

# CAREL

## Integrated Control Solutions & Energy Savings

### CAREL - a world leader in the Refrigeration and Air Conditioning sectors

CAREL offers the international market standard and custom regulation solutions for Refrigeration and Air Conditioning for the control of temperature & humidity as well as plant management using monitoring, supervisory and telemaintenance systems.

The company was founded in 1973, in the province of Padova, 30km from Venice, in the heart of the Italian north-east, the country's most industrially developed region.

CAREL's high level of technology is demonstrated by many firsts: CAREL was not only the first Italian company to have designed and produced a microprocessor-based control for precision air conditioners, but also the first company in the sector to have used SMD technology and automatic testing procedures (ATE) on 100% of its production.



# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### IR33 Panel Mount (Infrared)

Airefrig Part Number	IR33S0LR00	IR33S0ER00	IR33C0LR00	IR33C0LB00	IR33C0HR00	IR33C0HB00
Controller Type	Thermostat (off cycle defrost)		Thermostat (full defrost management)			
Temperature Range	-50°C to +90°C using standard NTC probe or 0°C to +150°C using high range NTC probe					
Power Supply	12 - 24 Vac/dc	230 Vac	12 - 24 Vac/dc	12 - 24 Vac/dc	115 - 240 Vac	115 - 240 Vac
Defrost Type	Time/Time	Time/Time	Time/Time Time/Temp	Time/Time Time/Temp	Time/Time Time/Temp	Time/Time Time/Temp
Real Time Clock	-	-	-	✓	-	✓
Comp / Control Relay	12 Amp (res.)	8 Amp (res.)	12 Amp (res.)	12 Amp (res.)	12 Amp (res.)	12 Amp (res.)
Evap Fan Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Alarm / Auxiliary Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Defrost Relay	-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
Control Probe – NTC (Purchase separately)	1	1	1	1	1	1
Probe 2 – NTC (Purchase separately)	1*	1*	1*	1*	1*	1*
Digital Inputs (**can program to be NTC)	2**	1**	2**	2**	2**	2**
Signal Buzzer	✓	✓	✓	✓	✓	✓
Remote Display Option (Purchase separately)	-	-	✓	✓	✓	✓
HACCP Feature	-	-	-	✓	-	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Decimal Point	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C
Key Programmable Opt. (Key Purchase separately)	✓	✓	✓	✓	✓	✓

\* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

\*\* Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.

IR32 to IR33 Direct Replacements	
IR32S0LBR0	⇔ IR33S0LR00
IR32S0HBR0	⇔ IR33S0ER00
IR32C0LBR0	⇔ IR33C0LR00



### Controller Pricing

Airefrig Part Number	IR33S0LR00	IR33S0ER00	IR33C0LR00	IR33C0LB00	IR33C0HR00	IR33C0HB00
List Price - Ex GST	\$194.40	\$194.40	\$291.30	\$324.99	\$361.59	\$392.79

### Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key for IR33, DN33, MasterCella2	\$195.81
IROPZ48500	Serial Card IR33	\$122.19
IRTRRES000	Remote Control infrared IR33	\$44.61
IROPZDSP00	Remote Display Interface IR33	\$42.00
IR00XGD000	Remote Display for IR33	\$98.43
PSTCON05B0	5m Connector for remote display	\$24.78

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR33 110x110x90	\$43.59
861772	Mount Box for IR33 130x130x99	\$48.65
RE30	Relay Single Pole 30 Amp 240V	\$26.70
TRA12VDE00	Transformer 240V to 12 V 3VA	\$26.40
TRA2400000	Transformer 240V to 24 V 3VA	\$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### IR33 Thermometers - Panel Mount (Infrared)

Airefrig Part Number	IR33M00N00	IR33M0ER00
Controller Type	Thermometer	
Temp Range (using NTC probe)	-50°C to +90°C with standard probe or 0°C to +150°C with high range probe	
Power Supply	12 Vac	240 Vac
Defrost Type	-	-
Real Time Clock	-	-
Comp/Control Relay	-	-
Evap Fan Relay	-	-
Defrost Relay	-	-
Auxiliary 1 Relay	-	-
Light / Aux 2 Rel	-	-
Probe 1 – NTC (Purchase separately)	1	1
Probe 2 – NTC (Purchase separately)	1	1
Digital Inputs	1	1
Signal Buzzer	✓	✓
Remote Display Option (Purchase separately)	-	-
HACCP Feature	-	-
Serial Connection RS485 (Purchase separately)	Optional	Optional
Decimal Point	Between -19.9 to +19.9°C	
Key Programmable Opt (Purchase separately)	✓	✓

### DN33 Din Rail Mount (Infrared<sup>^</sup>)

DN33S0EN00	DN33S0HA00	DN33C0LR00 <sup>^</sup>	DN33C0HR00 <sup>^</sup>	DN33H0HB00 <sup>^</sup>
Thermostat (off cycle defrost)		Thermostat (full defrost management)		
-50°C to +90°C with standard probe or 0°C to +150°C with high range probe				
240 Vac	240 Vac	12-24 Vac/dc	240 Vac	240 Vac
Time/Time (at positive temp)		Time/Time Time/Temp		
-	-	-	-	✓
10 Amp (res.)	2HP (10A)	10 Amp (res.)	2HP (10A)	2HP (10A)
-	-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
-	-	10 Amp (res.)	10 Amp (res.)	10 Amp (res.)
-	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)	8 Amp (res.)
-	-	-	-	8 Amp (res.)
1	1	1	1	1
1*	1*	1*	1*	1*
3**	3**	3**	3**	3**
✓	✓	✓	✓	✓
-	-	✓	✓	✓
-	-	-	-	✓
Optional	Optional	Optional	Optional	Optional
Between -19.9 to +19.9°C				
✓	✓	✓	✓	✓

### Controller Pricing

Airefrig Part Number	IR33M00N00	IR33M0ER00
List Price Ex GST	\$145.95	\$195.96

### Controller Pricing

DN33S0EN00	DN33S0HA00	DN33C0LR00	DN33C0HR00	DN33H0HB00
\$268.44	\$346.86	\$329.34	\$418.29	\$495.12



\* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

\*\* Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.



### IR33 Panel Mount - Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZ48500	IR33 Serial Card	\$122.19
IROPZKEY00	Programming Key	\$195.81
IRTRRES000	Remote Control infrared	\$44.61
TRA12VDE00	Transformer 240V to 12 V 3VA	\$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

### DN33 Din Rail Mount - Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZSER30	DN33 Serial/Remote Display Card	\$74.37
IR00XGD000	Remote Display for DN33	\$98.43
PSTCON05B0	5m Connector for remote display	\$24.78
IROPZKEY00	Programming Key	\$195.81
IRTRRES000	Remote Control infrared	\$44.61
TRA12VDE00	Transformer 240V to 12V 3VA	\$26.40
TRA2400000	Transformer 240V to 24V 3VA	\$26.40
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### powercompact

Airefrig Part Number	PB00H0HB10
Controller Type	Thermostat
Temperature Range (using standard NTC probe)	-50 °C to +90°C or 0 °C to +150°C
Power Supply	115-230 Vac
Depth	64 mm
Defrost type	Time / Time Time / Temp
Real Time Clock	✓
Comp / Control Relay	2HP (10A)
Evap Fan Relay	8Amp (res.)
Defrost Relay	12Amp (res.)
Aux 1 Relay	8Amp (res.)
Aux 2 Relay	8Amp (res.)
Probe 1 – NTC (Purchase separately) Refer manual for function	1
Probe 2 – NTC (Purchase separately) Refer manual for function	1
Digital Inputs	2
Signal Buzzer	✓
Remote display opt	✓
HACCP	✓
Serial Connection RS485 (Purchase separately)	Optional
Decimal Point	-19.9 to +19.9
Key programming opt	✓

### powercompact small

PB00S0SA50	PB00C0SN50
Thermostat	Thermostat
-50 °C to +90°C with standard probe or 0 °C to +150°C with high range NTC probe	
115-230 Vac	115-230 Vac
40 mm	40 mm
Time / Time (Off cycle)	Time / Time Time / Temp
-	-
12Amp (res.)	12Amp (res.)
-	5Amp (res.)
-	8Amp (res.)
8Amp (res.)	5Amp (res.)
-	-
1	1
1	1
2	2
✓	✓
✓	✓
-	-
Optional	Optional
-19.9 to +19.9	-19.9 to +19.9
✓	✓

### powercompact small / wide

PB00S0SAFA	PB00C0SNFA
Thermostat	Thermostat
-50 °C to +90°C with standard probe or 0 °C to +150°C with high range NTC probe	
115-230 Vac	115-230 Vac
40 mm	40 mm
Time / Time (Off cycle)	Time / Time Time / Temp
-	-
12Amp (res.)	12Amp (res.)
-	5Amp (res.)
-	8Amp (res.)
8Amp (res.)	5Amp (res.)
-	-
1	1
1	1
2	2
✓	✓
✓	✓
-	-
Optional	Optional
-19.9 to +19.9	-19.9 to +19.9
✓	✓

### Controller Pricing

Airefrig Part Number	PB00H0HB10
List Price - Ex GST	\$373.68

PB00S0SA50	PB00C0SN50
\$234.75	\$252.09

PB00S0SAFA	PB00C0SNFA
\$246.81	P.O.A.

Note: The powercompact small / wide has a blue display.



### Accessories for powercompact

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
PBOPZCTR00	Large transparent cover	P.O.A.
IROPZ48500	Powercompact Serial Card	\$122.19
NTC_____	Sensor NTC (various opts.)	P.O.A.

### Accessories for powercompact small / wide

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
PBOPZFAC00EA	Stainless Steel Face (each)	\$16.04
IROPZ48500	Powercompact Serial Card	\$122.19
NTC_____	Sensor NTC (various opts.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### MasterCella2 (Infrared) - Wall or Panel Mount

Airefrig Part Number	MD33A5ER00	MD33D5EB00
Controller Type	Thermostat (off cycle defrost)	Thermostat (full defrost management)
Temperature Range (using NTC probe)	-50°C to +90°C with standard probe or 0°C to +150°C with high range probe	
Power Supply	230 Vac	230 Vac
Defrost Type	Time/Time	Time/Time Time/Temp
Real Time Clock	-	✓
Comp / Control Relay	30 Amp (res.)	30 Amp (res.)
Evaporator Fan Relay	-	8 Amp (res.)
Defrost Relay	-	16 Amp (res.)
Auxiliary 1 Relay	8 Amp (res.)	8 Amp (res.)
Light / Auxiliary 2 Relay	2 HP	2 HP
Control Probe – NTC (Purchase separately)	1	1
Probe 2 – NTC (Purchase separately)	1*	1*
Digital Inputs (**can program to be NTC)	3**	3**
Signal Buzzer	✓	✓
Remote Display Option (Purchase separately)	✓	✓
HACCP Feature	-	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional
Decimal Point	Between -19.9 to +19.9°C	Between -19.9 to +19.9°C
Key Programmable Opt. (Purchase separately)	✓	✓

\* Can be configured to be evaporator (defrost termination), condenser, product or anti-freeze probe.

\*\* Digital inputs can be programmed to be NTC sensors for second evaporator defrost management or condenser fan management with a pre-clean alarm option.

### Controller Pricing

Airefrig Part Number	MD33A5ER00	MD33D5EB00
List Price - Ex GST	\$407.43	\$498.48

### MasterCella2 (Infrared) - Accessories

Airefrig Part Number	Description	List Price Ex GST
IROPZSEM30	MD33 Serial/ Remote Disp. Card	\$76.11
IR00XGD000	Remote Display for IR33	\$98.43
PSTCON1000	10m Connector for remote display	P.O.A.
IROPZKEY00	Programming Key	\$195.81
IRTRRES000	Remote Control Infrared	\$44.61
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

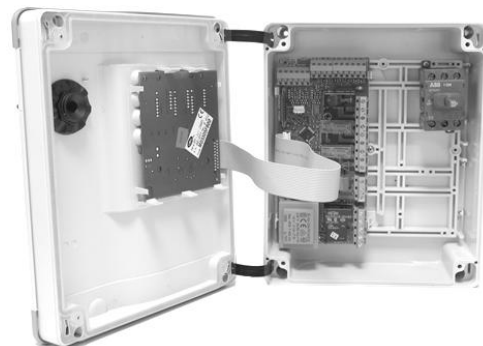


## MasterCella2

MasterCella2's flexibility gives a powerful solution for the control of refrigerated rooms and cabinets.

It is based on the IR33 platform range of refrigeration controllers that results in identical programming and the use of common accessories.

- Large space inside dedicated to wiring, relays or other auxiliary devices.
- Cable connection either from top or bottom.
- Buzzer on all models.
- Can be wall or panel mounted.
- Infrared enabled for use with a remote control.
- High efficiency green LED display with icons.
- Keypad locks for individual functions or buttons.
- Pump down management.
- The auxiliary relay can be configured as a second compressor.
- The auxiliary relay can be configured as light.
- Neutral zone management.
- Smart defrost with different operating modes.
- Condenser probe management.
- 2nd evaporator defrosts management.
- Door switch management.
- HACCP feature.

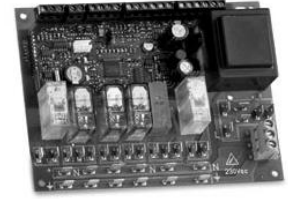


# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### MasterCella Split

Airefrig Part Number	MTST00V100 (Control Panel)	MTSB000010 (Relay Board)
Controller Type	Thermostat (full defrost management)	
Temperature Range (using standard NTC probe)	-50 to +90°C	
Power Supply	24Vac (4 VA)	230 Vac
Defrost Type	Time/Time Time/Temp	
Real Time Clock	✓	
Comp / Control Relay	16 Amp res. (SPST) 2HP	
Evap Fan Relay	10 Amp res. (SPST)	
Auxiliary 1 / Light Relay	16 Amp res. (SPST)	
Auxiliary 2 Relay	10 Amp res. (SPST)	
Defrost Relay	16 Amp res. (SPST)	
Alarm Relay	10 Amp res. (SPDT)	
Control Probe – NTC (Purchase separately)	1	
Defrost Probe – NTC (Purchase separately)	1	
Product Probe – NTC (Purchase separately)	1	
Digital Inputs	2	
Buzzer	✓	
HACCP Feature	✓	
Serial Connection RS485 (Purchase separately)	Optional	
Decimal Point	Between -19.9 to +19.9°C	
Key Programmable Opt. (Key Purchase separately)	✓	



## MasterCella split

**MasterCella split:** the simple and complete solution for the control of freezer and coolrooms with remote condensing units.

The display control panel can be mounted on the coolroom where the temperature can be seen and the light switch option can be utilized.

RS485 1 pair twisted and shielded cable is required to connect the relay board (MTSB000010) and control panel (MTST00V100) up to a maximum length of 100 metres.

MasterCella Split can be configured using the keypad or alternatively using an electronic programming key.

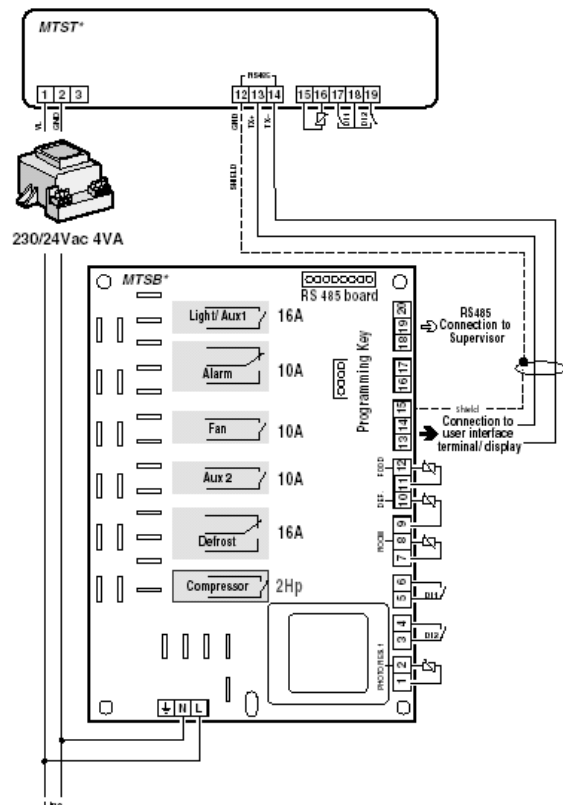
MasterCella Split has a real time clock that allows defrost cycles to be programmed for set times and also features HACCP. It has six relays for complete control of the compressor (up to 2HP), lights, evaporator fans, defrost heaters, auxiliary outputs and alarms. The relay outputs can be configured either for power switching contacts (230vac) or voltage free contacts.

### Controller Pricing

Airefrig Part Number	MTST00V100 (Control Panel)	MTSB000010 (Relay Board)
List Price Ex - GST	\$ 334.05	\$ 420.48

### MasterCella Split - Accessories

Airefrig Part Number	Description	List Price Ex GST
FCSER00000	MasterCella Split - Serial Card	P.O.A.
MTSTKIT000	MasterCella Split - Panel Mount Kit	P.O.A.
PSOPZKEY00	M/Cella Split - Programming Key	\$195.84
TRA0060000	Transformer 240V to 12/24V 4VA	\$28.59
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.



# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### PJEZ Panel Mount (easy series – replace PJ32)

Airefrig Part Number	PJEZS0H000	PJEZC00000
Controller Type	Thermostat (off cycle defrost)	Thermostat (full defrost management)
Temperature Range	-50 to +90°C	-50 to +90°C
Power Supply	230 Vac	230 Vac
Defrost Type	Time/Time	Time/Time Time/Temp
Real Time Clock	-	-
Comp / Control Relay	2HP (10A)	8 Amp res.
Evap Fan Relay	-	8 Amp res.
Defrost Relay	-	8 Amp res.
Auxiliary Relay	-	-
Control Probe – NTC (Purchase separately)	1	1
Defrost Probe – NTC (Purchase separately)	1	1
Product Probe – NTC (Purchase separately)	1	1
Digital Inputs	1	1
Signal Buzzer	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional
Decimal Point	-19.9 to +19.9	-19.9 to +19.9
Key* Programmable Opt. (Key Purchase separately)	✓	✓
Plug-in Terminals	✓	✓
Front Panel Mounting	✓	✓

### PJEZ Compact

Airefrig Part Number	PJEZSNH0E0
Controller Type	Thermostat (off cycle defrost)
Temperature Range	-50 to +90°C
Power Supply	230 Vac
Defrost Type	Time/Time
Real Time Clock	-
Comp / Control Relay	2HP (10A)
Evap Fan Relay	-
Defrost Relay	-
Auxiliary Relay	-
Control Probe – NTC (Purchase separately)	1
Defrost Probe – NTC (Purchase separately)	1
Product Probe – NTC (Purchase separately)	-
Digital Inputs	-
Signal Buzzer	-
Serial Connection RS485 (Purchase separately)	-
Decimal Point	-19.9 to +19.9
Key* Programmable Opt. (Key Purchase separately)	-
Plug-in Terminals	Fixed screw
Front Panel Mounting	✓

### PJEZ Light switch

Airefrig Part Number	PJS2X0H000
Controller Type	Thermostat (off cycle defrost)
Temperature Range	-50 to +90°C
Power Supply	230 Vac
Defrost Type	Time/Time
Real Time Clock	-
Comp / Control Relay	2HP (10A)
Evap Fan Relay	-
Defrost Relay	-
Auxiliary Relay	Light: 8 A res
Control Probe – NTC (Purchase separately)	1
Defrost Probe – NTC (Purchase separately)	-
Product Probe – NTC (Purchase separately)	1
Digital Inputs	1
Signal Buzzer	✓
Serial Connection RS485 (Purchase separately)	Optional
Decimal Point	-19.9 to +19.9
Key* Programmable Opt. (Key Purchase separately)	✓
Plug-in Terminals	✓
Front Panel Mounting	✓

### PJEZ Milk vat

Airefrig Part Number	PJS1Y0V000
Controller Type	Thermostat
Temperature Range	-50 to +90°C
Power Supply	230 Vac
Defrost Type	No defrost
Real Time Clock	-
Comp / Control Relay	12 Amp res.
Evap Fan Relay	-
Defrost Relay	-
Auxiliary Relay	Stirrer: 8 A res
Control Probe – NTC (Purchase separately)	1
Defrost Probe – NTC (Purchase separately)	-
Product Probe – NTC (Purchase separately)	1
Digital Inputs	-
Signal Buzzer	✓
Serial Connection RS485 (Purchase separately)	Optional
Decimal Point	-19.9 to +19.9
Key* Programmable Opt. (Key Purchase separately)	✓
Plug-in Terminals	Fixed screw
Front Panel Mounting	✓

\* Program Key (battery powered) allows the controllers to be programmed without having to be connected to a power source.

### Controller Pricing

Airefrig Part Number	PJEZS0H000	PJEZC00000	PJEZSNH0E0	PJS2X0H000	PJS1Y0V000
List Price - Ex GST	\$163.50	\$204.00	\$157.50	\$213.45	\$325.26

### Accessories for PJEZ easy

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming key	\$195.81
IROPZ485S0	easy serial card	P.O.A.
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.



# CAREL ELECTRONIC CONTROLLERS

## REFRIGERATION CONTROLS

### MX30 – MPXPRO Step 3 Modular Controllers for Supermarket Case Control

Airefrig Part Number	MX30M21HO0	MX30M25HO0
Controller Type	Master (Can be configured as a Slave)	
Temperature Range	-50 to +150°C	-50 to +150°C
Power Supply	230 Vac	230 Vac
Defrost Type	Time/Time Time/Temp	Time/Time Time/Temp
Control Relay (R1)	8 Amp res.	8 Amp res.
Aux3 (Light - R2)	2HP	2HP
Defrost Relay (R3)	16 Amp res.	16 Amp res.
Aux1 (Evap Fan - R4)	8 Amp res.	8 Amp res.
Aux2 (Alarm - R5)	8 Amp res.	8 Amp res.
Analogue inputs*	3 to 7	3 to 7
Probe inputs type	NTC, PTC, Pt1000	
Pressure inputs type	Ratiometric (0-5V), 4-20mA, 0-10V	
Digital inputs*	1 to 5	1 to 5
E2V driver	-	✓
PWM valve driver	-	-
0-10V output	-	✓
PWM output (fan/heater)	2	2
Signal Buzzer	✓	✓
Key Programmable Opt. (Key Purchase separately)	✓	✓
Plug-in Terminals	✓	✓
Remote display option	✓	✓

\* Some inputs can be set as analogue or digital input.

A **MPXPRO** controller is mounted in each cabinet, with up to 4 slaves managed by one master. The master co-ordinates defrost synchronisation, alarm management & connection to the remote supervisory system if in use.



### Controller Pricing

Airefrig Part Number	MX30M21HO0	MX30M25HO0
List Price - Ex GST	P.O.A.	\$814.47

### Accessories

Airefrig Part Number	Description	List Price Ex GST
IR00UGC300	Terminal (green LED, full optional, IR, commissioning)	\$105.57
IRTRMPX000	MPXPRO Remote control	P.O.A.
MXOPZKEYA0	Programming Key for MPXPRO	P.O.A.
PRECONFGMPXPRO	Pre-configuration of MPXPRO	P.O.A.

Airefrig Part Number	Description	List Price Ex GST
TRADRBE240	Transformer for DIN 230Vac / 24Vac 20A with fuse carrier	\$136.35
TRA00BE240	Transformer for PANEL 230Vac / 24Vac 20A with fuse carrier	\$114.33
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.
SPKT____R0	Sensor ratiometric (0-5V)	P.O.A.



# CAREL ELECTRONIC CONTROLLERS

## UNIVERSAL TEMPERATURE CONTROLS

### IR33\*7 Panel Mount (Infrared) Universal Thermostats – Replace IR32 Universal for Temperature

Airefrig Part Number	IR33V7**20	IR33W7**20	IR33Z7**20	IR33D7LR20 ^	IR33A7LR20 ^	IR33E7LR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	1 stage T/stat PWM	4 stage T/stat PWM	2 stage T/stat 2 analogue out
Power Supply	** LR = 12-24 Vac/dc HR = 230Vac			12-24 Vac/dc		
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	10Vdc for SSR^	10Vdc for SSR^	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	-	10Vdc for SSR^	10Vdc
Relay 3	-	-	8 Amp res.	-	10Vdc for SSR^	8 Amp res.
Relay 4	-	-	8 Amp res.	-	10Vdc for SSR^	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +90°C)		High range NTC (-40 to +150°C)	PTC (-50 to +150°C)	Pt1000 (-50 to +150°C)	
2nd Probe (Purchase separately) Refer manual for function						
Digital Inputs	2	2	2	2	2	2
Signal Buzzer	✓	✓	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓	✓	✓
Decimal Point	✓	✓	✓	✓	✓	✓

Note: The IR33\*7 universal temperature controllers can be configured for a lot of different applications. Programming is made easy by 9 selectable operating modes eg: direct (cooling), reverse (heating), dead zone (heating and cooling), alarm, PWM...

^ The basic characteristics of these controllers is the possibility to control the commonly used solid state relays or alternatively the optional Carel CONVONOFF0 & CONV0/10A0 modules. Each output can be connected to a different CONV\_\_\_ module to operate mixed configurations (relay, 0 to 10Vdc, 4 to 20mA, solid state relay) as well as the ability to use the outputs (up to 4) with PWM (pulse width modulation). These controls offer a range of different applications such as control of ovens, modulating valves, control of ON/OFF actuators or for alarm outputs.

### Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
IR33V7LR20	12-24 Vac/dc	\$276.30
IR33V7HR20	230Vac	\$321.51
IR33W7LR20	12-24 Vac/dc	\$321.48
IR33W7HR20	230Vac	\$366.69
IR33Z7LR20	12-24 Vac/dc	\$376.59
IR33Z7HR20	230Vac	\$421.65
IR33D7LR20 ^	12-24 Vac/dc	\$299.34
IR33A7LR20 ^	12-24 Vac/dc	\$408.09
IR33E7LR20	12-24 Vac/dc	P.O.A.



### Accessories for IR33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
IROPZ48500	IR33 Serial Card	\$122.19
IRTRUES000	Remote Control Infrared	P.O.A.
TRA12VDE00	Transformer 240V to 12 V 3VA	\$26.40
TRA2400000	Transformer 240V to 24 V 3VA	\$26.40

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR32/33 110x110x90	\$43.59
861772	Mount Box for IR32/33 130x130x99	\$48.65
RE30	Relay Single Pole 30 Amp 240V	\$26.70
PTC0150000	Sensor PTC 1.5m cable	\$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## UNIVERSAL TEMPERATURE CONTROLS

### DN33\*7 Din Rail Mount (Infrared) Universal Thermostats – Replace IRDR universal for Temperature

Airefrig Part Number	DN33V7**20	DN33W7**20	DN33Z7**20	DN33E7LR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	2 stage T/stat 2 analogue out
Power Supply	** LR = 12-24 Vac/dc HR = 230Vac			
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	10Vdc
Relay 3	-	-	8 Amp res.	8 Amp res.
Relay 4	-	-	8 Amp res.	10Vdc
Control Probe (Purchase separately)	Standard NTC, High range NTC, PTC, Pt1000			
2nd Probe (Purchase separately) Refer manual for function				
Digital Inputs	2	2	2	2
Signal Buzzer	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Decimal Point	✓	✓	✓	✓
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓

Note: Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM...

### Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
DN33V7LR20	12-24 Vac/dc	\$360.99
DN33V7HR20	230Vac	\$408.09
DN33W7LR20	12-24 Vac/dc	\$391.77
DN33W7HR20	230Vac	\$436.95
DN33Z7LR20	12-24 Vac/dc	\$428.37
DN33Z7HR20	230Vac	\$471.66
DN33E7LR20	12-24 Vac/dc	P.O.A.



DN33 controllers

### Accessories for DN33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
IROPZSER30	DN33 Serial Card	\$74.37
IRTRUES000	Remote Control Infrared	P.O.A.
RE30	Relay Single Pole 30 Amp 240V	\$26.70
PTC0150000	Sensor PTC 1.5m cable	\$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## UNIVERSAL TEMPERATURE CONTROLS

### IR33\*9 Panel Mount (Infrared) Universal Thermostats – Replace IR32 Universal for Temperature / Humidity / Pressure

Airefrig Part Number	IR33V9**20	IR33W9**20	IR33Z9**20	IR33D9MR20 ^	IR33A9MR00 ^	IR33E9MR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	1 stage T/stat PWM	4 stage T/stat PWM	2 stage T/stat 2 analogue out
Power Supply	** MR = 24 Vac/dc HR = 230Vac			24 Vac/dc		
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	10Vdc for SSR^	10Vdc for SSR^	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	-	10Vdc for SSR^	10Vdc
Relay 3	-	-	8 Amp res.	-	10Vdc for SSR^	8 Amp res.
Relay 4	-	-	8 Amp res.	-	10Vdc for SSR^	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +110°C), High range NTC (-10 to +150°C), PTC (-50 to +150°C) Pt1000, Pt100, TCJ/K, 0-1V, -0,5-1,3V, 0-10V, 0-5V Ratiometric, 0-20mA, 4-20mA					
2nd Probe (Purchase separately) Refer manual for function						
Digital Inputs	2	2	2	2	2	2
Signal Buzzer	✓	✓	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional	Optional	Optional
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓	✓	✓
Decimal Point	✓	✓	✓	✓	✓	✓

Note: The IR33\*9 universal controllers can be configured for a lot of different applications. Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM...

^ The basic characteristics of these controllers is the possibility to control the commonly used solid state relays or alternatively the optional Carel CONVONOFF0 & CONV0/10A0 modules. Each output can be connected to a different CONV\_\_\_ module to operate mixed configurations (relay, 0 to 10Vdc, 4 to 20mA, solid state relay) as well as the ability to use the outputs (up to 4) with PWM (pulse width modulation). These controls offer a range of different applications such as control of ovens, modulating valves, control of ON/OFF actuators or for alarm outputs.

#### Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
IR33V9MR20	24 Vac/dc	\$376.60
IR33V9HR20	230Vac	\$421.79
IR33W9MR20	24 Vac/dc	\$421.79
IR33W9HR20	230Vac	\$466.99
IR33Z9MR20	24 Vac/dc	\$477.09
IR33Z9HR20	230Vac	\$522.27
IR33D9MR20 ^	24 Vac/dc	P.O.A.
IR33A9MR20 ^	24 Vac/dc	\$408.09
IR33E9MR20	24 Vac/dc	\$482.75



#### Accessories for IR33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
IROPZ48500	IR33 Serial Card	\$122.19
IRTRUES000	Remote Control Infrared	P.O.A.
TRA12VDE00	Transformer 240V to 12 V 3VA	\$26.40
TRA2400000	Transformer 240V to 24 V 3VA	\$26.40

Airefrig Part Number	Description	List Price Ex GST
861771	Mount Box for IR32/33 110x110x90	\$43.59
861772	Mount Box for IR32/33 130x130x99	\$48.65
RE30	Relay Single Pole 30 Amp 240V	\$26.70
PTC0150000	Sensor PTC 1.5m cable	\$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## UNIVERSAL TEMPERATURE CONTROLS

### DN33\*9 Din Rail Mount (Infrared) Universal Thermostats – Replace IRDR universal for Temperature/Humidity/Pressure

Airefrig Part Number	DN33V9**20	DN33W9**20	DN33Z9**20	DN33E9MR20
Controller Type	1 stage T/stat	2 stage T/stat	4 stage T/stat	2 stage T/stat 2 analogue out
Power Supply	** MR = 24 Vac/dc HR = 230Vac			
Relay 1	8 Amp res.	8 Amp res.	8 Amp res.	8 Amp res.
Relay 2	-	8 Amp res.	8 Amp res.	10Vdc
Relay 3	-	-	8 Amp res.	8 Amp res.
Relay 4	-	-	8 Amp res.	10Vdc
Control Probe (Purchase separately)	Standard NTC (-50 to +110°C), High range NTC (-10 to +150°C), PTC (-50 to +150°C) Pt1000, Pt100, TCJ/K, 0-1V, -0,5-1,3V, 0-10V, 0-5V Ratiometric, 0-20mA, 4-20mA			
2nd Probe (Purchase separately) Refer manual for function				
Digital Inputs	2	2	2	2
Signal Buzzer	✓	✓	✓	✓
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Decimal Point	✓	✓	✓	✓
Key Programmable Opt. (Purchase separately)	✓	✓	✓	✓

Note: Programming is made easy by 9 selectable operating modes eg: direct, reverse, dead zone, alarm, PWM...

#### Controller Pricing

Airefrig Part Number	Power Supply Options	List Price Ex GST
DN33V9MR20	24 Vac/dc	\$465.53
DN33V9HR20	230Vac	P.O.A.
DN33W9MR20	24 Vac/dc	\$512.64
DN33W9HR20	230Vac	\$537.42
DN33Z9MR20	24 Vac/dc	\$567.90
DN33Z9HR20	230Vac	\$567.90
DN33E9MR20	24 Vac/dc	\$548.36



#### Accessories for DN33 Universal

Airefrig Part Number	Description	List Price Ex GST
IROPZKEY00	Programming Key	\$195.81
IROPZSER30	DN33 Serial Card	\$74.37
IRTRUES000	Remote Control Infrared	P.O.A.
RE30	Relay Single Pole 30 Amp 240V	\$26.70
PTC0150000	Sensor PTC 1.5m cable	\$34.86
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

# CAREL ELECTRONIC CONTROLLERS

## CONFIGURABLE AIR CONDITIONING CONTROLLER

### aria HVAC Configurable Controller

Airefrig Part Number	TAT0000CW0 (Control Panel)	TABASE7000 (Relay Board)
Controller Operation	Parameter <b>H1</b> setting dictates what type of control the aria will be. (see tables below)	
Temperature Range (using standard NTC probe)	0 to +50°C	
Power Supply	Powered from Relay Board - by 2 wires	24Vac (12VA)
Type of Mounting	Wall Mount	Surface mount (in electrical panel)
Relays	-	7
Internal Sensor in Control Panel	1 x internal sensor (*or remote option)	-
Probe 1 – NTC (Purchase separately)	*1 x sensor (for remote option)	-
Probe 3 – NTC (Purchase separately)	-	De-ice control on outdoor unit
De-Ice	Temp initiate & temp terminate with a min time between cycles	
Multi function relay options (Parameter H2)	-	1 = Alarm 2 = Outdoor Fan 4= Heat/cool indication
Digital Inputs (3)	- For fault - Remote ON/OFF - Heat/Cool selection	
Time Settings (4)	- Off - Day - Night - Unoccupied	
Indoor Fan Control	Auto or Continuous (change by entering into control)	
7 Day Time Clock	✓	
Decimal Point Resolution	0.5°C	
Serial Connection RS485 (Purchase separately)	-	✓ (refer manual)
Key Program Opt. (Key Purchase separately)	✓	
Max Distance Between Control Panel & Relay Board	150 metres	



## aria HVAC Controller

Installation is simplified as only a 2 wire cable is needed to connect **aria** terminal (located in the room) to its power board, which is located at the air conditioner or fan coil. The three digital inputs on the power board can be configured for a series of functions including: cooling/heating selection, remote ON/OFF, alarm control (generic, filter, low pressure, fan overload, etc).

An additional analogue input can be used for automatic defrost control, energy saving or set point compensation. Parameters can be password protected to prevent non authorised access.

### Controller Pricing

Airefrig Part Number	TAT0000CW0 (Control Panel)	TABASE7000 (Relay Board)
List Price Ex - GST	\$ 508.83	\$ 342.78

### aria HVAC Programmable Controller - Accessories

Airefrig Part Number	Description	List Price Ex GST
TRA00BE240	Transformer 240 to 24Vac 20VA	\$114.33
TAKEY00000	Programming Key	P.O.A.
DPWT011000	NTC Room Sensor (wall mount)	\$104.55
DPDT011000	NTC Duct Sensor	\$217.54
NTC_____	Sensor NTC (select suitable opt.)	P.O.A.

### aria "H1" Parameter Setting Examples

H1 Parameter Setting Mode Examples	Description	Relay 7 SPST	Relay 6 SPST	Relay 5 SPST	Relay 4 SPST	Relay 3 SPST	Relay 2 SPST	Relay 1 SPST
3	3 stage heating only (with economy cycle)	Economy Open	Economy Close	Heat 1	Heat 2	Indoor Fan	Heat 4	Multi Function
4	2 stage cooling only (with economy cycle)	Economy Open	Economy Close	Cool 1	Cool 2	Indoor Fan	Multi Function	Alarm
11	1 comp heat pump (with economy cycle)	Economy Open	Economy Close	Comp	Indoor Fan	Auxiliary Heat	Reversing Valve	Multi Function
12	2 comp heat pump (with 1 stage aux heat)	Comp 1	Comp 2	Indoor Fan	Auxiliary Heat	Multi Function	Reversing Valve	Alarm
14	1 comp heat pump (with 3 speed fan)	Comp 1	Auxiliary Heat	Fan speed 1	Fan speed 2	Fan speed 3	Reversing Valve	Multi Function

(Note: There are another 14 options for the **H1** parameter)

# CAREL ELECTRONIC CONTROLLERS

## CONFIGURABLE AIR CONDITIONING CONTROLLER

**clima** is the CAREL proposal for the management of simple air-conditioning and heating systems. The 0 to 10V output can also be connected for the modulating control of the CAREL "compactSteam" humidifier in residential and light commercial applications.

**clima** comes with a built in temperature or temperature/humidity sensor, one multifunction digital input, up to two relays + one 0 to 10V proportional output for 11 different control modes, including zone control for radiant underfloor installations. In addition, an outside temperature sensor can be connected for automatic compensation of the temperature and humidity set points.

The Real Time Clock manages a daily time band, and the optional RS485 serial interface completes the product, making it a technologically advanced solution.

### clima HVAC Configurable Controller

Airefrig Part Number	ADCA000100	ADCA000210	ADCD000100	ADCF000210
Controller Type	Classic Thermostat	Advanced Thermostat	Classic Humidistat	Advanced Thermostat / Humidistat
Temperature Range	10 °C to 40°C	10 °C to 40°C	-	10 °C to 40°
Humidity Range	-	-	10 %rH to 70 %rH	10 %rH to 70 %rH
Power Supply	24 Vac (1VA)			
Relays	1	2	1	2
Analogue output	1	1	1	1
Real Time Clock	-	✓	-	✓
Digital Input	1: heat / cool selection, 2: Remote ON / OFF, 3: Day / Night selection, 4: Alarm from homeSteam			
Decimal point resolution	0.1 °C	0.1 °C	1 %rH	0.1 °C / 1 %rH
Serial Connection RS485 (Purchase separately)	Optional	Optional	Optional	Optional
Key programming option	✓	✓	✓	✓

General specifications:

Dimension: 135 x 86 x 36 mm.

Type of mounting: wall mount.

Internal sensor in control panel (temperature (NTC) and humidity).

Analogue input for external sensor.



Airefrig Part Number	ADCA000100	ADCA000210	ADCD000100	ADCF000210
List Price Ex GST	P.O.A.	P.O.A.	P.O.A.	\$774.20