

New generation...  
...continuity, innovation, design

**CAREL**



**air33**

Integrated Control Solutions & Energy Savings

# **ir33** universal



**ir33 universal** is designed to be the improvement and extension of the ir32 universal range. The models currently available feature temperature inputs only, and consequently are suitable for temperature control in HVAC/R and/or generic applications that require the use of a thermostat in the range  $-50$  to  $150$  °C.

The new **ir33 universal** is an advanced controller that includes all the features already available in the previous range, adding some new sophisticated functions such as the autotuning PID, management of the clock and time bands.

The product features an user interface that is simple to use, in line with the previous version, while at the same time adding symbols on the display and navigation menus, making the interface with the product more user-friendly.

## connections

The use of plug-in terminals simplifies installation and any maintenance operations on the unit.



**ir33 universal** is fitted with a display featuring 3 digits with decimal point, minus sign and icons, making it easier to read the values and check the operating status.



### display

the large display, complete with icons, makes it easy to set the parameters



### installation

all models are supplied with plug-in terminals. The units can be programmed on the keypad, via key, remote control & comtool



### power supply

all models are available with 12 to 24 Vac/12 to 30 Vdc or 115 to 230 Vac power supply



The models available are suitable for panel installation (IR33\*) and DIN rail mounting (DN33\*). Switching power supply, 12 to 24 V or 115 to 230 V, IR receiver and buzzer fitted as standard, while some versions feature 0-10 Vdc outputs and/or real time clock. See the table at the end of the document for the complete list of the codes and cross-reference against the previous ir32 series.

The following sensors can be connected:

- 0 – NTC Standard, range  $-50T90^{\circ}\text{C}$
- 1 – NTC Enhanced, range  $-40T150^{\circ}\text{C}$
- 2 – PTC Standard, range  $-50T150^{\circ}\text{C}$
- 3 – PT1000 Standard, range  $-50T150^{\circ}\text{C}$

The type of sensor is selected by setting a parameter.

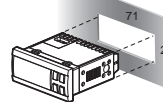


## comtool

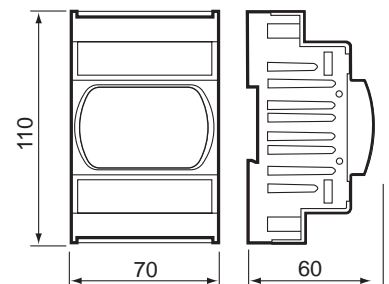
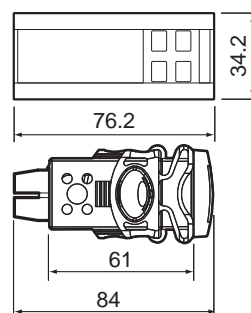
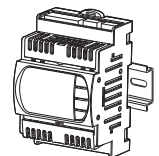
**ir33 universal** is compatible with the new configuration tool for CAREL parametric controllers, for fast and practical setup of the application.

## Assembly & dimensions (mm)

Panel mounting



DIN rail mounting



### range of models

the best solution can be easily identified, thanks to the vast range of models available



### PID with autotuning

as well as classic proportional and proportional + integral control (P, P+I), self-adaptive PID control has been added



### RTC

used to log the alarms and manage the working cycles

# List of product codes / Conversion table from ir32 universal

Model	Code	Description	IR32
<b>PANEL</b>			
1 relay	IR33V7HR20	ir33 universal 2 NTC/PTC/PT1000, 1 DO, BUZ, IR, 115-230 Vac	IR32V0H000
	IR33V7HB20	ir33 universal 2 NTC/PTC/PT1000, 1DO, BUZ, IR, RTC, 115-230 Vac	-
	IR33V7LR20	ir33 universal 2 NTC/PTC/PT1000, 1DO, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32V0L000
2 relays	IR33W7HR20	ir33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, 115-230 Vac	-
	IR33W7HB20	ir33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, RTC, 115-230 Vac	-
	IR33W7LR20	ir33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32W00000
4 relays	IR33Z7HR20	ir33 universal 2 NTC/PTC/PT1000, 4 DO, BUZ, IR, 115-230 Vac	-
	IR33Z7HB20	ir33 universal 2 NTC/PTC/PT1000, 4 DO, BUZ, IR, RTC, 115-230 Vac	-
	IR33Z7LR20	ir33 universal 2 NTC/PTC/PT1000, 4 DO, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32Z00000
4 SSR	IR33A7HR20	ir33 universal 2 NTC/PTC/PT1000, 4SSR, BUZ, IR, 115-230 Vac	-
	IR33A7HB20	ir33 universal 2 NTC/PTC/PT1000, 4SSR, BUZ, IR, RTC, 115-230 Vac	-
	IR33A7LR20	ir33 universal 2 NTC/PTC/PT1000, 4SSR, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32A00000
1 SSR	IR33D7HR20	ir33 universal 2 NTC/PTC/PT1000, 1 SSR, BUZ, IR, 115-230 Vac	-
	IR33D7HB20	ir33 universal 2 NTC/PTC/PT1000, 1 SSR, BUZ, IR, RTC, 115-230 Vac	-
	IR33D7LR20	ir33 universal 2 NTC/PTC/PT1000, 1 SSR, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32D0L000
1 relay + 1 x 0-10 V	IR33B7HR20	ir33 universal 2 NTC/PTC/PT1000, 1 DO + 1 AO, BUZ, IR, 115-230 Vac	-
	IR33B7HB20	ir33 universal 2 NTC/PTC/PT1000, 1 DO + 1 AO, BUZ, IR, RTC, 115-230 Vac	-
	IR33B7LR20	ir33 universal 2 NTC/PTC/PT1000, 1 DO+1 AO, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32D0L000+ 1 CONVO/10AO
2 relays + 2 x 0-10 V	IR33E7HR20	ir33 universal 2 NTC/PTC/PT1000, 2 DO+2 AO, BUZ, IR, 115-230 Vac	-
	IR33E7HB20	ir33 universal 2 NTC/PTC/PT1000, 2 DO+2 AO, BUZ, IR, RTC, 115-230 Vac	-
	IR33E7LR20	ir33 universal 2 NTC/PTC/PT1000, 2 DO+2 AO, BUZ, IR, 12-24 Vac 12-30 Vdc	IR32A00000+ 2 CONVO/10AO
<b>DIN</b>			
1 relay	DN33V7HR20	DN33 universal 2 NTC/PTC/PT1000, 1 DO, BUZ, IR, 115-230 Vac	IRDRV00000
	DN33V7HB20	DN33 universal 2 NTC/PTC/PT1000, 1 DO, BUZ, IR, RTC, 115-230 Vac	-
	DN33V7LR20	DN33 universal 2 NTC/PTC/PT1000, 1 DO, BUZ, IR, 12-24 Vac 12-30 Vdc	-
2 relays	DN33W7HR20	DN33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, 115-230 Vac	IRDRW00000
	DN33W7HB20	DN33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, RTC, 115-230 Vac	-
	DN33W7LR20	DN33 universal 2 NTC/PTC/PT1000, 2 DO, BUZ, IR, 12-24 Vac 12-30 Vdc	-
4 relays	DN33Z7HR20	DN33 universal 2NTC/PTC/PT1000, 4 DO, BUZ, IR, 115-230 Vac	-
	DN33Z7HB20	DN33 universal 2NTC/PTC/PT1000, 4 DO, BUZ, IR, RTC, 115-230 Vac	-
	DN33Z7LR20	DN33 universal 2NTC/PTC/PT1000, 4 DO, BUZ, IR, 12-24 Vac 12-30 Vdc	IRDZR00000
4 SSR	DN33A7HR20	DN33 universal 2 NTC/PTC/PT1000, 4 SSR, BUZ, IR, 115-230 Vac	-
	DN33A7HB20	DN33 universal 2 NTC/PTC/PT1000, 4 SSR, BUZ, IR, RTC, 115-230 Vac	-
	DN33A7LR20	DN33 universal 2 NTC/PTC/PT1000, 4 SSR, BUZ, IR, 12-24 Vac 12-30 Vdc	IRDRA00000
1 relay + 1 x 0-10 V	DN33B7HR20	DN33 universal 2 NTC/PTC/PT1000, 1 DO+ 1AO, BUZ, IR, 115-230 Vac	-
	DN33B7HB20	DN33 universal 2 NTC/PTC/PT1000, 1 DO+ 1AO, BUZ, IR, RTC, 115-230 Vac	-
	DN33B7LR20	DN33 universal 2 NTC/PTC/PT1000, 1 DO+ 1AO, BUZ, IR, 12-24 Vac 12-30 Vdc	IRDRA00000 + 1 CONVO/10AO
2 relays + 2 x 0-10 V	DN33E7HR20	DN33 universal 2 NTC/PTC/PT1000, 2 DO+ 2 AO, BUZ, IR, 115-230 Vac	-
	DN33E7HB20	DN33 universal 2 NTC/PTC/PT1000, 2 DO+ 2AO, BUZ, IR, RTC, 115-230 Vac	-
	DN33E7LR20	DN33 universal 2 NTC/PTC/PT1000, 2 DO+ 2AO, BUZ, IR, 12-24 Vac 12-30 Vdc	IRDRA00000 + 2 CONVO/10AO
<b>ACCESSORIES</b>			
IRTRUE000	Remote control for ir33 universal	IRTRUE0000	
IROPZKEY00	Programming key with battery	-	
IROPZKEYA0	Programming key with 230 V power supply	-	
IROPZ48500	RS485 serial communication interface	IR32SER00E	
IROPZ485S0	IS485 serial communication interface with automatic RX-TX	-	
IROPZSER30	RS485 serial interface for DN33	-	

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