EWCM EO 8/9000 Series
EWCM EO 8/9000 Series HFO
Controllers for compressor rack

by Schneider Electric

Instruction sheet

KEYBOARD INTERFACE FOR EWCM KEYBOARD

KEYS and LEDs

	Main Display		Menu navigation	Writing mode (Edit Mode)
key		3sec 3sec		
F1	Compressors/Fans	-	-	-
F2	Set / band	-	-	-
F3	Alarm acknowledgement	• Alarms • Upload Glossaries (from reset)	-	-
	-	-	Scrolls through menu options	increases value
	Change display Discharge value displayed [°C → bar] → [°F → PSI]	Probes menu	Enters next menu	Saves and confirms value
OK	-	Navigation Menu	• Next Menu • Write mode • Activates function	Saves and confirms value
	-	-	Scrolls through menu options	Decreases value
	Change display suction value displayed [°C → bar] → [°F→ PSI]	-	Goes back to previous menu	Exits writing mode

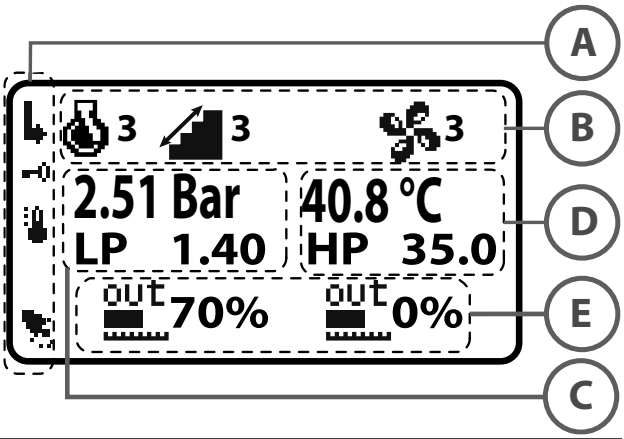
LED	○	●	☼
	no alarm	Alarm active (at least one)	alarm acknowl-edgement
PRG	Main menu	-	Parameters Menu User / Installer Service Menu
$	Economy function off	Economy function on	forcing setpoint



DISPLAY OF Compressor rack STATE

The LCD display displays values monitored, machine status and operating modes, as well as configuring the best parameters for the machine itself. The Main Menu has 5 sections:

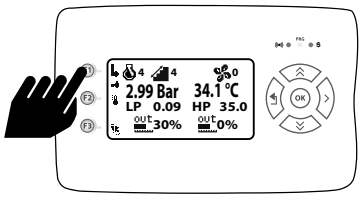
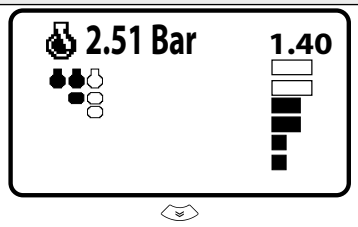
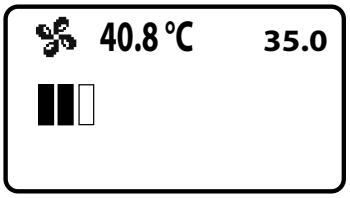
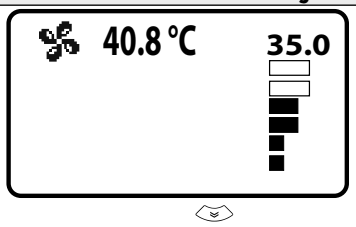
A	Access to menus		B	Compressors/Fans DIGITAL
	F1	Compressors/Fans		**Compressors** + number of active compressors
	F2	if keypad locked		**power steps Compressors on** + number of active compressors
	F3	Alarms		**Digital fans** + the number of digital fans on



C	LP suction	D	HP Discharge
	• the first number indicates the value read by the suction probe • the second number indicates the value of the suction set		• the first number indicates the value read by the discharge probe • the second number indicates the value of the discharge set
E	**INVERTER compressors**	**E**	**INVERTER fans**
out	INVERTER output use percentage	out	INVERTER output use percentage

Note. Section E. the percentage is only indicated by the number %: the icon does not identify the power supplied or is the same for all percentages.

COMPRESSORS / FANS

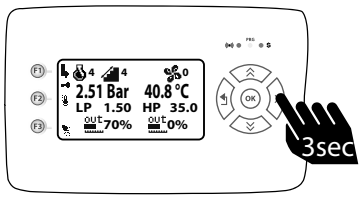
	F1	Suction circuit 1	Digital fans discharge
	→		
		Suction circuit 2	**INVERTER fan discharge**
			

compressor on compressor called compressor off segmentation

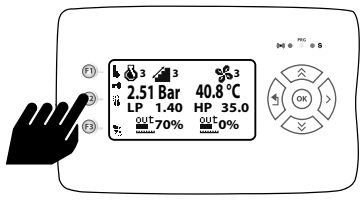
VIEWING PROBE VALUES

The Probes Menu only allows you to view the analogue input values.

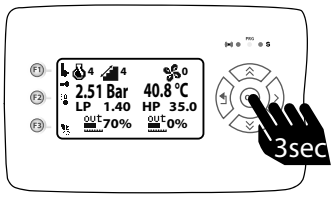
Access to the Probes Menu takes place via the Main Display by pressing and holding down the function key DX

		Pressure transducers PB1 Pb2 Pb3 > Bar and PSI	Temperature probes PB5 Pb6 Pb7 Pb8 > °C and °F
	→	PROBES 01/05 PB1 13.4 Bar PB1 13.4 PSI PB2 3.61 Bar	PROBES 03/05 PB5 15.6 °C PB5 32.4 °F PB6 Err
		PROBES 02/05 PB2 3.61 PSI PB3 13.4 Bar PB3 13.4 PSI	PROBES 04/05 PB6 Err PB7 Err PB7 Err

MODIFY BAND SET

F2 key				
Value display menu Suction SetPoint suction bands Discharge SetPoint discharge bands  **Modifyby key or OK**	→	SET/BAND 01/02 Suc Set 0.09 Bar Suc Band 0.25 Bar Del Set 14.4 Bar	OK	SET/ SUC 001/001 143 - SEt Suction setpoint 0.09 Bar
		SET/BAND 01/02 Suc Set 0.09 Bar Suc Band 0.25 Bar Del Set 14.4 Bar	OK	SUC BAND 001/001 144 - Pbd Proportional band 0.09 Bar
		SET/BAND 01/02 Suc Set 0.09 Bar Suc Band 0.25 Bar Del Set 14.4 Bar	OK	DEL SET 001/001 343 - SEt Discharge set 0.09 Bar
		SET/BAND 01/02 Del Band 0.25 Bar	OK	DEL BAND 001/001 344 - Pbd Proportional band 0.09 Bar

PROGRAMMING



MENU 01/02
Diagnostics
Service
Clock and bands

MENU 02/02
Functions
Parameters

PARAMETERS 01/01
User
Installer

INSTALLER 01/05
Quick Start
Compressors
Fans

QUICK START 01/01	
Enable	**No**
Parameters	
Manual	Yes

QUICK START 01/01	
Enable	**Yes**
Parameters	
Manual	Yes

PARAMETER QUICKSTART TABLE

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
	QUICKSTART						
501-tyPE	Type of plant: **0 =** standard type compressor rack **1 =** compressor rack with common single discharge discharge **2 =** chiller. The same as case **0**. In this case regulation is in temperature (referred to water) N.B.: If **501 - tyPE = 1** the **Compressor** [2] folder parameters will be visible	0 ... 2	0	num	●	●	●
502-PC1	Compressor 1 power or number of compressor 1 steps	1 ... 255	1	num	●	●	●
503-PC2	Compressor 2 power or number of compressor 2 steps	1 ... 255	1	num			
504-PC3	Compressor 3 power or number of compressor 3 steps	1 ... 255	1	num			
505-PC4	Compressor 4 power or number of compressor 4 steps	1 ... 255	1	num			
506-PC5	Compressor 5 power or number of compressor 5 steps	1 ... 255	1	num			
507-PC6	Compressor 6 power or number of compressor 6 steps	1 ... 255	1	num			
508-PC7	Compressor 7 power or number of compressor 7 steps	1 ... 255	1	num			
509-PC8	Compressor 8 power or number of compressor 8 steps	1 ... 255	1	num			
510-PC9	Compressor 9 power or number of compressor 9 steps	1 ... 255	1	num			
511-PC10	Compressor 10 power or number of compressor 10 steps	1 ... 255	1	num			
512-PC11	Compressor 11 poweror number of compressor 11 steps	1 ... 255	1	num			
513-PC12	Compressor 12 power or number of compressor 12 steps	1 ... 255	1	num			
514-EAAL	Enable cumulative alarms digital output It defines whether to assign the cumulative alarm automatically to a digital output on relay. **0=** No; **1=** Yes	0 ... 1	1	flag	●	●	●
515-EACI	Compressor INVERTER enabling digital output. Defines whether to automatically assign the INVERTER compressor 1 and 2 to the analogue outputs. **0=** No; **1=** Yes	0 ... 1	0	flag	●	●	●
516-EAFi	Fan INVERTER enabling digital output. Defines whether to assign the INVERTER fan automatically to an analogue output. **0=** No; **1=** Yes	0 ... 1	0	flag	●	●	●
517-EACIE	Compressor INVERTER 1 and 2 error digital input. Defines whether to automatically assign the INVERTER compressor 1 and 2 error signal to the digital inputs. **0=** No; **1=** Yes	0 ... 1	0	flag	●	●	●
518-EAFiE	Fan INVERTER error digital input. Defines whether to automatically assign the INVERTER fan error signal to a digital input. **0=** No; **1=** Yes	0 ... 1	0	flag	●	●	●
519-EAgA	Enable generic alarm digital input. Defines whether to assign the generic alarm automatically to a digital input. **0=** No; **1=** Yes	0 ... 1	0	flag	●	●	●
520-Fnty	Fan mode 0= **disabled** condensation control disabled; 1= **inverter** control through INVERTER (only analogue) 2= **digital** control through relay 3= **inverter+backup** control with INVERTER (only analogue) with backup relay 4= **digital+inverter** control by relay + INVERTER 5= **dig+inv+backup** control by relay + INVERTER with backup relay	0 ... 5	2	num	●	●	●
521-nFn	Number of fans	1 ... 8	3 **9900** 3 **9100** 1 **8900**	num	●	●	●
522-CtyP	Circuit 1 Type 0= **homogeneous** digital control by relay (HOMOGENEOUS STEPS) 1= **not homogeneous** digital control by relay (NON HOMOGENEOUS STEPS) 2 =**homogeneous+inverter** control by relay (HOMOGENEOUS STEPS) + INVERTER 3= **hom+inv+backup** control by relay (HOMOGENEOUS STEPS) with backup relay	0 ... 3	2	num	●	●	●
523-CPnU	Number of compressors circuit 1 N.B: 0 value is only allowed if **522-CtyP = 2**. (only INVERTER)	0 ... 12	3 **9900** 3 **9100** 2 **8900**	num	●	●	●
524-CtyP2	Circuit 2 Type - See **522-CtyP**	0 ... 3	0	num	●	●	●
525-CPnU2	Number of compressors circuit 2 N.B: 0 value is only allowed if **524-CtyP2 = 2**. (only INVERTER)	0 ... 12	0	num	●	●	●

PARAMETER TABLE

Pressure/Temperature parameters
Parameters quadrupled [° C, bar, ° F, PSI] according to the Unit of Measure on display.
For example the parameter of the folder
Compressors> Regulation Thresholds >141 – LSE is shown as:

DESCRIPTION	RANGE	DEFAULT	U.M.
141 – LSE minimum setpoint °C.	-100...600	-55.0	°C
141 – LSE minimum setpoint °F.	-150...999.9	-67	°F
141 – LSE minimum setpoint bar.	-1...68	0.62	bar
141 – LSE minimum setpoint PSI.	-14.5...999.9	8.9	PSI

In parameter table it is specified only once (single line)
range, default, and UM in ° C marked as **§**

Temperature parameters
Parameters doubled [° C;° F] according to the Unit of Measure on display.
For example the parameter of the folder
Compressors> Regulation Thresholds >155 – AtdS è visualizzato come:

DESCRIPTION	RANGE	DEFAULT	U.M.
155 – AtdS Ambient temperature dynamic set °C	-100...600	15.0	°C
155 – AtdS Ambient temperature dynamic set °F	-150...999.9	59	°F

In parameter table it is specified only once (single line)
range, default, and UM in ° C marked as **°**

8900	9100	9900	Parameter
●	●	●	available on all models

8900	9100	9900	Parameter
-	●	●	only on 9100/9900

8900	9100	9900	Parameter
-	-	●	only on 9900

PAR.		DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
		[1] COMPRESSORS • [2] COMPRESSORS [2] visible if Se 501 - tyPE = 1						
[1]	[2]	**Regulation Limits**						
141-LSE	**241-LSE**	Minimum setpoint	-100...600§	-55.0	°C	●	●	●
142-HSE	**242-HSE**	Maximum setpoint	-100...600§	0.0	°C	●	●	●
143-SEt	**243-SEt**	Suction setpoint	141-LSE... 142-HSE§ 241-LSE... 242-HSE§	-35.0	°C	●	●	●
144-Pbd	**244-Pbd**	Proportional band	-100...600§	6.0	°C	●	●	●
145-PbdE	**245-PbdE**	Extended prop. band. Significant parameter if: **101 -CCFn = 1 (Neutral Zone)** **201 -CCFn = 1 (Neutral Zone)**	-100...600§	10.0	°C	●	●	●
146-dSPo1	**246-dSPo1**	Offset 1 for dyn set Value to be summed to the Setpoint when the economy function in suction is activated by time brackets just for weekdays and for all other modes (digital / key / menu / remote / energy saving)	-100...600§	2.0	°C	●	●	●
147-dSPo2	**247-dSPo2**	Offset 2 for dyn set Value to be summed to Setpoint when the economy function in suction is activated by times brackets for holidays and weekends only	-100...600§	2.0	°C	●	●	●
148-dLAL	**248-dLAL**	Hysteresis returning from minimum	-100...600§	5.0	°C	●	●	●
149-LAL	**249-LAL**	Absolute or relative minimum alarm threshold	-100...600§	20.0	°C	●	●	●
150-dHAL	**250-dHAL**	Hysteresis returning from maximum	-100...600§	5.0	°C	●	●	●
151-HAL	**251-HAL**	Absolute or relative maximum alarm threshold	-100...600§	20.0	°C	●	●	●
154-InLPt	**254-InLPt**	Threshold for INVERTER operation at minimum power	-100...600§	-40.0	°C	●	●	●
155 - AtdS	**255 - AtdS**	Ambient temperature dynamic set	-100...600°	15.0	°C	●	●	●
156 - dAtdS	**256 - dAtdS**	AtdS differential	-100...600°	2.0	°C	●	●	●
[1]	[2]	**Safety times**						
121-oFon	**221-oFon**	Compressor OFF - ON time Minimum time between turning the same compressor off and back on again	0 ... 999	5	min	●	●	●
122-donF	**222-donF**	Compressor ON - OFF time Minimum compressor operating time before be turned off. The 'called' compressor stays on at least for the time set by this parameter.	0 ... 999	15	sec	●	●	●
123-onon	**223-onon**	Compressor ON - ON time Minimum time between turning the same compressor on twice.	0 ... 999	5	min	●	●	●
124-don	**224-don**	ON steps time. Delay time between the calls of two different steps	0 ... 999	15	sec	●	●	●
125-doF	**225-doF**	OFF steps time. Delay time between switching off two different steps.	0 ... 999	5	sec	●	●	●
126-FdLy	**226-FdLy**	Enables dOn 1' step up (start-up). Enables operation of the delay of parameter **124 - don / 224 - don** also upon the request for turning on steps for the first time after a condition of equilibrium. **0 =** no; **1 =** yes.	0 ... 1	1	flag	●	●	●
127-FdLF	**227-FdLF**	Enable dOF 1' step down. Enables delay operation for parameter **125 - doF** / **225 - doF** also upon the request for turning off steps for the first time after a condition of equilibrium. **0 =** No; **1 =** Yes.	0 ... 1	1	flag	●	●	●
[1]	[2]	**Inverter**						
114-InLFr	**214-InLFr**	Inverter minimum frequency	0 ... 100	25	Hz	●	●	●
115-InMFr	**215-InMFr**	Inverter maximum frequency	0 ... 100	85	Hz	●	●	●
116-InSFr	**216-InSFr**	Switch inverter frequency	0 ... 100	40	Hz	●	●	●
117-InRP	**217-InRP**	Inverter rated power at network frequency	0 ... 255	100	num	●	●	●

PAR.		DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
129-Inot	**229-Inot**	Max time INVERTER at minimum power	0 ... 999	999	min	●	●	●
130-InLt	**230-InLt**	Interval between INVERTER minimum and new power step activation	0 ...999	0	sec	●	●	●
131-InoFon	**231-InoFon**	Inverter OFF - ON time Minimum time between switch off and the next switch on	0 ... 999	0	sec	●	●	●
132-Inonon	**232-Inonon**	Inverter ON - ON time Minimum interval between two consecutive switch ons	0 ...999	0	sec	●	●	●
133-InSwt	**233-InSwt**	Minimum inverter switch time	0 ...999	10	sec	●	●	●
C1	C2	**Regulation/Alarms**						
The parameters 551-Stty, 552-PoLI, 553-SEr, 698-SUPFr are only displayed in the Regulation/Alarms folder and in common for two circuits								
551-Stty		Regulation enabling suction/discharge with set central to the regulation band **0 (No)=** Side set; **1 (Yes)=** Central setpoint.	0 ... 1	1	flag	●	●	●
552-PoLI		Compressor activation policy **0 =** fixed sequence; **1 =** compressor rotation (balancing); **2 =** saturation 1; distribution of resources on smallest number of compressors possible to obtain highest number of compressors turned off. **3 =** saturation 2; same as saturation 1, except that all compressors must reach minimum power level (one step) before starting switch-off.	0 ... 3	2	flag	●	●	●
553-SEr		Compressor max usage time.	0 ... 32000	32000	hours	●	●	●
698-SUPFr		Line frequency. **0=**50Hz; **1=**60Hz	0 ... 1	0	flag	●	●	●
101-CCFn	**201-CCFn**	Compressors control type. Selection of type of compressor control: **0=**Proportional; **1=**Neutral Zone; **2=**PID	0 ... 2	2	num	●	●	●
102-ItEn	**202-ItEn**	Enabling full control **0=**No; **1=**Yes	0 ... 1	1	flag	●	●	●
103-It	**203-It**	Integral time	0.1...90.0	90.0	sec	●	●	●
104-PbEn	**204-PbEn**	Enabling proportional control **0=**No; **1=**Yes	0 ... 1	1	flag	●	●	●
105-dtEn	**205-dtEn**	Enabling derivative control **0=**No; **1=**Yes	0 ... 1	0	flag	●	●	●
106-dt	**206-dt**	Derivative time	0.1...90.0	0.1	sec	●	●	●
107-dSS	**207-dSS**	Dynamic suction set mode. **0=**dynamic set; **1=**fixed set.	0 ... 1	1	flag	●	●	●
108-CPP	**208-CPP**	Enable default power control in case of suction probe error. **0=**No; **1=**Yes	0 ... 1	0	flag	●	●	●
109-PoPr	**209-PoPr**	Default power value in case of suction probe error	0 ... 100	50	%	●	●	●
111-PEn	**211-PEn**	Number of suction pressure switch trips which must occur in the time interval set by the parameter **112-PEI / 212-PEI** so that the alarm goes from automatic to manual. If **= 0** the alarm is always automatic. If **= 33** the alarm is always manual.	0 ... 33	0	num	●	●	●
112-PEI	**212-PEI**	Time interval for the counting of **111-PEn** / **211-PEn**	1 ... 15	15	min	●	●	●
113-byPS	**213-byPS**	Bypass time suction pressure switch trip for high and low pressure	0 ... 999	0	min	●	●	●
118-PtSE	**218-PtSE**	Compressor steps sequence Defines the activation / deactivation sequence of the relays associated with compressor capacity step: **0=**increase power → deactivation capacity step; **1=**increase power → shift capacity step; **2=** increase power → activate capacity step.	0 ... 2	0	num	●	●	●
120-nCPC	**220-nCPC**	Selection Master compressor: that compressor will always be the first one to be turned on and the last one released based on the activation policy (see **552 - PoLI**). **0 =** function disabled.	**0** ... **523 - CPnU** **0** ... **523 - CPnU2**	0	num	●	●	●
128-CRP	**228-CRP**	Digital compressor rated power at network frequency	0 ... 255	100	num	●	●	●

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
	FANS						
	Regulation Limits						
341-LSE	Minimum setpoint	-100...600§	0	°C	●	●	●
342-HSE	Maximum setpoint	-100...600§	45.0	°C	●	●	●
343-SEt	Discharge setpoint	341-LSE... 342-HSE §	35.0	°C	●	●	●
344-Pbd	Proportional band	-100...600§	6.0	°C	●	●	●
345-Cod1	Delta 1 cut-off. Threshold to be summed to discharge set to go from ON/OFF to continuous regulation	-100...600§	1.0	°C	●	●	●
346-Cod2	Delta 2 cut-off. Threshold to be summed to discharge set + delta 1 Cut-off from where modulated regulation control starts	-100...600§	1.0	°C	●	●	●
347-dHAL	Hysteresis returning from maximum	-100...600§	5.0	°C	●	●	●
348-HAL	Absolute or relative maximum alarm threshold	-100...600§	20.0	°C	●	●	●
349-dSFo	If **314-dSd**=1 (fixed set) → Fixed offset for economy discharge function (value to be subtracted from discharge set point) If **314-dSd**=0 (dynamic set) → Upper limit of dynamic set economy discharge (floating condensation)	-100...600§	2.0	°C	●	●	●

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
350-HPP1	Threshold 1 absolute or relative high discharge alarm prevention. Control probe discharge regulation value beyond which compressor power does not increase	-100...600§	10.0	°C	●	●	●
351-HPP2	Threshold 2 absolute or relative high discharge alarm prevention. Discharge regulation value beyond which compressor power is proportionally decreased	-100...600§	15.0	°C	●	●	●
353-dLAL	Hysteresis returning from minimum	-100...600§	5.0	°C	●	●	●
354-LAL	Absolute or relative minimum alarm threshold	-100...600§	20.0	°C	●	●	●
355-InLPt	Threshold for INVERTER operation at minimum power	-100...600§	30.0	°C	●	●	●
356-dSdo	Dynamic set economy discharge offset (floating condensation). Value to be summed to external temperature in proportion to plant power	-100...600°	10.0	°C	●	●	●
357-dSLdo	Minimum economy discharge dynamic set offset (floating condensation)	-100...600°	3.0	°C	●	●	●
358-dSMEt	Maximum external temp. to enable discharge economy dynamic set (floating condensation).	-100...600°	32.0	°C	●	●	●
359-LdSP	Minimum economy discharge dynamic set (floating condensation)	-100...600°	22.0	°C	●	●	●
360-SCt1	Minimum subcooling setpoint (floating condesation dynamic set)	-100...600°	3.0	°C	●	●	●
361-SCt2	Maximum subcooling setpoint (floating condesation dynamic set)	-100...600°	6.0	°C	●	●	●
362-SCd1	Minimum subcooling differential (dynamic set floating condensation)	-100...600°	1.0	°C	●	●	●
363-SCoF1	Minimum subcooling offset (dynamic set floating condensation)	-100...600°	0.0	°C	●	●	●
364-SCd2	Maximum subcooling differential (dynamic set floating condensation)	-100...600°	8.0	°C	●	●	●
365-SCoF2	Maximum subcooling offset (dynamic set floating condensation)	-100...600°	10.0	°C	●	●	●
366-EtPr	Disables dynamic setpoint if temperature measured by the sub-temperature probe is greater than the text. ambient probe temperature **366-EtPr**. Note. If **366-EtPr = 0** the function is not enabled	-100...600°	0.0	°C	●	●	●
	Safety times						
323-CIt	Pick-up time. Time for which the fans run at 100% when the fan battery is switched on	0 ... 120	0	sec	●	●	●
324-don	ON steps time. Delay time between the calls of two different steps	0 ... 999	15	sec	●	●	●
325-doF	OFF steps time. Delay time between switching off two different steps	0 ... 999	5	sec	●	●	●
326-FStt	Max OFF time Maximum fan OFF time	0 ... 999	0	hours	●	●	●
327-SEr	FAN max usage time	0 ... 32000	32000	hours	●	●	●
331-FPkUP	Fan pick-up time after maximum OFF time	0 ... 999	10	min	●	●	●
	Inverter						
328-Inot	Max time INVERTER at minimum power	0 ... 999	999	min	●	●	●
329-InPC	INVERTER power step increase/decrease	0 ... 100	10	%	●	●	●
330-InoS	INVERTER minimum power activation mode (absence of discharge regulator request). **0=** the INVERTER continues at minimum speed set by **309-InLSP** for 328-Inot time after which it is deactivated. **1=**the INVERTER continues at minimum speed set by **309-InLSP** Note. **309-InLSP≠0**	0 ... 1	1	flag	●	●	●
	Regulation/Alarms						
301-FCFn	FAN control type **0=**Proportional; **1=**Neutral Zone; **2=** PID	0 ... 2	0	num	●	●	●
302-FACt	Activation mode. If **= 0** fans run independently of compressors. If **= 1** at least one compressor must be on.	0 ... 1	0	flag	●	●	●
303-CoIE	Enable cut-off inverter **0=**No**; 1=**Yes	0 ... 1	0	flag	●	●	●
304-ItEn	Enabling full control **0=**No; **1=**Yes	0 ... 1	1	flag	●	●	●
305-It	Integral time	0.1...90.0	90.0	sec	●	●	●
306-PbEn	Enabling proportional control **0=**No; **1=**Yes	0 ... 1	1	flag	●	●	●
307-dtEn	Enabling derivative control **0=**No; **1=**Yes	0 ... 1	0	flag	●	●	●
308-dt	Derivative time	0.1 ... 900	0.1	sec	●	●	●
309-InLSP	minimum fan speed %.	0 ... 100	0	%	●	●	●
310-InMSP	maximum fan speed %.	0 ... 100	100	%	●	●	●
311-InSSP	fan saturation speed %.	0 ... 100	100	%	●	●	●
312-FPP	Enable default power control in case of discharge probe error. **0 =** No; **1 =** Yes	0 ... 1	0	flag	●	●	●
313-FPr	Default power when discharge probe error occurs. In case of mixed systems (digital fans + inverter), the inverter is switched off and the value 313-FPr is applied to the digital fans only.	0 ... 100	50	%	●	●	●
314-dSd	Discharge economy function mode. **0=** dynamic set (floating condensation); **1=** fixed set	0 ... 1	1	flag	●	●	●

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
315-PEn	Number of discharge pressure switch trips thatmust occur in the time interval set by parameter **316-PEI** so that the alarm goes from automatic to manual. If **= 0** the alarm is always automatic. If **= 33** the alarm is always manual.	0 ... 33	0	num	●	●	●
316-PEI	Time interval for the counting of **315-PEn**	1 ... 15	15	min	●	●	●
317-byPS	Bypass time discharge pressure switch trip for high and low pressure	0 ... 999	0	min	●	●	●
318-HPPE	Enable HP alarm prevention. **0=**No**; 1=**Yes	0 ... 1	0	flag	●	●	●
319-HPPP	% Power HP alarm prevention	0 ... 100	30	%	●	●	●
320-HPPd	HP prevention alarm max duration. If the parameter is ≠0 maximum prevention function duration is counted starting from **350-HPP1** when this is exceeded the function is disabled for **321-HPPI time** If the parameter is=0 maximum control prevention duration disabled	0 ... 999	15	min	●	●	●
321-HPPI	HP prevention alarm minimum interval	0 ... 999	10	hours	●	●	●
322-rot	Activation policy. **0 =** fixed sequence; **1 =** rotation based on hours of operation	0 ... 1	1	flag	●	●	●
	SAFETY MEASURES						
565-odo	Regulation delay from power-on	0 ... 999	1	sec	●	●	●
566-PAo	Min/max alarm exclusion time from power-on.	0 ... 999	15	min	●	●	●
567-tAo	HP/LP bypass time	0 ... 999	0	min	●	●	●
568-Aro	Alarms mute duration	0 ... 9999	15	min	●	●	●
569-PrSAE	Management suction pressure switch HPr/LPr alarm. **0= disabled** Disables alarm management; **1= warning** Only enables alarm warning; **2= alarm** Enables warning of any action on regulators; **3= alarm +relay** Enables warning, any action on regulators and activates a dedicated relay for any blocking alarm action;	0 ... 3	2	num	●	●	●
570-PSAE	Suction HP/LP Alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
571-gtSAE	Refrigerant level alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
572-gLSAE	Refrigerant leak alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
573-PrdAE	Discharge HPr/LPr Alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
574-PdAE	Discharge HP/LP Alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
575-FtAE	Fan thermal switch alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
576-FinAE	Fan inverter error alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
577-SFAE	Fan maintenance alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
578-CSAE	Compressor block alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
579-CInAE	Compressor inverter error Alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
580-SCAE	Compressor maintenance alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
581-oLAE	Oil Level Alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
582-gAAE	General Alarm. See **569-PrSAE**	0 ... 3	2	num	●	●	●
583-rtCAE	RTC Alarm. See **569-PrSAE**	0 ... 3	1	num	●	●	●
701-HPPAE	HP prevention alarm management. **0=**Disables alarm management; **1=**Only enables alarm warning;	0 ... 1	1	flag	●	●	●
702-CFAE	Configurable alarm regulator management. See **569-PrSAE**	0 ... 3	1	num	●	●	●
703-COAE	HP/LP/TH/PD compressor alarm management. See **569-PrSAE**	0 ... 3	2	num	●	●	●
704-gtSd	Refrigerant level alarm message delay	0 ... 999	120	sec	●	●	●
	CONFIGURATION						
639-tAb	TAB. Parameter CONFIGURATION index set in factory; cannot be modified by User.	0...32767	1	num	●	●	●
640-rtCE	Enable RTC. **Yes (1)** = RTC enabled; **No (0)**= RTC disabled.	0...1	1	flag	●	●	●
641-FtyP	Refrigerant type. **MODELS EWCM EO** **0=**R22; **1=**R134a; **2=**R502; **3=**R404A;**4=**R407C; **5=**R507; **6=**R717; **7=**R410A; **8=**R417a **9=**R744; **10=**R407A; **11=**R407F; **12=**Reserved; **13=**R427A; **14=**Reserved; **15=**R23. **MODELS EWCM EO - HFO** **0=**R434a; **1=**R134a; **2=**R448A; **3=**R404A;**4=**R407C; **5=**R427A; **6=**R717; **7=**R410A; **8=**R452A **9=**R744; **10=**R449A; **11=**R450; **12=**R407A; **13=**R513A; **14=**R407F; **15=**R442A.	0...15	3	num	●	●	●
646-Pb12	PB1 / PB2 Probe type Configurable in pairs: **0 =**4-20mA;**1 =**0-5V;**2 =**0-10V	0...2	0	num	●	●	●
647-Pb34	PB3 Probe Type **0 =** 4-20mA; **1 =** 0-5V; **2 =** 0-10V; **3 =** D.I. Digital input.	0...3	0	num	-	-	●
648-Pb56	PB5/ PB6 Probe type. Configurable in pairs: **3 =** D.I. Digital Input; **4 =** NTC 103 AT; **5 =** PTC KTY81; **6 =** NTC NK103 C1R1	3...6	4	num	●	●	●

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
649-Pb78	PB 7/8 Probe Type. See **648-Pb56**	3...6	4	num	●	●	●
650-HPb1	PB1 High precision. **0=No, 1=Yes (High Precision)** **High Precision:** hundredths of bar / tenths PSI • **Low precision:** tenths of bar / PSI	0...1	1	flag	●	●	●
651-HPb2	PB2 High Precision. See **650-HPb1**	0...1	1 **9900** 0 **9100** 0 **8900**	flag	●	●	●
652-AoS1	Select V1 or I1. I1/V1 Analogue Output type. Selectable in voltage (V) or current (I). **0=Voltage, 1=Current**	0...1	0	flag	●	●	●
653-AoS2	Select V2 or I2. I2/V2 Analogue Output type. Selectable in voltage (V) or current (I). **0=Voltage, 1=Current**	0...1	0	flag	●	●	●
654-AoS3	Select V3 or I3. I3/V3 Analogue Output type. Selectable in voltage (V) or current (I). **0=Voltage, 1=Current**	0...1	0	flag	-	-	●
655-CALPb1	PB1 calibration. ALWAYS IN ABSOLUTE VALUES (absolute bar).	-10...10/-145...145	0	bar/PSI	●	●	●
656-CALPb2	PB2 calibration. ALWAYS IN ABSOLUTE VALUES (absolute bar).	-10...10/-145...145	0	bar/PSI	●	●	●
657-CALPb3	PB3 calibration. ALWAYS IN ABSOLUTE VALUES (absolute bar).	-10...10/-18...18	0	bar/PSI	-	-	●
659-CALPb5	PB5 calibration.	-10...10/-18...18	0	°C/°F	●	●	●
660-CALPb6	PB6 calibration.	-10...10/-18...18	0	°C/°F	●	●	●
661-CALPb7	PB7 calibration.	-10...10/-18...18	0	°C/°F	●	●	●
662-CALPb8	PB8 calibration	-10...10/-18...18	0	°C/°F	●	●	●
663-LtPb1	Lower threshold PB1.	-1...1	0.50	bar	●	●	●
663-LtPb1	Lower threshold PB1.	-14.5...145	7.2	PSI	●	●	●
664-UtPb1	Upper threshold PB1.	1...10	8.00	bar	●	●	●
664-UtPb1	Upper threshold PB1.	-14.5...14.5	116.0	PSI	●	●	●
665-LtPb2	Lower threshold PB2.	-1...1 -1...1 -1...1	0.5 **9900** 1 **9100** 1 **8900**	bar	●	●	●
665-LtPb2	Lower threshold PB2.	-14.5...14.5 -14...14 -14...14	7.2 **9900** 14 **9100** 14 **8900**	PSI	●	●	●
666-UtPb2	Upper threshold PB2.	1...10 1...100 1...100	8.0 **9900** 31.0 **9100** 31.0 **8900**	bar	●	●	●
666-UtPb2	Upper threshold PB2.	14.5...145 14...1450 14...1450	116 **9900** 449 **9100** 449 **8900**	PSI	●	●	●
667-LtPb3	Lower threshold PB3.	-1...1	1	bar	-	-	●
667-LtPb3	Lower threshold PB3.	-14...14	14	PSI	-	-	●
668-UtPb3	Upper threshold PB3.	10...1000	31.0	bar	-	-	●
668-UtPb3	Upper threshold PB3.	14...1450	449	PSI	-	-	●
	DISPLAY						
541-LAng	Language selection **0=** 1st language (local language based on product code) **1=** 2nd language (default ENG) NB. Check product code and availability of languages with Sales Office.	0...1	0	flag	●	●	●
542-toUt	Exit menu timeout Time, after which, you exit the current menu and go back to the previous menu.	10...1000	300	sec	●	●	●
543-rELP	Selects display in absolute or relative pressure. **0 =** absolute; **1 =** relative.	0...1	1	flag	●	●	●
544-AbS	Minimum high absolute/relative alarms. **0** (No) **=** absolute mode alarms; **1** (Yes) **=** relative mode alarms. at set point.	0...1	1	flag	●	●	●
545-UMmIn	Min suction / discharge UM **0=** °C; **1=**bar; **2=** °F; **3=** PSI.	0...3	0	num	●	●	●
546-UMMax	Max suction / discharge UM **0=** °C; **1=**bar; **2=** °F; **3=** PSI.	0...3	1	num	●	●	●
547-UMCP	Suction UM	**545-UMmIn** **546-UMMax**	0	num	●	●	●
548-UMFn	Discharge UM	**545-UMmIn** **546-UMMax**	0	num	●	●	●
549-LoCK	Lock keyboard **0** (No) ; **1** (Yes). • Lock keyboard → **549-LoCK** • Unlock keyboard → key defined by **550-HKUnL**	0...1	0	flag	●	●	●
550-HKUnL	Unlock Keyboard Hotkey **0=** no key; **1=** F1 single pressure; **2=** F2 single pressure; **3=** F3 single pressure ; **4=** LT key single pressure; **5=** RT key single pressure; **6=** OK key single pressure; **7=** F1 prolonged pressure; **8=** F2 prolonged pressure; **9=** F3 prolonged pressure; **10=** LT key prolonged pressure; **11=** RT key prolonged pressure; **12=** OK key prolonged pressure.	0...12	8	num	●	●	●

PAR.	DESCRIPTION		RANGE	DEFAULT	U.M.	8900	9100	9900
	FUNCTIONS							
554-drEn	Enable recording data. **0=**No; **1=**Yes		0...1	0	flag	●	●	●
555-HIEn	Enable recording history. **0=**No; **1=**Yes		0...1	0	flag	●	●	●
556-ESFn	Energy Saving activation mode. **0=**Disabled; **1=**Suc.Eco.C1; **2=**Suc Eco.C2; **3=**Suc Eco.C1+ Suc Eco.C2; **4=**Discharge Eco; **5=**Suc Eco C1+ Discharge Eco; **6=**Discharge Eco+ Suc. Eco.C2; **7=**Suc.Eco.C1+ Suc Eco C2+Eco. Discharge		0...7	0	num	●	●	●
557-Hrto	SetPoint Maximum heat recovery outlet water temperature		-100...600°	40.0	°C	●	●	●
558-Hrdt	Delta heat recovery outlet water temperature		-100...600°	10.0	°C	●	●	●
559-LrCd	Circuit 1 control liquid return activation delay		0...999	15	min	●	●	●
560-Lron	Circuit 1 control liquid return ON time (duty cycle)		0...999	0	sec	●	●	●
561-LroF	Circuit 1 control liquid return OFF time (duty cycle)		0...999	0	sec	●	●	●
562-LrCd2	Circuit 2 control liquid return activation delay		0...999	15	min	●	●	●
563-Lron2	Circuit 2 control liquid return ON time (duty cycle)		0...999	0	sec	●	●	●
564-LroF2	Circuit 2 control liquid return OFF time (duty cycle)		0...999	0	sec	●	●	●
750-toUtgLy	Glycol system defrost time out		1...999	30	min	●	●	●
	ADDRESSING							
671-FAA	Family address (**family**) in Televis**System** network. For example: **00 01: 00=FAA; 01=dEA**		0...14	0	num	●	●	●
672-dEA	Controller address (**address**) in Televis**System** network.		0...14	0	num	●	●	●
673-PtStLV	Protocol selection RS485: **2=**Micronet (**Televis**) or **3=Modbus RTU** If selecting the Modbus RTU protocol it is wise to configure parameters **674-675**		2...3	2	num	●	●	●
674-bdrttLV	Baud rate RS485 **0=**9600 b/s; **1=**19200 b/s; **2=**38400 b/s		0...2	0	num	●	●	●
675-PtytLV	Parity bit RS485. **0=**NONE; **1=**ODD; **2=**EVEN If Televis protocol selected parameters 674-675 not significant		0...2	1	num	●	●	●
676 - PtSEXP	Protocol selection RS485 EXP: **2=**Micronet (**Televis**) or **3=Modbus RTU** If selecting the Modbus RTU protocol configure parameters **677-678-679** **Factory settings to manage RS485 EXP serial with EEV V910/V800 driver shall NOT be changed**		2...3	3	num	●	●	●
677 - bdrtEXP	RS485 EXP Baud rate. **0=**9600 b/s; **1=**19200 b/s; **2=**38400 b/s		0...2	1	num	●	●	●
678 - PtyEXP	RS485 EXP parity bit. **0=**NONE; **1=**ODD; **2=**EVEN		0...2	2	num	●	●	●
679 - datEXP	RS485 EXP data bit. **0=**7 data bit; **1=**8 data bit;		0...1	1	flag	●	●	●
680 - EnEtH	Enab. ETHERNET. **0=**No; **1=**Yes;		0...1	0	flag	●	●	●
	RESOURCE ALLOCATION Digital Outputs							
584-H201	Relay OUT1	**SEE CONFIGURATION TABLE**	-100...100	9	num	●	●	●
585-H202	Relay OUT2		-100...100	19	num	●	●	●
586-H203	Relay OUT3		-100...100	20	num	●	●	●
587-H204	Relay OUT4		-100...100	10 **8900** 21 **9100** 21 **9900**	num	●	●	●
588-H205	Relay OUT5		-100...100	0 **8900** 10 **9100** 10 **9900**	num	●	●	●
589-H206	Relay OUT6		-100...100	0 **8900** 11 **9100** 11 **9900**	num	●	●	●
590-H207	Relay OUT7		-100...100	0 **8900** 12 **9100** 12 **9900**	num	●	●	●
591-H208	Relay OUT8		-100...100	0	num	-	●	●
592-H209	Relay OUT9		-100...100	0	num	-	●	●
593-H210	Relay OUT10		-100...100	0	num	-	●	●
594-H211	Relay OUT11		-100...100	0	num	-	●	●
595-H212	Relay OUT12		-100...100	0	num	-	●	●
596-H213	Relay OUT13		-100...100	0	num	-	●	●
597-H214	Relay OUT14		-100...100	0	num	-	-	●
598-H215	Relay OUT15		-100...100	0	num	-	-	●
599-H216	Relay OUT16		-100...100	0	num	-	-	●
600-H217	Relay OUT17		-100...100	0	num	-	-	●
601-H218	Relay OUT18		-100...100	0	num	-	-	●
602-H219	Relay OUT19		-100...100	0	num	-	-	●

PAR.	DESCRIPTION		RANGE	DEFAULT	U.M.	8900	9100	9900
	RESOURCE ALLOCATION Digital Inputs							
603 - H101	HV DIH1 digital IN	**SEE CONFIGURATION TABLE**	-99...99	-91	num	●	●	●
604 - H102	HV DIH2 digital IN		-99...99	-79	num	●	●	●
605 - H103	HV DIH3 digital IN		-99...99	-80	num	●	●	●
606 - H104	HV DIH4 digital IN		-99...99	-70 **8900** -81 **9100** -81 **9900**	num	●	●	●
607-H105	HV DIH5 digital IN		-99...99	-67 **8900** -70 **9100** -70 **9900**	num	●	●	●
608-H106	HV DIH6 digital IN		-99...99	-69 **8900** -71 **9100** -71 **9900**	num	●	●	●
609-H107	HV DIH7 digital IN	**SEE CONFIGURATION TABLE**	-99...99	-72	num	-	●	●
610-H108	HV DIH8 digital IN		-99...99	-67	num	-	●	●
611-H109	HV DIH9 digital IN		-99...99	-69	num	-	●	●
612-H110	HV DIH10 digital IN		-99...99	0	num	-	●	●
613-H111	HV DIH11 digital IN		-99...99	0	num	-	-	●
614-H112	HV DIH12 digital IN		-99...99	0	num	-	-	●
615-H113	HV DIH13 digital IN		-99...99	0	num	-	-	●
616-H114	HV DIH14 digital IN		-99...99	0	num	-	-	●
617-H301	LV DI1 digital IN		-99...99	0	num	-	●	●
618-H302	LV DI2 digital IN		-99...99	0	num	-	●	●
619-H303	LV DI3 digital IN		-99...99	0	num	-	●	●
620-H304	LV DI4 digital IN		-99...99	0	num	-	●	●
621-H305	LV DI5 digital IN		-99...99	0	num	-	-	●
622-H306	LV DI6 digital IN		-99...99	0	num	-	-	●
	RESOURCE ALLOCATION Analogue Inputs							
623-H401	PB1 analogue IN **0=**Disabled; **1=**Circuit C1 suction pressure; **2=**Circuit C2 suction pressure; **3=**Discharge pressure		0...3	1	num	●	●	●
624-H402	PB2 analogue IN See **623-H401**		0...3	0 **9900** 3 **9100** 3 **8900**	num	●	●	●
625-H403	PB3 analogue IN	**SEE CONFIGURATION TABLE**	-102...102	3	num	-	-	●
627-H405	PB5 analogue IN		-109...109	0	num	●	●	●
628-H406	PB6 analogue IN		-109...109	0	num	●	●	●
629-H407	PB7 analogue IN		-109...109	0	num	●	●	●
630-H408	PB8 analogue IN		-109...109	0	num	●	●	●
	RESOURCE ALLOCATION Analogue Outputs							
631-H501	V1/I1 analogue OUT **0=**Disabled; **1=**Fan inverter switch on; **2=**Inverter compressor circuit C1 switch on **3=**Inverter compressor circuit C2 switch on; **4=**regulator analogue output configurable step 1		0...4	2	num	●	●	●
632-H502	V2/I2 analogue OUT. See **631-H501**		0...4	0	num	●	●	●
633-H503	V3/I3 analogue OUT. See **631-H501**		0...4	0	num	-	-	●
	FILES SETUP							
452-USId1	User string 1		0...20	*****	string	●	●	●
453-USId2	User string 2		0...20	*****	string	●	●	●
459-rECF	Recording file name (.REC)		0...10	8900-01 9100-01 9900-01	string	●	●	●
460-HISF	Alarm history file name (.HIS)		0...10		string	●	●	●
461-dAtF	Parameter file name (.DAT)		0...10		string	●	●	●
462-gLoF	Glassary file name (.GLO)		0...10		string	●	●	●
	CONFIGURABLE REGULATOR							
710-MPCFR	Configurable regulator probe mode **0=**disabled; **1=**probe selected; **2=**difference between probe selected and discharge probe;		0...2	0	num	●	●	●
711-MCFr1	Configurable regulator mode step 1 **0=**Cooling; **1=**Heating;		0...1	0	flag	●	●	●

PAR.	DESCRIPTION	RANGE	DEFAULT	U.M.	8900	9100	9900
712-MCFr2	Configurable regulator mode step 2 **0=**Cooling; **1=**Heating;	0...1	0	flag	●	●	●
713-SEtCFR1	Configurable regulator setpoint step 1	-100...600°	0.0	°C	●	●	●
714-SEtCFR2	Configurable regulator setpoint step 2	-100...600°	0.0	°C	●	●	●
715-dCFr1	Configurable regulator delta step 1	-100...600°	1.0	°C	●	●	●
716-dCFr2	Configurable regulator delta step 2	-100...600°	1.0	°C	●	●	●
717-PbdCFr1	Proportional band step 1	-100...600°	1.0	°C	●	●	●
718-CodCFR1	Delta cut-off step 1	-100...600°	1.0	°C	●	●	●
719-CFr1dly	Configurable regulator delay step 1	0...255	0	sec	●	●	●
720-CFr2dly	Configurable regulator delay step 2	0...255	0	sec	●	●	●
721-CFrL1	% minimum step 1	0...100	0	%	●	●	●
722-CFrM1	% maximum step 1	0...100	100	%	●	●	●
723-CFrS1	% saturation step 1	0...100	100	%	●	●	●
724-ECFAw	Enable warning configurable alarm **0=**Disabled; **1=**Enabled;	0...1	0	flag	●	●	●
725-CFAty	Configurable alarm mode **0=**Minimum; **1=**Maximum;	0...1	0	flag	●	●	●
726-SEtwCFA	Configurable alarm warning threshold	-100...600°	0.0	°C	●	●	●
727-SEtCFA	Configurable alarm setpoint	-100...600°	0.0	°C	●	●	●
728-dCFA	Configurable alarm differential	-100...600°	1.0	°C	●	●	●
	EXTERNAL DRIVER						
740 - EEvE	Enable EEV. Enable electronic valve driver **0=**disabled; **1=**step 1; **2=**CO2;	0...2	0	num	●	●	●
741 - drMMT	Delay activation high temperature central (MT) at minimum power	0...999	0	sec	●	●	●
742 - dCOnLT	Delay activation compressor after high temperature central (MT) consent	0...999	0	sec	●	●	●
	User Password						
634-PSW1	Password 1	0…5	*****	string	●	●	●
	Installer Password						
636-PSW3	Password 3	0...5	*****	string	●	●	●

CONFIGURATION TABLE

No.	DIGITAL OUTPUT CONFIGURATION	DIGITAL INPUT CONFIGURATION
	Output CONFIGURATION on relay OUT 1...OUT19: positive values indicate direct polarity, negative values the contrary	Digital input CONFIGURATION high voltage DIH1...DIH14 and low voltage DI1...DI6: positive values indicate direct polarity, negative values the contrary
0	disabled	disabled
±1	Digital output AUX1	Generic alarm
±2	Digital output AUX2	Digital input AUX1
±3	Digital output AUX3	Digital input AUX2
±4	Digital output AUX4	Digital input AUX3
±5	Digital output central gas expulsion (gas leak)	Digital input AUX4
±6	Liquid return control digital output C1	Suction economy digital input C1
±7	Liquid return control digital output C2	Suction economy digital input C2
±8	Safety relay digital output	Discharge economy digital input
±9	Cumulative alarm digital output	Energy saving digital input
±10	Switch on digital fan 1	Liquid refrigerant level
±11	Switch on digital fan 2	Refrigerant liquid leak
±12	Switch on digital fan 3	Hot gas defrosting request C1
±13	Switch on digital fan 4	Hot gas defrosting request C2
±14	Switch on digital fan 5	Circuit C1 lubricant oil level
±15	Switch on digital fan 6	Circuit C2 lubricant oil level
±16	Switch on digital fan 7	Compressor 1 differential pressure switch
±17	Switch on digital fan 8	Compressor 2 differential pressure switch
±18	Enable INVERTER fan	Compressor 3 differential pressure switch
±19	Compressor 1 switched on	Compressor 4 differential pressure switch
±20	Compressor 2 switched on	Compressor 5 differential pressure switch
±21	Compressor 3 switched on	Compressor 6 differential pressure switch
±22	Compressor 4 switched on	Compressor 7 differential pressure switch
±23	Compressor 5 switched on	Compressor 8 differential pressure switch
±24	Compressor 6 switched on	Compressor 9 differential pressure switch
±25	Compressor 7 switched on	Compressor 10 differential pressure switch
±26	Compressor 8 switched on	Compressor 11 differential pressure switch
±27	Compressor 9 switched on	Compressor 12 differential pressure switch
±28	Compressor 10 switched on	HP Compressor 1
±29	Compressor 11 switched on	HP Compressor 2
±30	Compressor 12 switched on	HP Compressor 3
±31	Enable INVERTER compressor C1	HP Compressor 4
±32	Enable INVERTER compressor C2	HP Compressor 5
±33	Segmentation 1 compressor 1	HP Compressor 6

No.	DIGITAL OUTPUT CONFIGURATION	DIGITAL INPUT CONFIGURATION
±34	Segmentation 2 compressor 1	HP Compressor 7
±35	Segmentation 3 compressor 1	HP Compressor 8
±36	Segmentation 4 compressor 1	HP Compressor 9
±37	Segmentation 5 compressor 1	HP Compressor 10
±38	Segmentation 1 compressor 2	HP Compressor 11
±39	Segmentation 2 compressor 2	HP Compressor 12
±40	Segmentation 3 compressor 2	LP Compressor 1
±41	Segmentation 4 compressor 2	LP Compressor 2
±42	Segmentation 5 compressor 2	LP Compressor 3
±43	Segmentation 1 compressor 3	LP Compressor 4
±44	Segmentation 2 compressor 3	LP Compressor 5
±45	Segmentation 3 compressor 3	LP Compressor 6
±46	Segmentation 4 compressor 3	LP Compressor 7
±47	Segmentation 5 compressor 3	LP Compressor 8
±48	Segmentation 1 compressor 4	LP Compressor 9
±49	Segmentation 2 compressor 4	LP Compressor 10
±50	Segmentation 3 compressor 4	LP Compressor 11
±51	Segmentation 4 compressor 4	LP Compressor 12
±52	Segmentation 5 compressor 4	Compressor 1 thermoswitch
±53	Segmentation 1 compressor 5	Compressor 2 thermoswitch
±54	Segmentation 2 compressor 5	Compressor 3 thermoswitch
±55	Segmentation 3 compressor 5	Compressor 4 thermoswitch
±56	Segmentation 4 compressor 5	Compressor 5 thermoswitch
±57	Segmentation 5 compressor 5	Compressor 6 thermoswitch
±58	Segmentation 1 compressor 6	Compressor 7 thermoswitch
±59	Segmentation 2 compressor 6	Compressor 8 thermoswitch
±60	Segmentation 3 compressor 6	Compressor 9 thermoswitch
±61	Segmentation 4 compressor 6	Compressor 10 thermoswitch
±62	Segmentation 5 compressor 6	Compressor 11 thermoswitch
±63	Segmentation 1 compressor 7	Compressor 12 thermoswitch
±64	Segmentation 2 compressor 7	Circuit compressor inverter error C1
±65	Segmentation 3 compressor 7	Circuit compressor inverter error C2
±66	Segmentation 4 compressor 7	Fan inverter error
±67	Segmentation 5 compressor 7	Circuit C1 suction gas pressure switch
±68	Segmentation 1 compressor 8	Circuit C2 suction gas pressure switch
±69	Segmentation 2 compressor 8	discharge gas pressure switch
±70	Segmentation 3 compressor 8	Digital fan thermal switch 1
±71	Segmentation 4 compressor 8	Digital fan thermal switch 2
±72	Segmentation 5 compressor 8	Digital fan thermal switch 3
±73	Segmentation 1 compressor 9	Digital fan thermal switch 4
±74	Segmentation 2 compressor 9	Digital fan thermal switch 5
±75	Segmentation 3 compressor 9	Digital fan thermal switch 6
±76	Segmentation 4 compressor 9	Digital fan thermal switch 7
±77	Segmentation 5 compressor 9	Digital fan thermal switch 8
±78	Segmentation 1 compressor 10	INVERTER Fan thermal switch
±79	Segmentation 2 compressor 10	Block compressor 1
±80	Segmentation 3 compressor 10	Block compressor 2
±81	Segmentation 4 compressor 10	Block compressor 3
±82	Segmentation 5 compressor 10	Block compressor 4
±83	Segmentation 1 compressor 11	Block compressor 5
±84	Segmentation 2 compressor 11	Block compressor 6
±85	Segmentation 3 compressor 11	Block compressor 7
±86	Segmentation 4 compressor 11	Block compressor 8
±87	Segmentation 5 compressor 11	Block compressor 9
±88	Segmentation 1 compressor 12	Block compressor 10
±89	Segmentation 2 compressor 12	Block compressor 11
±90	Segmentation 3 compressor 12	Block compressor 12
±91	Segmentation 4 compressor 12	Block continuous control compressor C1
±92	Segmentation 5 compressor 12	Block continuous control compressor C2
±93	Blocking alarm digital output	-
±94	Configurable regulator digital output step 1	Activation glycol system defrosting
±95	Configurable regulator digital output step 2	minimum activation for HP plant
±96	power status >0% HP plant	reception of power status >0% HP plant
±97	control minimum activation for HP plant	stand-by
±98	control EEV activation for LP plant	forcing suction setpoint 141-LSE circuit 1 / 241-LSE circuit 2
±99	Power delivered greater than 0 or at least one compressor available	forcing discharge setpoint 342 -HSE
±100	Power delivered greater than 0	-

No. #	CONFIGURATION ANALOGUE PRESSURE INPUT PB3	CONFIGURATION ANALOGUE TEMPERATURE INPUTS PB5 PB6 PB7 PB8
	Input is also configurable as digital. In this case positive values indicate direct polarity, negative ones the contrary. See **CONFIGURATION > 647 - Pb34 = 3**	Inputs can also be configured as digital. In this case positive values indicate direct polarity, negative ones the contrary. See **CONFIGURATION > 648 - Pb56 = 3** **CONFIGURATION > 649 - Pb78 = 3**
0	disabled	disabled
±1	Circuit C1 suction gas pressure	Circuit C1 suction gas temperature
±2	Circuit C2 suction gas pressure	Circuit C2 suction gas temperature

No. #	CONFIGURATION ANALOGUE PRESSURE INPUT PB3	CONFIGURATION ANALOGUE TEMPERATURE INPUTS PB5 PB6 PB7 PB8
±3	Discharge gas pressure	Discharge gas temperature
±4	General alarm	Internal ambient temperature
±5	Digital input AUX1	External ambient temperature
±6	Digital input AUX2	'Sub-temperature' sensor
±7	Digital input AUX3	Recovery water temperature
±8	Digital input AUX4	Configurable temperature regulator
±9	Suction economy digital input C1	Configurable temperature regulator + Alarm for configurable regulator
±10	Suction economy digital input C2	Temperature Alarm for configurable regulator
±11	Discharge economy digital input	General alarm
±12	Energy saving digital input	Digital input AUX1
±13	Liquid refrigerant level	Digital input AUX2
±14	Refrigerant liquid leak	Digital input AUX3
±15	Hot gas defrosting request C1	Digital input AUX4
±16	Hot gas defrosting request C2	Suction economy digital input C1
±17	Circuit C1 lubricant oil level	Suction economy digital input C2
±18	Circuit C2 lubricant oil level	Discharge economy digital input
±19	Compressor 1 differential pressure switch	Energy saving digital input
±20	Compressor 2 differential pressure switch	Liquid refrigerant level
±21	Compressor 3 differential pressure switch	Refrigerant liquid leak
±22	Compressor 4 differential pressure switch	Hot gas defrosting request C1
±23	Compressor 5 differential pressure switch	Hot gas defrosting request C2
±24	Compressor 6 differential pressure switch	Circuit C1 lubricant oil level
±25	Compressor 7 differential pressure switch	Circuit C2 lubricant oil level
±26	Compressor 8 differential pressure switch	Compressor 1 differential pressure switch
±27	Compressor 9 differential pressure switch	Compressor 2 differential pressure switch
±28	Compressor 10 differential pressure switch	Compressor 3 differential pressure switch
±29	Compressor 11 differential pressure switch	Compressor 4 differential pressure switch
±30	Compressor 12 differential pressure switch	Compressor 5 differential pressure switch
±31	HP Compressor 1	Compressor 6 differential pressure switch
±32	HP Compressor 2	Compressor 7 differential pressure switch
±33	HP Compressor 3	Compressor 8 differential pressure switch
±34	HP Compressor 4	Compressor 9 differential pressure switch
±35	HP Compressor 5	Compressor 10 differential pressure switch
±36	HP Compressor 6	Compressor 11 differential pressure switch
±37	HP Compressor 7	Compressor 12 differential pressure switch
±38	HP Compressor 8	HP Compressor 1
±39	HP Compressor 9	HP Compressor 2
±40	HP Compressor 10	HP Compressor 3
±41	HP Compressor 11	HP Compressor 4
±42	HP Compressor 12	HP Compressor 5
±43	LP Compressor 1	HP Compressor 6
±44	LP Compressor 2	HP Compressor 7
±45	LP Compressor 3	HP Compressor 8
±46	LP Compressor 4	HP Compressor 9
±47	LP Compressor 5	HP Compressor 10
±48	LP Compressor 6	HP Compressor 11
±49	LP Compressor 7	HP Compressor 12
±50	LP Compressor 8	LP Compressor 1
±51	LP Compressor 9	LP Compressor 2
±52	LP Compressor 10	LP Compressor 3
±53	LP Compressor 11	LP Compressor 4
±54	LP Compressor 12	LP Compressor 5
±55	Compressor 1 thermoswitch	LP Compressor 6
±56	Compressor 2 thermoswitch	LP Compressor 7
±57	Compressor 3 thermoswitch	LP Compressor 8
±58	Compressor 4 thermoswitch	LP Compressor 9
±59	Compressor 5 thermoswitch	LP Compressor 10
±60	Compressor 6 thermoswitch	LP Compressor 11
±61	Compressor 7 thermoswitch	LP Compressor 12
±62	Compressor 8 thermoswitch	Compressor 1 thermoswitch
±63	Compressor 9 thermoswitch	Compressor 2 thermoswitch
±64	Compressor 10 thermoswitch	Compressor 3 thermoswitch
±65	Compressor 11 thermoswitch	Compressor 4 thermoswitch
±66	Compressor 12 thermoswitch	Compressor 5 thermoswitch
±67	Circuit compressor inverter error C1	Compressor 6 thermoswitch
±68	Circuit compressor inverter error C2	Compressor 7 thermoswitch
±69	Fan inverter error	Compressor 8 thermoswitch
±70	Circuit C1 suction gas pressure switch	Compressor 9 thermoswitch
±71	Circuit C2 suction gas pressure switch	Compressor 10 thermoswitch
±72	discharge gas pressure switch	Compressor 11 thermoswitch
±73	Digital fan thermal switch 1	Compressor 12 thermoswitch
±74	Digital fan thermal switch 2	Circuit compressor inverter error C1
±75	Digital fan thermal switch 3	Circuit compressor inverter error C2
±76	Digital fan thermal switch 4	Fan inverter error
±77	Digital fan thermal switch 5	Circuit C1 suction gas pressure switch

No. #	CONFIGURATION ANALOGUE PRESSURE INPUT PB3	CONFIGURATION ANALOGUE TEMPERATURE INPUTS PB5 PB6 PB7 PB8
±78	Digital fan thermal switch 6	Circuit C2 suction gas pressure switch
±79	Digital fan thermal switch 7	discharge gas pressure switch
±80	Digital fan thermal switch 8	Digital fan thermal switch 1
±81	INVERTER Fan thermal switch	Digital fan thermal switch 2
±82	Block compressor 1	Digital fan thermal switch 3
±83	Block compressor 2	Digital fan thermal switch 4
±84	Block compressor 3	Digital fan thermal switch 5
±85	Block compressor 4	Digital fan thermal switch 6
±86	Block compressor 5	Digital fan thermal switch 7
±87	Block compressor 6	Digital fan thermal switch 8
±88	Block compressor 7	INVERTER Fan thermal switch
±89	Block compressor 8	Block compressor 1
±90	Block compressor 9	Block compressor 2
±91	Block compressor 10	Block compressor 3
±92	Block compressor 11	Block compressor 4
±93	Block compressor 12	Block compressor 5
±94	Block continuous control compressor C1	Block compressor 6
±95	Block continuous control compressor C2	Block compressor 7
±96	-	Block compressor 8
±97	Activation glycol system defrosting	Block compressor 9
±98	minimum activation for HP plant	Block compressor 10
±99	reception of power status >0% HP plant	Block compressor 11
±100	stand-by	Block compressor 12
±101	forcing suction setpoint 141-LSE circuit 1 / 241-LSE circuit 2	Block continuous control compressor C1
±102	forcing discharge setpoint 342 -HSE	Block continuous control compressor C2
±103	-	-
±104	-	Activation glycol system defrosting
±105	-	minimum activation for HP plant
±106	-	reception of power status >0% HP plant
±107	-	stand-by
±108	-	forcing suction setpoint 141-LSE circuit 1 / 241-LSE circuit 2
±109	-	forcing discharge setpoint 342 -HSE

UTILITIES ALARMS TABLE

Display	RESET	Parameter	Block	Description • Notes
Refrigerant Level Plant		571 - gtSAE		**Refrigerant Level** Plant shutdown
Refrigerant Leak Plant		572 - gLSAE		**Refrigerant Leak** Activates central gas expulsion digital output
Th.switch Fan 1...8	**AUTO**	575 - FtAE	1...8(°)	**Fan thermal switch 1... 8** Plant shutdown if all digital fans are on thermal
FANS INV th.switch Discharge	**AUTO**	575 - FtAE		**INVERTER Fan thermal switch** Plant shutdown
Inverter Error Discharge	**AUTO**	576 - FinAE		**Fan inverter error** Plant shutdown
Maintenance Fan 1...8		577 - SFAE	1...8(°)	**Fan maintenance 1...8** Plant Block if all digital fans are in maintenance
FANS INV maintenance Discharge		577 - SFAE		**INVERTER Fan maintenance** Plant shutdown
Oil.Press.Diff Compressor 1...12	**AUTO**	703 -COAE	1...12(°)	**Compressor 1...12 oil differential pressure**
HP Compressor Compressor 1...12	**AUTO**	703 -COAE	1...12(°)	**HP Compressor 1...12**
LP Compressor Compressor 1...12	**AUTO**	703 -COAE	1...12(°)	**LP Compressor 1...12**
Th. switch Compressor 1...12	**AUTO**	703 -COAE	1...12(°)	**Compressor 1...12 thermal switch**
Maintenance Compressor 1.. 12		580 - SCAE	1...12(°)	**Maintenance compressor 1...12**
COMP INV Block Suction [2]	**AUTO**	578 - CSAE		**Circuit C1 (C2) compressor block alarm**
COMP INV Maintenance Suction [2]		580 - SCAE	(°)	**Circuit C1 (C2) compressor maintenance**

Display	RESET	Parameter	Block	Description • Notes
Block Compressor 1.. 12	**AUTO**	578 - CSAE	1...12(°)	**Block compressor 1…12** **Circuit compressor inverter error C1 (C2)** see Analogue Alarm table See NOTA A
Inverter Error Suction [2]	**AUTO**	579 - CInAE	(°)	
Oil level Suction [2]		581 - oLAE		**Circuit C1 [C2] oil level** see Analogue Alarm table See NOTA B
HP al. prev. timeout	**AUTO**	701 - HPPAE		**HP prevention alarm safety timeout output** display only
CFR Alarm Plant	**AUTO**	702 - CFAE		**Configurable regulator block**
CFR Warning Plant	**AUTO**			display only

NOTE A Fan block if **ALL** the following conditions occur:
- all plant compressors are in maintenance
- parameter 302 - FACt = Yes (at least one compressor on)
- no alarm or presence of LP Suction Pressure Switch / Maximum Suction Probe alarms only on one of the two circuits not on both

NOTE B Fan block if **ALL** the following conditions occur:
- all plant circuits have an oil level alarm
- parameter 302 - FACt = Yes (at least one compressor on)
- no alarm or presence of LP Suction Pressure Switch / Maximum Suction Probe alarms only on one of the two circuits not on both

(°) Simultaneous tripping of the thermal switches of all digital fans results in a shutdown alarm

ANALOGUE/DIGITAL ALARMS TABLE

Display	Type of	Parameter Set Hysteresis	Block	Description • Notes	Bypass
LP Press. Switch Suction [2]		569 - PrSAE Probe regulation LP <= [133-SEt]		**LP suction pressure switch trip** circuit 1 [2] case of standard machine otherwise if common discharge only with co-presence of LP Suction Pressure Switch [2] or Minimum Suction Probe [2] **Reset**: parameters 111- PEn /112-PEI operating	113 - byPS
HP Press. Switch Suction [2]		569 - PrSAE Probe regulation HP <= [133-SEt]		**Circuit 1 [2] high suction pressure switch trip** at 100% standard machine case otherwise if common outlet only with Suction HP Pressure Switch [2] or High Temp Suction Probe [2] **Reset**: parameters 111- PEn /112-PEI operating	113 - byPS
Minimum Alarm Suction [2]	**AUTO**	570 - PSAE 139 - LAL 138 - dLAL		**Minimum Alarm suction probe circuit 1 [2]** standard machine case otherwise if common outlet only with Suction LP Pressure Switch [2] or Minimum Alarm Suction Probe [2]	[566 - PAO] + [567 - tAo]
Maximum Alarm Suction [2]	**AUTO**	570 - PSAE 141 - HAL 140 - dHAL		**Maximum Alarm probe in suction circuit 1 [2]** at 100% standard machine case otherwise is common outlet only when there is also Suction HP Pressure Switch [2] or Maximum Alarm Suction Probe [2]	[566 - PAO] + [567 - tAo]
LP Press. Switch Discharge		573 - PrdAE Probe regulation LP ≤ [233-SEt]		**Low discharge pressure switch activated** **Reset**: parameters 315- PEn /316-PEI operating	317-byPS
HP Press. Switch Discharge		573 - PrdAE Probe regulation HP <= [233-SEt]		**High pressure discharge pressure switch activated** 100% **Reset**: parameters 315- PEn /316-PEI operating	317-byPS
Minimum Alarm Discharge	**AUTO**	574 - PdAE 354 - LAL 353 - dLAL		**Discharge probe minimum**	[566 - PAO] + [567 - tAo]
Maximum Alarm Discharge	**AUTO**	574 - PdAE 348 - LAL 347 - dLAL		**Discharge probe maximum** 100%	[566 - PAO] + [567 - tAo]

PROBE/GENERIC ERRORS TABLE

Probe errors / generic errors are all AUTOMATIC

Display	Cause	Effect (°)	Description Solution
Generic alarm Plant	Activate digital input Generic alarm	vedi 582 - gAAE	Generic alarm 582 - gAAE
Int. Temp. error Plant	measure values off measurement range • probe faulty	Dynamic setpoint Suction disabled	**Internal ambient temperature** check wiring • replace probe wait for the read temperature value to come back

Display	Cause	Effect (°)	Description Solution
Regulation Probe Err Suction **Regulation Probe Err Suction [2]**	measure values off measurement range • probe faulty	Managing alarms maximum/minimum suction disabled • Managing alarms suction pressure switch always notified as minimum	**Circuit C1 [C2] suction gas probe** check wiring • replace probe wait for the read temperature value to come back **C1** **108 - CPP = Yes** → resources activated based on **109 - PoPr** **108 - CPP = No** →maintained resources on at time of fault **[C2] analogue**
Regulation Probe Err Discharge	measure values off measurement range • probe faulty	High/low discharge alarms management disabled • Managing alarms pressure switch for discharge always signalled at maximum • Dynamic setpoint Discharge disabled • Alarm prevention maximum discharge disabled	**Discharge gas probe** check wiring • replace probe wait for the read temperature value to come back **312 - FPP = Yes** resources activated → **313 - FPr**, **312 - FPP = No** → resources kept active at the time of failure
External Temp. error Plant	measure values off measurement range • probe faulty	Dynamic setpoint Discharge disabled	**External ambient temperature** check wiring • replace probe wait for the read temperature value to come back
Recovery probe error Plant	measure values off measurement range • probe faulty	Heat recovery function disabled	**Recovery water temperature** check wiring • replace probe wait for the read temperature value to come back
Subcooling Probe Err Plant	measure values off measurement range • probe faulty	Dynamic setpoint Discharge disabled	**Subcooling temperature** check wiring • replace probe wait for the read temperature value to come back
Error Opening File		***	**Error opening data recording files**
Error Writing File		***	**Error writing data recording files**
Error Closing File		***	**Error closing data recording files**
No Space Error		***	**Logged data memory full error**
IO CONFIGURATION error	Wrong setting QuickStart	QuickStart enabled	**IO CONFIGURATION error** Configure the Quickstart parameters and quit CONFIGURATION mode
EEPROM Bios error		Warning only	**EEPROM Bios error**
EEPROM User error		Warning only	**EEPROM User error**
RTC Batt Exhausted	RTC batt exhausted	Time Bands disabled if blocked	**RTC batt exhausted** 583 - rtCAE Set date/time
RTC Communication error	RTC does not respond	Time Bands/data logging disabled	**RTC connection error** 583 - rtCAE
RTC Value Error	RTC batt exhausted	Time Bands if blocked	**RTC Value Error** 583 - rtCAE Set date/time
CFR Probe error Plant	measure values off measurement range • probe faulty	configurable regulator disabled	**Configurable regulator probe error** check wiring • replace probe wait for the read temperature value to come back
CFA Probe error Plant	measure values off measurement range • probe faulty	Configurable regulator alarm disabled	**Configurable alarm regulator probe error** check wiring • replace probe wait for the read temperature value to come back
(°) if parameter suitably configured			

TECHNICAL SPECIFICATIONS (EN 60730-2-9)

Classification:	automatic electronic control device (not safety) for temperature control to be incorporated
Mounting:	DIN rail.
Type of action:	1.B
Pollution class:	2
Material class:	IIIa
Over-voltage category:	II
Ball test temperature	75 °C
Nominal pulse voltage:	2500 V
Temperature:	Operation: -5 … +55 °C • Storage: -30 … +85 °C
EWCM EO power supply:	SMPS 100...240 V~ ±10% 50/60 Hz
EWCM EO KEYBOARD power supply:	from power base
EWCM EO consumption:	20 W max
Fire resistance category:	D
Software class:	A
RTC battery life:	Without any external power supply, the clock battery will last 4 days.

FURTHER INFORMATION

Inputs	8900	9100	9900
Analogue inputs	**6**	**6**	**7**
NTC/PTC clean contact digital inputs configurable by parameter	4	4	4
0...5V / 0...10 V/ 4...20 mA configurable by parameter	2	2	3
Digital inputs	**6**	**14**	**20**
clean contact inputs (contact current referred to ground 0.5 mA)	-	4	6
high voltage inputs 100...240 V~	6	10	14

Outputs	8900	9100	9900
Digital outputs on relay	**7**	**13**	**19**
SPDT 8(3) A 250 V~	1	2	2
SPST 5(2)A 250 V~	6	11	17
Analogue outputs	**2**	**2**	**3**
voltage: 0...10 Vdc with 500 Ohm minimum load current: 4…20 mA with max. load (max. load resistance) 500 Ohm with 2% precision and max. resolution (e.o.s.).	2	2	3

Serial ports	8900	9100	9900
RS-485 for connection to TelevisSystem - Modbus RTU	**1**	**1**	**1**
RS-485 for connection to stepper/ pulse V800/V910 driver	**1**	**1**	**1**
TTL for connection to USB Copy Card	**1**	**1**	**1**

Input Characteristics

	NTC NK103AT* 10KΩ @25°C BETA value 3435	NTC NK103C1R1* extended range 10KΩ @25°C BETA value 3977	PTC KTY81* 990Ω @25°C	DI Input Digital	4...20 mA	0..10V	0-5V
PB1 PB2	-	-	-	-	✔	✔	✔
PB3 only EWCM9900	-	-	-	✔	✔	✔	✔
PB5 PB6	✔	✔	✔	✔	-	-	-
PB7 PB8	✔	✔	✔	✔	-	-	-
Measurement range	-50,0...+110 °C	-55,0...+150 °C	-55,0...+150 °C				
Resolution	0.1 °C	0.1 °C	0.1 °C	0.1 °C	0.1 bar	0.1 bar	0.1 bar
F.S. precision	1 %	1 %	1 %	1 %	1 %	1 %	1 %
Impedence	-	-	-	-	100 Ohm	21 KOhm	110 KOhm

*** probes not included - contact the Eliwell Sales Office for accessories**

MECHANICAL CHARACTERISTICS

Casing:	PC+ABS resin casing, UL94 V-0
EWCM measurements:	**Model 8900 / 9100** 13 DIN Rail • **Model 9900** 18 DIN Rail
EWCM KEYBOARD measurements:	160x96x10 mm (Lxhxd)
Terminals:	removable for 2.5 mm2 cross-section wires.
Connectors:	removable type, pitch 5.08 for 90° insertion
EWCM KEYBOARD	microfit 6-way quick connector, length 3 m max. distance base-keyboard 3 m
Humidity:	Operation / Storage: 10...90 % RH (non-condensing)

ELECTRICAL CONNECTIONS

IMPORTANT! Make sure the appliance is switched off before working on the electrical connections.
All operations must be carried out by qualified personnel.
To ensure proper connections, comply with the following:
- Power supplies other than those specified can seriously damage the system.
- Use cables of suitable section for the terminals used
- Separate (as much as possible) the cables of probes and digital inputs from inductive loads and power connections to prevent electromagnetic interference Do not place the probe cables near other electrical equipment (switches, meters, etc.)
- Make connections as short as possible and do not wind them around electrically connected parts.
- Use shielded cables for the probe connections
- To avoid causing static discharges, do not touch the electronic components on the boards.

For all electrical connections, refer to the wiring diagrams provided. The device is equipped with extractable screw terminals to connect electric cables, the cross-section of which must not exceed 2.5 mm^2 (one wire per terminal for power connections). The relay outputs are voltage free.
Do not exceed the maximum permitted current; for higher loads, use a contactor with sufficient power capacity.
Make certain that the power supply voltage matches the rated voltage of the device.
Probes have no connection polarity and can be extended using a normal bipolar cable (note that the extension of the probes influences the instrument's EMC electromagnetic compatibility: take great care with the wiring). The pressure probes have an insertion polarity which must be observed

SUPERVISION
- connection to TelevisSystem / Modbus RTU remote management systems ➔ through direct RS-485 assisted by an RS485/TTL-RS232 PCInterface converter and suitable software Licence.
- connection to program DeviceManager ➔ parameters fast through BusAdapter and DMI

For the installation of the RS-485 network, refer to the documentation provided.

USB Copy Card
Fit the USB Copy Card TTL side into the slot and up/download the parameters as described in the specific user manual section.
On terminating the procedure, disconnect the USB Copy Card.

RESPONSIBILITY AND RESIDUAL RISKS

ELIWELL CONTROLS SRL declines any liability for damage due to:

- Installation/use other than expressly specified and, in particular, in conflict with the safety prescriptions set down in regulations and/or specified in this document;
- Use on panels that do not provide adequate protection against electric shocks, water or dust in the adopted mounting conditions.
- Use on panels allowing access to dangerous parts without having to use tools.
- Tampering with and/or modification of the product.
- Installation/use on panels that do not comply with statutory laws and regulations.

CONDITIONS OF USE

For safety reasons, the device must be installed and used in accordance with the instructions provided. In particular, parts carrying dangerous voltages must not be accessible under normal conditions. The device must be adequately protected from water and dust with regard to the application, and must only be accessible using tools (with the exception of the front panel). The device is suitable for use in household refrigeration appliances and/or similar equipment and has been tested for safety aspects in accordance with the harmonized European reference standards.

Use not permitted Any use other than that expressly permitted is prohibited. The relay contacts provided are mechanical and subject to failure: any protection devices required by product standards, or suggested by good practice in view of obvious safety requirements, must be installed externally of the controller.

DISCLAIMER

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DISPOSAL



The appliance (or the product) must be disposed of separately in compliance with the local standards in force on waste disposal.



IMPORTANT WARNINGS

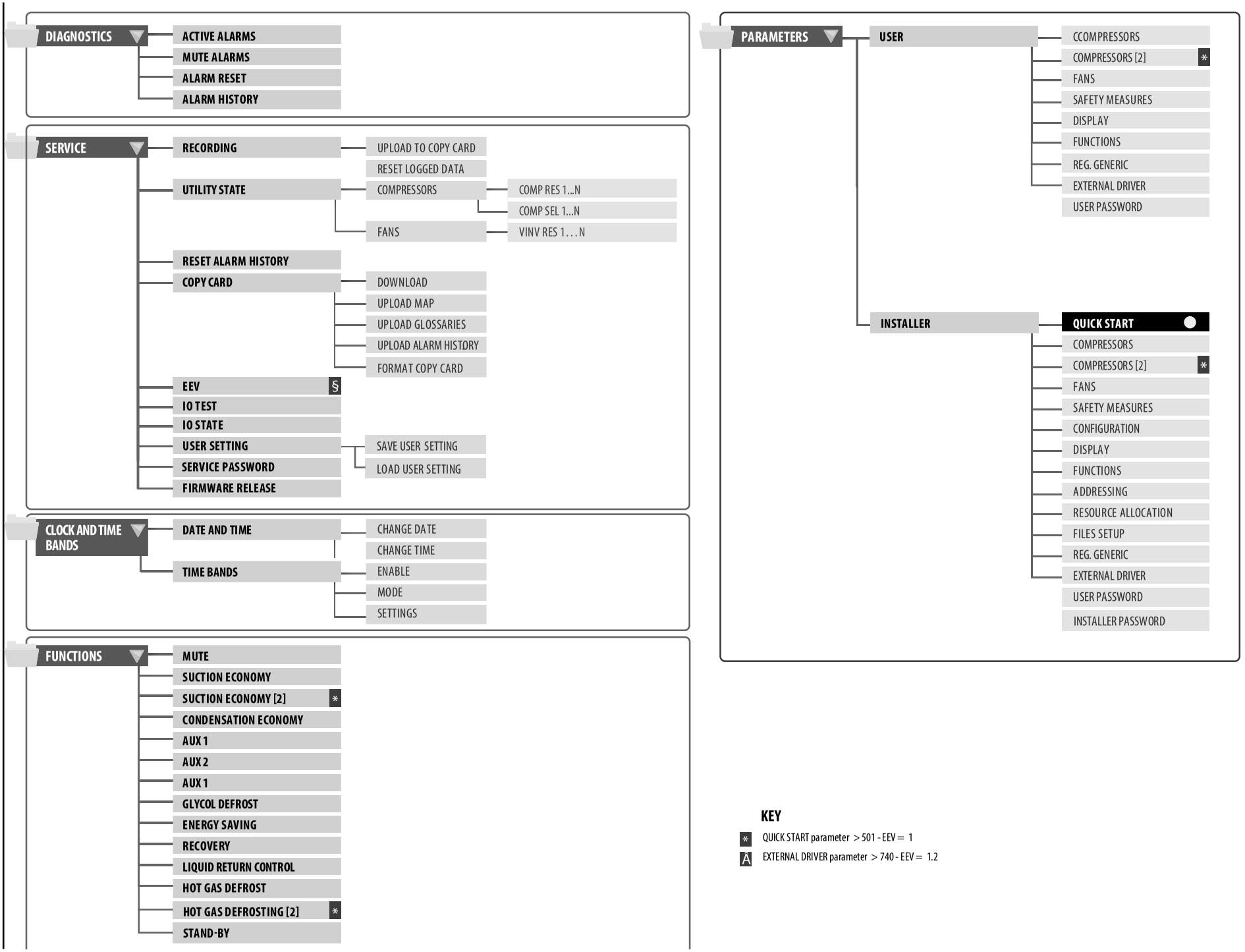
The availability and access to information is determined by the model in use and the settings made by the Administrator.
The System Administrator is responsible for allowing access to the various Menus for qualified personnel who can install or perform the special maintenance on the product
The product's high configurability level requires a suitable study of the plant and the applications to be able to make the device and the plant work in the best possible way.
For any doubts and/or explanations, please contact the Eliwell technical support Service.

N.B
for further information, description of the regulators and the full list of alarms, please refer to the user manual available on the Eliwell website.

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KEY

* QUICK START parameter > 501 - EEV = 1

Ⓐ EXTERNAL DRIVER parameter > 740 - EEV = 1.2