.012	UMTT BT 45_45 3.0.012	UMTT BT 67_67 3.0.012	Old Setting rev 2.001 (08/03/2019)	New Setting rev 2.110 (08/04/2019)	
		08/04/2019							
	Bab10	Gas cooler outlet temperature	-	NTC	U5	U5	U5		
	Bab62	Gas cooler backup t.	-	NTC	-	-	-		
	Bab70	Gas cooler inlet t.	-	NTC	-	-	-		
	Bab63	Oil receiver differential	-	4-20mA	-	-	-		
	Bab15	External temperature	-	NTC	U2	U2	U2	NTC-HT	
	Bab16	Room temperature	-	NTC	-	-	-		
	Bab29	bldc disch. Temp. (LT)	-	NTC-HT	U1	U1	U1		
	Bab66	RPRV receiver pressure	-	0-5V	-	-	-		
	Bab67	HPV feedback	-	0-10V	-	-	-		
	Bab68	RPRV feedback	-	0-10V	-	-	-		
	Bab71	Par. suc. Press. probe	-	0-5V	U10 (0-90)	U10 (0-90)	U10 (0-90)		
	Bab69	Parallel suction temp.	-	NTC	B3	B3	B3		
	Bab70	Par. comp. disch. Temp.	-	HTNTC	B4	B4	B4		
	<b>c. digital outputs</b>								
	Bac02	Compressor 1	-	NO	-	-	-		
	Baceo	BLdc crankase heater	-	-	-	-	-		
	Bacbt/u/v	Fan 1/2/3	-	NO	-	-	-		
	Bacdl	<b>Serious alarm output</b>	-	NC	1	1	1		
	Baceh	Life signal	-	NO	-	-	-		
	Bacei	BMS forced output	-	NO	-	-	-		
	Baceo	Lamp1 HI LO Pressure	-	NO	-	-	-		
	Baceq	Lamp2 Generic alarm	-	NC	-	-	-		
	Bacep	Lamp3 Comp Running	-	NC	-	-	-		
	<b>d. analog outputs</b>								
	Bad01	Compressors inverter	-	-	Y2	Y2	Y2		
	Bad07	Fans inverter	-	-	Y1	Y1	Y1		
	Bad14	HPV valve	-	EVD	EVDA	EVDA	EVDA		
	Bad15	RPRV Valve	-	EVD	-	-	-		
	<b>Step 3: Check compressors sections (C. Compressors--&gt; )</b>								
	<b>a. Lt compressor</b>								
	a.I/O status	done with I/O configuration (step2)	-	-	-	-	-		
	Caava	Comp. 1 equal. Valve	-	NO	7	7	7		
	<b>b. Regulation</b>								
	Cab01	Regulation by:	PRESSURE		PRESSURE	PRESSURE	PRESSURE		
		Regulation type:	FIXED SETPOINT		FIXED SETPOINT	FIXED SETPOINT	FIXED SETPOINT		
	Cab02	Setpoint limits	10.0-40.0	barg	11.0-14.5	11.0-14.5	11.0-14.5		
	Cab03	Setpoint:	26.0	barg	12	12	12		
	Cab04	Energy saving; Maximum floating point:	40	barg	14,5	14,5	14,5		
		Energy saving; Minimum floating point:	26	barg	12	12	12		
	Cab14	PID press. regulation; Prop. Band:	12	barg	4	4	4		
		PID press. regulation; Integral time:	50	s	80	80	80		
		Setup for force off:		barg	8.0				
	Cab12	Power load to 100% min time:	15	s	30				
		Power load to 100% max time:	90	s	90				
	Cab13	Power unload to 0% min time:	30	s	10				
		Power unload to 0% max time:	180	s	60				
	<b>c. Working Hour and d. Energy saving--&gt; keep defaults</b>								
	<b>e. Alarms</b>								
	Cae01	Number of alarms for compressor	1		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		
	Cae04	Activ. Delay	0	s	-	-	-		
		Start up delay	0	s	-	-	-		
		Reset	AUTO		-	-	-		
		Priority	SERIOUS		-	-	-		
	Cae24	Suction HP alarm:	ABSOLUTE		-	-	-		
		Threshold:	50	barg	50	50	50		
	Cae25	Suction HP alarm diff.	1.0	barg	1	1	1		
		Alarm delay	120	s	5	5	5		

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		08/04/2019			UMTT BT 30_30 3.0.012	UMTT BT 45_45 3.0.012	UMTT BT 67_67 3.0.012	Old Setting rev 2.001 (08/03/2019)	New Setting rev 2.110 (08/04/2019)	
LT COMPRESSOR	Cae26	Suction low pressure alarm:	ABSOLUTE	-	-	-	-	-	-	
		Threshold:	1.0	barg	6.0	6.0	6.0	6.5	6.0	
	Cae27	Suction Low pressure diff.:	1.0	barg	1.0	1.0	1.0			
		Alarm delay	5	s	0	0	0			
		Switch OFF compressor:	NO		YES	YES	YES			
	Cae30	Low superheat alarm enable	NO		YES	YES	YES			
		Threshold	2.0	K	2.0	2.0	2.0			
		Alarm diff.:	1.0	K	1.0	1.0	1.0			
		Switch off compr.:	NO		NO	NO	NO			
		Reset:	MANUAL		MANUAL	MANUAL	MANUAL			
		Alarm delay	30	s	120	120	120			
	Cae41	Liquid flow back alarm			-	-	-			
		Startup delay:	15	min	-	-	-			
		Alarm delay:	60	s	120	120	120			
		Alarm delay defrost and washing funct:	180	s	-	-	-			
		Reset:	Manual		Auto	Auto	Auto			
	Cae42	High receiver alarm switch off compressor:	NO		-	-	-			
		Reset	Manual		-	-	-			
		Alarm delay	0	s	-	-	-			
		<b>f. Configuration</b>			-	-	-			
		Caf02/3/4	done with wizard		-	-	-			
		Caf 18	Start up pressure differential control equalize by	DELTA PRESSURE	DeltaP	DeltaP	DeltaP	TIME	DeltaP	
		Caf19	Oil Valve:							
			Solenoid:	NO	YES	YES	YES			
			HPV:	NO						
			RPRV:	NO						
		Caf30	Start-up pressure diff. Control with HPV valve ; opening:	100	%					
		Caf31	Start-up pressure diff. Control with RPRV valve ; opening:	100	%					
		Caf32	Delay of deactivation:	0	s	3	3	3		
		Caf15	Modulate speed device:	BLDC						
		Caf17	Compressor controlled by BLDC, timings							
			Min on time	180	s	60	60	60		
			Min off time:	180	s	30	30	30		
			Min time to start same compressor	370	s	130	130	130		
		Caf 95	Compressor controlled by BLDC, force off enable	NO	YES	YES	YES			
			Threshold:	32	barg	9,5	9,5	9,5	10	9,5
			Differential	2	barg	2	2	2		
			Delay	5	s	0	0	0		
		<b>g. Advanced</b>								
		Cag03	Request in case of regulat.	0	%	0%	0%	0%		
		Pumpdown:	DISABLE	ENABLE	DISABLED	DISABLED	DISABLED			
		Threshold:	2	bar	10,5	10,5	10,5			
		Max duration	5	min	3	3	3			
	Cag13	Data Communication Timeout	0	sec	30	30	30			
	Cag43	BLDC settings crankcase heater Mode	OFF	COMP.OFF (39%)	COMP.OFF (39%)	COMP.OFF (35%)				
	Cag44	Crankcase heater Ambient temp. control	NO	YES	YES	YES				
		Threshold	0	°C	0	0	0			
		Diff	1.0	°C	3	3	3			
	Cag12	BLDC settings:	TOSHIBA DY30N1F-10FU	TOSHIBA DY30N1F-10FU	TOSHIBA DY45N1F-10FU	TOSHIBA DY67N1F-10FU				
		Set defaults:		NO (YES to pass data TO inverter)	NO (YES to pass data TO inverter)	NO (YES to pass data TO inverter)				
		Type drive		p5****	p5****	p5****				
		BLDC address		1	1	1				
	Cag49	Max pressure differential admitted	50	bar	1	1	1	70	1	
	Cag29	Start up pressure differential control; equalization mode:	EQUALIZATION VALVE							
	Cag50	Start up failure control; pressure difference Min. variation	( 0,4 )	bar	0	0	0			
		Control period:	( 45 )	s	45	45	45			
	Cag51	Start up failure control; restart delay		s	30	30	30			
		Max retry number			5	5	5			
	Cag52	Speed management Start up forced speed:	50	rps	-	-	-			

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							2.001 (08/03/2019)	2.110 (08/04/2019)
		Max speed :	100	rps	-	-	-	
		Min Speed:	25	rps	-	-	-	
Cag53		Speed management deceleration rate	1	rps/s	-	-	-	
		acceleration rate	1	rps/s	-	-	-	
		Switch-off rate	1	rps/s	-	-	-	
Cag54		Envelope control speed reduction rate	0,8	rps/s	-	-	-	
		Min speed permitted	25	rps	-	-	-	
Cag55		Out of envelope alarm timeout	60	s	-	-	-	
		Low pressure diff. Alarm timeout	60	s	-	-	-	
Cag57--> Hb02		Discharge gas control high discharge temp. limit	125	°C	-	-	-	
		High discharge gas alarm	130	°C	-	-	-	
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		-	-	-	
Cag64		Enable suction press. backup probe	NO		-	-	-	
Cag65		Enable anti liquid return MPX valve	NO		YES	YES	YES	
Cag66		Enable extendede envelope:	YES					
		<b>b.Par. compressor</b>			-	-	-	
		<b>a.I/O status</b>	done with I/O configuration (step2)		-	-	-	
		<b>Cbaaa</b>	Par. comp. equal. Solen.	NO	6	6	6	
		<b>b. Regulation</b>			-	-	-	
		<b>Cbb01</b>	Regulation by:	PRESSURE	PRESSURE	PRESSURE	PRESSURE	
			Regulation type:	FIXED SETPOINT	FLOATING SETPOINT	FLOATING SETPOINT	FLOATING SETPOINT	
		<b>Cbb02</b>	Setpoint limits	10.0-40.0	32.0-38.0	32.0-38.0	32.0-38.0	
		<b>Cbb03</b>	Setpoint:	26.0	35.0	35.0	35.0	
		<b>Cab18</b>	Energy saving; Maximum floating point:	40	35.0	35.0	35.0	
			Energy saving; Minimum floating point:	26	35.0	35.0	35.0	
		<b>Cbb14</b>	PID press. regulation; Prop. Band:	12	5	5	5	
			PID press. regulation; Integral time:	50	90	90	90	
			Setup for force off:		8.0			
		<b>Cab12</b>	Power load to 100% min time:	15	s	30		
			Power load to 100% max time:	90	s	90		
		<b>Cab13</b>	Power unload to 0% min time:	30	s	10		
			Power unload to 0% max time:	180	s	60		
		<b>c.Working Hour and d.Energy saving--&gt; keep defaults</b>						
		<b>e. Alarms</b>			-	-	-	
		<b>Cbe01</b>	Numbver of alarms for compressor	1	0	0	0	
		<b>Cae02</b>	Alarm description	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	Generic:Overload/HP/LP/Oil	
		<b>Cae04</b>	Activ. Delay	0	s	-	-	
			Start up delay	0	s	-	-	
			Reset	AUTO	-	-	-	
			Priority	SERIOUS	-	-	-	
		<b>Cae24</b>	Suction HP alarm:	ABSOLUTE	-	-	-	
			Threshold:	50	barg	52	52	
		<b>Cae25</b>	Suction HP alarm diff.	1.0	barg	1	1	
			Alarm delay	120	s	120	120	
		<b>Cae26</b>	Suction low pressure alarm:	ABSOLUTE	-	-	-	
			Threshold:	1.0	barg	15.0	15.0	
		<b>Cae27</b>	Suction Low pressure diff.:	1.0	barg	2.0	2.0	
			Alarm delay	5	s	0	0	
		<b>Cbe30</b>	Low superheat alarm enable	NO	NO	NO	NO	
			Threshold	2.0	K	2.0	2.0	
			Alarm diff.:	1.0	K	1.0	1.0	
			Switch off compr.:	NO	NO	NO	NO	
			Reset:	MANUAL	MANUAL	MANUAL	MANUAL	
			Alarm delay	0	s	0	0	
		<b>Cbe41</b>	Liquid flow back alarm		-	-	-	
			Startup delay:	15	min	-	-	

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PARALLEL COMPRESSOR	Alarm delay:	60	s	120	120	120			
	Alarm delay defrost and washing funct:	180	s	-	-	-			
	Reset:	Manual		Auto	Auto	Auto			
	Cbe42 High receiver alarm switch off compressor:	NO		-	-	-			
	Reset	Manual		-	-	-			
	Alarm delay	0	s	-	-	-			
	<b>f. Configuration</b>								
	Caf02/3/4	done with wizard			-	-	-		
	Cbf18	Start up pressure differential control equalize by	DELTA PRESSURE		delta pressure	delta pressure	delta pressure		
	Cbf19	Oil Valve:							
	Solenoid:	NO		YES	YES	YES			
	HPV:	NO		NO	NO	NO			
	RPRV:	NO		NO	NO	NO			
	Cbf30	Start-up pressure diff. Control with HPV valve ; opening:	100	%	15	15	15		
	Cbf31	Start-up pressure diff. Control with RPRV valve ; opening:	100	%					
	Cbf32	Delay of deactivation:	0	s	6	6	6		
	Cbf35	Compressor controlled by BLDC, timings							
	Min on time	180	s	60	60	60			
	Min off time:	180	s	30	30	30			
	Min time to start same compressor	370	s	120	120	120			
	Cbf95	Compressor controlled by BLDC, cut-off enable	YES		YES	YES	YES		
	Compressor controlled by BLDC, threshold	32	bar	20	20	20			
	Differential	3	bar	0,5	0,5	0,5			
	Delay	0	s	0	0	0			
	<b>g. Advanced</b>								
	Cbg01	Motor type	TOSHIBA DY30N1F-10FU		TOSHIBA DY30N1F-10FU	TOSHIBA DY45N1F-10FU	TOSHIBA DY67N1F-10FU		
	Set defaults:				NO (YES to pass data TO inverter)	NO (YES to pass data TO inverter)	NO (YES to pass data TO inverter)		
	Cbg05	BLDC address			2	2	2		
	Cbg13	Data Communication Timeout	0	sec	30	30	30		
	Cbg14	Driver Replacement Management	do nothing		download parameters	download parameters	download parameters		
	Cbg43	BLDC settings crankcase heater Mode	OFF		COMP.OFF (39%)	COMP.OFF (39%)	COMP.OFF (35%)		
	Cbg49	Max pressure differential admitted	50	bar	1.0	1.0	1.0		
	Cbg29	Start up pressure differential control; equalization mode:	EQUALIZATION VALVE		EQUALIZATION VALVE	EQUALIZATION VALVE	EQUALIZATION VALVE		
	Max equalization time			s	10	10	10		
	EEV opening			%	33.0	33.0	33.0		
	Cbg50	Start up failure control; pressure difference Min. variation	( 0,4 )	bar	0	0	0		
	Control period:	( ,45 )		s	60	60	60		
	Cbg51	Start up failure control; restart delay	30	s	30	30	30		
	Max retry number	5			5	5	5		
	Cbg52	Speed management Start up forced speed:	50	rps	35	35	35		
Max speed :	100		rps						
Min Speed:	25		rps						
Cbg53	Speed management deceleration rate	1	rps/s						
acceleration rate	1		rps/s						
Switch-off rate	1		rps/s						
Cbg54	Envelope control speed reduction rate	0,8	rps/s						
Min speed permitted	25		rps						
Cbg55	Out of envelope alarm timeout	60	s						
Low pressure diff. Alarm timeout	60		s						
Cbg57	Discharge gas control in zone 1a high limit:	0	°C						
High discharge gas alarm	0		°C						
Cbg57a	Discharge gas control high discharge temp. limit	125	°C						
High discharge gas alarm	130		°C						
Cbg58	Speed control due to discharge gas action distance	20	°C						
action pause	90		s						
Compressor speed reduction	3		%						
Cbg42	Envelope control for zone 1c evap. limit	0	°C						
Maximum admitted speed	0		rps						

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		Cbg63	Envelope control low ratio management by EEV closing		NO				
	Envelope control low ratio management by coimpr. Speed up		NO						
Cbg66	Enable extended envelope:		YES	YES	YES	YES			
<b>Step 4: Check condenser section (D. Condenser-&gt; )</b>									
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	20/28	20/28	20/28		
	Setpoint		24.0	°C	28	28	28		
Dab04	Fans work only when at least one compressor work:		NO		YES	YES	YES		
	Delay after compressor OFF		0	min	1	1	1		
	Restart with compr. request		NO		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		
	Integral time:		180	s	180	180	180		
Dab09	Differential:		4.0	°C	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		
Dad05	Enable floating condensing setpoint:		NO		YES	YES	YES		
Dad06	Offset for ext. Temperature		0.0	°C	3.0	3.0	3.0		
e.Alarms				-	-	-			
Dae01	Gas cooler pressure high alarm:		ABSOLUTE		-	-	-		
	Alarm delay:		5	s	5	5	5		
Dae06	High gas cooler press. alarm thr.:		127	barg	106.0	106.0	106.0		
	Alarm diff.:		5	barg	10.0	10.0	10.0		
Dae03	Gas cooler pressure low alarm:		ABSOLUTE		-	-	-		
	Alarm delay:		5	s	90	90	90	5	
Dae07	Low gas cooler press. alarm thr.:		32		32.0	32.0	32.0	90	
	Alarm diff.:		5		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		
Daf02/04	Done with wizard				-	-	-		
Daf05	Devices rotation type		FIFO		-	-	-		
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	0.0		
	Max out value:		10.0	V	10.0	10.0	10.0		
	Min power ref.		5	%	0	0	0		
	Max power refer:		100	%	100	100	100		
Dag03	Rising/falling time		5s/5s	s	5/5	5/5	5/5		
	Num. Control. Fan:		1		1	1	1		
Dag04	Split condenser:		DISABLE		-	-	-		
Dag10	Anti-noise:		DISABLE		-	-	-		
Dag13	Speed up:		DISABLE		ENABLE	ENABLE	ENABLE		
	Speed up time		5	s	5	5	5		
Dag14	Enable gas cooler press. backup probe		NO		NO	NO	NO		
	Auto switch ext. Temp. if GC probe fault		NO		-	-	-		

Carel Hecu programming - UMT/WG T BT (v3.0.12)							Changed Settings		
MENU	08/04/2019			UMTT BT 30_30 3.0.012	UMTT BT 45_45 3.0.012	UMTT BT 67_67 3.0.012	Old Setting rev	New Setting rev	
							2.001 (08/03/2019)	2.110 (08/04/2019)	
EVAPORATORS	Dag15	Request in case of regul. Probe fault	0	%	0%	0%	0%		
	<b>Step 5:Check Evaporator section (E. Evaporator)</b>								
	<b>b.Settings</b>								
	Eab00	Store config.			-	-	-		
		N.of evaporators:	1		0	0	0		
		EV. 1 Type:	-		MPX PRO	MPX PRO	MPX PRO		
	Eab01	Ev.1:	4000	W	4000	4000	4000		
	Eab02	Device number	1		1	1	1		
		Address	11		11	11	11		
		Description	evaporator1		-	-	-		
	<b>c. Regulation</b>								
	Eac01	Setpoint	0	°C	-22	-22	-22		
		Differential/Plt/Phs	4.0/4.0/9.0	°C	4/2/9	4/2/9	4/2/9		
	Ea02	SH setpoint	7	K	7	7	7		
		SH gain	8	K	20	20	20		
		SH integral	400	s	400	400	400		
		SH derivative	0	s	5	5	5		
		LSH treshold	3	K	4	4	4		
	Eac03	Smooth lines:	ENABLE						
		PSP:	3	K	5	5	5		
	PSI:	360	s	120	120	120	0	120 (even for Ultracella)	
	PSD:	0	s	0	0	0			
Eac04	Evaporator power	4000	W						
	Initial valve position at startup:	30	%	30	30	30			
	Time after defrost	10	min	5	5	5			
CRITICAL SETTINGS	<b>Step 5:Check Transcritical section (F. Other function--&gt;i.Transcritical)</b>								
	<b>b.Settings</b>								
	Fhb01	Enable HPV management	YES		-	-	-		
		Algorithm	CUSTOM		-	-	-		
	Fhb02	Min.HPV opening during ON	0.0	%	0	0	0		
		Min.HPV opening during OFF	0.0	%	-	-	-		
	Fhb32	Max HPV opening percent.	100.0	%	-	-	-		
		Max delta	10.0	%	10	10	10		
	Fhb03	Pre-pos. Value	50.0	%	50	50	50		
		Pre- pos. Time	5	s	10	10	10		
	Fhb04/05/06/07	Graph&values	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		
	Fhb07	PI regulation: P:		%	5	5	5		
		I:		s	120	120	120		
	Fhb08	HPV setpoint filter	NO		-	-	-		
	Fhb10	Maximum HPV safety	90.0	barg	90	90	90		
		Minimum HPV setpoint	40.0	barg	55	55	55		
	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		NO	NO	NO		
	Fhb16	High receiver press. threshold	40.0	barg	40.0	40.0	40.0		
	Max receiver pressure	45.0	barg	45.0	45.0	45.0			
	Incr.set HPV	10.0	bar	-	-	-			
Fhb14	Low receiver pressurethreshold	32.0	barg	35	35	35			
	Min receiver pressure	27.0	barg	29	29	29			
	Decr. Set HPV	10.0	barg	-	-	-			
Fhb18	Force closing when compr. OFF	NO		NO	NO	NO			
	Delay after comp. OFF	10	s	10	10	10			
Fhb20	Warning HPV	NO		-	-	-			
Fhb21	Enable RPRV management	YES		NO	NO	NO			
Fhb19	Min.RPRV opening during ON	0.0	%	-	-	-			

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							2.001 (08/03/2019)	2.110 (08/04/2019)
TRANS	Fhb20	Min.RPRV opening during OFF	0.0	%	-	-	-	
		Pre-pos. Value	50.0	%	20	20	20	
		Pre- pos. Time	5	s	-	-	-	
	Fhb21	Max HPV opening percent.	100.0	%	-	-	-	
		Max delta	10.0	%	-	-	-	
	Fhb22	CO2 receiver pressure setpoint	35.0	barg	45	45	45	
		Prop.gain	20.0	%	5	5	5	
		Int. Time	60	s	120	120	120	
	Fhb23	Safety RPRV valve position	50.0	%	40	40	40	
	Fhb24	Force closing when compr. OFF	NO		yes	yes	yes	
		Delay after comp. OFF	10	s	5	5	5	
	Fhb28	High receiver Pressure alarm threshold	45.0	barg	70	70	70	
		Diff	5.0	barg	-	-	-	
		Delay	30	s	0	0	0	
		Reset	MANUAL		AUTO	AUTO	AUTO	
		Switch off comp.	NO		YES	YES	YES	
	Fhb26	RPRV Setp. Comp OFF receiver pressure offset	10.0	barg				
		Time:	60	s				
	Fhb30	HPV position warning enable	NO					
		HPV position warning; threshold alarm:		%	99.9	99.9	99.9	
	Alarm delay:		min	10	10	10		
Fhb28	RPRV position warning; threshold alarm:		%	99.9	99.9	99.9		
			min	10	10	10		
Fhc01 (done with wizard)	CO2 Valves: installed:		HPV	-	HPV	HPV		
	Type:		UNIPOLAR	-	UNIPOLAR	UNIPOLAR		
	RPRV valve type		EXV CAREL	-	-	-		
GENERIC FUNC.	a.Thermostats							
	Efa05	GEN.Funct. 1	DISABLE		ENABLE			
	Efa06	Gen.stage1 reg. variable:	-		DISCH.TEMP.L1			
		Mode:	DIRECT		-			
	Efa07	Enable	-		-			
		Description	-		AKV INJECT			
	Efa08	Setpoint:	0.0	°C	110.0			
		Differential:	0.0	°C	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	-				
OIL	Oil							
	b.settings							
	Faab15	Oil injection mode :	NONE		NONE	NONE	NONE	
		Oil recovery mode: speed boost:	NO		yes	yes	yes	
		Evapo. Washing:	NO		yes	yes	yes	
		Use analogue out	NO		yes	yes	yes	
	Faab23	Speed booste recovery speed thr.	35	rps	35	35	35	
		Thr diff	5	rps	5	5	5	
		Speed force	50	rps	50	50	50	
		Act. Delay	25	min	25	25	25	
	Force time	5	min	5	5	5		
Faab24	Evap. washing recovery	EACH EVAP PER TIME		COMMON	COMMON	COMMON		
	TON(wash time)	180	s	180	180	180		
	n of washing per day	4		4	4	4		



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				UMTT BT 30_30 3.0.012	UMTT BT 45_45 3.0.012	UMTT BT 67_67 3.0.012			
	Min compr.	25	%	25	25	25			
	Par. comp. sp. Boost rec enable	NO		NO	NO	NO			
	Speed thr.	35	rps	35	35	35			
	Thr. Diff.	35	rps	35	35	35			
	Speed force	50	rps	50	50	50			
	Act. Delay	15	min	15	15	15			
	Force time	3	min	3	3	3			
DEFROST	<b>Defrost</b>								
	<b>b.regulation</b>			-	-	-			
	Fbab01	Defrost mode:	MPX-air heaters	evap-air heaters	evap-air heaters	evap-air heaters			
		Compressor can start when reg. evap is higher than	70	%	5	5	5		
	Reg.start for high suct. Pressure	50	barg	50	50	50			
DSS	<b>DSS</b>								
	<b>b.settings</b>			-	-	-			
	Fib02	Avoid simultaneous pulses betw. Lines	YES	NO	NO	NO			
		Delay:	4	s	3	3	3		
	Fib04	Switch ON L1 comp.s for L2 activation:	NO	NO	NO	NO			
		Switch on period	180	s	-	-	-		
		Timeout	180	s	-	-	-		
		Force off line 2 if line 1 is off:	NO		NO	NO	NO		
	Fib05	Independent start of compressors:	YES	YES	YES	YES	YES		
		Par. start for high rec. Press.:	60	barg	60	60	60		
	Fib06	Env. Lim. For HT high dis. Pressure:	0	barg	55	55	55		
		LT cut-off thr. If par. can't start	60	barg	60	60	60		
	Threshold:	22.0	barg	-	-	-			
Ehb06	Enable pump down with at least one LT comp. active	NO		-	-	-			
	Threshold:	1.5	barg	-	-	-			
SAFETY	<b>Step 6: Safeties (H. Safety)</b>								
	<b>c. alarm configuration</b>			-	-	-			
	Hca01	Common HP alarm	AUTO	-	-	-			
		Common HP delay	1	s	0	0	0		
	Hca02	Common LP start delay	60	s	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		
		Switch off comp.	NO		NO	NO	NO		
		Switch on fans	NO		-	-	-		
		Leak alarm delay	1	s	-	-	-		
	Hca06	CO2 level alarm	NO		-	-	-		
	Hca07	BLDC Compressor envelope reset.	AUTO		AUTO	AUTO	AUTO		
		Oil alarm delay	60	min	-	-	-		
		N° of retries before alarm becomes manual	5		-	-	-		
	Hca09	BLDC Compressor Power+ reset	AUTO		AUTO	AUTO	AUTO		
		Eval. Time	60	min	-	-	-		
		N° of retries before alarm becomes manual	5		-	-	-		
	<b>b. Prevent</b>				-	-	-		
	Hb01	Manufacturer envelopeThreshold:/Custom envelope threshold:	100.0	barg	ENABLED 103	ENABLED 103	ENABLED 103		
		Differential:	5.0	barg					
		Prevent max num.:	3						
	Gba03	Enable heat reclaim as first prevent step:	NO						
	Hba05	Delay	10	s					
	Prevent max number eval. time	60	min						
	Reset automatic prevent	NO							
Hba06	Threshold:	120.0	°C						
	Differential:	5.0	°C						
	Prevent max num.:	3							

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								2.001 (08/03/2019)	2.110 (08/04/2019)
	Cag57--> Hb02	Discharge gas control high discharge temp. limit	125	°C	125	125	125		
		High discharge gas alarm	130	°C	130	130	130		
	Cag58 -->Hb03	Speed control due to discharge gas action distance	20	°C	20	20	20		
		action pause	90	s	90	90	90		
		Compressor speed reduction	3	%	3	3	3		
INFO	<b>Step 8 : Info (I. Info) &amp; Language (G. settings)</b>								
	I01	Software installed	FLSTDmCUSU ver. 2.1.462 21/06/17		FLSTDmCUSU ver. 3.0.012 27/08/18	FLSTDmCUSU ver. 3.0.012 27/08/18	FLSTDmCUSU ver. 3.0.012 27/08/18		
	Gb01	Language	ENGLISH		ENGLISH	ENGLISH	ENGLISH		
		Other notes			-	-	-		
		Bios	Bios 6.44		Bios 6.44	Bios 6.44	Bios 6.44		
					-	-	-		
					-	-	-		