EV3B71/EV3B81 with co	Conti ompressor pro	ollers for refrig	erated units, t mains voltage fluct	uatio	ons				EŶCD		
	4.1 Switching the detection 1. Image: Constraint of the device is switched if the display shows an a LED ON	levice on/off If POF = 1, touch the ON/S on, the display will show the P larm code, see the section ALA OFF	STAND-BY key for 4 s. 5 value ("cabinet temperature" default); RMS. FLASHING	6.2	Restore N.B. - Chee PAR. - the	the fa	ctory settings (d the factory setting: S f customized setting	efault) and store cu	ustomized settings as default ee the section CONFIGURATION		
A SET U V ∧ *	compressor on	compressor off	compressor protection active setpoint setting active								
CONSIDER THE ENVIRONMENT	defrost active	-	 defrost delay active dripping active 	1.		⊨⊤∣ ∈⊤∣	Touch the SE	T key for 4 s: the dis	splay will show the label " PA ".		
Controllers for normal temperature units Power supply 115 230 VAC	eserved reserved	-	-	2.		<u>~</u> 一	Touch the UP	or DOWN key withir	15 s to set the value		
 Cabinet probe (PTC/NTC/Pt 1000) Door switch/multi-purpose input 	HACCP reserved energy saving	active -			VAL.	DESCR	IPTION				
- Compressor relay rated 16 res. A @ 250 VAC (EV3B71) or 30 res. A @ 250 VAC (EV3B81)	reserved	-	-		149 161	value t value t	o restore the factor	y settings (default) settings as default			
 Compressor protection against mains voltage fluctuations Cooling or heating operation 	•C/•F view temperature - - 4. I a set Touch the SET key (or do not operate show the label "dEF" (when value ")						erate for 15 s): the display will lue "149" is set) or the label				
1 MEASUREMENTS AND INSTALLATION	AUX reserved - - I device off device on device on/off active 5.					T key.					
				6.	۲ –	入章	Touch the UP	Touch the UP or DOWN key within 15 s to set "4".			
	If 30 s have elapsed wit the keypad will lock auto	If 30 s have elapsed without the keys being pressed, the display will show the "Loc" label and the keypad will lock automatically.			==	∈⊤	Touch the SE show for 4 s dure.	Touch the SET key (or do not operate for 15 s): the display will show for 4 s "" flashing, then the device will exit the procedure.			
	4.2 Unlock keypad Touch a key for 1 s: the	display will show the label " Un	L″.	<u>8.</u> 9.	Interru	pt the p	ower supply to the Touch the SE	wer supply to the device. Touch the SET key 2 s before action 6. to exit the procedure be-			
← 59.0 (2 5/16) → ← 81.5 (3 3/16) →	4.3 Set the setpoin Check that the keynad is	t s not locked.			ı	·	forehand.				
		Touch the SET key.		<i>Z</i>					MIN MAY		
	2.	Touch the UP or DOWN k the limits r1 and r2 (defau	ey within 15 s to set the value within It "-40 50")		1 N P	SP C	.0 setpoint	NPLITS	r1 r2		
29.0 (11/8)	3. Set	Touch the SET key (or do i	not operate for 15 s).		2 (A1 C	.0 cabinet probe	e offset	-25 25 °C/°F -25 25 °C/°F		
	4.4 Activate manua	al defrost (if r5 = 0, default)			4	20	1 probe type		0 = PTC 1 = NTC 2 = Pt 1000		
	1. Image: Check that the keypad is	Touch the UP key for 2 s.	g is not active.		5	P1 P2	1 enable °C de 0 temperature	cimal point unit of measure-	$0 = no \qquad 1 = yes$ $0 = °C \qquad 1 = °F$		
INSTALLATION PRECAUTIONS The thickness of the panel must be between 0.8 and 2.0 mm (1/32 and 1/16 in)	If P4 = 1 (default), defrection d_{2} the d2 threshold.	l ost is activated provided that tl	ne evaporator temperature is lower than	O,	7	P4	ment 1 configurable	input function	0 = door switch/multi-pur-		
- Ensure that the working conditions are within the limits stated in the TECHNICAL SPECIFICATIONS section	4.5 Cabinet light or	n/off (if u0 = 3, default or if	u1 = 3)						pose input 1 = evaporator probe		
 Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations 	1.	Touch the ON/STAND-BY k	ey.		8	P5	0 value display	ed	2 = condenser probe 0 = cabinet temperature		
 or shocks In compliance with safety regulations, the device must be installed properly to ensure 	4.6 Button-operate	d load on/off (if u0 = 1)			9	28	5 display refres	sh time	$2 = auxiliary temperature$ $0 = 250 \text{ s} \cdot 10$		
adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them	1.	Touch the ON/STAND-BY k	ey (for 2 s if u1 = 3).		N. P	AR. D	EF. REGULATION	rential	MIN MAX.		
2 ELECTRICAL CONNECTION	5 ADDITIONAL F	JNCTIONS			11 12	r1 - r2 5	40 minimum set	.point tpoint	-99 °C/°F r2 r1 199 °C/°F		
N.B. - Use cables of an adequate section for the current running through them	5.1 View/delete co Check that the keypad is	mpressor functioning hours not locked.		*	13 14	r4 C r5	setpoint offsetcooling or he	t in energy saving ating operation	0 99 °C/°F 0 = cooling		
 To reduce any electromagnetic interference connect the power cables as far away as possible from the signal cables 	1.	Touch the DOWN key for 4	s.		15 r	12	0 position of th	ie r0 differential	1 = heating 0 = asymmetric		
к1		Touch the UP or DOWN ke	y within 15 s to select a label.		N. P	AR. D	EF. COMPRESSO	R	1 = symmetric MIN MAX.		
EV3B71N9	CH view cor	npressor functioning hours (hu	ndreds)		16	20	compressor er-on	on delay after pow-	0 199 min		
		Touch the SET key.				-2	compressor c	iff minimum time	0 = protection against mains voltage fluctuations dis-		
	4. É	Touch the UP or DOWN ke lected).	y to set "149" (when label "rCH" is se-		18	23	0 compressor c	on minimum time	abled 0 199 s		
	5. eset	Touch the SET key.			19	C4	compressor of net probe ala	off time during cabi- arm	0 240 min		
abine compression and compress	6.	Touch the ON/STAND-BY I the procedure.	xey (or do not operate for 60 s) to exit		20	25 :	LO compressor on net probe ala	on time during cabi-	0 240 min		
er programming pro	5.2 View the tempe	erature detected by the prob	es		21	.6 8	0.0 threshold for warning	nigh condensation	0 199 °C/°F differential = 2 °C/4 °F		
rete elettrica (115 230 VAC)		Touch the DOWN key for 4	s.		22	-/ 9	alarm	ation alarm delay	0199°C/°F		
PRECAUTIONS FOR ELECTRICAL CONNECTION - If using an electrical or pneumatic screwdriver, adjust the tightening torque	2. (Touch the UP or DOWN ke	within 15 s to select a label.		24 (14 1	90 mains voltage which the	ge threshold below compressor is not	0 300 V the device attempts to switch		
- If the device has been moved from a cold to a warm place, the humidity may have caused condensation to form inside. Wait about an hour before switching on the power	LAB. DESCRI Pb1 cabinet	PTION temperature		Ç.	25 (15 1	switched on 80 mains voltage	ge threshold below	on every 30 s 0 300 V		
 Make sure that the supply voltage, electrical frequency and power are within the set limits. See the section TECHNICAL SPECIFICATIONS 	Pb2 auxiliary	Touch the SET key					which the cor off	mpressor is switched	if satisfied C17 time		
 Disconnect the power supply before doing any type of maintenance Do not use the device as safety device For repairs and for further information, contact the EVCO sales network 	4.	Touch the ON/STAND-BY I the procedure.	key (or do not operate for 60 s) to exit		26 0	16 2	60 mains voltage which the switched on o	<pre>Je threshold above compressor is not or switched off</pre>	0 300 V if satisfied C17 time the device attempts to switch		
3 FIRST-TIME 1. Install following the instructions given in the section <i>MEASUREMENTS AND INSTALLA</i> -	5.3 View the mains	s voltage a non sia bloccata			27 (17	5 consecutive t	time the mains volt-	0 60 s		
TION.Power up the device as shown in the section <i>ELECTRICAL CONNECTION</i> and an internal		Touch the DOWN key for 4	S.				C15 and C16	5 to force the com-			
test will be run. The test normally takes a few seconds, when it is finished the display will switch off.	2. (Touch the UP or DOWN ke	within 15 s to select " UOL ".		28 0	18	5 consecutive	number of failed	0 00		
Compute the device as shown in the section Setting configuration parameters. Recommended configuration parameters for first-time use. PAR. DFF. PARAMETER MIN MAY	3. eset	Touch the SET key.					compressor mains volt	starts due to the age outside the	0 = protection against mains voltage fluctuations dis-		
SP 0.0 setpoint r1r2 P0 1 probe type 0 = PTC 1 = NTC	4. ()	Touch the ON/STAND-BY I the procedure.	xey (or do not operate for 60 s) to exit				thresholds C to cause the	14 and C16 such as a forced start-up of	abled oo = the device never makes		
2 Pt 1000 P2 0 temperature unit of measurement 0 = °C 1 = °F	6 SETTINGS 6.1 Setting configu	ration parameters					uie compress	UI	the compressor the interruption of the power		

Then check that the remaining settings are appropriate; see the section CONFIGURA-TION PARAMETERS.

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4. Disconnect the device from the mains.

 Make the electrical connection as shown in the section *ELECTRICAL CONNECTION* without powering up the device.

6. Power up the device.

4 USER INTERFACE AND MAIN FUNCTIONS



6	SETTINGS	
6.1	Setting configurat	ion parameters
1.	≙ SET	Touch the SET key for 4 s: the display will show the label " \mathbf{PA}'' .
2.	I ≙SET	Touch the SET key.
3.		Touch the UP or DOWN key within 15 s to set the PAS value (default "-19").
4.	≙SET	Touch the SET key (or do not operate for 15 s): the display will show the label " ${\bf SP}''.$
5.		Touch the UP or DOWN key to select a parameter.
6.	I ≙SET	Touch the SET key.
7.		Touch the UP or DOWN key within 15 s to set the value.
8.	≙ SET	Touch the SET key (or do not operate for 15 s).
9.	≙ SET	Touch the SET key for 4 s (or do not operate for 60 s) to exit the procedure.

				the compressor	the compressor the interruption of the power			
	Ν.	PAR.	DEF.	DEFROST (if $r5 = 0$)	MIN MAX.			
	29	d0	8	automatic defrost interval	0 99 h			
					0 = only manual			
					if d8 = 3, maximum interval			
	30	d2	2.0	threshold for defrost end	-99 99 °C/°F			
	31	d3	30	defrost duration	0 99 min			
					se P4 = 1, maximum duration			
	32	d4	0	enable defrost at power-on	0 = no 1 = yes			
	33	d5	0	defrost dealy after power-on	0 199 min			
	34	d6	2	value displayed during defrost	0 = cabinet temperature			
					1 = display locked			
					2 = dEF label			
	35	d7	2	dripping time	0 15 min			
	36	d8	0	defrost interval counting mode	0 = device on hours			
•					1 = compressor on hours			
					2 = hours evaporator tem-			
					perature < d9			
					3 = adaptive			
	37	d9	0.0	evaporation threshold for auto-	-99 99 °C/°F			
				matic defrost interval counting				
	38	d11	0	enable defrost timeout alarm	0 = no 1 = yes			
	39	d15	0	compressor on consecutive time	0 99 min			
				for hot gas defrost				
	40	d18	40	adaptive defrost interval	0 999 min			
					if compressor on + evapora-			
					tor temperature < d22			
					0 = only manual			

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	41	d19	3.0	threshold	d for adaptive	e defrost	0 40 °C/°F	Dry contact	Contact type		5 VDC, 1.5 mA
				(relative	to optimal ev	aporation	optimal evaporation tempera-		Power supply		None
	42	420	100	temperat	ure)	tivo timo	ture - d19		Protection		None
	42	u20	180	for defro	sor on consecu st	uve ume	0 = disabled	Digital outputs	1 electro-meci	anical relay	@ 250 VAC (5V2871)
	43	d22	0.0	evaporati	ion threshold f	or adap-	-10 10 °C/°F	Keldy KI		SPST, 30 A res	. @ 250 VAC (EV3B71)
				tive def	frost interval	counting	optimal evaporation tempera-	Type 1 or Type 2 Actions		Type 1	
				(relative	to optimal ev	aporation	ture + d22	Additional features of Typ	e 1 or Type 2 ac-	С	
	N	DAD	DEE	temperat	ure)			tions			
	1N. 44	Δ1	10 0	threshold	for low ter	nerature	MIN MAX.	Displays		3 digits custon	n display, with function icons
		7.1	10.0	alarm (re	elative to setpoi	nt)	0 = disabled				
	45	A4	10.0	threshold	for high ter	nperature	0 199 °C/°F				
				alarm (re	elative to setpoi	nt)	0 = disabled				
	46	A6	12	high tem	perature alarm	delay af-	0 99 min x 10				
	47	Δ7	15	ter powe	r-on	arms do-	0 199 min				
	1	~/	15	lay	temperature a	anns de	0 199 mm				
	48	A8	15	high tem	perature alarm	delay af-	0 240 min				
				ter defros	st						
	49	A9	15	high tem	perature alarm	delay af-	0 240 min				
			2.0	ter door (closing		1 15.00/05				
	50	AII	2.0	set differ	ential	аппร ге-	1 15 °C/°F				
	Ν.	PAR.	DEF.	DIGITAL	INPUTS		MIN MAX.				
	51	i0	1	door swi	itch/multi-purpo	ose input	0 = disabled				
				function			1 = compressor off				
							2 = reserved				
							3 = energy saving				
							4 = IA alarm (only display) 5 = IA alarm (compressor)				
							off)				
	52	i1	0	door swi	itch/multi-purpo	ose input	0 = with contact closed				
				activatior	n		1 = with contact open				
	53	i2	30	open doo	or alarm delay		-1 120 min				
							-1 = disabled				
C,							alarm delay				
							if $i0 = 5$, compressor on de-				
							lay after alarm reset				
	54	i3	15	regulatio	n inhibition i	maximum	-1 120 min				
		.10	_	time with	1 door open	1	-1 = until the closing				
	55	110	0	energy s	aving	time for	after regulation temperature				
				chergy st	aving		< SP				
							0 = disabled				
	56	i13	180	number o	of door opening	s for de-	0 240				
		:14		frost		time for	0 = disabled				
	57	114	32	defrost	en consecutive	ume for	0 = disabled				
	Ν.	PAR.	DEF.	ENERGY	SAVING (if r5 =	: 0)	MIN MAX.				
.0.,	58	HE2	0	energy sa	aving maximum	duration	0 999 min				
-	59	HE3	0	consecuti	ive time withou	it operat-	0 240 min				
				ing on ke	eys for low cons	umption	0 = disabled				
5	N.	PAR.	DEF.	SAFETIES			MIN MAX.				
\odot	61	PAS	-19	password	N/STAND-DT K	:y	-99999				
							1				
8	ALAF	MS									
COD.	DES	CRIPTIC	JN bo alarn	<u> </u>	RESET	REMED	IES				
Pr2	auxi	liary pro	be alar	'm	automatic	- chec	k probe integrity				
						- chec	k electrical connection				
COn	forc	ed co	mpress	or start	manual	- touc	h a key				
	alar	m				- chec	k C18				
LU	com	pressor	alarm	not on or	manual, au	touc	h a key				
	on c	iue to io	ow main	s voitage	tomatic arte	r - cnec	K C14 and C15				
HU	com	pressor	alarm	not on or	manual, au	touc	h a key				
	off	due to	high m	ains volt-	tomatic afte	r - chec	k C16				
	age				30 s						
AL	low	tempera	ature al	arm	automatic	check A	A1 and A7				
AH	high	tempe	rature a	larm	automatic	check A	A4 and A7				
	high		sation	warning	automatic	check (76				
CSd	hiah	conder	sation	alarm	manual	- swite	ch the device off and on				
						- chec	k C7				
iA	mul	ti-purpo	se inpu	t alarm	automatic	check i	0 and i1				
dFd	defr	ost time	eout ala	rm	manual	- touc	h a key				
	I				I	- chec	k d2, d3 and d11				
9	TECH	INTCAL	SPECT	FICATION	NS						
2	i EGi	in GAL	01 202								
Purpos	se of t	he cont	rol devi	ce	Fund	tion contr	oller				
Constr	ructio	n of the	control	device	Built	-in electro	nic device				
Contai	iner				Blac	k, self-ext	inguishing				
Catego	ory of	heat ar	nd fire r	esistance	D						
Measu	reme	nts		15/10	1 5/10	¥ 22.0	91 E mm (2.15/14				
75.0 x	(33.0 Sin) v	x 59.0	mm (2 d.ccrow	torminal k	1 5/16 x 75.0	x 33.0 x	81.5 mm (2 15/16 x 1 5/16 x				
2 5/10	5 III) V	viui iixe	u screw		blocks 5 5/	(S	itti terilovable screw terminar				
Mounting methods for the control device To be fitted to a namel spar				a panel, snap-in brackets pro-							
					vide	d					
Degree	Degree of protection provided by the cover- IP65 (front)										
ing											
Conne	ction	method		ka fa		overhi -	our torminal blacks from 1				
Fixed	screw	termir	al bloc	ks for wir	es up to Rem	ovable sci	rew terminal blocks for wires up				
∠,5 mi Mavim		ermitte	1 lenath	for conno	to 2,	5 mm²; b	y request				
maxiili	iani p	cinitte	anenyti	ioi conne	caules						

gital outputs: om 0 to 55 °C	10 m (32.8 ft)			
om 0 to 55 °C				
	From 0 to 55 °C (from 32 to 131 °F)			
om -25 to 70	°C (from -13 to 158 °F)			
lative humid	ity without condensate from			
to 90%				
	REACH (EC) Regulation 1907/2006			
LVD 2014/35/UE				
115 230 VAC (+10 % -15%), 50/60 Hz				
(±3 Hz), max. 4 VA (EV3B71) or 4.9 VA				
(EV3B81) insulated				
None				
2.5 KV				
II				
Α				
1 for PTC, NTC or Pt 1000 probes (cabinet probe)				
Y 81-121 (99	0 Ω @ 25 °C, 77 °F)			
om -50 to 150	0 °C (from -58 to 302 °F)			
L °C (1 °F)				
ß3435 (10 KΩ @ 25 °C, 77 °F)				
From -40 to 105 °C (from -40 to 221 °F)				
0.1 °C (1 °F)				
From -99 to 199 °C (from -146 to 390 °F)				
0.1 °C (1 °F)				
Input configurable for analogue input (auxil-				
iary probe) or digital input (door switch/multi-purpose, dry contact)				
	m -25 to 70 ative humid to 90% 2014/35/U 230 VAG 3 H2), max. 3B81) insula 1e KV or PTC, NTC be) r 61-121 (99 m -50 to 155 °C (1 °F) m -90 to 199 °C (1 °F) ut configura r probe) tch/multi-put			

N.B.

N.B. The device must be disposed of according to local regulations governing the collection of electrical and electronic waste.

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