

## 1 Description and configuration of the parameters

/	Probes	HL=	Type				Min	Max	U.o. M.	Var.	Def.	Pres.
			0	1	2	3						
1	Presence external air probe B2 0= absent 1= NTC Carel		F	F	U	U	0	1	flag	1	0	
2	Type of humidity press./temp. probe B3 0= absent 1= 0-1Vdc or 0-20mA 2= 4-20mA		F	F	F	F	0	2	flags	1	2	
3	Presence supply air B4 0= absent 1= NTC Carel (enable corresp. alarm)		F	F	F	F	0	1	flag	1	1	
4	Value of pressure at 0mA, 4mA or 0Vdc		F	F	F	F	0	/5	%rH bar	0.1	0	/2≠0
5	Value of humidity/pressure at 20mA 1Vdc or		F	F	F	F	/4	100	%rH bar	0.1	100	/2÷0
6	Calibration probe B1		U	F	U	U	-6.0 - 10.8	6.0 10.8	°C °F	0.1	0.0	
7	Calibration probe B2		U	F	U	U	-6.0 - 10.8	6.0 10.8	°C °F	0.1	0.0	/1÷0
8	Calibration probe B3		U	F	U	U	-10.0 10.0	%rH/bar	0.1	0.0	0.0	
9	Calibration probe B4		U	F	U	U	-6.0 - 10.8	6.0 10.8	°C °F	0.1	0.0	/3÷0
A	Digital filter		U	F	U	U	1	15	-	1	4	
b	Input limit		U	F	U	U	1	15	-	1	8	
c	Unit of measure (0= °C, 1= °F)		U	U	U	U	0	1	flag	1	0	

  

R	Regulation	HL=	Type				Min	Max	U.o.M.	Var.	Def.	Pres.
			0	1	2	3						
1	Temperature Set Point (cooling)		D	D	D	D	rA	rb	°C/°F	0.1	22.0	
2	Cooling differential		D	D	D	D	0.1 0.1	11.0 19.8	°C °F	0.1	3.0	
3	Heating differential		D	D	D	D	0.1 0.1	11.0 19.8	°C °F	0.1	3.0	
4	Temperature dead zone		D	D	D	D	0.1 0.1	11.0 19.8	°C °F	0.1	1.0	
5	Humidity Set Point		D	D	D	D	rc	rd	%rH	1	50	/2≠0
6	Humidification differential		D	D	D	D	1	20	%rH	1	4	/2≠0
7	Dehumidification differential		D	D	D	D	1	20	%rH	1	3	/2≠0
8	Humidity dead zone		D	D	D	D	0	20	%rH	1	2	/2≠0
9	Temperature Set Point (heating)		D	D	D	D	rA	rb	°C/°F	0.1	18.0	
A	Minimum temperature set point (also for compensation)		U	F	U	U	-20 -4	rb	°C °F	0.1	0	
B	Maximum temperature setpoint (also for compensation)		U	F	U	U	rA	60 140	°C °F	0.1	50	
C	Minimum humidity set point		U	F	U	U	0	rd	%rH	1	0	/2≠0
D	Maximum humidity set point		U	F	U	U	rc	100	%rH	1	100	/2≠0
E	Type of temperature regulation 0= P, 1= P+I		U	F	U	U	0	1	flag	1	0	
F	Integration time for PI action		U	F	U	U	10	3600	s	1	600	rE≠0
G	Authority (unique for Cooling/heating) for compensation		U	F	U	U	-2.0	2.0	0.1		0.5	/1≠0
H	Set Point compensation on temp. read by B2 (cooling)		U	F	U	U	-20-4	60 140	°C °F	0.1	25.0	/1≠0
I	Set Point compensation on temp. read by B2 (heating)		U	F	U	U	-20-4	60 140	°C °F	0.1	10.0	/1≠0
L	Free cooling differential		U	F	U	U	0 0	30 54	°C °F	1	3	/1≠0
N	Supply temperature lower limit		U	F	U	U	-20 -4	30 86	°C °F	1	10	/1≠0
O	Reading from probe B2		D	D	D	D			°C/°F			/1≠0
P	Reading from probe B3		D	D	D	D			%rH/bar			/2≠0
R	Reading from probe B4		D	D	D	D			°C/°F			/3≠0
T	Time band setting 0= disabled 1= fan on min. with temp.monitoring 2= ON/OFF		U	U	D	D	0	2	flags	1	0	

c	Compressor	HL=	Type				Min	Max	U.o. M.	Var.	Def.	Pres.
			0	1	2	3						
1	Minimum ON time		U	F	F	F	0	300	s	1	60	
2	Minimum OFF time		U	F	F	F	0	900	s	1	60	
3	Time between 2 start-ups		U	F	F	F	0	900	s	1	360	
4	ON delay between the 2 compressors		U	F	F	F	0	300	s	1	30	
5	OFF delay between the 2 compressors		U	F	F	F	0	300	s	1	0	
6	Compressor rotation 0= disabled 1= enabled		F	F	F	F	0	1	flag	1	0	
7	Delay comp. ON from supply fan start-up		U	F	U	F	0	300	s	1	20	
8	Hour counter threshold for the compressor 0= disabled		U	U	U	U	0	30000	h	1	0	
9	Hour counter compressor 1		D	U	D	U	0	30000	h	-	0	
A	Hour counter compressor 2		D	U	D	U	0	30000	h	-	0	

F	Fans	HL=	Type				Min	Max	U.o.M.	Var.	Def.	Pres.
			0	1	2	3						
1	Fan operating mode 0= always ON 1= proportional speed regulation. If used in condensation the fan is kept at minimum even below the value of F5 2= proportional speed regulation. If used in condensation the fan is switched off below the value of F5, with an hysteresis of 0.5 bar for pressure or 1 °C for temperature		F	F	F	F	0	2	flags	1	0	F
2	Minimum Triac voltage threshold		F	F	F	F	0	F4	step	1	20	
3	Maximum Triac voltage threshold		F	F	F	F	F3	100	step	1	100	
4	Triac pulse width		F	F	F	F	0	15	ms	1	2	
5	% regulation band for minimum speed or temperature/pressure for minimum speed in condensation		U	F	U	F	0	F6	% °C °F bar	0.1	60	
6	% regulation band for maximum speed or temperature/pressure for maximum speed in condensation		U	F	U	F	F5	100 158 /5	% °C °F bar	0.1	100	
7	Minimum output value		U	F	U	F	0	F8	%	1	20	
8	Maximum output value		U	F	U	F	F7	100	%	1	100	
9	Fan hour counter threshold 0= disabled		U	U	U	U	0	30000	h	1	0	
A	Supply fan hour counter		D	U	D	U	0	30000	h	-	0	
B	Filter hour counter threshold 0= disabled		U	U	U	U	0	30000	h	1	0	
C	Filter hour counter		D	U	D	U	0	30000	h	-	0	
D	Supply fan OFF delay		U	F	U	F	0	900	s	1	20	
E	Fan pick-up time in condensation		U	F	F	F	0	60	s	1	4	

P	Alarm	HL=	Type				Min	Max	U.o.M.	Var.	Def.	Pres.
			0	1	2	3						
1	Flow alarm delay from fan start-up		U	F	F	F	0	250	s	10	20	
2	Flow alarm delay during operation		U	F	F	F	0	90	s	1	5	
3	Low pressure alarm delay from compressor ON		U	F	F	F	0	250	s	1	120	
4	Buzzer activation 0= OFF, 1-14= min. 15= continuous		U	U	U	U	0	15	min	1	1	
5	Reset alarms (various configurations)		F	F	F	1	5	flag	1	1	1	
6	Delta from effective set point for low temperature alarm		U	F	U	U	0	50 90	°C °F	1	10	
7	Delta from effective set point for high temperature alarm		U	F	U	U	0	50 90	°C °F	1	10	
8	Delta from set point for low humidity alarm		U	F	U	U	0	50	%rH	1	20	/2#0
9	Delta from set point for high humidity alarm		U	F	U	U	0	50	%rH	1	20	/2#0
A	Alarm delay high/low temperature/humidity on start-up		U	U	U	U	0	150	min	1	20	
b	Type of management of generic alarm input		U	F	U	F	0	6	flag	1	6	



H	General	HL=	Type				Min	Max	U.o.M.	Var.	Def.	Pres.
			0	1	2	3						
	4= energised in humidification 5= de-energised in humidification 6= 2 fan selection on during deum. 7= 2 fan selection off during deum.											
B	Function of output Y2 (phase-cut) 0= supply fan speed control 1= condensation fan speed control using B3 2= condensation fan speed control using B2	F	F	F	F	0	2	flags	1	0		
C	Function of probe B2 0= compensation 1= free-cooling using 0-10V 2= free-cooling using Out3-Out4 3= free-cooling ON/OFF with Out3 4= condensation control	F	F	F	F	0	3	flag	1	1		
d	Function of probe B3 0= humidity control 1= condensation control	F	F	F	F	0	1	flag	1	0		/2#0
E	ON/OFF digital input 0= absent 1= present	U	U	U	U	0	1	flag	1	1		
F	Alarm relay logic 0= de-energised in alarm for all alarms 1= energised in alarm for all alarms 2= de-energised in alarm only for serious alarms 3= energised in alarm only for serious alarms	U	U	U	F	0	3	flags	1	1		
G	Delay on start-up	U	U	U	U	0	300	s	1	0		
H	USER password	U	U	U	U	0	200	-	1	22		
I	Block parameter modifications (displayed by lock) 0= no block	U	U	U	U	0	1	flag	1	0		
L	Parameter sets	F	F	F	F	0	3	flags	1	0		
n	Select data shown on display 0= probes B1, B3 (if present) 1= temperature. and humid. set-point (if present) 2= day and time (if clock present)	U	F	U	F	0	2	flags	1	0		
o	Supervisor network serial address	U	U	U	U	1	200	-	1	1		
P	Supervisor serial baudrate 1= 1200, 2= 2400, 3= 4800, 4= 9600, 5=19200 Baud	U	U	U	U	1	5	flags	1	5		

## Inputs and outputs I/O

### Digital inputs Connector 2

ID1	Remote ON/OFF (HE=1)
ID2	Flow controller
ID3	Filter dirty
ID4	Heat. Element safety
ID5	External alarm/ input for rotation of a series of units rotation of a series of units (depends on Pb-H2-HA)
ID6	Humidif. Alarm (h8=1)
ID7	High press.C1
ID8	Low press. C1
ID9	Comp. thermal
ID10	Fan thermal (H5)

### Analogue inputs - Connector 2

B1	Inlet temp. Temp.
B2	External air temp. for free cooling (/1,Hc)
B3	Ambient humidity. (/2Hd)
B4	Supply temp. (/3=1)

### SSR digital outputs - Connector 1

Out1	Compressor
Out2	
Out3	Heating element
Out4	
Out5	Supply fan

### Relay digital outputs - Connector 3

Out 6	Alarm (HF)
Out 7	Deumid./humid. (HA)

### Analogue outputs - Connector 1

Y1	Humidifer control (/2,H8)
Y2	