# **J**U**<sup>\*</sup>** The smart solution for refrigeration for field service and new installations

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CAREL

iJW hardware guide 1.2



JU/



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### Features and Benefits

The refrigeration controller for smarter field commissioning



Quick configuration and accessibility with the Applica app Saving you time in the field.

- Pre-set configurations via the built-in wizard, cover many standard applications
- NFC and Bluetooth connectivity via the Applica app for field setup on your mobile device
- Simplified range covering most applications.
- Flexibility with the range of temp sensors includes, NTC / PTC / PT1000
- Wide viewing angle and larger display for improved visibility
- Easy cleaning frameless capacitive touch control pad
- Plug in terminals for easier change out



Controlla is a dedicated end user app, giving the ability to check the status, setpoint adjustment and downloading of temp logs for HACCP compliance



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	6	2				10 13 20 25	Alarm event	is and	
			and a read	and rank	TAL PAR		Alarm event	10 AM	
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			مبر Livo				Ú.		Events

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### Tech Tips

New packaging label indicates available features for each device

- Short code indicates basic features.
  - **4B02 4** = 4 Relays,
  - $\mathbf{B} = NFC + Bluetooth,$
  - **02** = BMS
- QR code makes setup even quicker and easier.
- Electrical diagram included on carton at point of sale.
- Additional universal icons to show feature selection.
  - NFC, BT, RTC, BMS, Modbus, %RH
- Humidity control only available with large model (6 relays)



The new iJW controller fits the standard IR/PJ controller openings Sizes: 71 x 29mm small 138.5 x 29mm large (Wide model)

New deeper box Part no. **IJBOX20000** Overall dimensions are 125 x 125 x 125mm

The iJW is deeper than the IR series to accommodate the plug-in terminals

### New features with iJW:

- Wide operating voltage range tolerance from 90 to 264Vac
- Compressor safety protection against high or low power supply voltages
- Zero voltage relay switching
- In-built BMS serial card for Modbus RS485 connectivity
  - A dedicated Carel protocol model is available: **4R02**
- Dedicated parameters for relative and absolute alarms
- Simple IO configuration via preset wizard codes for each series

### **Relay ratings:**

The current rating indicated on the label is the relay rating

- EN60730 is the preferred load rating E.g. 12(2)
  - The first number is the resistive load rating like heaters, incandescent lights, etc.
  - $\circ~$  The number in brackets is the inductive load rating. E.g. motors, solenoids etc.
- Total connector load should not exceed 12A

For further info check the iJW Technical Characteristics leaflet +0500167ML









Quick and easy I/O setup via the Wizard configuration codes for each controller type.

<b>U</b> izard configuration selections							REL	SEI	RVICE	s					
Wizard Cod	les				Dig	ital Outputs						Analog	+ Digital inputs		
2 Relay Model		Compressor	Defrost	Fan	Alarm	Light	Heater				S1	S2	DI1	DI2	
2B02	201	NO1									Sm				
	202						NO1				Sm				
Default	203	NO1		NO2							Sm				
	204	NO1	NO2								Sm	Sd			
	205	NO1			NO2						Sm				
	206	NO1				NO2					Sm			$\mid$	L
	207	NO1					NO2				Sm				L
	208			NO2	1100		NO1				Sm			$\mid$	<u> </u>
	209	-		-	NO2		NO1				Sm				
4 Relay Model		Compressor	Detrost	Fan	Alarm	Light	Heater				S1	S2	DI1	DI2	
4B02	403	NO1		NO3							Sm				<u> </u>
4R02	404	NO1	NO2		110.4						Sm	Sd			<u> </u>
	405	NO1			NO4	104					Sm				<b>—</b>
	406	NO1				NO4	NO2				Sm			┝──┤	
	407	NUT		NO2			NO2				Sm			+	
	400			NO3	NO4		NO2				Sill				
Not for this model	409				N04		NO2				311				
Default	416	NO1	NO2	NO3							Sm	Sd			<u> </u>
Delaut	417	NO1	1102	NO3	NO4						Sm	- Ou			
	418	NO1		NO3		NO4					Sm				
	419	NO1		NO3							Sm				
	420	NO1	NO2	NO3		NO4					Sm	Sd			
	421	NO1	NO2	NO3	NO4						Sm	Sd			
	422	NO1		NO2	NO4	NO3					Sm				
	423	NO1		NO3	NO4						Sm				
Not for this model	424														
Not for this model	425														
Not for this model	426														
	430	NO1	NO2	NO3		NO4					Sm	Sd	Sr		
Not for this model	431														
6 Relay Model		Compressor	Defrost	Fan	Alarm	Light	Heater	Humidify	Cond Fan	Comp 2	S1	S2	DI1	DI2	S5
6B07	601	NO5	NO6	NO1							Sm	Sd			
	602	NO5		NO1	NO4						Sm				L
	603	NO5		NO1		NO3					Sm				
Default	606	NO5		NO1	NO4	NO3					Sm	Sd			
	607	NO5		NO1	NO4	NO3					Sm				<u> </u>
	608	NO5		NO1	NO4		NO6				Sm		_		
	609	NO5	NO6	NO1	NG	NO3			NO2	NGG	Sm	Sd	Sc	$\vdash$	
	610	NO5	NO1	NO2	NO4	NO3			NOO	NO6	Sm	Sd	0.	┝──┤	
	611	NO5	N06	NO1	NO4	NO3		NO2	NO2		Sm	Sd	Sc	$\vdash$	Chi
	642	NO5		NO1			NOC	NO2			Sm			$\vdash$	Shu
	613	NOS		NO1	NO4		NUO	NO2			Sm Sm			┝──┦	Shu
	615	NO5	NO6	NO1	NO4	NO3		NO2			Sm	54		┝──┤	Shu
	610	NO5	NOG	NO1	NO4	NO3		NO2			Sm	DC b2	Sr	┝──┦	Jin
	620	1100	100	NO1	NO4	NO3	NO6				Sm	Ju		┝──┦	
	520			101	107	1100	1.00					1			í

Sm	Air off Temperature
Sd	Defrost temperature
Sr	Air on temperature
Sc	Condenser Temperature
Shu	Humidity Rh%

## APPLICA mobile app

### Get Started

Please scan the QR code and open the Carel iJW info page.

Select the Carel Applica mobile app from the App Store or Google Play to download.

The Carel iJW info link also includes the latest iJW documentation and video tutorials. If you have already installed Carel Applica on your mobile device, please start with the 6 easy steps below:



App Store

- 1. Ensure the iJW controller features Bluetooth connectivity, indicated by the Bluetooth icon on the box.
- 2. Unpack the iJW controller and connect 230V power supply to terminal L and N.
- 3. If it's safe to do, then turn on the iJW controller.
- 4. Please ensure the Bluetooth is turned on in your mobile.
- 5. Start the Carel Applica and select the connection option at the bottom of the app screen  $\rightarrow$  Bluetooth
- 6. Carel Applica will scan for available devices. Please ensure you're in close proximity of the iJW controller of less than 10m and the iJW controller will be displayed in Carel Applica with the serial identification number printed on the iJW controller label.

Once the iJW controller is displayed, select the iJW from the list and Carel Applica will connect to the controller.

While the iJW controller start's flashing "bLE" in the display. Carel Applica will now ask for access authorisation, please enter password: 22





### Wizard



#### **Configuration Wizard:**

After you successfully connect to a new iJW controller the Carel Applica mobile app will take you to the controller setup wizard and guide you through the controller configuration. And there are three options to proceed:

- 1. No proceed without wizard and controller will set to default configuration [416] please see technical leaflet for details.
- 2. Yes proceed with the wizard and Applica will take you through the 6 steps below.
- 3. Only I/O proceed directly to Input & Output configuration of the controller

### Wizard step 2/6: Application & IO





#### **Application?**

The wizard will ask you to select the most suitable application for the controller setup. By clicking on "Application?" you will see all available options.

#### Humidity Management?

Will allow for the Humidity probe input.

#### Auxiliary output configuration?

Allowing setup the function for the AUX relay.

**Digital input configuration?** Allowing setup of the DI input function.

### Wizard Wizard step 3/6: List of available applications



#### List of available applications:

The wizard step will let you select from multiple pre-setups available on the controller.

The pre-setup will depend on the application selection made under step 2.

With a click on the available application presetup you are also able to see the matching I/O configuration in a diagram.

The diagram will also include an application number depending on the controller model. The number is referring to the available diagrams in the technical leaflet and manual (+0300103EN).

The diagram can also be exported from the app in the next step.

#### Wizard step 4/6: Parameter

$\equiv$ Configuration wizard [4/6	]
r1 - Minimum set point	-50 °C
r2 - Maximum set point	50 °C
rn - Dead band	4 °C
rd - Temperature control differential	2 °C
St - Temperature control set point	50 °C
d6 - Display on terminals during defrost	1
dl - Maximum interval between consecutive defrost	8 h
dP1 - Maximum defrost duration	45 min
dd - Dripping time after defrosting	2 min
A1 - Alarm thresholds (AL, AH) relative to the set point St or absolute	Relative
Back Save	Next

The step will allow you to set the most common parameter for the control.



#### Wizard step 6/6:



This will allow you to export the selected wiring diagram to your phone. But also to save the selected configuration as PDF to your phone or cloud storage.



Confirmation of the selected wizard configuration or option to reset the selection and start the wizard again.

### APPLICA mobile app

### Home Screen



#### Home Screen:

Once the controller is configured and connected, Carel Applica will show you the controller status, with the following option:

- 1. Side Menu: access to more info, like the controller version.
- 2. Save Button: option to save configuration.
- 3. Alarm & Reset: only visible with active alarm, will show clear text alarm message.
- 4. Function Keys: activation of AUX, Light, On/Off, Defrost and Continuous Cycle.
- 5. Actual Temperature.
- 6. Info Panel: slide sideways for direct access for Setpoint, Inputs and Output status.
- 7. Service Menu: push to enter controller settings and configuration.

÷	Service Area	
Ľ	Set up	
	Trend	
i	Info	
L	Scheduler	
$\rightleftharpoons$	I/O	
Ð	Test mode	
	2022-08-09 08:31	

Service Area:

Set up:

	- H -	
÷	Set up	
:	Parameters list	()
Ê	Configurations	(i)
Ð	Clone	()
( <u>C)</u>	Firmware update	()
ľ	Change ID	(j)

#### Parameter list:

Parameter list	:
Enter parameter/description	Q
/2 Analogue probe measurement stabili	5
/3 Display probe val	0
/4 Virtual probe compositi	0 %
/5 Unit of measure	°C
/6 Display decimal point	Visible
/cA Outlet temperature probe calibration	0 °C
/cb Defrost temperature probe calibration	0 °C
/cc Intake temperature probe calibration	0 °C
/cF Auxiliary evaporator defrost temperature	0 °C
/cg Auxiliary temperature probe 1 calibration	0 °C
/cH	0.00
CATEGORY FILTER	

The Service Area allows to navigate to certain controller functions as:

- Set up: for settings •
- Trend: temperature • logs
- Info: controller • details
- Scheduler: defrost & activity schedule
- I/O: input & output settings
- Test mode: manual operation

Set up offer the following options:

- Parameter list: full parameter access
- Configuration: save & load config files
- Clone: create controller duplications
- Firmware update: apply firmware files
- Change ID: customise controller ID (Bluetooth/ NFC name)

Parameter list offers the full parameter access. The parameters are sorted in alphabetical order.

But can be filtered by categories or searched for keywords or know parameter codes.

## iJW Keypad Functions and Icons

Keypad	Description	On	Flashing
×××	Defrost	Steady lit/ can be deactivated from the keypad (not visible)	Waiting/ delayed/ can be activated from the keypad
$\bigcirc$	On/Off	Wake up controller - Steady lit/ can be deactivated from the keypad (not visible)	Off/ can be activated from the keypad
+	Set point	Check or change temperature / humidity setpoint	
<b>م</b>	Up Arrow	Increase value Scroll menu and parameters Can be set to turn on auxiliary functions (Refer to parameter list)	Auxiliary function: Waiting/ delayed Can be activated from the keypad
	Program	<b>Press Once</b> : Wake up controller Enter menu branch Save value and return to parameter code <b>Press for 3 seconds:</b> Enter programming mode	
•	Down Arrow	Decrease Value Scroll menu Can be set to turn on auxiliary functions (Refer to parameter list)	Auxiliary function: Waiting/Can be activated from the keypad
lcon	Description	On	Flashing
*	Compressor	Active	Waiting
88	Evaporator Fan	Active	
AUX	Auxiliary	Active	
°C⁄F	Temperature	Unit of measure: Temperature °C/°F	
%н	Relative Humidity	Unit of measure: relative Humidity %rH	
Ĥ	HACCP Alarms	Active HACCP alarms	
4	Service- Maintenance	Active alarms	

### Programming







## iJW Keypad Parameters

Block	Code	Parameter	Unit	Min.	Max.	Def.	New
	Fr	Firmware revision			Read Onlv		
	ECo	Activate Eco mode		off	on	off	
dir	SrG	Control probe	°C		Read Only		
	Sm	Air Off Probe	°C		Read Only	* /Fa = >0	
dir	Sd	Defrost Probe	°C		Read Only	* /Fb = >0	
	SHu	Humidity Probe	%rH		Read Only	* /FP = >0	
	btE	Enable Bluetooth (on models where present)		0	1	1	
	nFE	Enable parameter copy from NFC to controller		0	1	0	
	ESC	Return to block menu					
	St	Regulation temperature setpoint	°C	r1	r2	50	
	rd	Regulation temperature differential	°C	0.1	99.9	2	
	Sth	Humidity set point	%rH	0	100	90	
Ctl	rdh	Humidity differential	%rH	0.1	99.9	5	
	iS	Wizard Configuration type to upload - refer to external documentation	-	-	-	-	
	r1	Minimum temperature setpoint	°C	-99	r2	-50	
	r2	Maximum temperature setpoint	°C	r1	200	50	
	rn	Neutral zone	°C	0	60	4	
	/4	Virtual probe composition 0= Air off (Sm) 100= Air On (Sr)	%	0	100	0	
	rSC	Restore to default settings	-	0	1	0	
	ESC	Return to block menu					
	/5	Unit of Measure: 0 = °C, 1 = °F	°C/°F	0	1	0	
	/6	Decimal point visualization in main mask: 0=Visible, 1=Not visible	-	0	1	0	
	/cA	Outlet temperature probe offset calibration	°C	-20	20	0	
	/cb	Defrost temperature probe offset calibration	°C	-20	20	0	
	/cc	intake temperature probe offset calibration	°C	-20	20	0	
Pro	/nE	Keypad disabling 0 = enabled; 1 = disabled; 2 = on/off disabled; 3 = on/off and access to setpoint disabled					
	/t1	Display on user terminal: 0= No config, 1=S1, 2=S2, 3=S3, 4=S4,5=S5, 6=S6, 7=S7, 9=control probe, 10=virtual probe, 15=setpoint	-	0	15	9	
	/P1	Configuration probe: S1, S2, S4 0=PT1000 1=PTC 2=NTC 3=NTC- LT 4=NTC-HT	-	0	4	2	
	/P2	Configuration probe: S3, DI1 0=PT1000 1=PTC 2=NTC 3=NTC-LT 4=NTC-HT 5=Dig.Input	-	0	5	5	
	ESC	Return to block menu					
	d0	Defrost type (0=elec / temp,1=hot gas / temp 2=elec / time, 3=hot gas / time, 4=elec & temp / time)	flag	0	4	0	
	dl	Defrost Interval	hours	0	250	8	
	dP1	Maximum defrost duration	min	1	250	30	
dEF	dt1	End defrost temperature read by Sd	°C	-50	200	4	
	d4	Defrost at power up (0=no, 1=yes)	flag	0	1	0	
	d8	Bypass alarms after defrost	hours	0	15	1	
	dd	Dripping time after defrost	min	0	15	2	
	ESC	Return to block menu					

\* visible only if parameter is set.

## iJW Keypad Parameters

	rHP	Reset HACCP event log	flag	0	1	0	
HcP	Han	Number of type HA alarms (read-only)	Read Only				
HCP	HfN	Number of type HF alarms (read-only)	Read Only				
	ESC	Return to block menu					
	Hb	Disable buzzer (0=enabled, 1=disabled)	min	0	1	1	
	H0	Serial address	-	1	247	1	
	GF1	Second function configuration of the up arrow 0 = Off 1 = Light 2 = Aux 3 = Continous Cycle 4 = Pull down 5 = Setpoint Night/Day/Summer/Winter	-	0	5	0	
CnF	GF2	Second function configuration of the down arrow 0 = Off 1 = Light 2 = Aux 3 = Continous Cycle 4 = Pull down 5 = Setpoint Night/Day/Summer/Winter	-	0	5	0	
	GF	Configuration of the AUX button 0= not configured; 1= Light; 2= Auxiliary; 3= Continuous cycle	Large model only				
	bn	Keypad operating mode: 0 = wake up; 1 = locked		0	1	0	
	ESC	Return to block menu					
	C0	Delay to enable solenoid/compressor and evaporation fans at power-on	min	0	15	0	
CnP	c1	Min time between consecutive compressor starts					
	c2	Minimum compressor OFF time (Smartcella)	min	0	15	0*	
	c3	Minimum compressor ON time	min	0	15	0	
	ESC	Return to block menu					
	A1	Type of alarm for AL and AH (0=relative, 1=absolute)	°C	0	1	0	
	AH	High alarm temp (see A1 for absolute or relative)	°C	0	555	0.0	
	AHA	Absolute High temperature alarm threshold	°C	-50	200	0.0	
	AL	Low alarm temp (see A1 for absolute or relative)	°C	0	200	0.0	
	ALA	Absolute Low temperature alarm threshold	°C	-50	200	0.0	
ALn	Ad	Delay time for High and low temperature alarms (AL.AH)	min	0	240	120	
	Add	Door Alarm and Bypass High temp after defrost alarm	min	1	240	5	
	rSA	Reset alarms function		0	1	0	
	rAL	Alarm Log reset function		0	1	0	
	ESC	Return to block menu					
	F0	Evaporator Fan management 0 = Always on; 1=Sd - Sv; 2=Sd; 3=Sv	-	0	3	0	
	F1	Fan Activation temperature	°C	-50	50	-5	
Fon	F2	Fans with comp off: 0=On 1=Off 2= Cycles to avoid stratification 3= Dehumidification cycles	-	0	3	1	
ran	F3	Fans in defrost (0=on, 1=off)	flag	0	1	1	
	Fd	Fans delay after dripping	min	0	15	2	
	Fpd	Evaporator fans during post dripping 0=On 1=Off	flag	0	1	1	
	ESC	Return to block menu					

These are the parameters that are available from the device display

The full parameter list is accessible via the APPLICA app

### **Default Setting Changes**

With the new iJW series some of the default settings have been changed.

Please find a comparison of the initial default settings in the table below:

Block	Code	Description	Level	Unit	Default	Default IR33+	
					iJW	MT	LT
Ctl	St	Regulation temperature setpoint	user	°C	50	2	-18
dEF	dP1	Maximum defrost duration	service	min	45	30	30
CnF	H0	Serial Address	service	-	1	195	195
cMP	C2	Minimum compressor off time	service	min	3	2	2
FAN	F2	Fans with comp off	service	-	1	-	1
	F3	Fans in defrost	service	-	1	-	1
	Fd	Fan delay after drip time	service	min	2	-	1
	Fpd	Fans in post drip time	service	-	1	-	-

#### Important: please change setting F2 and F3 according to the application:

Parameter	MT	LT
F2	0	0
F3	0	1

Additionally, some of the parameter codes have been changed, please find the comparison of the changed parameter codes below:

IR33+	iJW	Description	Level	Unit	Default
/P	/P1	Configuration probe S1, S2, S4	service	-	0
*NA	/P2	Configuration probe S3	service	-	5
/tl	/t1	Reading on user terminal	service	-	9
/tE	/t2**	Reading on remote display	service	-	0
/A2, /A3,	/FA, /Fb,	Assign temperature probe per function	service	-	
/A4	/Fc,				
/c1, /c2,	/cA, /cb,	Temperature probe calibration per function	service	-	
/c3, /c4	/cc				
r3	r30	Control mode	service	-	0
c7	cPt	Maximum pump down time	service	sec	0
d3	d15	Defrost start delay	service	min	0
d8d	Add	High temperature alarm bypass after door opening	service	min	5
d9	c7	Defrost priority over continuous cycle	service	-	0
d12	d7	Advanced defrost: Skip defrost	service	-	0
A4, A5	DIA, Dib,	Assign digital inputs per function	service	-	
	Dlc,				
A8	A3	Enable alarm Ed1 and Ed2, defrost by timeout	service	min	30
		message			
ALF	AF	Frost protection alarm threshold	service	°C	-5
AdF	Afd	Frost protection alarm delay time	service	min	1
Ado	H14	Light management after door closing	service	min	0
F5	F5d	Condenser Fan activation differential	service	°C	5
H1	DOA,	Assign digital outputs per function	service	-	
	DOb,				
	DOc,				
H2	/nE	User terminal lock	service	-	0
H4	Hb	Buzzer enable	service	-	1
H6	-	Terminal button lock	-	-	-
H9	-	Setpoint variation with scheduler	-	-	-
tof/ ton	tE1/ tS1	End and Start time bands	service	-	

\*\*Model dependant. Current models do not support the remote display function.

## Alarms list

Code	Description	Alarm relay	Reset	Control
Afr	Frost Protection	On	Auto	Compressor Off
AtS	Restart in pump down	Off	Auto	
CE	Configuration write error	Off	Auto	
CHt	High condensing temperature alarm	Off	Manual	Compressor Off
cht	High condensing temperature warning	Off	Auto	
dA	Delayed alarm from external contact	On	Auto	Compressor duty cycle (A6)
Ed1	Defrost terminated after maximum time	Off	Auto	
Ed2	2nd Evap Defrost terminated after maximum time	Off	Auto	
EH1	High power supply voltage alarm	On	Auto	
EL0	Low power supply voltage alarm	On	Auto	
Etc	Clock error	Off	Manual	Time bands disabled
GHI	Generic high alarm threshold	On	Auto	
GL0	Generic low alarm threshold	On	Auto	
HA	HA HACCP alarm (high temp during operation)	Off	Manual	
HF	HF HACCP alarm (high temp after blackout)	Off	Manual	
dor	Door open	On	Auto	
E1	Probe 1 faulty or disconnected	Off	Auto	Pending on function
E2	Probe 2 faulty or disconnected	Off	Auto	Pending on function
E3	Probe 3 faulty or disconnected	Off	Auto	Pending on function
E4	Probe 4 faulty or disconnected	Off	Auto	Pending on function
E5	Probe 5 faulty or disconnected	Off	Auto	Pending on function
н	High temperature alarm	On	Auto	
IA	Immediate alarm from external contact	On	Auto	Compressor duty cycle (A6)
LO	Low temperature alarm	On	Auto	
LP	Low pressure alarm	On	Semi- Auto	Compressor off
MAn	Output status overriden in manual mode	On	Auto	
Pd	Maximum pump down time	On	Auto	
rE	Control probe faulty or disconnected	On	Auto	Compressor duty cycle (A6)
rSF	Refrigeration leak alarm	On	Manual	All outputs off
SrC	Maintenance request	On	Manual	
SF	Configuration not completed correctly	Off	Manual	

Active alarms are indicated by the flashing service icon 🏻 🔌 and the accompanying alarm code from the table above.



Pressing any button will mute the buzzer as an acknowledgement of the alarm

A reset alarm is stored in the alarm history.

Manual reset is managed with the parameter rSA

## **Application Drawings**

### IREV to iJW

	Page
Wizard 205 IREVS0EA0U / iJW 2 Relay MT with Alarm	18-19
Wizard 207 IREVS0EA0U / iJW 2 Relay Heat and Cool operation	20-21
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Wizard 421 IREVC0HC0U / iJW 4 Relay LT with RTC defrost	34-35
Wizard 421 IREVC0HC0U / iJW 4 Relay LT with alarm	36-37





Normally Closed contact

Rev: 1.1

Checked by: Pv Date: 04/04/2023 Drawing: JJW Small / IR33+ MT with Alarm











		SETPOINT	St			
			0	Z		
				L L		
יר	D <b>+</b> Par	ameters		SM,	ALL Paramete	S
Pro	/A2 = 0		O/I*	*	*/Fb = 0 Defrost probe disabled	
CtL	St = Setpoint		CtL		st = Setpoint	
	<b>rd</b> = Differential		*Temp Redu	lation 1	<b>d</b> = Differential	
dEF	<b>d0</b> = 2 Time terminated defro	st				
5	dl = Defrost intervals (hours)		dEF/	<u> </u>	<pre>10 = 0 Temp terminated defrost</pre>	
	dD1 - May def duration (min		*Detro	st	II = Defrost intervals (hours)	
				•	<b>JP1</b> = Max def duration (mins)	
			FAn/ *Fan		-2 = 0 Fans on except in defrost	
			* = Cat ** = Onl *** = Inf	tegory filter y available o only	in Applica App in Applica App APPLICA	Available on the App Store
			Part number		Description	-
AFFLICE		CAREL SERVICES	IJWPSA4B02S0523	IJW Small 4	: Relay 230Vac BT/RTC/BMS Controller	Connected
IJW Sn	nall / IR33+		NTC015HP03	Carel NTC T	emperature Probe	NOT Connected
LT with s	single sensor	Email services.au@carel.com	IREVCOHCOU	IR33+ Pane	mount controller, 4 relays	Mormality Open contract
Wize	ard # 416	Drawn by: Pv Date: 29/03/2023				
		Checked by: MK Date: 29/03/2023	Drawing: IJW Small_IR	33+ LT with s	ingle sensor	: 1.1 Normally Closed contact



		SETPOINT	St		
			0 0	Z	
			f rd	Ξ	
ייש	D+ Par	ameters	<b>.</b>	U SMALL Parameters	
CtL	St = Setpoint		Pro/	<b>dIE</b> = 1 Configure Door switch to ID1 (Comp+Fans	s off)
	rd = Differential		0/1*	**rIE = Door switch logic 0 = NO, 1 = NC	
dEF	d0 = 0 Temp terminated defr	ost	CtL/ *Temperat	St = Setpoint	
	<b>dl</b> = Defrost intervals (hours)		Regulatio	on rd = Differential	
	<b>dt1</b> = Defrost termination ter	ր (°C)	dEF/	d0 = 0 Temp terminated defrost	
	<b>dP1</b> = Max def duration (mins	s)	* Defrost	<b>dl</b> = Defrost intervals (hours)	
2	A4 = 5 Door switch with com	n and fans off		<b>dt1</b> = Defrost termination temp (°C)	
ALI				<b>dP1</b> = Max def duration (mins)	
			FAn/ *Fan	F2 = 0 Fans on except in defrost	
			* = Catego ** = Only av *** = Info on	ry filter in Applica App ∕ailable in Applica App Ny APPLICA ► Com	Store Store gle play
				-	
APPI IC.	ATION GUIDE		Part number	Description	╉
		CAREL SERVICES	IJWPSA4B02S0523	IJW Small 4x Relay 230Vac BT/RTC/BMS Controller	Connected
IJW SI	mall / IR33+	Phone 02-8762 9200	NTC015HP03	Carel NTC Temperature Probe	I NOT Connected
LT with	n door switch	Email services.au@carel.com	IREVC0HC0U	IR33+ Panel mount controller, 4 relays	Normally Open contact
Wiz	ard # 416	Drawn by: Pv Date: 29/03/2023		-	
		Checked by: MK Date: 29/03/2023	Drawing: IJW Small_IR	33+ LT with Door Switch Rev: 1.1	Normally Closed contact



		SETPOINT St				
			z			
		R1				
					SMALL Parameter	6
	-		<u> </u>	10	**/d2 = 6 Assign end defrost probe Aux eva	a
J	DD <sup>T</sup> Par	rameters	//*	0	**/FF = 3 Assign Aux evap defrost probe S: /P2 = 2 NTC Probe S3/DI1	
Pro	A3 = 4 Defrost Evap 2 sensor (	(S3/DI1)	5	с С	St = Setpoint	
CtL	St = Setpoint		<u>т</u> й	emp	rd = Differential	
	rd = Differential				<b>40</b> – O Tamu tarminatad dafraet	
dEF	d0 = 0 Temperature terminated	defrost		efrost	di = Defrost intervals (hours)	
	<b>dl</b> = Defrost intervals (hours)				dt1 = Defrost termination temp (°C)	
	dt1 = Defrost termination temp (	(.c)			dt2 = Defrost termination Aux Evap temp (	C)
	dt2 = Defrost termination temp /	Aux Evap (°C)			<b>dP1</b> = Max def duration (mins)	
	<b>dP1</b> = Max def duration (mins)				dP2 = Max def duration Aux Evap (mins)	
	<b>dP2</b> = Max def duration Aux Eva	ap (mins)	EA FA	kn/	<b>F2 =</b> 0 Fans on except in defrost	
CnF	H1 = 4 Aux Evap defrost				**DOH - 1 Aux definet output accioned to I	
					DOL - 4 MAX GELLOSI ORIDAL ASSIGNED TO 1	+0
			* * * * * * *	Category fil : Only availat = Info only	ter in Applica App	App Store Coogle play
		-		-		
	CATION GUIDE		Part number		Description	+
		CAREL SERVICES	IJWPSA4B02S0523	IJW Small 4	x Relay 230Vac BT/RTC/BMS Controller	Connected
S MLI	Small / IR33+	Dhone 02-8762 9200	NTC015HP03	Carel NTC 1	emperature Probe	NOT Connected
LTW	ith Aux Evap	Email services.au@carel.com	IREVCOHCOU	IR33+ Pane	el mount controller, 4 relays	Normally Once and not
INVI	7ard # 416	Drawn by: Pv Date: 29/03/2023				
-		Checked by: MK Date: 29/03/2023	Drawing: IJW Small	/ IR33+ LT with	Aux Evap Rev: 1.1	Normally Closed contact



SE	TPOINT <i>St</i> I					r
		Z				
			ļ			ſ
I	R1 R4	DEF			SMALL Parameters	
	Diff rd	ō		Temp	St = Setnoint	
נרטי	Paramete	ILS	Regula	tion -	od = Differential	
CtL	<b>St</b> = Setpoint		cMP /	ressor	c11 = 2nd compressor start delay (sec)**	
	<b>rd</b> = Differential					
CMP	<b>c11</b> = 2nd compressor start delay	/ (sec)	dEF / *Defros		au = 0 lemp terminated derrost	
dEF	<b>d0</b> = 0 Temp terminated defrost			<u>-</u>	dl = Defrost intervals (hours)	
	<b>dl</b> = Defrost intervals (hours)			- 1	<pre>ht1 = Defrost termination temp (°C)</pre>	
	<b>dt1</b> = Defrost termination temp ( $^{\circ}$	0		-	<b>JP1</b> = Max def duration (mins)	
	dP1 = Max def duration (mins)		FAn/		=2 = 0 Fans on except in defrost	
CnF	H1 = 12, 2nd compressor w/o rot	ation				111
	13, 2nd compressor with ro	tation	0/I*		<b>DOK</b> = 4, assign 2nd compressor w/o rotation to NO	04**
					<b>Ok</b> = 0, 2nd compressor w/o rotation output logic N	N.O.**
					Alternatively for compressor <u>with</u> rotation setup	:di
					<b>DOy</b> = 4, assign 2nd compressor with rotation to NC	104**
					$\mathbf{O}\mathbf{y} = 0$ , 2nd compressor with rotation output logic N	N.O.**
			* = Cati ** = Only	egory filte y available	r in Applica App in Applica App	ilable on the <b>DD Store</b>
					APPLICA 🚩	oogle <sup>-</sup> play
	CATION GUIDE		Part number		Description	+
		CAREL SERVICES	IJWPSA4B02S0523	IJW Small 4	x Relay 230Vac BT/RTC/BMS Controller	Connected
NCI	Small / IR33+	Phone 02-8762 9200	NTC015HP03	Carel NTC 1	emperature Probe NOT	T Connected
LT - 2 sta	ged Compressors:	Email services.au@carel.com	IREVC0HC0U	IR33+ Pane	I mount controller, 4 relays	ally Onen contact
3	lizard #416	Drawn by: MK Date: 29/03/2023				
		Checked by: SS Date: 29/03/2023	Drawing: IJW Small / IR	(33+ LT - 2 s	taged compressers Rev: 1.1 Normally	ally Closed contact



				1		
(CO)	+ Paramete	SETPOINT St St	t + r4		SMALL Parameters	
CtL	St = Setpoint	5 <b>•</b>	-	CtL/	St = Setpoint	
	rd = Differential		NO	Regulation	rd = Differential	
	r4 = Setpoint variation		R1		<pre>r4 = Setpoint variation**</pre>	
CnF	H1 = 3, AUX selection				r4d = Setpoint shift regulation differentia	**
	H8 = 1, AUX switched by schedule	Diff rd	Diff r4d		<b>r6</b> = Control probe selection for setpoint (0= Virtual probe: 1 = Air Return pro	shift**
	H9 = 1, Enable setpoint shift by sche	dule		EAn/	<b>F2 =</b> 0 Fans on excent in defrost	(222)
rtc	ton = Regular setpoint start time (day	/ time)		*Fan		
	$d_{-} = day of the week (17 = MonS)$	:ur		0/1*	<b>DOE</b> = 4, Light output assigned to DO4*	*
		everyday)			<b>rOE</b> = 0, Light output normally open N.O	.**
	h_ = hour of schedule				H8 = 0, Light switched by scheduler**	
	n_ = minute of schedule			*Scheduler	tS1-dtS8-d = Start time band davs**	
	<b>toff</b> = Apply setpoint shift start time (	night time)			17= MonSun; 8= Mon-	Fri;
	d_ = day of the week				10= Sat- Sun; 11= everyo	lay
	h = hour of schedule				tS1-hhtS8-hh = hour of schedule starts	s**
	n = minute of schedule				tS1-mmtS8-mm = minute of schedule	starts**
	te = Current time and date				<b>tE1-d tE8-d</b> = End time band days**	
	v = current vear	((()))	Ann Store		tE1-hhtE8-hh = hour of schedule ends	**
	y current year	CAREL	NO 4/Y CIONCIN		tE1-mmtE8-mm = minute of schedule	ends**
			≽ Google <sup>-</sup> play		Seturio scheduller use and and onen servi	ire area >
	d_ = day of the month				Scheduler	
	u_ = day of the week (1 = Mon)	* - Catedony filte	and solice And	*RTC	<b>rtA</b> = current date and time***	
	h_ = current hour	- Category IIIte	e in Applica App		setun actual time use ann and open side	e menu:
	n_ = current minute	*** = Info only			Settings > Device > Set date/ time	
APP	I ICATION GUIDE		Part number		Description	┥
		CAREL SERVICES	IJWPSA4B02S052:	IJW Small 4x Rela	iy 230Vac BT/RTC/BMS Controller	Connected
	JW Small / IR33+	Phone 02-8762 9200	NTC015HP03	Carel NTC Tempe	rature Probe	NOT Connected
LI WI	th set point shift using	Email services.au@carel.com	IREVC0HC0U	IR33+ Panel mou	nt controller, 4 relays	Normally Open contact
	C1X	Drawn by: MK Date: 03/04/2023				
	WIZARU #420	Checked by: SS Date: 03/04/2023	Drawing: IJW Small IF	333+ LT RTC setpoi	nt shift Rev: 1.1	Normally Closed contact



± € € L D	Param	eters SETPOIN	NT St	<u>i</u> M	SMALL Paramet	ers
CtL	St = Setpoint		NO	CtL /	<b>St</b> = Setpoint	
	rd = Differential		R1	*Temp Regulation	rd = Differential	
dEF	<b>d0</b> = 0, Temp terminated defrost		• 	dFF /	d0 = 0 Temp terminated defrost	
	<b>dl</b> = Defrost intervals (hours)	- *		*Defrost	dl = Defrost intervals (hours)	
	<b>dt1</b> = Defrost termination temp (°C		liff rd		dt1 = Defrost termination temp (°C)	
	<b>dP1</b> = Max def duration (mins)				dP1 = Max def duration (mins)	
CnF	H1 = 0 Alarm output normally ener	rgised	•	EAn/	<b>F2 =</b> 0 Fans on except in defrost	
rtc	td1- td8 = Defrost time bands			*Fan		
	$d_{-} = day of the week$ (8= Mon- Eri: 10= Sat- Sun: 1	1= evenuev)		0/1*	<b>DOb</b> = 4 Alarm output assigned to DC	4**
	(0- 1001-1-11), 10- 041- 041), 1 h = hour of defreet schedule	- everyuay/			rOA = 1 Alarm output normally energi	ed**
	n = minute of schedule			*Scheduler	td1-dtd8-d = Defrost time bands**	Eri:
					10= Sat- Sun; 11= 200-200	- -
	y = current year				II= everyday	:
	N = current month				td1-hhtd8-hh = hour of defrost sche	tule**
					td1-mmtd8-mm= minute of defrost	chedule**
	a_ = day or the month				Setup scheduler use app and open se	vice area >
	u_ = day of the week (1 = Mon)				Scheduler > Defrost	
	h_ = current hour			*RTC	<b>rtA</b> = current date and time***	
	n_ = current minute				setup actual time use app and open s	de menu:
					Settings > Device > Set date/ time	
					(	
				* = Category fil ** = Only availat *** = Info only	ter in Applica App Me in Applica App APPLICA	App Store Coogle play
APPI	ICATION GUIDE		Part number		Description	+
		CAREL SERVICES	IJWPSA4B02S0523	IJW Small 4x Relay	230Vac BT/RTC/BMS Controller	Connected
M	Small / IR33+	Phone 02-8762 9200	NTC015HP03	Carel NTC Tempera	ture Probe	I NOT Connected
LTw	vith RTC defrost	Email services.au@carel.com	<b>IREVCOHCOU</b>	IR33+ Panel mount	controller, 4 relays	Normally Open contact
2	<i>Wizard #421</i>	Drawn by: MK Date: 03/04/2023				
•		Checked by: SS Date: 03/04/2023	Drawing: IJW Small IR	33+ LT RTC defrost	Rev: 1.1	Normally Closed contact



	SETPOINT St			SE	TPOINT St		$\left[ \right]$
AL		AH		ALA		HA O	
R4	R1	R4 ON		R4	R1 R4	5	_
Alarn	u a	Alarm OFF		LU Alarm♥	Alarm		ц
AO	Diff rd	AO	ļ	AO	Diff rd A0	5	_
C ب	נ י	arameters			SMALL Para	meters	
CtL	St = Setpoint			Ē	St = Setpoint		
	rd = Differential		*	Temperature Regulation	rd = Differential		
dEF	d0 = 0 Temp terminated de	efrost		FF/	d0 = 0 Temp terminated defros		
	<b>dl</b> = Defrost intervals (hou	rs)	<b>5</b> *	Defrost	dI = Defrost intervals (hours)		
	<b>dt1</b> = Defrost termination t	emp (°C)			dt1 = Defrost termination temp	(U°)	
	<b>dP1</b> = Max def duration (m	ins)			dP1 = Max def duration (mins)	6	
ALn	A1 = 1 (Absolute Alarms)		4	'Ln/	A1 = 1 (Absolute Alarms)		
	AL = Low Temp Alarm		*	Alarms	AL = Low Temp Alarm		
	AH = High Temp Alarm				<b>AH</b> = High Temp Alarm		
	Ad = Alarm delay (mins)				Ad = Alarm delav (mins)		
CnF	H1 = 0 Alarm output norm	ally energised	<u>  u. </u>	An/	<b>F2 =</b> 0 Fans on except in defro	st	
			*	Fan			
			* * *	<ul> <li>Category filte</li> <li>Only availabl</li> <li>Info only</li> </ul>	e in Applica App		ble on the Store Sdic play
			Part number		Description		
		CAREL SERVICES	IJWPSA4B02S052	3 IJW Small 4x	Relay 230Vac BT/RTC/BMS Controller		Connected
IJW Sma	ill / IR33+	Dhone 03 8763 0200	NTC015HP03	Carel NTC Te	mperature Probe		NOT Connected
LT with	n Alarm:	Email services.au@carel.com	IREVC0HC0U	IR33+ Panel	mount controller, 4 relays		Normally Open contact
Wizard	d # 421	Drawn by: Pv Date: 29/03/2023				_	
		Checked by: MK Date: 29/03/2023	Drawing: IJW Sma	II / IR33+ LT with A	larm	Rev: 1.1	Normally Closed contact

### **Cross Reference table**

IR33+		IJW	
Code	Description	Code	Description
IREVS0EA0U	IR33+ 8A 8A 230VAC BUZ 2NTC 1DI SCREW TERMINALS	IJWPSA2B02S0519	IJW SMALL ADV 115230VAC 2 RELAY 2HP 8A NFC RTC BT
IREVS0HN0U	IR33+ 8A 8A 230VAC BUZ 2NTC 1DI SCREW TERMINALS	Short code: 2B02	NTC PTC PT1K MODBUS BMS
IREVC0HN0U	IR33+ 16A 8A 8A 8A 115/230VAC BUZ 2NTC 2DI SCREW TERMINALS	IJWPSA4B02S0523 Short code:	iJW SMALL 115230VAC 4 RELAY 2HP 8A 5A 5A NFC RTC BT NTC PTC PT1K MODBUS
IREVC0HC0U	IR33+ 16A 8A 8A 8A 115/230VAC BUZ 2NTC 2DI RTC SCREW TERMINALS	<u>41302</u>	BMS
IREVF0EN0U	IR33+ 8A 8A 5A 230VAC BUZ 2NTC 1DI SCREW TERMINALS		
Supervisor con	nection Carel protocol	IJWPSA4R02S0518 Short code: 4R02	IJW SMALL 115230VAC 4 RELAY 2HP 8A 5A 5A NFC RTC 2NTC PTC PT1K CAREL BMS Note: NFC ONLY - NO BLUETOOTH
IR33 Retro		<u> </u>	
IR33C0HR00	IR33 16A 8A 8A 8A 115/230VAC BUZ 2NTC 2DI IR SCREW TERMINALS	IJWPSA4B02S0523 Short code: 4B02	iJW SMALL 115230VAC 4 RELAY 2HP 8A 5A 5A NFC RTC BT NTC PTC PT1K MODBUS BMS
PowerCompa	act		
PB00S0EA10	POWERCOMPACT 8A 8A (AUX) NTC 230V SCREW TERMINALS	IJWPLA6B07S0516	iJW LARGE 115230VAC 6 RELAY 30A 16A 8A 8A 8A 8A
PB00F0HA10	POWERCOMPACT 16A 8A 8A 8A NTC 115/230V MORS.FASTON CONNECTORS	Short code: 6B07	NFC RTC BT NTC PTC PT1K MODBUS BMS
PB00H0HB10	POWERCOMPACT 2HP 16A 8A 8A 8A NTC 115/230V FASTON CONNECTORS		
PB00S0SA50	POWERCOMPACT SMALL 30A 8A (AUX) NTC 230V SCREW TERMINALS		
PB00C0SN50	POWERCOMPACT SMALL 30A 8A 5A 5A NTC 230V SCREW TERMINALS		
PB00S0SAFA	POWERCOMPACT SMALL WIDE 30A 8A (AUX) NTC 230V SCREW TERMINALS DISPLAY BLUE		
PB00C0SNFA	POWERCOMPACT SMALL WIDE 30A 8A 5A 5A 2NTC 115/230VAC 2DI SCREW TERMINALS DISPL. BLUE		









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