

CATALOGUE

(POWERMAX)



*Power Max*

**MODULAR  
ENCLOSURE  
SYSTEM**



Powermax offers 'POWERMAX' Modular type tested enclosures for building LV panel boards.

POWERMAX modular enclosure system is developed to be an AIM product

Easy to Assemble, Install and Modify after or during construction.

POWERMAX modular enclosure systems will fulfill all the requirements a panel builder has and meet all the specifications put forward by top clients and consultants.

The panel can be designed in multiple ways such as Front/ Rear access of cables, Top/ Bottom entry of cables/ busduct.

**POWERMAX modular enclosure system is type tested and certified as per IEC 61439:2009 Part 1 and 2 by ASTA - UK.**

### Powermax Modular Enclosure System is ideal for

- Main Distribution Boards
- Power Control Centres
- Sub Main Distribution Boards
- Motor Control Centres
- APFC Panels

### Key Features

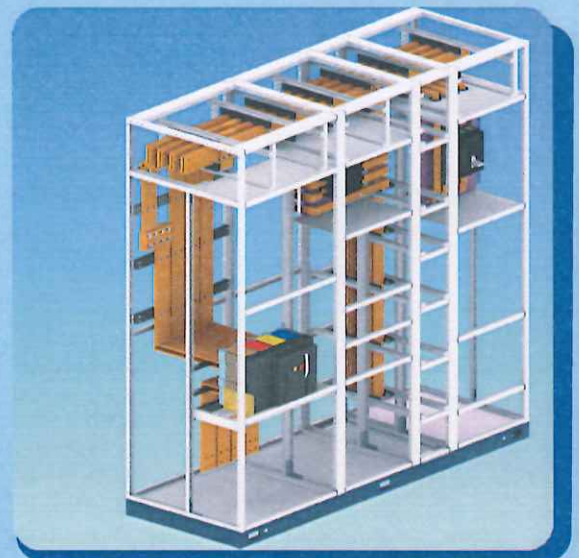
- Simple and Reliable
- Flexible panel sizing
- High strength combined with low weight
- Design type tested upto 4500A, 80kA
- Design verified upto 6300A, 100kA



Full Front View

### Technical Specifications

- Type of construction : Extensible
- Form of construction : Form 4
- Degree of protection : IP43/ IP54
- Enclosure material : CRCA / Electro-galvanized sheet steel
- Powder coating : Shade as per requirement with minimum 70 micron DFT.
- Busbar : Copper/ Aluminium
- Busbar supports : GF Polyamide/ FRP/ SMC
- Short circuit ratings : 80kA for 1 second  
: 65kA for 3 seconds  
: 50kA for 1 second
- Impulse withstand : 8kV



Main Bus Layout

**Enclosure and Busbar support system Type tested and verified as per IEC 61439 Part 1 & 2:**

S.No.	Description of Clauses and Sub – Clauses as per IEC 61439 Part 1 and 2	Clause Numbers as per IEC 61439 Part 1 & 2
1.	Strength of materials and parts	10.2
a.	Resistance to corrosion	10.2.2
	Severity Test A	10.2.2.2
b.	Properties of Insulating Materials	10.2.3
	Verification of thermal stability of enclosures	10.2.3.1
ii.	Verification of resistance of insulating materials to normal heat	10.2.3.2
iii.	Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	10.2.3.3
c.	Lifting	10.2.5
d.	Mechanical Impact	10.2.6
e.	Marking	10.2.7
2.	Degree of Protection	10.3
	External enclosure with assembly of switchgears	10.3
ii.	Form of Separation	10.3
3.	Clearances and creepage distances	10.4
4.	Effectiveness of the protective circuit	10.5
	Effective connection between exposed conductive parts and the protective circuit	10.5.2
ii.	Rated conditional short circuit current	10.5.3
5.	Dielectric Properties	10.9
	Rated insulation voltage (Ui) of the Assembly	10.9
ii.	Rated impulse withstand voltage (Uimp) of Assembly	10.9
6.	Temperature rise limits	10.10
	Verification of the complete assembly including incoming and outgoing breakers	10.10.2.3.5
ii.	Verification of the main busbars	10.10.2.3.7.a
7.	Short-circuit withstand strength	10.11.5
	Rated peak and short time withstand current with assembly of switchgears	10.11.5.3.3
ii.	Rated conditional short-circuit current	10.11.5.3.2
8.	Electromagnetic Compatibility	10.12
	Emission and immunity tests for Environment A conditions	10.12
9.	Mechanical operation	10.13
	Incoming & outgoing withdrawable ACB units and outgoing MCCB units	10.13

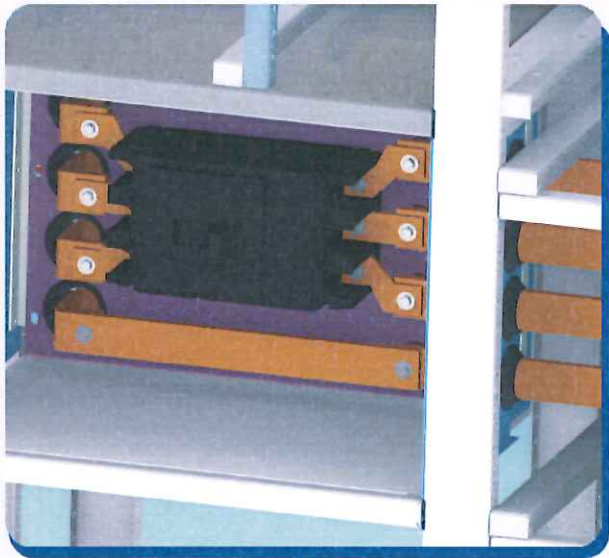


### Sheet Steel Details

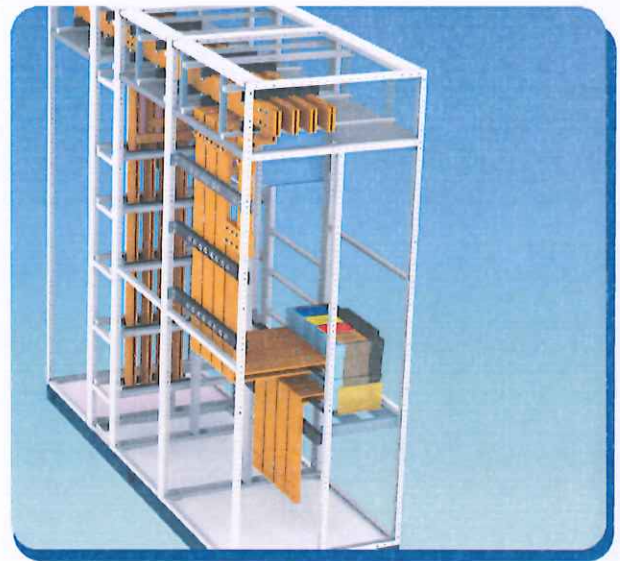
Main and supporting frames	: 2.0/ 2.5mm thick
Doors and Covers	: 2.0mm thick
Equipment plate	: 2.0mm thick
Internal partitions/ barriers	: 1.6mm thick
Gland plate	: 3.0mm thick
Base channel	: 3.0mm thick

### Product Range

Total panel height	: 2100/ 2200mm
Feeder Module Size	: 200mm (1 Module)
I/C Vertical Width	: 800/1000/1200mm
O/G Vertical Width	: 600/800mm
Vertical Cable/ Bus chamber Width	: 300/ 400mm
Horizontal Bus chamber height	: 300/ 400mm
Base Channel Height	: 90mm



Easy to Assemble Feeder Unit



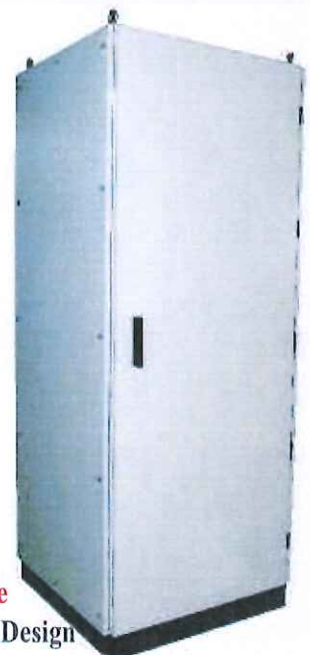
Simple ACB Termination

### Bus bars and supports

Powermax Modular Enclosure system offers great degree of flexibility in bus bars and bus support placement.

The bus support system is designed to facilitate comfortable placement of bus supports in all the three axis viz. X, Y and Z. Standard channels are available to accommodate standard supports from OEM manufacturers and custom made supports such as FRP/ SMC.

For busbar system design assistance, **Powermax Design Office can be contacted.**



Standalone Cubicle  
with option of Extensible Design





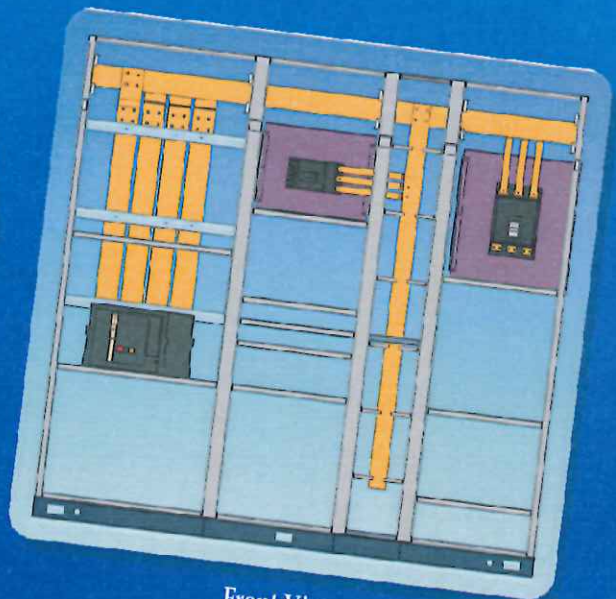
MX Suppo



View



Isometric View



Front View



# AD22 Indicator lamp series

### Brief introduction

AD22-22-25-16 (LED) and AD22-22-25-16-12 (NEON) series of indicator is equally used LED shining chip as light source. Because of long life, low consumption, small volume and light weight, it is a product replaced the older generations XD all kinds of incandescent lamp and indicator of neon lamp by new ones. AD22-25, AD22-22 and AD22-16 indicators produced by our factory have following character: high brightness, good reliability, beautiful shape and careful manufacture. Products are well praised by lots of clients. In order to fit in with quality and aesthetic demand of user, we develop AD22-22B C,D,E,H double-color lamp, position indicator, shining buzzer and mini short indicator, again and use AD22-22G22GS series button style to design shape, and it is possible to seal all kinds of international standard symbols polycarbonate with high intensity and heat better anti-surge performance, set up bayonet connector in it, which will be safer and more convenient. All improvement will be provided convenience and perfection for you.

**Use**  
AD22 series of indicators are used as indicating, foretelling, accident and other signals in the lines of equipment (such as electrical power, telecommunication, machine tool, watercraft, textile, printing, mine machinery, etc).

### Applicable environment

- 1) Environmental temperature: -25°C ~ +55°C.
- 2) Relative humidity: < 95%.
- 3) It can normally work under following condition: vibration frequency is 2-50Hz and accelerated speed is 0.7g.
- 4) Pollution grade is 3 and installed sort is II.
- 5) There is a "TH" sign, and it is possible to work under the moist tropical environment.

### Main technical data

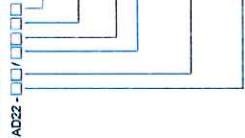
- 1) Voltage of working frequency: 2.5V(AC valid value), 1 min.
- 2) Insulated resistance > 2MΩ
- 3) Voltage wave allowed by AC indicator = 20%
- 4) Continual working life > 30000h
- 5) Brightness > 60cd/m<sup>2</sup>
- 6) Index of leakage CTT1 > 100
- 7) Protection grade IP65, and it is possible to be made to order IP67
- 8) Using frequency AC50-60Hz

### Contrast list of voltage current and code

Voltage code	21	22	23	24	25	26	27	28	29	30	31	32
Supply voltage AC/DC	DC	FD	AC	DC	FD	AC	DC	FD	AC	DC	FD	AC
Voltage(V)	6	12	24	36	48	110	127	220	360	500	220	380
Current	140	172	18-72	18	18	16	16	12	12	12	16	17

Note: "FD" in the list means a non-arcing lamp can be installed on the cupboard of control.

### Type and meaning



### Circuit direction

1) AC and DC indicator (DC, AC6V-DC, AC 220V)



2) AC indicator (AC220V, AC380V)



3) Return of double-color indicator (DC, AC110V-DC, AC220V)



# AD22 Indicator lamp series

Indicator	Circuit diagram	Description	Voltage	Color	Type
AD22-22DS/R (AD16-22DS/R)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Red	AD22-22DS
AD22-22DS/Y (AD16-22DS/Y)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Yellow	AD22-22DS
AD22-22DS/G (AD16-22DS/G)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Green(PG) Blue(PE) White(PW)	AD22-22DS
AD22-22CS/R (AD16-22CS/R)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Red Green Yellow Blue White	AD22-22CS
AD22-22ES/R (AD16-22ES/R)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Red Green Yellow Blue White	AD22-22ES
AD22-22BS/B (AD16-22BS/B)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Red Green Yellow Blue White	AD22-22BS
AD22-22HS/B (AD16-22HS/B)		LED Indicator	6V AC/DC 12V AC/DC 24V AC/DC 36V AC/DC 48V AC/DC 110V AC/DC 127V AC/DC 220V AC/DC 230V AC/DC 380V AC/DC	Red Green Yellow Blue White	AD22-22HS



### ○ Application

LW28 series changeover switch is used in the circuits of AC 50Hz, rated voltage up to **380V**, DC voltage up to 240V, rated current up to 160A, to not frequently switch on/off circuit, transfer and control circuits, also it can directly control small capacity motor or be used for master control or electric meters. The switch is used widely in circuit control, test equipment, switch for motor, master control, welding machine and etc.

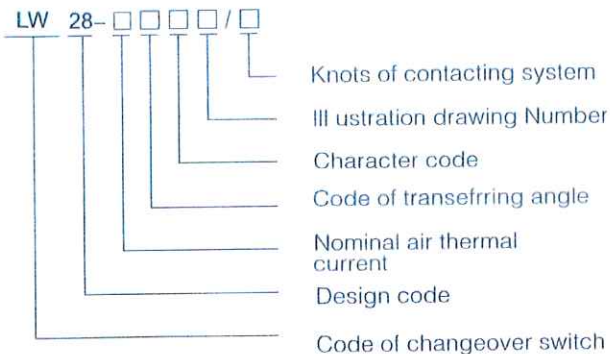
Advantages: small size, multifunction, compact structure, high quality material, good insulation, agile operation, reliability, safety, good appearance. provide function of finger protection.

### ○ Working Conditions

1. Ambient temperature not more than 50°C, the average per 24 hours not exceeds 35°C;
  2. Lowest temperature not less than -25°C;
  3. The altitude not more than 4000m;
  4. At highest temperature +50°C, the relative humidity not over 50%, at lower temperature, higher humidity is allowed, such as at 20°C, 90% humidity allowed.
- It shall adopt the special treatment against the condensation water.

### ○ Type And Meanings

1. Type and meaning of switch for master control



### ○ Classification

1. According to application, the switch divided into the types of changeover of main circuit, direct control motor, master control and measurement.
2. As per operating mode, it divided into positioned type, self-recover type, positioned self-recover type.
3. According to knots of contact system:  
The positioned type: 1~12 knots(63A only has 8knots), self-recover type: 1~3knots, type of direct controlling motor: 1~6knots.
4. According to rotation angle: 30° k, 45° , 60° , and 90° .
5. According to figure of panel: square, rectangular, round types.
6. Classify according to operating mode and combination position of operating device ON, OFF.



