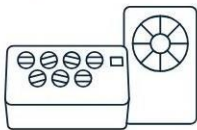


# APU UNIT



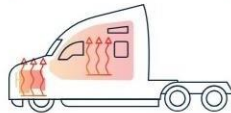
Rated Voltage	12V/24V/48V/60V/90V/120V/220V
Current	30-50A
Rated Power	330-1000W
Rated Cooling Capacity	2300W
Heating power	1000W
Frozen oil	POE68
Refrigerant	R134A
Refrigerant Charge Amount	650g
Range of Rotation	1600-3800
Inner Machine Size	600x500mm
External Machine Size	720x660x180mm
Product Weight	31KG

## SPLIT A/C SYSTEM



Rear-Mounted Ductless Air Conditioner with cooling capacity of 10k\* BTUs

## CAB & ENGINE HEATER (2-IN-1 SYSTEM)



A powerful coolant heater keeps your cab and engine warm throughout the night.

## LITHIUM BATTERY PACK

(12.8V400Ah)



Independent Lithium battery pack provides enough power for the A/C to keep you cool for up to 10 consecutive hours

# DISADVANTAGES OF IDLING A TRUCK ENGINE

Idling a truck engine, especially for long periods, can have several negative consequences. Below are the main disadvantages:

## 1. Fuel Consumption

Idling consumes a significant amount of fuel. A typical heavy-duty truck can burn around 0.8 to 1 gallon (3 to 4 liters) of diesel per hour while idling.

## 2. Engine Wear and Tear

Extended idling causes incomplete combustion of fuel, which leads to carbon buildup and wear on engine components. Pistons, rings, valves and cylinder walls wear out faster. This can reduce engine life and increase maintenance costs. Also can clog components like the turbocharger, EGR and DPF .

## 3. Environmental Impact

Idling produces greenhouse gases and other pollutants such as nitrogen oxides and particulate matter, contributing to air pollution and climate change.

## 4. Noise Pollution

Continuous idling can generate high noise levels, disturbing nearby residents and violating local noise ordinances.

## 5. Legal and Regulatory Issues

Many regions have anti-idling laws. Violating these can result in fines or other penalties.

## 6. Battery Drain

Idling with accessories like air conditioning or heaters can drain the battery faster if the alternator is not supplying sufficient charge.

## Conclusion

While idling may seem convenient, especially for climate control in the cabin, it comes with considerable drawbacks. Alternative solutions like auxiliary power units (APUs) or battery-powered climate systems can provide comfort without the downsides of engine idling.

# APU UNIT FIZIBILITY

## Estimated APU Usage in CANADA:

### Winter (Cab Heating or motor heating):

- Period: ~4.5 months (mid-Nov to late Mar)
- Avg Hours/Day: ~8 hours (overnight heating)
- Estimate:  $8 \times 30 \times 4.5 = 1,080$  hours/year
- Range: 900-1,200 hours depending on weather and idle time

### Summer (Air Conditioning):

- Period: ~3.5 months (mid-June to early September)
- Avg Hours/Day: ~8 hours (overnight cooling)
- Estimate:  $8 \times 30 \times 3.5 = 840$  hours/year
- Range: 700-1,000 hours depending on heat and humidity Total APU

## Runtime in a Year (CANADA):

- Approximate range: 1,920 hours/year
- Truck working at idle uses : 1 gallon/hour (3,78 lt/hour) TOTAL  
:7,257 lt \* 1,35 CAD/lt = **9.797 CAD**

You will get your investment back in a one year .

Note: This estimate is for solo drivers who idle or sleep  
We will increase motor life and decrease DEF wasting .

## FINANCING

Total selling price is 10.000 CAD that include APU Unit , 10kw Lifepo4 battery, block header and installation.

We ll charger you 5,000 cad down payment rest montly 1,000 CAD payment.

You will get 5,000 cad grant from Green Freight Programme

<https://natural-resources.canada.ca/energy-efficiency/>