

EWRC 300/500/5000 NT

Controllers for static and ventilated cold rooms



English

QUICK START

NB

The electrical panel (equipment) must be installed and repaired only by qualified staff. Eliwell accepts no responsibility for any consequences resulting from the use of this material.

A qualified person is someone who has specific skills and knowledge regarding the structure and the operation of electrical equipment and who has received safety training on how to avoid the inherent dangers.

Product related information

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Turn off all devices, including connected devices, before removing any covers or doors, or installing/uninstalling accessories, hardware, cables, or wires.
- Always use a properly rated voltage sensing device to confirm the power is off where and when indicated.
- Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the unit.
- Use only the specified voltage when operating this equipment and any associated products.
- Comply with all the standards regarding accident protection and the local applicable safety directives.

Failure to follow these instructions will result in death or serious injury.

DANGER

POTENTIAL FOR EXPLOSION

- Install this device only in areas known to be free from dangerous surroundings.
- Install and use this equipment in non-hazardous locations only.

Failure to follow these instructions will result in death or serious injury.

WARNING

UNINTENDED EQUIPMENT OPERATION

- The signal cables (probes, digital inputs, communication, and relative power supplies) must be laid separately from the power cables.
- Every implementation of this device must be tested individually and completely in order to check its proper operation before putting it in service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

INTRODUCTION

The **Coldface EWRC 300/500/5000 NT** series controls the temperature of a static or ventilated cold room. The instrument controls positive and negative cold rooms and is capable of managing a double evaporator and condenser probes.

Coldface has 3 or 5 configurable relays, depending on the model, and 2(3) configurable digital inputs for door switches or other devices. Models are available with clock with yearly calendar and HACCP event logging.

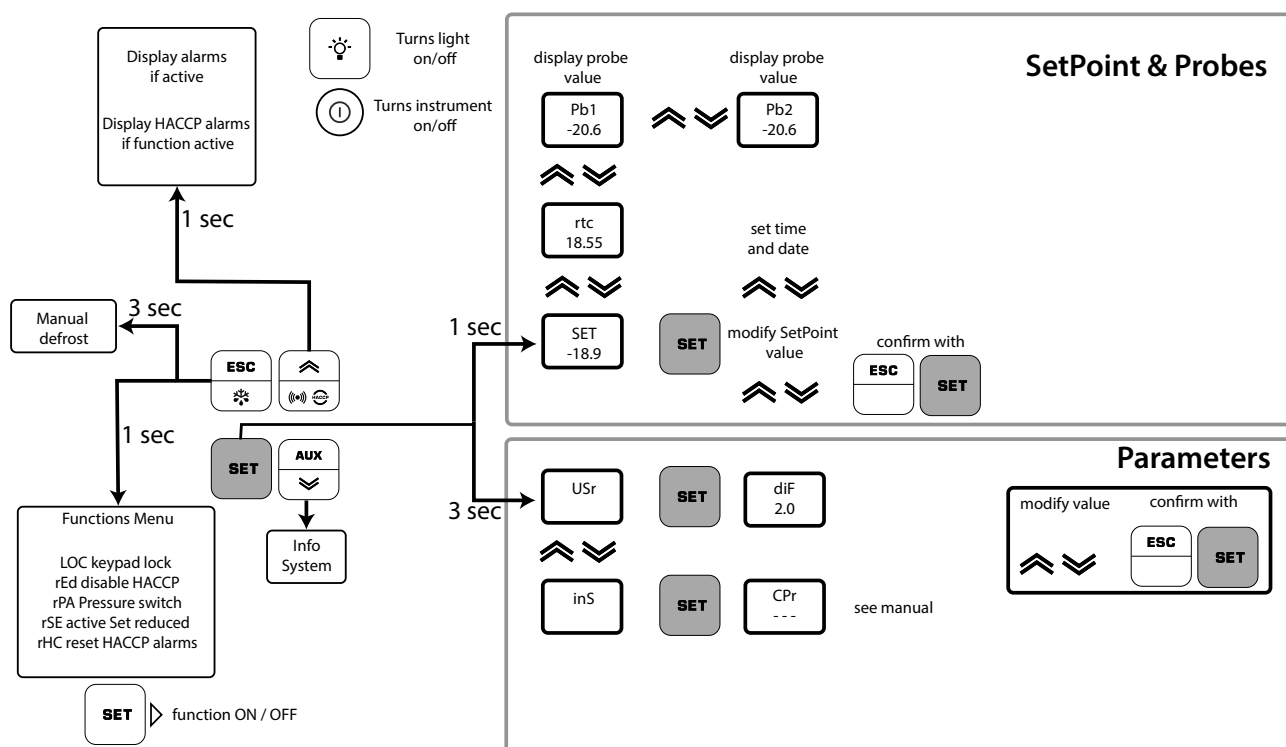
It is possible to connect the instrument to Televis**System** / Modbus via the optional **RS485 plug-in module**.

The container lets you install one or more electromechanical devices, depending on the model.

This summary document contains basic information about the standard

EWRC 300/500/5000 NT models. For further information and different configurations, refer to the complete user manual cod. **9MA*0258** which is available to download free of charge from **www.eliwell.com**.

NAVIGATION DIAGRAM

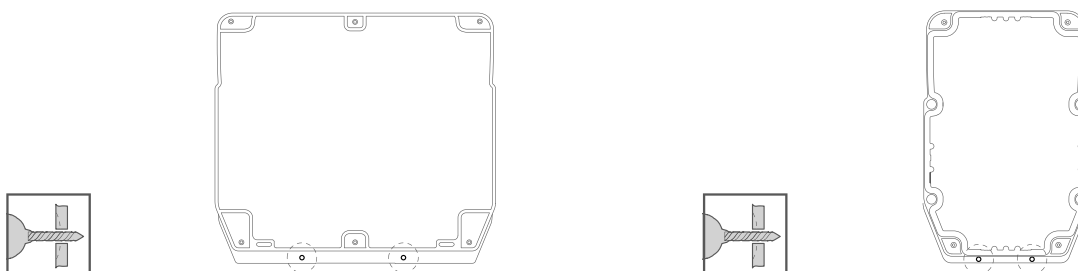


INSTALLATION PROCEDURE

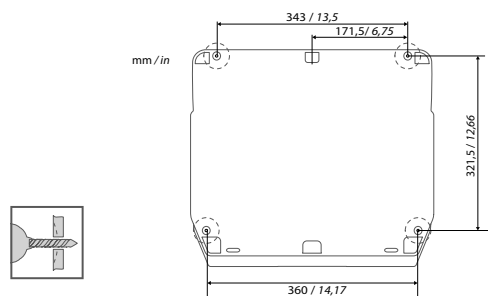
NOTE: procedural steps that are common to all models. Only the EWRC 5000 model is used as an example.

- 1) Remove the cover and drill the holes for the cable clamps (at least one for power cables and one for signalling cables) on the bottom of the panel.

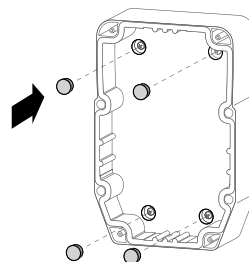
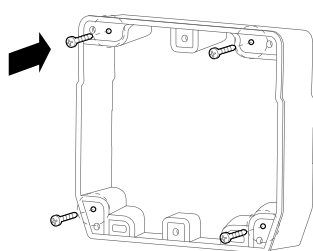
NOTE: for the 300/500 models, use the drilling template provided.



- 2) Drill the wall fixing holes on the back of the panel, in the areas marked on the back.



- 3) Fix the back of the panel to the wall using four screws (not supplied) suited to the wall thickness.
NOTE: apply TD120 screw caps (not provided) on 300/500 models.

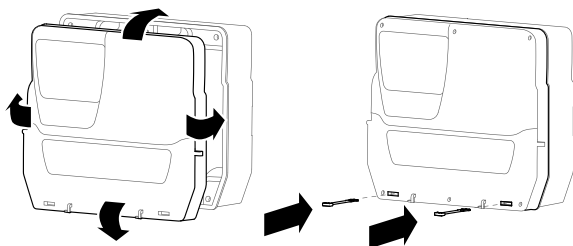


English

- 4) Fit the hinges to secure the cover.

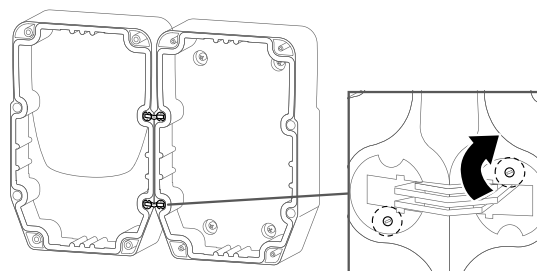
EWRC 5000

Place the panel cover up against the wall, making it stick to the perimeter seal. Then, while holding the cover in place, fit the two hinges provided into the corresponding holes and press them until you hear them click into place.

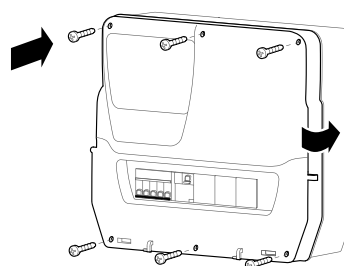


EWRC 300/500

Fit the hinges provided into their housings on the right or left side of the panel and tighten the corresponding screws to secure them.



- 5) Close the cover and secure it with the screws provided.



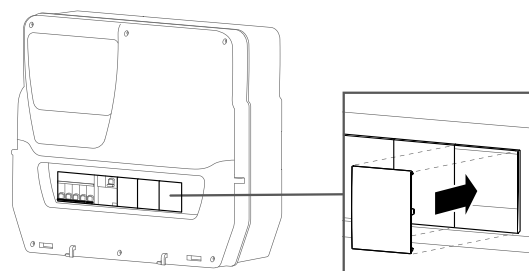
⚠ ⚠ DANGER

RISK OF ELECTRIC SHOCK, EXPLOSION OR EXPOSURE TO ACCESSIBLE PARTS

The final application must disallow access to parts at hazardous voltage, as the instrument offers no intrinsic protection against this risk.

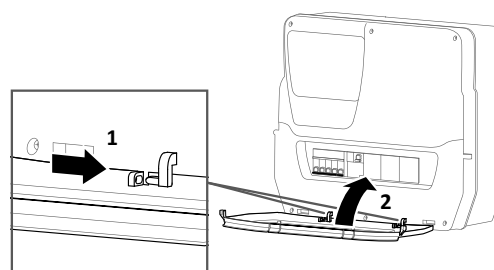
Failure to follow these instructions will result in death or serious injury.

- 6)** DIN rail-mounted models with window only.
Use the dedicated plugs (code **1602149**) to prevent access to the inside of the panel through the front window.
For EWRC NT 500 models with the plastic knockout removed and no internal circuit breaker, the end user is responsible for ensuring that the open parts of the box are not accessible.



- 7)** EWRC 5000 only. Fit the door: align the front door with the two hooks at the bottom of the panel and push it towards the right until it clicks into place.

- 8)** Close the door.



ELECTRICAL CONNECTIONS

Output relay (default settings)

- **OUT1** relay 1 = Compressor (or liquid line valve)
 - **OUT2** relay 2 = Defrost
 - **OUT3** relay 3 = Evaporator fan
 - **OUT4** relay 4 = Light (EWRC 500/5000 only)
- OUT1-4 common-line max 18 A
- **OUT5** relay 5 = Alarm/AUX (EWRC 500/5000 only)

Probe inputs (default settings)

- **Pb1** = Cold room NTC probe
- **Pb2** = Defrost end NTC probe
- **Pb3** = Not configured

Use parameter **H00** to switch between NTC/PTC probe types. **SWITCH THE INSTRUMENT OFF AND ON AGAIN** after the change.

Digital Inputs (default settings)

- **DI1** = Door switch
- **DI2** = 300/500 model: not configured;
5000 mode: external alarm
- **DI3** = not configured

Serial ports

- **TTL** for connecting to UNICARD / Copy Card
- **TTL** for connecting to Televis**System**
- **RS485** available **ONLY** with the optional plug-in module for connecting to Televis**System** / Modbus.

- **Probe and digital inputs, OUT5 relay: 5.01 pitch screw terminals:** electrical cables with a maximum section of 2.5 mm².
- **Power supply and relay OUT1..OUT4: 7.62 pitch screw terminals:** electrical cables with a maximum section of 4 mm².

5.08 mm (0.197 in.) pitch

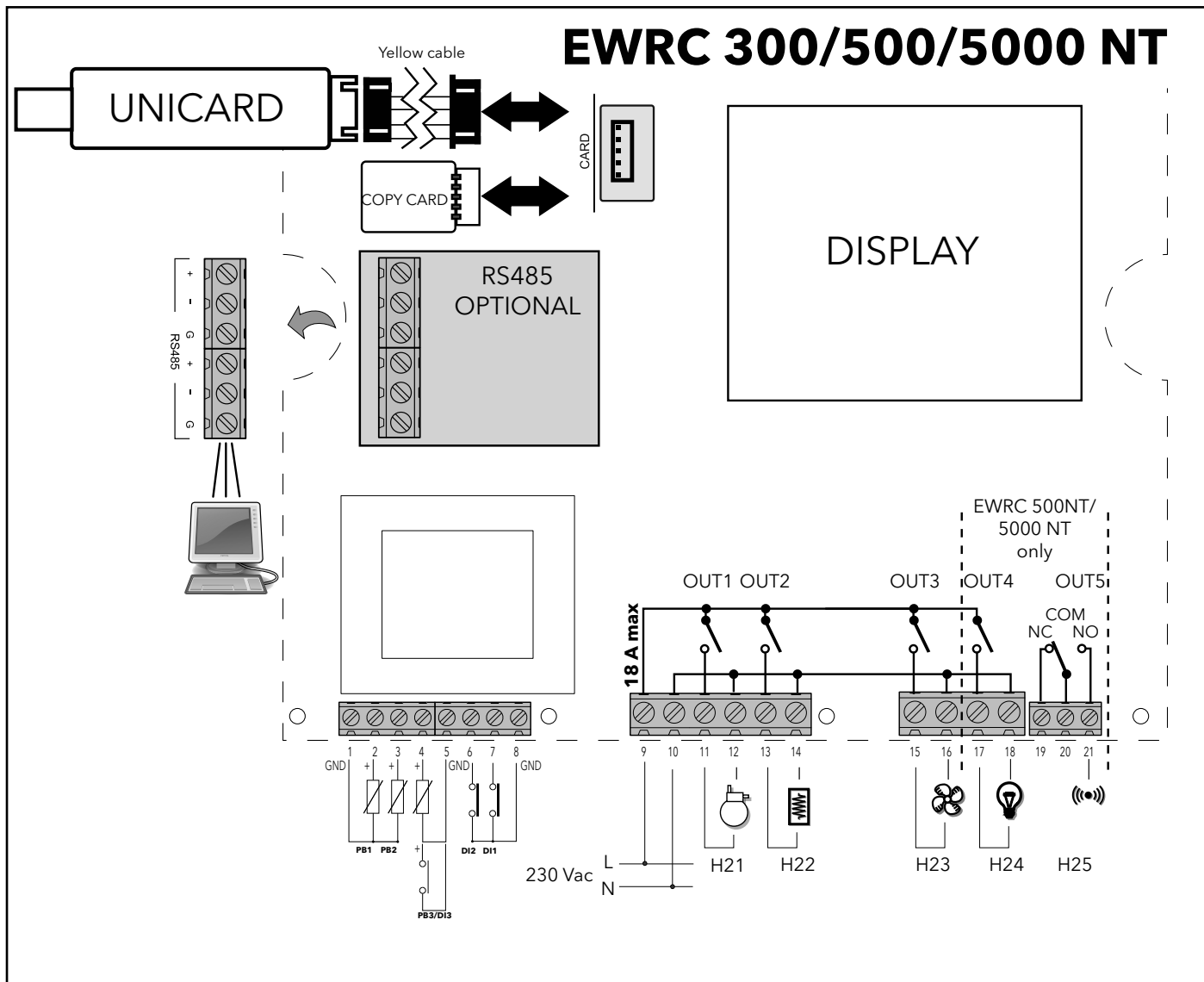
mm in.	7 0.28								
mm ²	0.2...2.5	0.2...2.5	0.25...2.5	0.25...2.5	2x0.2...0.75	2x0.2...0.75	2x0.25...0.75	2x0.5...1.5	
AWG	24...14	24...14	22...14	22...14	2x24...18	2x24...18	2x22...18	2x20...16	

Ø 3,5 mm (0.14 in.)	⌚	N•m	0.5...0.6
		lb-in	4.42...5.31

7.62 mm (0.30 in.) pitch

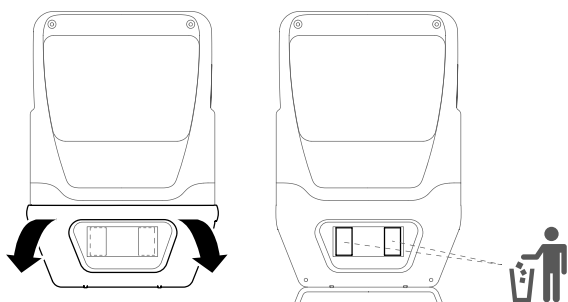
mm in.	7 0.28								
mm ²	0.2...4	0.2...2.5	0.25...2.5	0.25...2.5	2x0.2...1.5	2x0.2...1.5	2x0.25...0.75	2x0.5...1.5	
AWG	24...11	24...14	22...14	22...14	2x24...16	2x24...16	2x22...18	2x20...16	

Ø 3,5 mm (0.14 in.)	⌚	N•m	0.5...0.6
		lb-in	4.42...5.31



MODELS WITH DOOR AND INTERNAL CIRCUIT BREAKER

EWRC 500 NT BREAKER | EWRC 500 NT 4-DIN



Versions with a door on the front panel allow direct access to the switch or to the upper part of the device installed on the internal DIN rail.

To open the door, use both hands as shown in the figure. Use your thumbs to apply gentle pressure at the top to release the side tabs. Simultaneously with the index finger gently pull the door toward you.

In versions provided with the miniature circuit breaker, the installer must connect it to the power supply of the electronic board through the wiring harness included in the packaging.

The figure below shows the wiring diagram.

Versions with a door always have the omega DIN rail installed.

You can mount up to a maximum of 4 DIN modules, including 2DIN miniature circuit breaker when present. It is easy to enlarge the window on the DIN housing from 2 to 4 DIN, using the knockouts as shown in the figure at the top right.

Cable types and wire sections for the circuit breaker

mm in.	14 0.55			Ø 3,5 mm (0.14 in.)	3.5 lb-in	31
mm ²	1...35	1...25				
AWG	18...2	18...2				

For EWRC NT 500 models with plastic knockout removed and no thermal-magnetic breaker installed: the end user is responsible for ensuring that open parts of the box cannot be accessed.

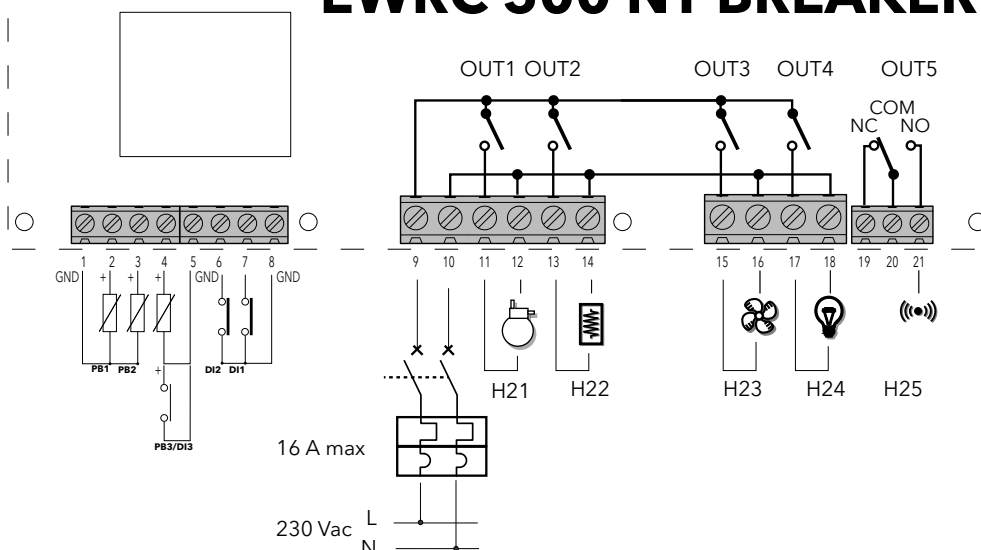
⚡ ⚠ DANGER

RISK OF ELECTRIC SHOCK, EXPLOSION OR EXPOSURE TO ACCESSIBLE PARTS

Prevent access to parts at hazardous voltages, as the instrument offers no protection against this risk.

Failure to follow these instructions will result in death or serious injury.

EWRC 500 NT BREAKER



English

DISPLAY



3-FIGURE UPPER DISPLAY plus the - sign

Display:

- Operating value
- parameters label
- alarms, functions

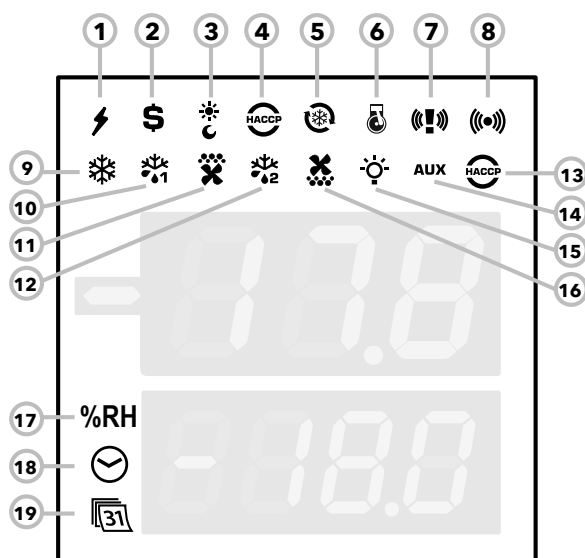
if Upper display **blinking**

it means that the value of the Lower Display can be modified

4-FIGURE LOWER DISPLAY

Display:

- parameters value
- probe value
- function state
- HACCP models**
- time



LED

No.	LED	colour	description
17	RH	amber	not used
18	TIME	amber	access in case of time display or editing
19	DATA	amber	access in case of date display or editing

ALARMS

Alarms	LED 7	LED 8	Colour	Buzzer	Off	
					LED	Buzzer
ALARM			Red		See "ALARMS TABLE" page 13	
PANIC			Red		---	---
LEAK DETECTOR			Red			---
PANIC + LEAK DETECTOR			Red		---	(1)

(1) = As long as the Panic alarm persists it will not be possible to mute the buzzer from the keypad.

No.	LED	COLOUR	ON	FLASHING	OFF
1	POWER SUPPLY	green	Power supply ON	/	Power supply OFF
2	ENERGY SAVING	amber	Energy saving ON	/	Energy saving OFF
3	NIGHT & DAY	amber	Night & Day ON	/	Night & Day OFF
4	HACCP	amber	HACCP menu	/	/
5	DEEP COOLING (DCC)	amber	Drip cooling cycle ON	/	Drip cooling cycle OFF
6	PUMP DOWN	amber	Compressor Pump Down ON	/	Compressor Pump Down OFF
9	COMPRESSOR	amber	Compressor ON	delay	Compressor OFF
10	DEFROST 1	amber	defrost	coil drainage	No defrost
11	EVAPORATOR FANS	amber	Fans ON	forced ventilation	Fans OFF
12	DEFROST 2	amber	defrost	coil drainage	No defrost
13	HACCP ALARM	red	HACCP alarm	Not displayed	No alarm
14	AUXILIARY (AUX)	amber	AUX ON	/	AUX OFF
15	LIGHT	amber	Light ON	/	Light OFF
16	CONDENSER FANS	amber	Fans ON	/	Fans OFF

ON: function/alarm ON; OFF: function/alarm OFF

KEYS

No.	KEY	press and release	press and hold for about 3 seconds	NAVIGATION MENU	Notes
A	ESC Defrost	• Functions Menu	• Manual defrost • Return to Main Menu	• Output	
B	▲ UP Alarms	• Alarms Menu (always visible)	/	• Scroll • Increase values	HACCP alarms only on foreseen models and if present
C	SET	• Display SetPoint / probe values / time (Models with clock) • Confirm values • Access value edit mode (upper display blinking)	Access Parameters menu	• Confirm values • Move right	display time Models with clock only
D	▼ DOWN AUX	system INFO See Technical Support	Activate auxiliary function	• Scroll • Decrease values	
E	ON/OFF	/	Switch On/Off device	/	
F	LIGHT	/	Switch light On/Off	/	

USER INTERFACE

How to modify the SetPoint

- Press and release the SET key. The upper display will show SEt, the lower display will indicate the current SetPoint value
- Press and release the SET key once more. The upper display will show SEt blinking
- Use the UP & DOWN keys to adjust the Setpoint value
- Press the ESC key several times (or keep it pressed) to return to the normal display

How to read the probe value

- Press and release the SET key. The upper display will show SEt, the lower display will indicate the current SetPoint value
- Press and release the DOWN key. If the RTC clock is present, the time will be shown in the lower display
- Press and release the DOWN key once more. The upper display will show Pb1, the lower display will indicate the value read by the room probe
- Press and release the DOWN key once more to read the value of probe Pb2 and Pb3 if configured
- Press the ESC key to return to the normal display.

How to modify the User Parameters

The 'User' parameters are the most useful ones. This document describes them in the Parameter Table section.

- 1) Press and hold the SET key for 3 seconds until the display shows USr
- 2) Press and release the SET key again. The upper display will show the first parameter, the lower display will indicate the current parameter value
- 3) Using the UP & DOWN keys, find the parameter that you wish to modify
- 4) Press and release the SET key again. The upper display will show the name of the blinking parameter
- 5) Use the UP & DOWN keys to adjust the parameter value.
- 6) Press and release SET to save the parameter value
- 7) Return to step 3) or press ESC several times to return to the normal display

USER PARAMETERS TABLE

This section describes the most commonly used parameters, which are always visible (the access password **PA1** is not enabled by default). For a description of all other parameters, see the user manual.

NOTE: the user parameters are NOT divided into sub-folders and are always visible. The same parameters are also visible in the respective folders 'Compressor', 'Fans', etc. (indicated also here to make the groupings clearer) in the password-protected Installer parameters menu.

PAR.	DESCRIPTION	M.U.	RANGE	DEFAULT
SEt	Temperature control SEtpoint	°C/°F	-58.0...302	0.0
COMPRESSOR (CPr)				
diF	Activation differential N.B.: diF cannot be equal to 0.	°C/°F	0 ... 30.0	2.0
HSE	Maximum value that can be assigned to the setpoint. NOTE: The two setpoints are interdependent: HSE cannot be less than LSE and vice-versa.	°C/°F	LSE ... HdL	50.0
LSE	Minimum value that can be assigned to the setpoint. NOTE: The two setpoints are interdependent: LSE cannot be greater than HSE and vice versa.	°C/°F	LdL ... HSE	-50.0
OSP	Temperature value to be added algebraically to the Setpoint if reduced set enabled (Economy function). Enabling can take place via key, function or digital input configured specifically for this purpose.	°C/°F	-30.0 ... 30.0	0.0
Cit	Minimum activation time of compressor before possible deactivation. If Cit = 0 not active.	min	0 ... 255	0
CAt	Maximum activation time of compressor before possible deactivation. If CAt = 0 not active.	min	0 ... 255	0
Ont	Controller switch-on time in the event of faulty probe. - if Ont = 1 and OFt = 0 , the compressor stays on permanently (ON), - if Ont > 0 and OFt > 0 , it operates in Duty Cycle mode.	min	0 ... 255	10
OFt	Controller switch-off time in the event of faulty probe. - if OFt = 1 and Ont = 0 , the compressor stays off permanently (OFF), - if Ont > 0 and OFt > 0 , it operates in Duty Cycle mode	min	0 ... 255	10

PAR.	DESCRIPTION	M.U.	RANGE	DEFAULT
dOn	Delayed start. The parameter indicates that a protection is active on the general compressor relay actuations. At least the indicated time must elapse between the request and the actual activation of the compressor relay.	sec	0 ... 255	2
dOf	Delay time after power-off: the delay time indicated must elapse between deactivation of the compressor relay and the next power-on.	min	0 ... 255	0
dbi	Delay between switch-ons; the delay time indicated must elapse between two consecutive compressor power-ons.	min	0 ... 255	2
OdO	Delay in activating outputs after the instrument is switched on or after a power failure. 0 = Not active	min	0 ... 255	0
DEFROST (dEf)				
dtY	Defrost mode 0 = Electric defrost (OFF Cycle defrost), i.e. compressor not running during defrost); NOTE: electrical defrost + air defrost, when the fans are connected in parallel to the defrost output relay 1 = cycle inversion defrost (hot gas, or compressor on during defrost); 2 = "Free" mode defrost (independent from the compressor)	num	0 ... 2	0
dit	Interval between defrost cycles Interval between the start of two consecutive defrost cycles. 0 = Function disabled (defrost NEVER performed).	hours/mins/secs	0 ... 255	6 hours
dCt	Defrost interval count mode 0 = Compressor running time (DIGIFROST® method); defrost active ONLY when the compressor is on. N.B.: compressor running time is counted separately from the evaporator probe (count active also when evaporator probe missing or faulty). 1 = Appliance running time; defrost counting is always active when the machine is on and starts at each power-on; 2 = Compressor stopped. Every time the compressor stops, a defrost cycle is performed according to parameter dtY ; 3 = With RTC. Defrost at specific times set by parameters dE1...dE8, F1...F8	num	0 ... 3	1
dOH	Defrost cycle enabling delay from request Delay preceding start of first defrost after call.	min	0 ... 59	0
dEt	Defrost timeout Determines the maximum defrost time on Evaporator 1.	hours/mins/secs	1 ... 255	30 min
dSt	Defrost end temperature Defrost 1 end temperature (determined by evaporator probe 1).	°C/°F	-302.0 ... 1472.0	6.0
dPO	Defrost enabling request from power-on Determines whether or not the instrument must defrost at power-up (provided that the temperature measured at the evaporator will allow defrost). n (0) = No, no defrost at power-on; y (1) = Yes, defrost at power-on.	flag	n/y	n
FANS (FAn)				
FSt	Fans lockout temperature; if the value read is greater than FSt, the fans will be stopped. The value may be positive or negative.	°C/°F	-58.0...302	0.0
FAd	Fans activation differential	°C/°F	0.1 ... 25.0	0.1
Fdt	Fans activation delay after a defrost cycle	min	0 ... 250	0
dt	dripping time. Dripping time.	min	0 ... 250	0
dFd	Operating mode of evaporator fans during defrost. n (0) = no (depending on the FCO parameter); y (1) = yes (fan off).	flag	n/y	y
FCO	Evaporator fans operating mode. The status of the fans will be: With the compressor ON, the fans are thermostat-controlled. With the compressor OFF, it depends on FCO FCO=0 , fans OFF FCO=1-2 , fans thermoregulated FCO=3-4 , fans in duty cycle Dutycycle: controlled by way of parameters " FOn " and " FOF ".	num	0 ... 4	1
ALARMS (ALr)				
AFd	Alarms cut-in differential.	°C/°F	0.1 ... 25.0	1.0
HAL	Probe 1 maximum alarm. Temperature value (intended either as distance from setpoint or as an absolute value based on Att) above which the probe will trigger activation of the alarm signal.	°C/°F	LA1...302	5.0
LAL	Probe 1 minimum alarm. Temperature value (intended as distance from setpoint or as an absolute value based on Att) beneath which the probe will trigger activation of the alarm signal.	°C/°F	-58.0...HA1	-5.0
PAO	Alarm exclusion time after device is switched on following a power failure. This parameter refers to high/low temperature alarms LAL and HAL only.	hours	0 ... 10	3

PAR.	DESCRIPTION	M.U.	RANGE	DEFAULT
dAO	Temperature alarm exclusion time after defrost.	min	0 ... 250	60
tAO	Delay preceding temperature alarm signal. This parameter refers to high/low temperature alarms LAL and HAL only.	min	0 ... 250	0
DISPLAY parameters (dis)				
LOC	LOCK. Setpoint edit lock. The parameter programming menu can still be accessed, and the settings changed, which means also that the status of this parameter can be changed so as to unlock the keypad. n (0) = No; y (1) = Yes.	flag	n/y	n
PA1	PAssword 1. When enabled (PA1 ≠ 0) this password provides access to level1 parameters (User).	num	0 ... 250	0
ndt	Display values with decimal point. n (0) = No (integers only); y (1) = Yes (displayed with decimal point).	flag	n/y	y
CA1	Calibration of probe Pb1. Positive or negative temperature value added to the value read by Pb1. This sum is used for both temperature display and temperature regulation purposes.	°C/°F	-30.0...30.0	0.0
CA2	Calibration of probe Pb2. Positive or negative temperature value added to the value read by Pb2. This sum is used for both temperature display and temperature regulation purposes.	°C/°F	-30.0...30.0	0.0
ddl	Display mode during defrost. 0 = Displays the temperature read by the probe. 1 = Locks the reading at the temperature value registering via the probe when the defrost cycle starts and until the next time the SEt is reached. 2 = Displays the label dEF during defrosting and until the SEt is reached (or until Ldd has elapsed)	num	0/1/2	1
CONFIGURATION (CnF) If one or more parameters in the folder are changed, the controller MUST be switched off and switched on again.				
H00	Selection of type of probe used (Pb1 ... Pb3). (0) = PTC (1) = NTC	num	0/1 (PTC/NTC)	1 (NTC)
H23*	Configuration of digital output 3 (OUT 3). 0 = disabled 1 = compressor 2 = defrost 1 3 = evaporator fans 4 = alarm 5 = AUX 6 = stand-by 7 = light 8 = buzzer output 9 = defrost 2 10 = compressor 2 11 = frame heater 12 = condenser fans 13 = compressor pump down	num	0 ... 13	3
H42	Evaporator probe (Pb2) present n (0) = not present y (1) = present	num	n/y	y
rEL	Firmware version release (e.g. 1,2,...). Read only. See Technical Support.	/	/	/
tAb	Map code. Read only. See Technical Support.	/	/	/
COPY CARD parameters (FPr).				
UL	Upload. Transfers programming parameters from the instrument to a Copy Card / UNICARD.	/	/	/
dL	Download. Transfers programming parameters from a Copy Card / UNICARD to the instrument.	/	/	/
Fr	Formatting. Deletes data on the Copy Card / UNICARD. NOTE: If parameter "Fr" is used, the data entered will be permanently lost. This operation cannot be reversed.	/	/	/
* H23 Installer (inS) level for the EWRC5000 model				

IT IS POSSIBLE TO EDIT OTHER PARAMETERS AVAILABLE IN THE INSTALLER (inS) LEVEL OF THE INSTRUMENT

How to edit the installer level parameters

Procedure applies only to more advanced applications. In this case the parameters are arranged in folders (Compressor / Defrost / Fans etc)

- 1) Press and hold the SET key for 3 seconds until the display shows USr
 - 2) Use the UP & DOWN keys to select the **inS** parameter section
 - 3) Press and release the SET key again. The display will show the first folder
 - 4) Press and release the SET key again. The upper display will show the first parameter in the folder, the lower display will indicate the current parameter value
 - 5) Use the UP & DOWN keys to find the parameter that you want to modify
- The procedure proceeds in a similar manner to that described for the User parameters (points 4-7)

OPERATION IN DEFAULT CONFIGURATION

The instrument is configured for negative cold. For positive cold, disable the evaporator probe Pb2 (set **H42**=n) and set relay OUT3 (parameter **H23**=6) to prevent continuous ventilation.

COMPRESSOR

The compressor is active if the cold room temperature measured by Pb1 exceeds the value of SEt + differential **diF**. The compressor stops if the cold room temperature detected by Pb1 falls below the SEt value. The instrument includes compressor on/off protection*

DEFROST

Defrost is by means of electric heaters (parameter **dt**y = 0) and the time counter is always active with the instrument switched on (**dCt**=1).

Manual defrost

Manual defrost is activated by pressing and holding the ESC key (A).

If conditions are not right for defrosting, (e.g. the evaporator probe temperature is higher than the defrosting end temperature) or the parameter **OdO**≠0, the display will blink three times to indicate that the operation will not be performed.

Default Defrost settings

dit = 6 hours. interval between 2 defrost cycles

dSt = 6.0°C. Defrosting end temperature. Set by Pb2.

The Defrost cycle may terminate due to a timeout based on the parameter **dEt** (default 30 min).

EVAPORATOR FANS

The OUT3 relay is configured as the fan relay and is activated when required, according to the delay and parameter settings*.

Default fan settings

dt = 0 min. dripping time

dFd = Y. Fans off during defrosting.

LIGHT (EWRC 500/5000)

The light is activated by pressing and holding the LIGHT key (F).

Since digital input D.I. 1 is configured as door switch, relay OUT4 (light) is activated when the door is opened. The light also switches on with the instrument in standby*.

ALARM RELAY (EWRC 500/5000)

Relay OUT5 is configured as alarm relay and is activated in the case of alarms, according to delays and parameter settings. *FOR MORE INFORMATION READ the manual, code **9MA*0258**

SUPERVISION

EWRC 300/500/5000 NT can be connected to:

- Televis**System** or third-party remote control systems via Modbus protocol
- **Device**Manager fast parameter configuration software

The connection is direct RS-485 using the optional RS485/TTL plug-in module (not included). See the Wiring diagram.

NOTE: if using the TTL port to communicate, disconnect the RS-485 port and vice-versa.

*FOR MORE INFORMATION READ the manual, code **9MA*0258**

TECHNICAL SUPPORT

Have the following information available when contacting Eliwell Technical Support:

- **IdF firmware version (e.g. 554)**
- **rEL firmware version release (e.g. 1,2,...)**
- **tAb map code**
- **rC instrument model (e.g. 300 or 500)**

To obtain this information:

- Press and release the DOWN / INFO key
- Press and release the DOWN key once more to display other information about the instrument.
- Press the ESC key to return to the normal display.

ALARMS AND TROUBLESHOOTING

How to display the alarms

1) Press and release the UP key. The upper display will always show the label ALr. The lower display will show:

- nOnE if no alarms active
- SYS to indicate system alarms - see Alarms Table
- HACCP to indicate HACCP alarms - see HACCP alarms

2) Using the UP & DOWN keys, find the type of alarm that you want to check

System alarms

The upper display will show the label ALr, the lower display will indicate the alarm code - see Alarms Table

- Using the UP & DOWN key, scroll the other alarms
- Press the ESC key to return to the previous alarm code, press the ESC key several times (or keep it pressed) to return to the normal display

HACCP ALARMS • AVAILABLE ONLY FOR HACCP MODELS

The instrument logs high and low temperature alarms for the cold room probe, as well as any power failures. The alarm types and the duration and start time of the alarm itself will be displayed in the alarms folder ALr. It is possible to disable the recording of alarms and/or resetting of HACCP alarms. See Functions Menu.

FOR MORE INFORMATION READ the manual, code **9MA*0258**

ALARMS TABLE

This section lists alarms associated with the default configuration of the instrument. For a description of alarms relating to custom configurations, refer to the user manual or contact Eliwell Technical Support.			
Label	Cause	Effects	Problem solving
E1*	Pb1 room probe faulty • Measured values are outside operating range • Probe faulty/short-circuited/open	• Label E1 displayed • Maximum and minimum alarm regulator disabled • Compressor operation based on parameters "Ont" and "Oft" if set for duty cycle.	• Check probe type NTC/PTC (see H00) • Check probe wiring • Replace probe
E2*	Pb2 defrost probe faulty • Measured values are outside operating range • Probe faulty/short-circuited/open	• Label E2 displayed • The Defrost cycle will end due to time-out (Parameter "dEt")	• Check probe type NTC/PTC (see H00) • Check probe wiring • Replace probe
LA1	Pb1 LOW temperature alarm • Value read by Pb1 < LAL after time of tAO.	• Recording of label LA1 in folder ALr • No effect on regulation	• Wait for the temperature value read by Pb1 to come back above LAL+AFd
HA1	Pb1 HIGH temperature alarm • value read by probe Pb1 > HAL after time of "tAO".	• Recording of label HA1 in folder ALr • No effect on regulation	• Wait until temperature value read by Pb1 returns below HAL-AFd.

This section lists alarms associated with the default configuration of the instrument.
For a description of alarms relating to custom configurations, refer to the user manual or contact Eliwell Technical Support.

Label	Cause	Effects	Problem solving
Ad2	End of defrost cycle due to time-out rather than due to defrost end temperature being read by the defrost probe	• Recording of label Ad2 in folder ALr	• Wait for the next defrost cycle for automatic return
OPd	• Digital input is activated (set as door switch) See para. H11/H12/H13 • Depends on delay set by parameter td0	• Recording of label OPd in folder ALr • Regulator locked (see para. d0A/PEA)	• Close door • Depends on delay set by parameter OAO
E10**	**Models with clock only Clock alarm: clock faulty or unpowered for a long time	Functions associated with clock not controlled	Contact Eliwell Technical Support

ALL ALARMS

- Alarm icon on continuously
- Buzzer (if present) and alarm relay (OUT5) activated, except Ad2
- Press any key to mute the alarm. The LED changes from a steady light to a blinking light.

NOTE: the buzzer is deactivated while the alarm relay remains active

*E1 - E2: If simultaneous they will be shown alternately on the display at a frequency of 2 seconds

TECHNICAL DATA (EN 60730-2-9:2010, EN 61439-1:2011 / 61439-2:2011 / EN 60204-1:2006)

DESCRIPTION

Front panel	IP65
Classification	Electronic automatic control device (not safety device) for stand-alone installation
Installation	wall EWRC300/500: spacing holes A-B 116 mm (4.57 in); holes C-D 87 mm (3.42 in); holes A-C 235 mm (9.25 in) Hinges are available for mounting on special compartments for opening the cover both right and left. Screw on the respective anchoring screws taking care that the hinges are fitted well and lie flush so that they do not interfere with the compression of the seal
	wall EWRC5000: See Mechanical Installation paragraph
Type of action	1.B
Pollution class	2 (IEC 60664-1:2007)
Panel type	Fixed panel
Maximum installation site altitude	2000 m (2187 yd)
Weight	< 2 kg (< 4.41 lb)
Panel use	Internal use
Material class	IIIa
Over voltage category	II (IEC 60664-1:2007)
Nominal pulse voltage	2500 V
Operating temperature	-5 ... 50 °C (EN 60730-2-9:2010)
Power supply	230 Va ± 10 % 50/60Hz
Control	EWRC NT electronic controller
Power consumption	11 VA max
Digital outputs (relay)	refer to the label on the device
Fire resistance category	D
Software class	A
Connection	device on external flexible cable, Y type connection
Ball test temperature	100 °C (212 °F)

DESCRIPTION	
EWRC 500 BREAKER	
Circuit breaker	Two-pole (2P)

ELECTRICAL SPECIFICATIONS

DESCRIPTION	
Rated voltage (Un)	230 Vac
Rated operating voltage (Ue)	230 Vac
Rated insulation voltage (Ui)	230 Vac
Conditioned short circuit current (Icc)	< 4.5 kA
Rated frequency (fn):	50/60 Hz
EWRC 500 BREAKER:	
Rated impulse withstand voltage (Uimp)	4 kV
Rated panel current (InA)	16 A
Rated circuit current (InC)	16 A

FURTHER INFORMATION

DESCRIPTION	
Container	PC+ABS
Dimensions	EWRC 300/500: front panel 213 x 318 mm, depth 102 mm EWRC 500 BREAKER: front panel 221 x 318 mm, depth 107 mm EWRC 5000: front panel 420 x 360 mm, depth 147 mm
Connections	screw-on terminals (see wiring diagram) with internal housing for magnetothermal switch, remote control switch, contactor, etc. on DIN rail
Storage temperature	-20 ... 85 °C
Operating humidity	10...90% RH non-condensing
Storage humidity	
Display range	-50...110 (NTC) / -55...150 °C (PTC) without decimal point, on 2 displays: (upper display) 3 digit + sign/ (lower display) 4 digit
Analogue Inputs	3(2) NTC inputs selectable with parameter H00
Digital Inputs	2(3) voltage-free digital inputs configurable with parameter H11/H12/H13
Relay outputs	EWRC 300 • OUT1 SPST 2 HP 12(12) A 250 Vac • OUT2 SPST 1 HP 8(8) A 250 Vac • OUT3 SPST 1/2 HP 8(4) A 250 Vac common-line max 18 A EWRC 500/5000 • OUT1 SPST 2 HP 12(12) A 250 Vac • OUT2 SPST 1 HP 8(8) A 250 Vac • OUT3 SPST 1/2 HP 8(4) A 250 Vac • OUT4 SPST 1 HP 8(8) A 250 Vac • OUT5 SPDT 1/2 HP 8(4) A 250 Vac common-line max 18 A
Buzzer	only on models where this is provided
Serial ports	• 1 TTL port for connection to Unicard / Copy Card • 1 TTL port for connection to TelevisSystem • 1 RS-485 serial port for connection to TelevisSystem / Modbus (use with optional plug-in module) Note: if using the TTL port to communicate, disconnect the RS-485 port and vice-versa.
Accuracy	better than 0.5% of full scale +1 digit
Resolution	1 or 0.1 °C
Clock backup	Up to four days in the absence of an external power supply

Food safety

The device complies with Standard EN13485 as follows:

- suitable for storage
- application: air
- climate range A
- measurement class 1 in the range -25 °C to 15 °C (-13 °F to 59 °F) (only when using Eliwell probes)

Permitted use

This equipment is used to control cold rooms in commercial refrigeration sectors.

For safety reasons, the equipment must be installed and used in accordance with the instructions provided.

Prohibited use

Any use other than that described in the previous paragraph, "Permitted use", is strictly forbidden.

The relays supplied are electromagnetic and are subject to wear. The protection devices required by international or local laws must be installed outside the equipment.

LIABILITY AND RESIDUAL RISKS

The liability of Eliwell Controls srl is limited to the correct and professional use of the product according to the directives referred to herein and in the other supporting documents, and does not cover any damage (including but not limited to) the following causes:

unspecified installation/use and, in particular, in defiance of safety requirements of established legislation and/or specified in this document;

installation/use on equipment which does not comply with established legislation and technical standards

tampering with and/or modification of the product.

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DISPOSAL

The equipment (or product) must be subjected to separate waste collection in compliance with the local legislation on waste disposal.

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