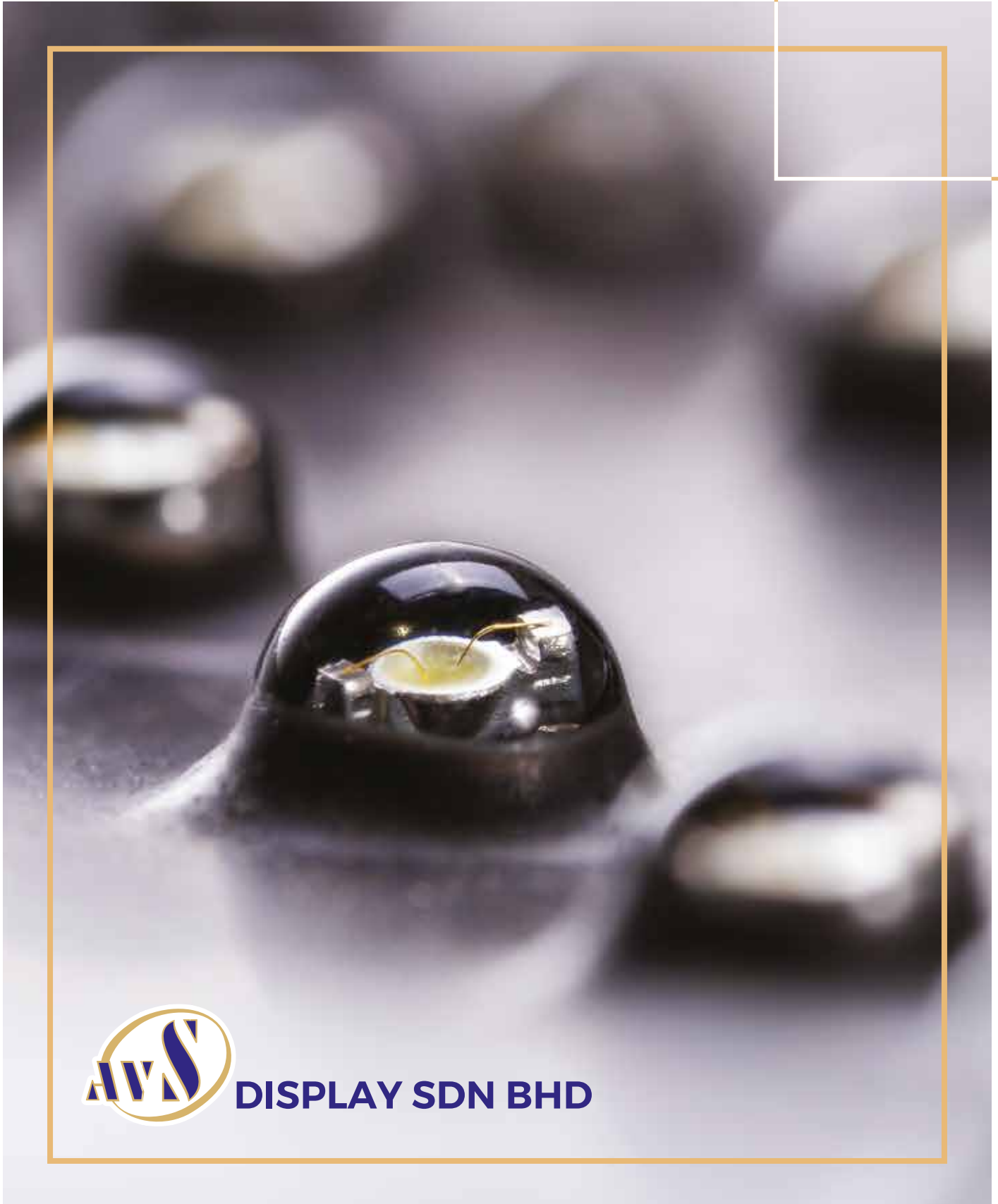


# ELECTRONIC PRICE CHANGE UNITS



**DISPLAY SDN BHD**



## INTRODUCTION

**AVS Display Sdn. Bhd.** was incorporated in year 2013 in Kuala Lumpur, Malaysia. AVS is one of the specialised company in R&D, manufacturing and providing LED Gas Price Display and Lighting Solution for the Petrol Stations Industry.

AVS Display Sdn Bhd. products are being categorised into the following groups:  
**LED Modules, LED Rigid Strip, LED Price Change Unit**

AVS uses only the top grade LEDs for all its products, only well known brand such as Cree, Osram, Philips etc. are being used. In terms of international standard, all of AVS products are being tested by third party Test Lab before being launched in the market, Certifications such as IFSF, CE, RO5H to name a few.

**AVS Display Sdn. Bhd, mission and vision shall be as follow:**

### MISSIONS

- Continuous to Research and Development into competitive, reliable, quality, modular and state of the art products.
- Focusing in Quality Control by Investing into Testing Equipment and Machineries.

### VISION

- Becoming a preferred supplier for all LED Products (*Backlighting and Price Change Unit*) needs in all the Petrol Stations in the World.

## CERTIFICATIONS

AVS Display believes quality and reliability of its products, hence all of our products are being tested and certified by Test Laboratory before being launched in market. These are some of the certification and test report which we have conducted throughout the years.



**Certificates: IFSF, LVD, FCC, EMC, IEC**



## MANUFACTURING PROCESS

AVS Display uses automated production machineries to ensure quality consistency for its range of products. Equipment such as SMT Machine, Wave Soldering Machine, Plug and Place to name a few.



## TESTING PROCESS



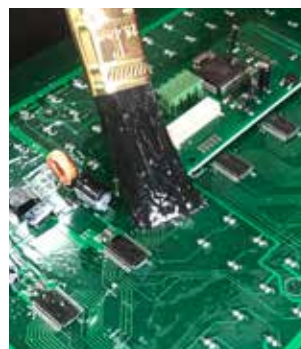
Upon completion of 48 hours burnt-in test, we will randomly select our Price Change Unit to be placed into freezing test. This test is to stimulate possible dry-joint in components.

Cold Chamber is a place whereby components reliability are being tested. PCU Display shall be placed inside a Freezer Chamber and then light up. This is to test the components dry joint as cold and heat is the best approach to stimulate dry joint issue.

After completion of 48 hours burn in test, we shall randomly have our LED Fuel Price Display to be placed on our vibration chamber. This vibration chamber to test if any of the soldering are done properly, as if any of the parts are dry joint or not soldered properly, it will be shown up in this Vibration chamber.



Vibration is also part of the internal random unit testing procedure. The purpose of this testing is to ensure all the connectors, cable harness, screws are securely faster.



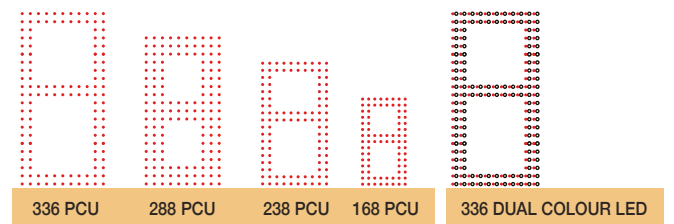
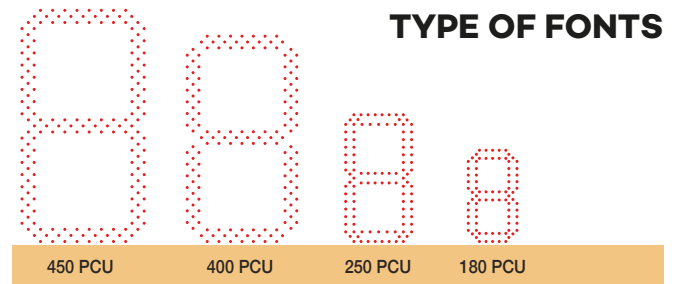
All of our PCBs will apply a layer of conformal coating. This conformal coating is to avoid corrosion and dry joint issue in the future.



# ELECTRONIC PRICE CHANGE UNIT SYSTEM

## OVERVIEW

1. AVS Multi Segment PCU provides the flexibility and ease of installation for any Monolith Design. Available in Red, Green, White and Dual Colour, with minimum size from 120mm to 600mm maximum.
2. Our casing are minimum at IP54 rated which eliminate PCU damage due to water leaking from Monolith. All of our Cabling connectors are IP68 compliance, making it reliable even in extreme condition against moisture or water caused damage.
3. AVS Multi Segment PCU can be control either with our standard Remote Control or can be upgraded to link to POS and update automatically from the Shop.
4. Utilizing only branded and high brightness LEDs, our PCU are always visible even in extremely bright environment.



### AVS Price Change Unit System Key Features:

- Only branded LEDs are being used – Cree, Osram, etc
- Various sizes available
- Low power consumption
- Multi colour selection, red, white, green and dual colour

- High readability in direct sunlight
- Automatic brightness control
- Automatic ON/OFF monolith back light
- IP Rated: IP54 or IP67
- Pos IFSF Ready

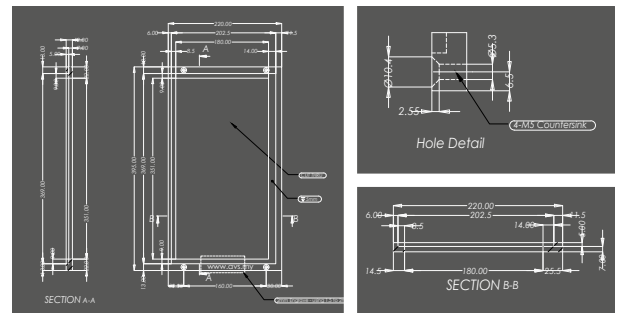


## MODULAR PRICE CHANGE UNIT SERIES

This is AVS latest range of products to further enhance its current product range by utilizing state of the art chasing or modular design. This product range allows users to install our PCU panel even in the most demanding condition. With its low profile or modular design, user can simply install our PCU panels into any monolith.

### Key Features:

- IP67 rated PCU Panels
- Low profile design of 10mm thickness
- Utilizing state of the art SMD LEDs
- UV Resistance wide angle and high brightness LEDs
- Wide range of colour selections
- High precision CNC cut UV resistance HDPE material



## ELECTRONIC PRICE CHANGE UNIT GENERAL MODEL SPECIFICATIONS



NO	ITEM	DESCRIPTIONS
1	Display Colour	Red, Green, White and Dual Colour
2	Sizes	Start from 120mm
3	Font Types	Multi Segment and 7 Segment
4	IP Rating	IP54 or IP67
5	LED Arrangement	Not more than 2 LEDs in Series
6	Casing Material	Aluminium Extrusion or HDPE
7	Plotting Material	UV Resistance Black Silicone
8	Viewing Angle	120 degree Vertical and Horizontal
9	LED Type	UV Resistance High Brightness LEDs - Cree/ Osram, SMD or DIP
10	Cablings	IP68 Connectors
11	Operating Temperature	-30 to +60 degrees Celsius ambient temperature
12	Built-In	64 Levels Automatic Photocell or Manual

## PRICE SIGN TERMINAL SPECIFICATIONS

AVS Price Sign Terminal is a communication unit with Multi-Purpose function.

As a remote control with LCD Display – user can key in all the prices inside the unit and transmit it from office.

POS Integration unit – with an optional add-on POS Card, user can hook up this Price Sign Terminal and link up to the local forecourt controller/ POS. Support major protocols interface.



NO	ITEM	DESCRIPTIONS
1	LCD	Back Lighted LCD to display all the prices
2	Key Pad	16 buttons industrial for key-in data
3	Power Input	12VDC Adaptor
4	Add On	POS Interface Card such as IFSF Price Pole 2.4Ghz Radio Modem
5	Casing Material	Black Colour Epoxy Aluminium Extrusion
6	Mounting	Wall Mounting or desk top placing
7	Dimensions	250mm (L) x 125mm (W) x 50mm (H)

## REMOTE CONTROL SPECIFICATIONS

AVS Remote Control is best suited for those standalone system whereby customer just want a simple and yet economic way to update its Price Change Unit. With a maximum of up to 100 meters transmission distance, it is practical and ease to control. In addition with only 5 buttons, user can easily master the usages of the remote control very fast.



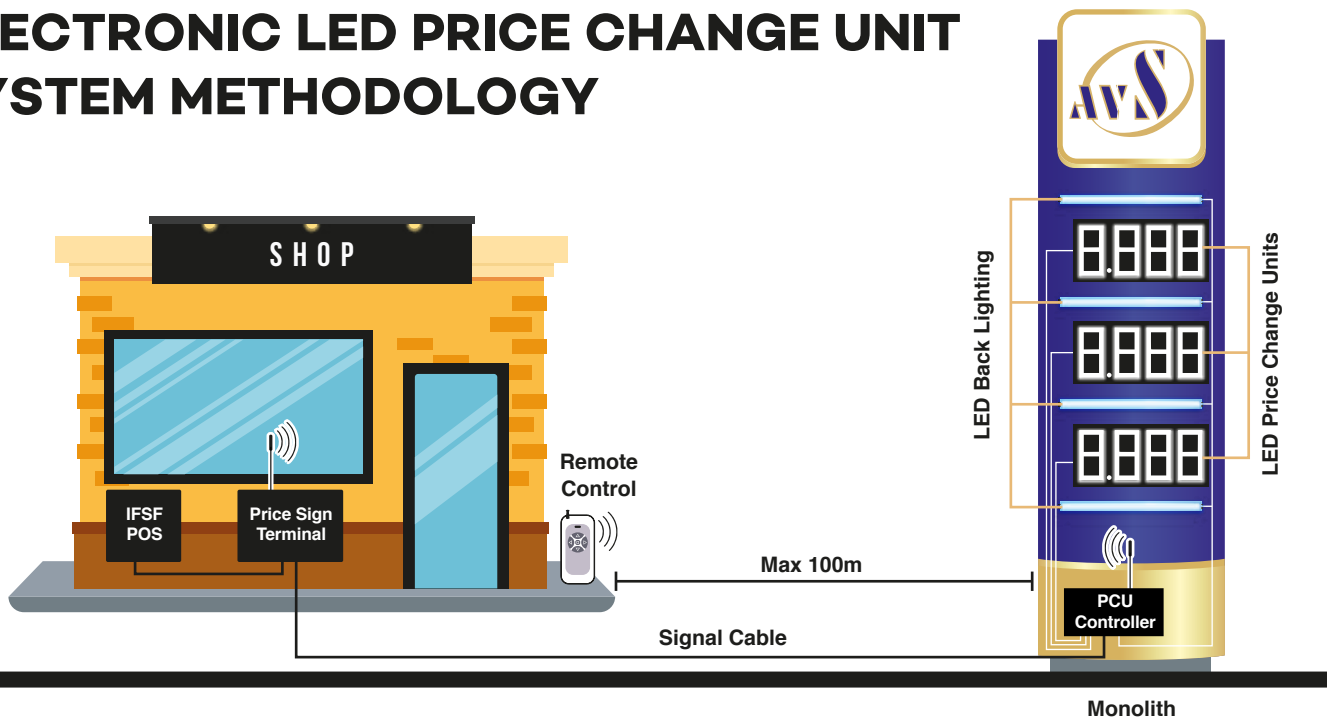
NO	ITEM	DESCRIPTIONS
1	Antenna Type	External
2	Button	5 buttons
3	Working Power	Battery AA Size
4	Transmission Distance	Maximum 100 meters with Line of Sight
5	Casing Material	High Grade Plastic Material
6	Dimension	92mm (L) x 40mm (H) x 15mm (W)
7	Frequency	433Mhz

## PCU CONTROLLER SPECIFICATIONS

NO	ITEM	DESCRIPTIONS
1	Ingress Protection	IP54
2	Housing Dimension	70mm (H) x 175mm (W) x 600mm (L)
3	Housing Material	Aluminium Sheet
4	Cooling Method	Natural Ventilation
5	Operating Voltage	230VAC
6	Maximum PCUs Per Controller	Up to Maximum 12 Units of PCU
7	Maximum Wattage	Up to Maximum 500 watts Power Supply unit
8	Power Supply Approval	UL and EN55024
9	Operating Temperature	-30 to +50 degrees Celsius ambient temperature
10	Smart Built-In Features	Automatic Control up to 16 levels for PCU Brightness based on surrounding Ambient Monolith Back Light Turn On/Off based on surrounding ambient
11	Termination Block	IP68 Connectors
12	Add On Modules	POS Integration Card   2.4 Gz Radio Modem



## ELECTRONIC LED PRICE CHANGE UNIT SYSTEM METHODOLOGY



As per above diagram, AVS Price Change Unit allows user to have multiple inputs from wireless up to POS integration.

### 1. Remote Control

The simplest way shall be using IR remote control with communication distance up to max 100 meters.

### 2. Price Sign Terminal

User can key in all the prices into Price Sign Terminal inside the shop, and once all keyed in, user can just press a button to send all the prices into the Monolith. The transmission from the Price Sign Terminal can be either wireless or wired.

### 3. Built-in Back Lighting Sensor

Our system will automatically turn ON/OFF the back light based on environment ambience.

### 4. POS Integration

If user want to connect its Price Change Units system to POS/ Forecourt controller system, the user can use the Price Sign Terminal to link up the Forecourt Controller in the shop. Our system support serial communication link from RS232 up to RS485. The prices can be updated to monolith wireless or wired.



# PRICE CHANGE UNIT SITE PHOTO

Petronas PCU



VIVO PCU



Shell PCU



Petron PCU





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**CORPORATION CUSTOMERS**

