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IR33 Universal Electronic Controllers

Models Available

IR33V 1 Relay Output
IR33W 2 Relay Outputs
IR33Z 4 Relay Outputs
IR33A 4 SSR Outputs
IR33B 1 Relay & 1 Analogue Output
IR33E 2 Relays & 2 Analogue Outputs

Product Features

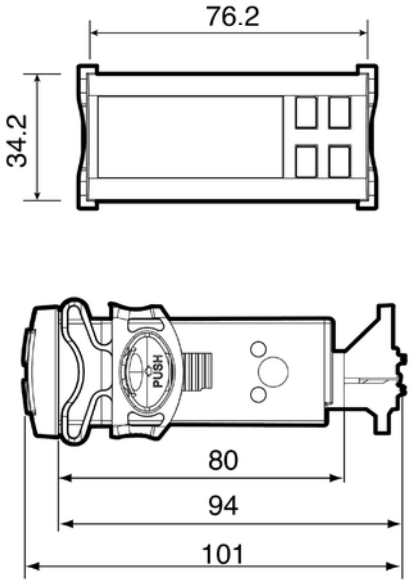
- Temperature input or universal input
- Relay, SSR or analogue output versions
- 2 independent control loops
- Auto-tuning PID control
- Real time clock
- Infrared receiver and buzzer
- 12-24Vac/dc, 24Vac/dc or 115-230Vac
- Plug-in terminals

The IR33 universal electronic controllers replace the IR32 range, offering additional features such as auto-tuning PID control and real time clock for managing working cycles and logging alarms. Temperature only versions are available with NTC, PTC or PT1000 inputs, whilst the universal versions can also accept PT100, J and K type thermocouples, DC Voltage and DC mA inputs.

The controllers feature a simple user interface, two independent control loops and are housed in a compact panel mounting enclosure. All versions can be connected to a network for monitoring and programming, using the optional RS-485 serial interface. The IR33 controllers are powered from 12 to 24Vac/dc or 115-230Vac and optional transformers are available for powering the low voltage controllers from 110Vac or 230Vac.

For digital temperature or process monitoring and control

Dimensions



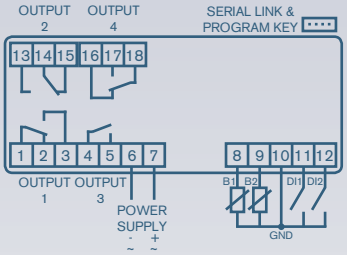
Panel cutout 71mm x 29mm (-0.0/+0.5)

Allow 95mm x 40mm clearance around controller for panel clip

All dimensions in mm

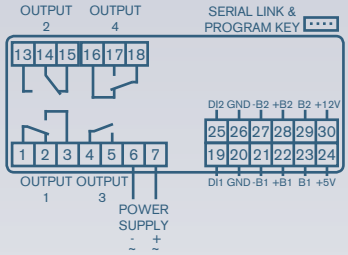
Connections

IR33V7 / IR33W7 / IR33Z7



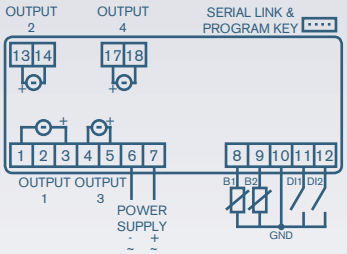
IR33V7 - OUTPUT 1 ONLY
IR33W7 - OUTPUTS 1 AND 2
IR33Z7 - OUTPUTS 1, 2, 3 AND 4

IR33V9 / IR33W9 / IR33Z9

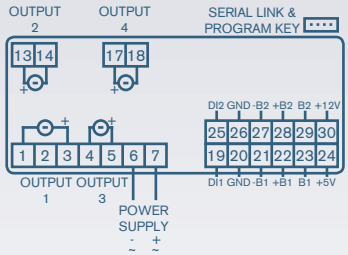


IR33V9 - OUTPUT 1 ONLY
IR33W9 - OUTPUTS 1 AND 2
IR33Z9 - OUTPUTS 1, 2, 3 AND 4

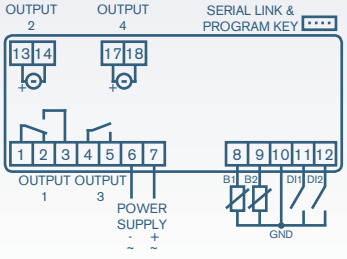
IR33A7



IR33A9

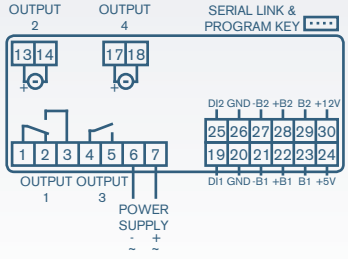


IR33B7 / IR33E7



IR33B7 - OUTPUTS 1 AND 2
IR33E7 - OUTPUTS 1, 2, 3 AND 4

IR33B9 / IR33E9



IR33B9 - OUTPUTS 1 AND 2
IR33E9 - OUTPUTS 1, 2, 3 AND 4

Ordering information

Model	Code	Description
	IR33V	1 Relay Output Digital Controller
	IR33W	2 Relay Output Digital Controller
	IR33Z	4 Relay Output Digital Controller
	IR33A	4 SSR Output Digital Controller
	IR33B	1 Relay & 0-10Vdc Output Digital Controller
	IR33E	2 Relay & 2 0-10Vdc Output Digital Controller

Input	Code	Description
	7	NTC (-50 to 90°C) NTC-HT (-40 to 150°C) PTC (-50 to 150°C) PT1000 (-50 to 150°C)
	9	All above inputs and in addition:- PT1000 (-199 to 800°C) PT100 (-199 to 800°C) J/K Type Thermocouples DC Voltage 0-1V, -0.5 to +1.3V, 0-10V, 0-5V ratiometric DC Current 0-20mA, 4-20mA

Auxiliary Power	Code	Description
	LR20	12 to 24Vac, 12 to 30Vdc
	MR20	24Vac/dc
	HR20	115-230Vac

Options	Code	Description
	TRA12UNI11	110/12Vac Transformer
	TRA12UNI00	240/12Vac Transformer
	TRA2400001	240/24Vac Transformer
	IRTRUES000	Remote control for IR33 universal
	IROPZKEY00	Programming key with battery
	IROPZKEYA0	Programming key with 230V power supply
	IROPZ485S0	RS485 serial communication interface

Example	IR33V7LR20

Options

Temperature Probes

A range of NTC, PTC, PT100 and thermocouple temperature probes are available to suit the IR33 controllers.

Remote Control

The infrared remote control allows access to all the main functions and configuration parameters for easy set up of all IR33 controllers from a distance.

Programming Key

All IR33 controllers can be programmed quickly using the optional programming key, even when not powered, reducing the risk of errors.

Specification

Accuracy:
- ±0.5% of scale range

Power Supply Voltage:
- LR: 12 to 24Vac (±10%), 12 to 30Vdc
- 110Vac with TRA12UNI11 transformer
- 230Vac with TRA12UNI00 transformer
- MR: 24Vac/dc
- 230Vac with TRA2400001 transformer
- HR: 115-230Vac (-15% to +10%)

Frequency:
- 50/60Hz

Burden:
- LR or MR: <4VA
- HR: <6VA

Inputs:
- NTC / PTC / PT1000
- PT100, J/K, V, mA (universal model only)

Digital Inputs:
- 2 voltage free contacts
- Contact resistance <10ohms
- Closing current 6mA

Relay Output:
- 1, 2 or 4 pole relay contacts
- 8A at 250Vac (resistive)
- 4A at 250Vac (inductive, cosØ = 0.6)
- 100,000 operations

SSR Output:
- Maximum output 12V/20mA
- Maximum output resistance 600 ohms

Analogue Output (0-10Vdc):
- Typical ramp time (10-90%) < 1sec
- Maximum output ripple 100mV
- Maximum output current 5mA
- Maximum length of cables 10m

Operating Temperature & Humidity:
- -10°C to 50°C
- <90% rH (non-condensing)

Enclosure Code:
- Case IP65

Weight:
- IR33V/IR33A/IR33B: 200g
- IR33W/IR33E: 220g
- IR33Z: 240g

Markings:
- CE marked (meets EN61010-1 low voltage and EN50081-1/50082-1 EMC directives)

Specification subject to change without notice.

Tempatron: Eltime House, Hall Road, Maldon, Essex, CM9 4NF UK.

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