



AMERICAN  
FIRE AND SAFETY SOLUTIONS

AUXILIARY POWER UNITS (APU)

# AUXILIARY POWER UNIT (APU)

» APU (Auxiliary Power Units) systems are systems that provide energy for the active operation of the systems on the vehicle when the vehicle ignition is turned off, and provide the desired energy to the vehicle for air conditioning system.

» These systems, which are integrated into armoured vehicles, have the ability to provide power to carry out all activities on the vehicle without the vehicle engine running.

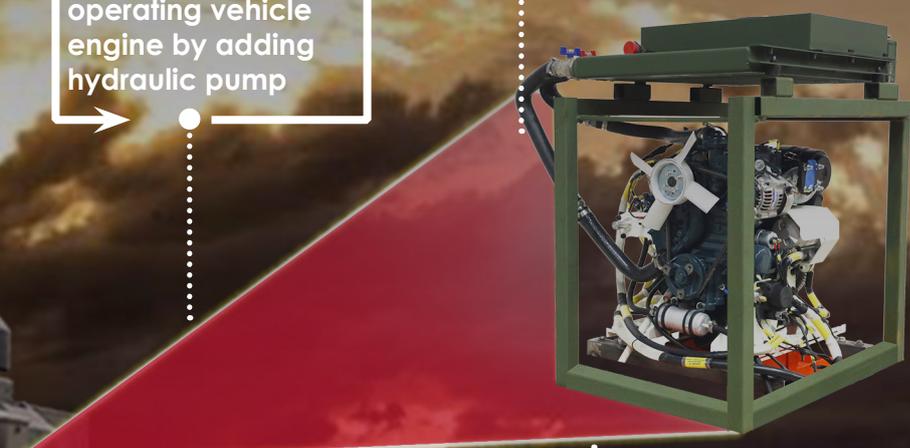
APU designs can be made between 2kW and 100 kW according to customer's choice

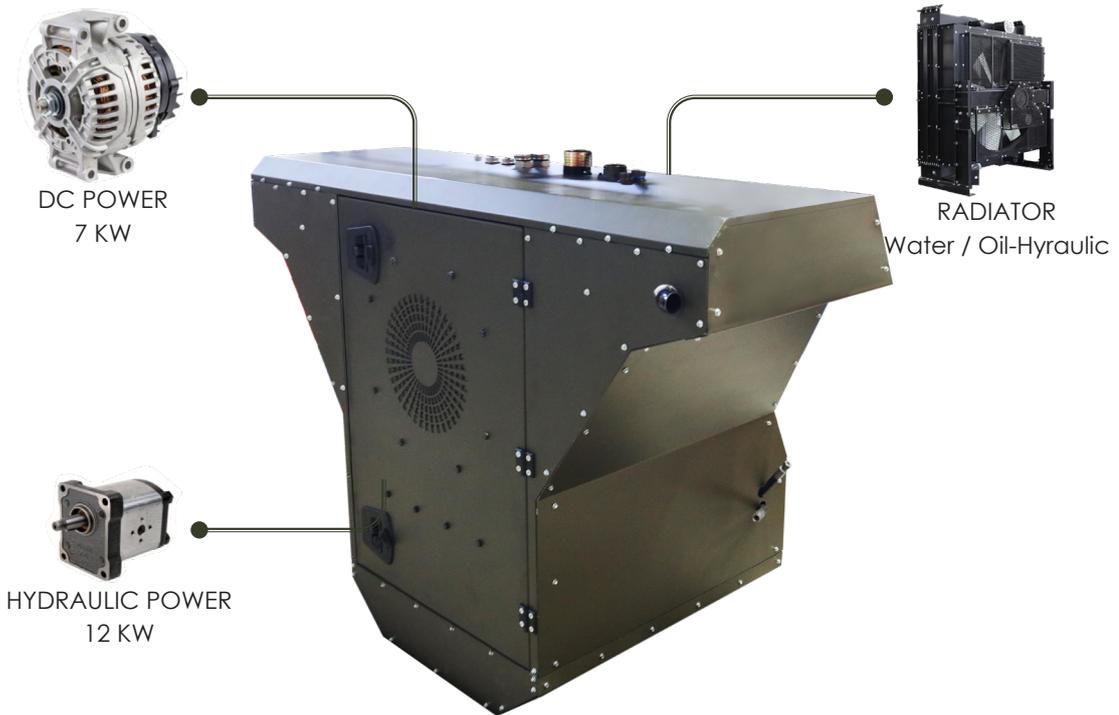
It can actively operate weapon systems, vehicle computer, fire suppression systems, power distribution unit and CBRN systems on the vehicle, prolonging life of the engine and saving fuel.

It can be embedded into the military vehicle or mounted to outer shell.

It can cool inside of the vehicle without operating vehicle engine by adding hydraulic pump

It has capability to actively operate all the systems on the vehicle and perform all the activities.





# APU - K55A

## APU SPECIFICATIONS

 MAXIMUM AMPER  
330 A

 CONTINUOUS POWER  
20 KVA

 NOMINAL OUTPUT POWER  
20,3 KVA

 FUEL CAPABILITY  
External tank

 COOLING SYSTEM  
Water Cooling System

 OUTPUT VOLTAGE  
28 VDC

 STORAGE TEMPERATURE  
-40 / +50 °C

 SOUND LEVEL  
85 Db in 7 Meters

 WEIGHT  
450 KG ±5

 OPERATING TEMPERATURE  
-32 / +55 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
7 KW

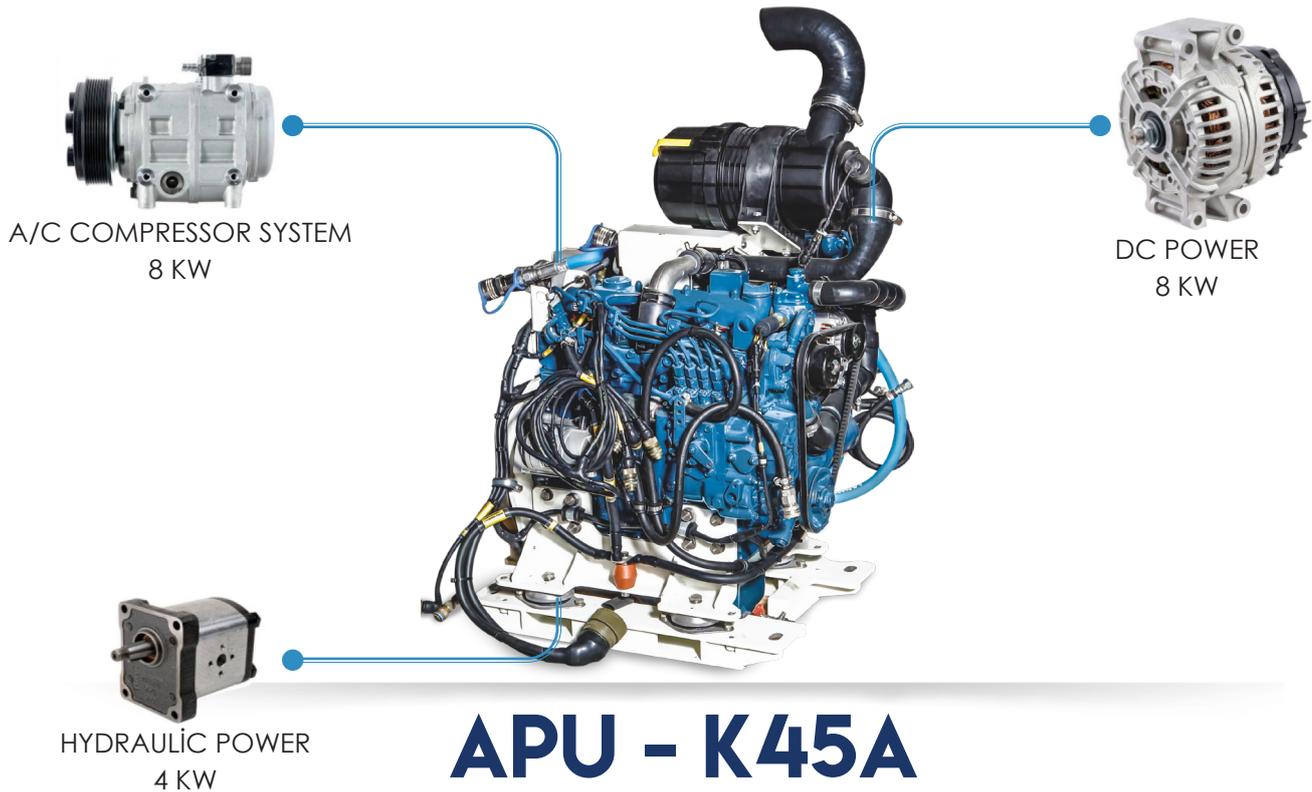
 VOLTAGE  
28 VDC

 VOLTAGE SENSITIVITY  
28 ± 0,3

 FUEL TYPE / CAPABILITY  
Diesel / 10 Liter

 ENGINE TYPE  
Kubota

 DIMENSIONS ( L x W x H )  
1168x1595x860 ±5 mm



## APU SPECIFICATIONS

 MAXIMUM AMPER  
160 A

 OUTPUT VOLTAGE  
28 VDC

 CONTINUOUS POWER  
20 KVA

 STORAGE TEMPERATURE  
-40 / +60 °C

 NOMINAL OUTPUT POWER  
20,3 KVA

 SOUND LEVEL  
85 Db in 7 Meters

 FUEL CAPABILITY  
External tank

 WEIGHT  
350 KG ±5

 COOLING SYSTEM  
Water Cooling System

 OPERATING TEMPERATURE  
-32 / +55 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
8 KW

 VOLTAGE  
28,5 VDC

 VOLTAGE SENSITIVITY  
%15 ± 0,3

 FUEL TYPE / CAPABILITY  
Diesel / 10 LT

 ENGINE TYPE  
Perkins

 DIMENSIONS (L x W x H)  
3190x1190x875 ±5 mm



A/C COMPRESSOR SYSTEM  
8 KW



# APU - AP1635

## APU SPECIFICATIONS

 MAXIMUM AMPER  
300 A

 CONTINUOUS POWER  
18 KVA

 NOMINAL OUTPUT POWER  
22,5 KVA

 FUEL CAPABILITY  
External tank

 COOLING SYSTEM  
Water Cooling System

 OUTPUT VOLTAGE  
28 VDC

 STORAGE TEMPERATURE  
-40 / +50 °C

 SOUND LEVEL  
80 Db in 7 Meters

 WEIGHT  
450 KG ±5

 OPERATING TEMPERATURE  
-32 / +55 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
8 KW

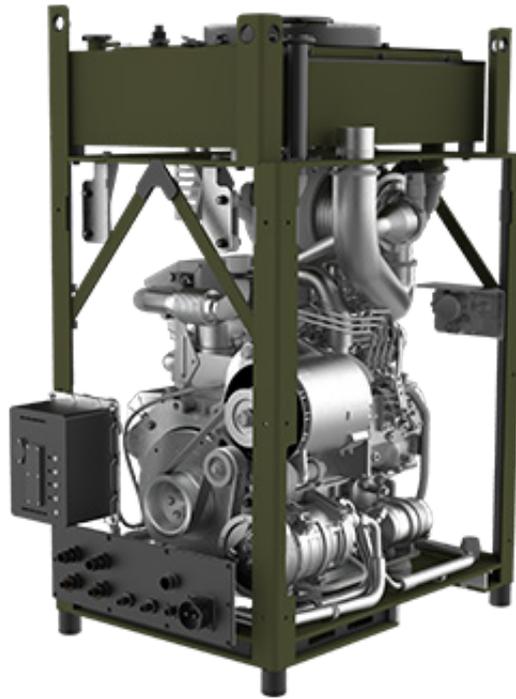
 VOLTAGE  
28 VDC

 VOLTAGE SENSITIVITY  
28 ± 0,3

 FUEL TYPE / CAPABILITY  
Diesel / 6,3 Liter

 ENGINE TYPE  
Perkins

 DIMENSIONS( L x W x H)  
675x1754x947 ±5 mm



# APU - E4408

## APU SPECIFICATIONS

 MAXIMUM AMPER  
200 A

 OUTPUT VOLTAGE  
28 VDC

 CONTINUOUS POWER  
18 KVA

 STORAGE TEMPERATURE  
-40 / +60 °C

 NOMINAL OUTPUT POWER  
22,5 KVA

 SOUND LEVEL  
75 Db in 7 Meters

 FUEL CAPABILITY  
External tank

 WEIGHT  
114 KG ±5

 COOLING SYSTEM  
Water Cooling System

 OPERATING TEMPERATURE  
-32 / +55 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
2x8 KW

 VOLTAGE  
28 VDC

 VOLTAGE SENSITIVITY  
± 2,5

 FUEL TYPE / CAPABILITY  
Diesel / External tank

 ENGINE TYPE  
KUBOTA

 DIMENSIONS ( L x W x H )  
565x433x621 ±5 mm



# APU - B1650

## APU SPECIFICATIONS

 MAXIMUM AMPER  
330 A

 CONTINUOUS POWER  
15 KVA

 NOMINAL OUTPUT POWER  
12,4 KVA

 FUEL CAPABILITY  
External tank

 COOLING SYSTEM  
Water Cooling System

 OUTPUT VOLTAGE  
28 VDC

 STORAGE TEMPERATURE  
-40 / +63 °C

 SOUND LEVEL  
69 Db in 7 Meters

 WEIGHT  
163 KG ±5

 OPERATING TEMPERATURE  
-32 / +55 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
Optional

 VOLTAGE  
28 VDC

 VOLTAGE SENSITIVITY  
± 2,5

 FUEL TYPE / CAPABILITY  
Diesel / External tank

 ENGINE TYPE  
KUBOTA

 DIMENSIONS( L x W x H)  
569x536x542 ±5 mm



# APU - A1919K

## APU SPECIFICATIONS

 MAXIMUM AMPER  
240 A

 OUTPUT VOLTAGE  
28 VDC

 CONTINUOUS POWER  
11,6 KVA

 STORAGE TEMPERATURE  
-40 / +60 °C

 NOMINAL OUTPUT POWER  
16 KVA

 SOUND LEVEL  
85 Db in 7 Meters

 FUEL CAPABILITY  
Diesel / External tank

 WEIGHT  
240 KG ±5

 COOLING SYSTEM  
Water Cooling System

 OPERATING TEMPERATURE  
-32 / +49 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
Optionel

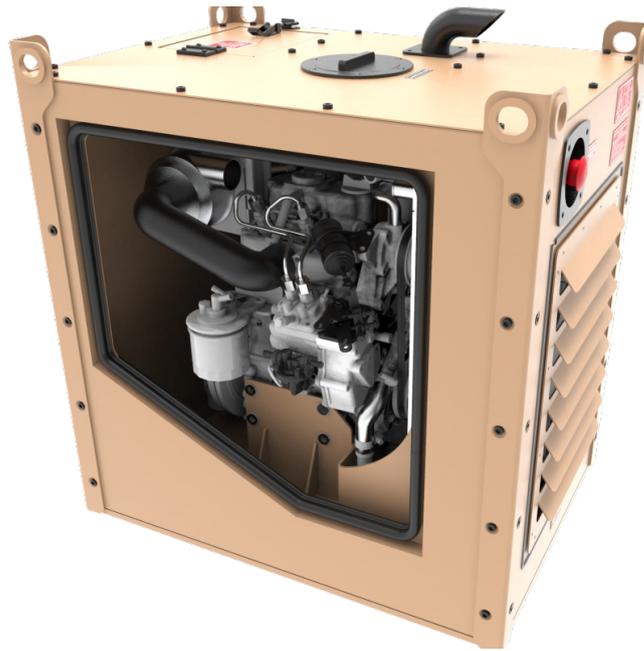
 VOLTAGE  
28 VDC

 VOLTAGE SENSITIVITY  
28 ± 0,3

 FUEL TYPE / CAPABILITY  
Diesel / External tank

 ENGINE TYPE  
Horizontal

 DIMENSIONS ( L x W x H )  
1420x623x420 ±5 mm



# APU - A1547

## APU SPECIFICATIONS

 MAXIMUM AMPER  
160 A

 OUTPUT VOLTAGE  
28 VDC

 CONTINUOUS POWER  
4,2 KVA

 STORAGE TEMPERATURE  
-40 / +55 °C

 NOMINAL OUTPUT POWER  
7 KVA

 SOUND LEVEL  
85 Db in 7 Meters

 FUEL CAPABILITY  
External tank

 WEIGHT  
150 KG ±5

 COOLING SYSTEM  
Water Cooling System

 OPERATING TEMPERATURE  
-32 / +49 °C

## GENERAL SPECIFICATIONS

 COMPRESSOR  
Optional

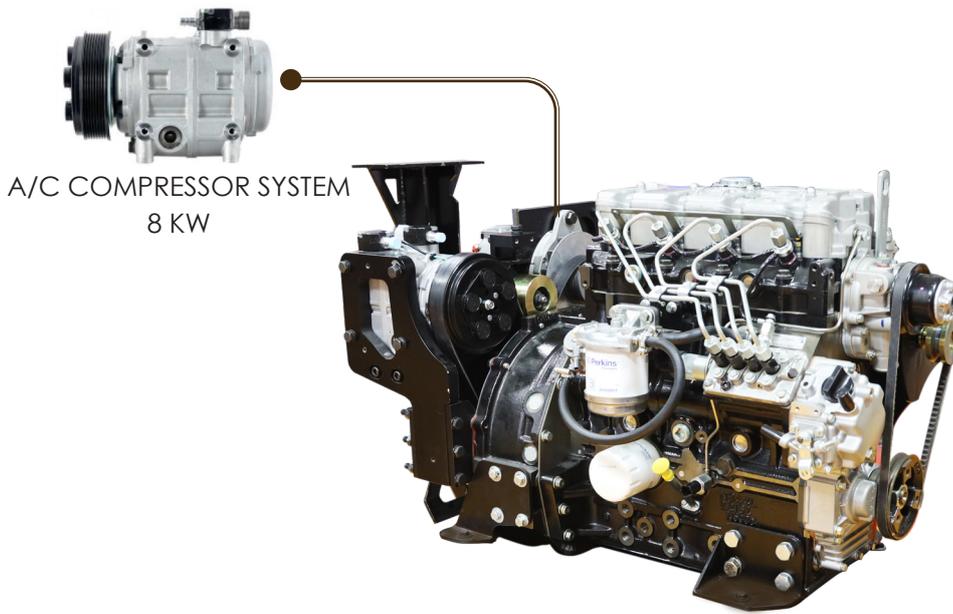
 VOLTAGE  
28,5 VDC

 VOLTAGE SENSITIVITY  
28,5 ± 0,3

 FUEL TYPE / CAPABILITY  
Diesel / 10 Litre

 ENGINE TYPE  
Kubota

 DIMENSIONS ( L x W x H )  
530x564x660 ±5 mm



## APU - B1208

### APU SPECIFICATIONS

 <u>MAXIMUM AMPER</u> 190 A	 <u>OUTPUT VOLTAGE</u> 28 VDC
 <u>CONTINUOUS POWER</u> 20 KVA	 <u>STORAGE TEMPERATURE</u> -40 / +55 °C
 <u>NOMINAL OUTPUT POWER</u> 33 KVA	 <u>SOUND LEVEL</u> 80 Db in 7 Meters
 <u>FUEL CAPABILITY</u> External tank	 <u>WEIGHT</u> 280 KG ±5
 <u>COOLING SYSTEM</u> Water Cooling System	 <u>OPERATING TEMPERATURE</u> -32 / +49 °C

### GENERAL SPECIFICATIONS

 <u>COMPRESSOR</u> 8 KW
 <u>VOLTAGE</u> 24 VDC
 <u>VOLTAGE SENSITIVITY</u> 28 ± 0,3
 <u>FUEL TYPE / CAPABILITY</u> Diesel / 6,3 LT
 <u>ENGINE TYPE</u> Kubota
 <u>DIMENSIONS ( L x W x H )</u> 672x632x1104 ±5 mm

# MT 1310 AUXILIARY POWER UNIT CONTROL UNIT



## ERROR LEDS

• Engine High Temperature
• Low Oil Pressure
• Cabin Water Level High
• Air Filter Clogged
• Radiator Water Level Low
• Maintenance Cover Open

- It is located near APU so that the user can intervene easily in case of maintenance.
- Existing errors on APU can be observed.
- There are buttons to directly intervene when there is a problem during automatic start of APU.
- It is designed as per IP67 Standards. Besides, it enables to reach last 500 detailed logs thanks to diagnostic.
- It is conformant to MIL-STD-810G and MIL-STD-461E/F standards.

## TECHNICAL SPECIFICATIONS

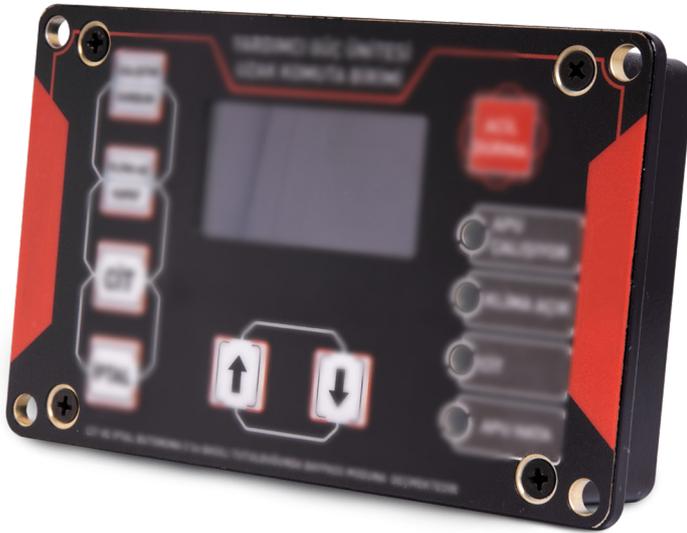
Dimensions (WidthxLengthxHeight)	140x213x160 ±5 mm
Weight	3,1 kg ±0.1
Communication Protocol	CANBUS J1939
Operating Voltage	24 VDC

# MT 1310 BUTTON SPECIFICATIONS



1.	A/C CLUTCH: The air conditioning system cannot be started while the corresponding LED is on.	12.	WATER IN FUEL FILTER: The corresponding LED lights when the water level in the fuel water filter increases.
2.	HYDRAULIC SOLENOID: The corresponding LED light comes on when the hydraulic solenoid is activated.	13.	EMERGENCY STOP: When pressed, the emergency button is activated.
3.	HYDRAULIC FAN PWM : Hydraulic LED speed decreases as the fan speed increases.	14.	MANUAL ACTUATOR: The Actuator operates as long as it is kept pressed.
4.	RADIATOR FAN PWM : The corresponding LED light level decreases while radiator fan speed increases.	15.	MANUAL FUEL PUMP: The Fuel Pump operates as long as it is kept pressed.
5.	EMERGENCY STOP : The corresponding LED lights if any of the emergency stop buttons are active.	16.	MANUAL START: The Starter Motor operates as long as it kept pressed.
6.	HIGH ENGINE COOLANT TEMP : The corresponding LED lights when the engine water temperature is high.	17.	MANUAL GLOW: The Glow operates as long as it kept pressed.
7.	LOW OIL PRESSURE: The corresponding LED lights when the engine oil pressure is low.	18.	ACT: The fuse of Actuator.
8.	HIGH CABIN WATER LEVEL: The corresponding LED lights when there is no water in the cab. If there is water, it goes out.	19.	FUEL PUMP: The fuse of Fuel Pump.
9.	AIR FILTER CLOGGING: The corresponding LED is lights if the air filter is clogged.	20.	STARTER ENGINE: The fuse of Starter Engine.
10.	LOW RADIATOR WATER LEVEL : The corresponding LED lights when there is no water in the radiator. If there is water, it goes out.	21.	GLOW: The fuse of Glow.
11.	FSS ALARM: The corresponding LED is lights when the event of an alarm in the APU engine compartment.	22.	DIAGNOSTIC: Software installation socket.

# F2022-CB REMOTE COMMAND CONTROL UNIT

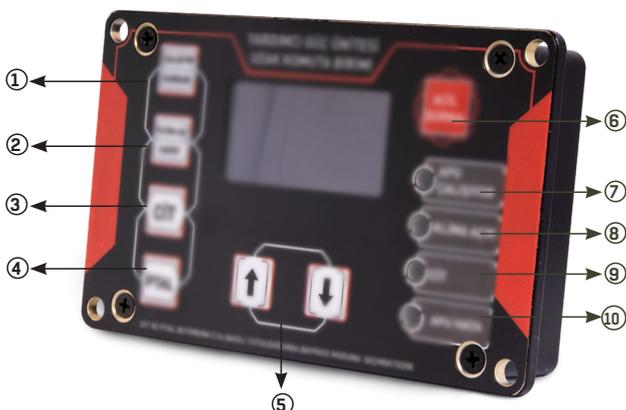


- It is used to remote control APU.
- Being located by vehicle driver, it enables to reach all the data on APU with the information screen on it.
- Control unit enables to activate-cancel APU system, to activate-cancel air conditioning system.
- It is designed as per IP67 Standards.
- It is conformant to MIL-STD-810G and MIL-STD-461E/F standards.

## TECHNICAL SPECIFICATIONS

Dimensions (WidthxLengthxHeight)	45x155x85 ±5 mm
Weight	0,48 kg ±0.1
Communication Protocol	CANBUS J1939
Operating Voltage	24 VDC

## BUTTON SPECIFICATIONS



1.	ON / OFF: APU on / off button.	6.	EMERGENCY STOP
2.	AIR CONDITIONING ON/OFF	7.	APU ON: LED indicators for states
3.	CIT: CIT test is performed when the relevant button is pressed.	8.	AIR CONDITIONER ON
4.	CANCEL: Pressing the BIT button for 5 seconds will cancel this operation.	9.	CIT : CIT led turns red when the test fails.
5.	UP DIRECT MENU BUTTON-DOWN MENU BUTTON	10.	FAULT : LED turns off when cancel button is pressed.

# EQUIPMENT CONTAINER SHELTER

## GENERAL SPECIFICATIONS

- The Equipment Shelter has a structure and insulation that can protect all active equipment under all conditions during operation.
- Fire resistant polyurethane foam is used for thermal insulation between the surfaces of the Equipment Shelter (including the ceiling).
- The Equipment Shelter subunits covers/doors are supported by RF gaskets.
- The Equipment Shelter has one PTZ camera that can be remotely controlled and can operate in all weather conditions.
- The Equipment Shelter Cabinet (19 inches) is built to withstand vibration.
- The Equipment Shelter has a portable structure.
- Equipment Shelter racks, attachment points and fasteners are made of rustproof and maintenance-free material.
- The Equipment Shelter is protected against lightning by Franklin rod.
- Equipment Conservation is in compliance with Ministry of Energy and Natural Resources – Regulation on Grounding in Electrical Installations / Part 5.
- The Equipment Shelter doors can remain stable in the open position in a wind of at least 40 knots.
- The Equipment Shelter is equipped with military-grade connectors.
- The Equipment Shelter is equipped with air conditioning system with 800 BTU capacity.



## APPLIED TESTS

MIL-STD-810G - 500.5	Low Pressure/ altitude
MIL-STD-810G - 501.5	High temperature
MIL-STD-810G - 502.5	Low Temperature
MIL-STD-810G - 514.6	Vibration
MIL-STD-810G - 521.3	Icing
MIL-STD-810G - 507.5	Moisture
MIL-STD-810G - 506.5	Rain
MIL-STD-810G - 516.6	Shock
MIL-STD-810G - 505.5	Daylight Application

