EWBC800

Controllers for blast chillers - Base

DESCRIPTION

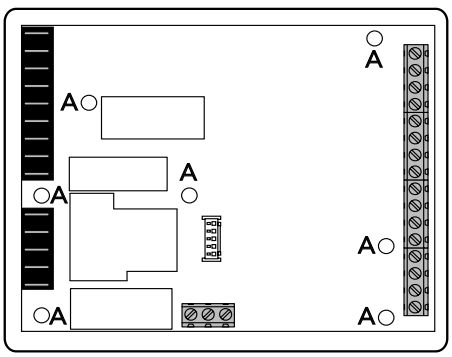
The base is an electronics board controlling the basic functions of a blast chiller, combined with a capacitive touch keypad with display, called the user interface. The base is supplied 'open', and is equipped with a microcontroller, inputs and outputs.

TECHNICAL DATA

Classification	Electronic automatic control device (not safety) device to be integrated
Installation	Open board
Type of action	1.B
Pollution class	2
Material class	IIIa
Over voltage category	II
Nominal pulse voltage	2500 V
Ambient operating temperature	-5 - 55 °C
Ambient storage temperature	-30 - 85 °C
Operating environment and storage environment humidity (non-condensing)	10% - 90%
Power supply voltage	100 - 240 V~ +/- 10%, 50/60 Hz (switching)
Maximum consumption	5.5 W
Insulation class	2
Fire resistance category	D
Software class	A
Connectors	• For power supply, relay outputs: Faston connectors for cables with a cross-section of 2.5 mm^2 • For inputs, opencollector digital output: screw-type terminal block for cables with a cross-section of 2.5 mm^2 • Connection to **KEYB** keypad: screw-type terminal block for cables with a cross-section of 2.5 mm^2 • For **TTL** serial port: 5-way connector
Dimensions	92x121 mm
Buzzer	Present

MECHANICAL INSTALLATION

Do not install **EWBC800** in places subject to high humidity and/or dirt; it is intended for use in sites with ordinary or normal levels of pollution. Keep the area around the chiller cooling slots adequately ventilated. Base installation takes place inside the blast chiller, with plastic spacers applied to the holes (**A**) already present.

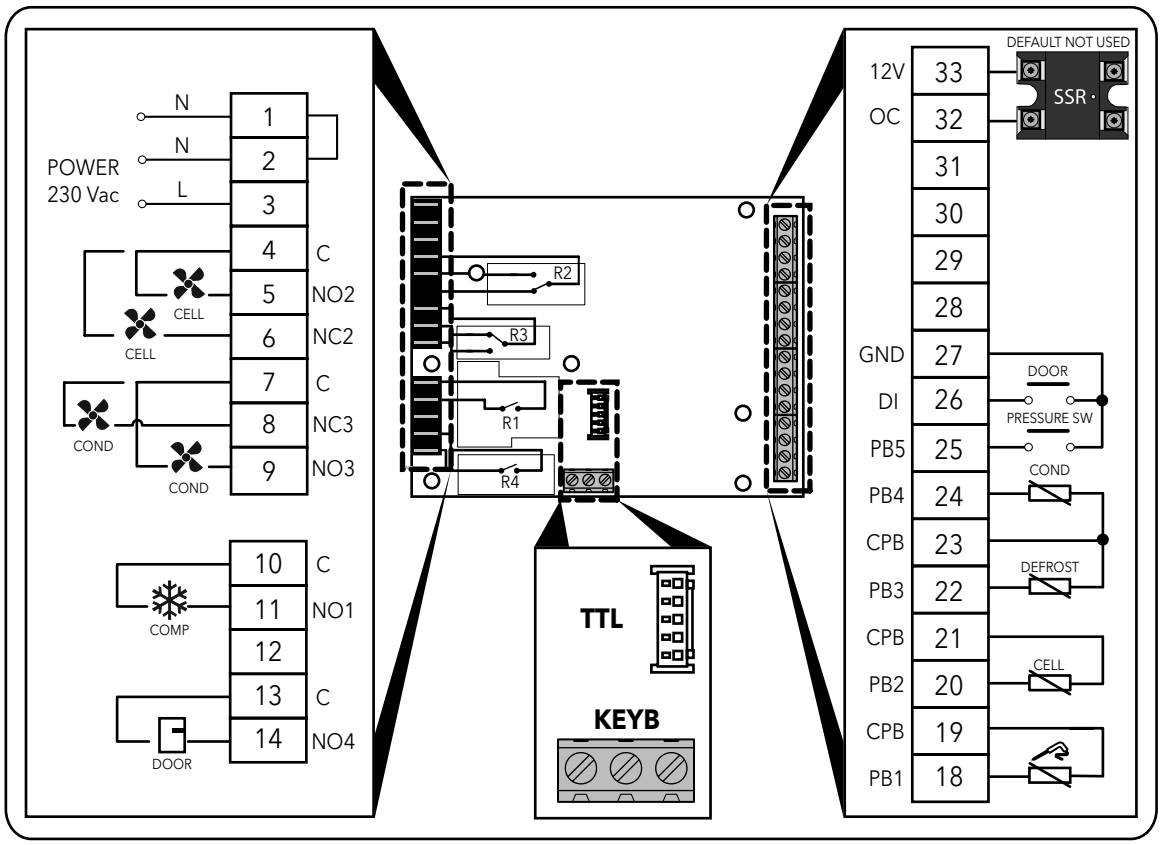


INPUT / OUTPUT / PORT CHARACTERISTICS

	Number	Specifications	Initials	Description
Analogue inputs	1	NOT configurable, set PTC	PB1	Needle probe
	3	Jointly configurable as PTC or NTC	PB2	Cold room probe
			PB3	Evaporator probe (defrost)
			PB4	Condenser probe
Digital inputs	2	Voltage-free with closing current for ground	DI	Blast chiller door closing control microswitch
			PB5	Pressure switch
Digital outputs	5	Relay **R1** SPST, NO, 30 A, max. 250 V~	OUT1	Default compressor
		Relay **R2** SPDT 16 A max. 250 V~	OUT2	Default evaporator room fan
		Relay **R3** SPDT 8 A max. 250 V~	OUT3	Default condenser fan
		Relay **R4** SPST 8 A max. 250 V~	OUT4	Default door heating
		Opencollector **OC** for external relay connection, 12 V⎓, 20 mA	OUT5	Default NOT USED
Serial ports	2	**TTL** connector	**TTL**	Serial port to interface the parameters programming key (Copy Card) or for connection to PC (by appropriate interface)
		Screw connector on base side; click-fit on keypad side, 3-way	**KEYB**	Serial port for connection between base and user interface

ELECTRICAL CONNECTIONS

Always switch the blast chiller off before performing any maintenance on the electrical connections.
The wiring diagram for **EWBC800** is shown in the figure below, in which the default loads are illustrated.



PARAMETER TABLE

Par.	Description	Def	Range	U. M.
iSt	Regulation hysteresis	3.0	1.0...20.0	°C/°F
dOF	Compressor Protection Off/On (also valid at reset)	2	0...99	Min
dOn	Compressor Protection On/On	3	0...99	Min
dF1	Enable/Maximum defrost duration (0= defrost disabed)	30	0...99	Min
dF2	Interval between defrosts (0= automatic disabled, manual only)	8	0...99	hours
dF3	Defrost type **EL** (0) = electric, **gAS** (1) = hot gas, **Air** (2) = air	0	0...2	num
dF4	Temperature threshold above which the defrost is considered concluded or, during checking, unnecessary	20	-50.0...99.0	°C/°F
dF5	Defrost active even at the start of a blast chill program **no** (0) = defrost NOT active, **yES** (1) = defrost active	0	0...1	num
dF6	Dripping duration	3	0...99	Min
dr1	Enable door heating **no** (0) = disabled**, YES** (1) = enabled	1	0...1	num
dr2	Door heating activation threshold	60	-50.0...99.0	°C/°F
Fans	Fan in blast chill status (0=parallel to compressor, 1=always ON)	1	0...1	num
FR1	Configurability of digital output R1 **OFF** (0) = disabled, **rdO** (1) = port resistance, **C F** (2) = condenser fan, **H P** (3) = needle probe heating, **U u** (4) = UV lamp, **Lig** (5) = room light, **dEF** (6) = defrost, **E F** (7) = evaporator fan, **CMP** (8) = compressor	8	0...8	num
FR2	Configurability of digital output R2. Same as FR1	7	0...8	num
FR3	Configurability of digital output R3. Same as FR1	2	0...8	num
FR4	Configurability of digital output R4. Same as FR1	1	0...8	num
FR5	Configurability of digital output R5. Same as FR1	0	0...8	num
tP0	Pb2, Pb3, Pb4 probe type. **ntC** (0) = NTC, **PtC** (1) = PTC	1	0...1	num
dEC	Decimal point °C. **no** (0) = display without decimal point, **yES** (1) = with decimal point	1	0...1	num
EP1	Enable core probe. **no** (0) = disabled**, yES** (1) = enabled	1	0...1	num
EP3	Enable evaporator probe. **no** (0) = disabled**, yES** (1) = enabled	1	0...1	num
Edo	Door present. 0 = absent; 1 = present	1	0...1	num
tdO	Timer for door alarm signal	0	0...999	sec
EnC	Enable negative quick chill. 0 = disabled, 1 = enabled	1	0...1	num
SLd	Stop loads when door open. 0 = Compressor + Fan, 1 = Fan	1	0...1	num
Uut	Sterilization temperature threshold	50.0	-50.0...99.0	°C/°F
Prd	Maximum needle heating duration	2	0...10	Min
Prt	Needle heating temperature set point	4.0	0...90.0	°C/°F
SCF	Condenser temperature set point, for secondary fan	46.0	-50.0...99.0	°C/°F
EPS	Pressure switch setting. 0 = disabled	0	0...4	num
PPS	Pressure switch polarity. **nO** (0) = normally open, **nC** (1) = normally closed	0	0...1	num
OFL	Offset subtracted from set point in storage to determine the low temperature alarm threshold	10.0	0...99.0	°C/°F
LAE	Enable room minimum temperature alarm (**no** (0) = disabled, **yES** (1) = enabled	1	0...1	num
OFH	Offset added to set point in storage to determine the high temperature alarm threshold	10.0	0...1	°C/°F
HAE	Enable room maximum temperature alarm. **no** (0) = disabled**, yES** (1) = enabled	1	0...1	num
PS2	Password to access the advanced parameters Restricted to qualified personnel. Refer to the user manual available on Eliwell website in the restricted area or contact the technical support.	/	0...999	num

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Eliwell Controls srl declines any liability for damage due to:

- unspecified installation/use and, in particular, in contravention of the safety requirements of the legislation in force in the Country of installation and/or specified in this document;
- use on blast chillers which do not provide adequate protection against electrocution, water and dust in the actual installation conditions;
- use on blast chillers allowing access to dangerous parts without having to use tools;
- tampering with and/or modification of the product;
- installation/use on blast chillers that do not comply with the regulations in force in the Country of installation.

CONDITIONS OF USE

PERMITTED USE

This product should be used to control professional blast chillers. For safety reasons, the product must be installed and used in accordance with the instructions provided. In particular, parts carrying dangerous voltages must not be accessible under normal conditions. It must be adequately protected from water and dust according to the application, and must be accessible only using a tool. The product is suitable for use in a blast chiller for professional refrigeration appliances and has been tested for safety aspects in accordance with the harmonized European reference standards.

PROHIBITED USE

Any use other than that expressly permitted is prohibited. The relay contacts provided are mechanical and subject to failure: any protection devices required by reference standards, or suggested by good practice in view of obvious safety requirements, must be installed externally of the product.

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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ISO 9001

9IS24353-1 • EWBC800 • EN • 06/14