

# DC05CDNC1C 48V DC Cabinet Air Conditioner

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## DC05CDNC1C 48V DC Cabinet Air Conditioner: Technical Overview and Practical Guide

Outdoor telecom cabinets, base stations and industrial enclosures rely on compact DC air conditioners to keep sensitive electronics within a safe temperature range. The **Envicool DC05CDNC1C 48V DC cabinet air conditioner** is one of these dedicated solutions, delivering 550 W of cooling capacity in a sealed IP65 housing for harsh outdoor environments.

### Product identification

The nameplate in the photo clearly identifies the unit as a *Cabinet Air Conditioner - Model DC05CDNC1C* manufactured by Shenzhen Envicool Technology Co., Ltd.

It is a 48 VDC powered system using refrigerant R134a, designed specifically for outdoor telecom and electronics cabinets rather than for human comfort cooling.

## Main technical specifications

From the label and available product listings, the DC05CDNC1C offers 550 W ( $\approx 1700$  BTU/h) of rated cooling capacity at test conditions L35/L35, with a rated cooling power input of 170 W, which indicates a high-efficiency DC compressor.

The unit works on -48 V DC, draws a rated current around 3.6 A and a maximum current of 5.5 A, and uses R134a refrigerant within an IP65 enclosure suitable for dusty or rainy outdoor sites.

## Key data table

Specification	Value
Model	DC05CDNC1C cabinet air conditioner
Power supply	-48 V DC nominal
Rated cooling capacity	550 W at L35/L35 ( $\approx 1700$ BTU/h)
Rated cooling input	170 W at L35/L35
Refrigerant	R134a
Cooling function	Cooling only or cooling + heating (depending on configuration)
Working temperature	Approximately -40 °C to +55 °C (typical for this model range)
Protection rating	IP65 for outdoor installation
Approx. dimensions	315 × 170 × 545 mm (W×D×H)

## **Typical applications and installation**

This compact DC air conditioner is used on outdoor telecom cabinets, wireless base stations, battery cabinets and other critical enclosures where grid AC power is limited but -48 V DC is available from telecom power systems or solar-hybrid supplies.

Installers mount the unit directly on the cabinet wall, ensuring correct cut-out size, gasket sealing for IP65, and proper connection to the DC power and control terminals according to Envicool's cabinet air-conditioner manuals.

## **Advantages for telecom and industrial users**

The **DC05CDNC1C** offers several operational advantages: it reduces energy consumption by using DC power directly without an AC/DC conversion stage, keeps electronics within their design temperature for higher reliability, and protects against dust and moisture thanks to its sealed IP65 construction.

For operators of remote sites, the 48 V DC architecture integrates smoothly with solar and battery systems, helping to maintain cooling even during AC grid outages and extending equipment life in severe climates.









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