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DN33 Universal Electronic Controllers

Models Available

DN33V7LR20 1 Relay NTC/PTC/PT1000
DN33V9MR20 1 Relay Universal Input
DN33W7LR20 2 Relay NTC/PTC/PT1000
DN33W9MR20 2 Relay Universal Input
DN33Z7LR20 4 Relay NTC/PTC/PT1000
DN33Z9MR20 4 Relay Universal Input
DN33A7LR20 4 SSR NTC/PTC/PT1000
DN33A9MR20 4 SSR Universal Input

Product Features

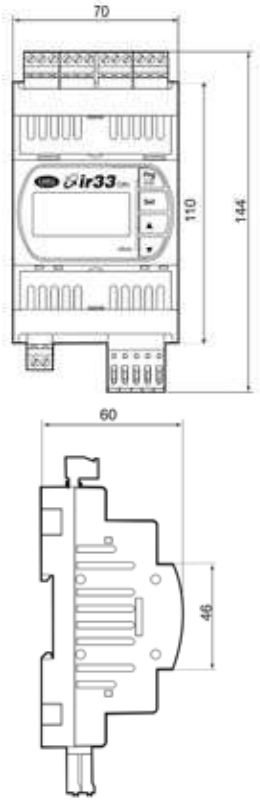
- Temperature input or universal input
- Relay or SSR output versions
- 2 independent control loops
- Auto-tuning PID control
- Real time clock
- Infrared receiver and buzzer
- Transformers available for 110V or 230V
- Plug-in terminals

The DN33 universal electronic controllers replace the IRDR 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 DIN rail mounting enclosure. All versions can be connected to a network for monitoring and programming, using the optional RS-485 serial interface. The DN33 controllers are powered from 12 to 24Vac/dc and optional transformers are available for powering the controllers from 110Vac or 230Vac.

For digital temperature or process monitoring and control

Dimensions

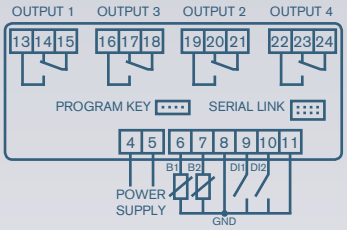


Panel cutout 70mm x 46mm (-0.0/+0.5)

All dimensions in mm

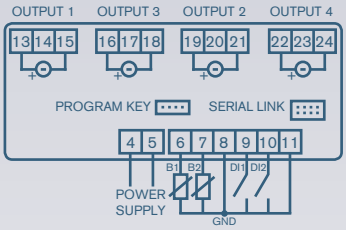
Connections

DN33V7LR20 / DN33W7LR20 / DN33Z7LR20

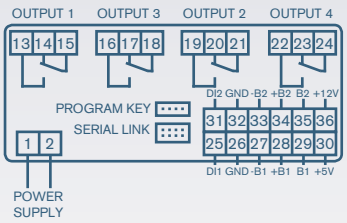


DN33V7LR20 - OUTPUT 1 ONLY
DN33W7LR20 - OUTPUTS 1 AND 2
DN33Z7LR20 - OUTPUTS 1, 2, 3 AND 4

DN33A7LR20

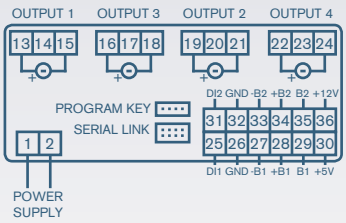


DN33V9MR20 / DN33W9MR20 / DN33Z9MR20



DN33V9MR20 - OUTPUT 1 ONLY
DN33W9MR20 - OUTPUTS 1 AND 2
DN33Z9MR20 - OUTPUTS 1, 2, 3 AND 4

DN33A9MR20



Ordering information

Model	Code	Description
	DN33V	1 Relay Output Digital Controller
	DN33W	2 Relay Output Digital Controller
	DN33Z	4 Relay Output Digital Controller
	DN33A	4 SSR 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

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	DN33V7LR20

Options

Temperature Probes

A range of NTC, PTC, PT100 and thermocouple temperature probes are available to suit the DN33 controllers.

Remote Control

The infrared remote control allows access to all the main functions and configuration parameters for easy set up of all DN33 controllers from a distance.

Programming Key

All DN33 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

Frequency:
- 50/60Hz

Burden:
- <3VA

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

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

Enclosure Code:
- Case front IP40

Weight:
- DN33V: 300g
- DN33W: 320g
- DN33Z: 340g
- DN33A: 300g

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

Specification subject to change without notice.

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