

INSTALL GEESYS APFC PANEL SAVE MONEY BY REDUCING KVAH

GEESYS APFC PANEL

Is there still a difference in kVAh and KWH in your Electricity Bill due to Low Power Factor ?



Particulars	300 KVA	Transformer Loss	Actual KVAh
1. Industrial Cst	4.72 per unit		
2. Bulk Trans Cst	1.77 per unit		
3. Light Trans Cst	0.1171 per unit		
4. Overhead Consumption	0 per unit		
5. Consumer Consumption	0 per unit		
6. Stand Supply Consumption	0 per unit		
7. Total Energy Charge	300 per KVA	251	4,24,57,400
8. Demand Charge			
9. Total Demand and Energy Charge			
10. Meter Rental/Leasing & SUPPLY TAXES			3,000
11. Rebate of Payment Shortage for Demand Billing			0.00
12. Levy for exceeding peak demand (Peak 1500 KW)	0 per KVA	0	0.00
13. Compensation Charge for Loss of PE			0.00
14. Maximum Demand Charge (Peak 1500 KW)			0.00
15. Gross Metering Charge (Peak 1500 KW)			0.00
16. Electricity Tax			11,413.70
17. Adjustment Charge (Peak 1500 KW)			0.00
18. Adjustment Charge (Minimum 1500 KW)			0.00
19. Adjustment Charge (Peak 1500 KW)			8,72,893.00
20. Adjustment Charge (Minimum 1500 KW)			0.00
21. Self Consumption Tax for Demand Billing			0.00
22. Self Consumption Tax for Demand Billing			0.00
23. Self Consumption Tax for Demand Billing			0.00
24. Self Consumption Tax for Demand Billing			0.00
25. Self Consumption Tax for Demand Billing			0.00
26. Self Consumption Tax for Demand Billing			0.00
27. Self Consumption Tax for Demand Billing			0.00
28. Self Consumption Tax for Demand Billing			0.00
29. Self Consumption Tax for Demand Billing			0.00
30. Self Consumption Tax for Demand Billing			0.00
31. Self Consumption Tax for Demand Billing			0.00
32. Self Consumption Tax for Demand Billing			0.00
33. Self Consumption Tax for Demand Billing			0.00
34. Self Consumption Tax for Demand Billing			0.00
35. Self Consumption Tax for Demand Billing			0.00
36. Self Consumption Tax for Demand Billing			0.00
37. Self Consumption Tax for Demand Billing			0.00
38. Self Consumption Tax for Demand Billing			0.00
39. Self Consumption Tax for Demand Billing			0.00
40. Self Consumption Tax for Demand Billing			0.00
41. Self Consumption Tax for Demand Billing			0.00
42. Self Consumption Tax for Demand Billing			0.00
43. Self Consumption Tax for Demand Billing			0.00
44. Self Consumption Tax for Demand Billing			0.00
45. Self Consumption Tax for Demand Billing			0.00
46. Self Consumption Tax for Demand Billing			0.00
47. Self Consumption Tax for Demand Billing			0.00
48. Self Consumption Tax for Demand Billing			0.00
49. Self Consumption Tax for Demand Billing			0.00
50. Self Consumption Tax for Demand Billing			0.00
51. Self Consumption Tax for Demand Billing			0.00
52. Self Consumption Tax for Demand Billing			0.00
53. Self Consumption Tax for Demand Billing			0.00
54. Self Consumption Tax for Demand Billing			0.00
55. Self Consumption Tax for Demand Billing			0.00
56. Self Consumption Tax for Demand Billing			0.00
57. Self Consumption Tax for Demand Billing			0.00
58. Self Consumption Tax for Demand Billing			0.00
59. Self Consumption Tax for Demand Billing			0.00
60. Self Consumption Tax for Demand Billing			0.00
61. Self Consumption Tax for Demand Billing			0.00
62. Self Consumption Tax for Demand Billing			0.00
63. Self Consumption Tax for Demand Billing			0.00
64. Self Consumption Tax for Demand Billing			0.00
65. Self Consumption Tax for Demand Billing			0.00
66. Self Consumption Tax for Demand Billing			0.00
67. Self Consumption Tax for Demand Billing			0.00
68. Self Consumption Tax for Demand Billing			0.00
69. Self Consumption Tax for Demand Billing			0.00
70. Self Consumption Tax for Demand Billing			0.00
71. Self Consumption Tax for Demand Billing			0.00
72. Self Consumption Tax for Demand Billing			0.00
73. Self Consumption Tax for Demand Billing			0.00
74. Self Consumption Tax for Demand Billing			0.00
75. Self Consumption Tax for Demand Billing			0.00
76. Self Consumption Tax for Demand Billing			0.00
77. Self Consumption Tax for Demand Billing			0.00
78. Self Consumption Tax for Demand Billing			0.00
79. Self Consumption Tax for Demand Billing			0.00
80. Self Consumption Tax for Demand Billing			0.00
81. Self Consumption Tax for Demand Billing			0.00
82. Self Consumption Tax for Demand Billing			0.00
83. Self Consumption Tax for Demand Billing			0.00
84. Self Consumption Tax for Demand Billing			0.00
85. Self Consumption Tax for Demand Billing			0.00
86. Self Consumption Tax for Demand Billing			0.00
87. Self Consumption Tax for Demand Billing			0.00
88. Self Consumption Tax for Demand Billing			0.00
89. Self Consumption Tax for Demand Billing			0.00
90. Self Consumption Tax for Demand Billing			0.00
91. Self Consumption Tax for Demand Billing			0.00
92. Self Consumption Tax for Demand Billing			0.00
93. Self Consumption Tax for Demand Billing			0.00
94. Self Consumption Tax for Demand Billing			0.00
95. Self Consumption Tax for Demand Billing			0.00
96. Self Consumption Tax for Demand Billing			0.00
97. Self Consumption Tax for Demand Billing			0.00
98. Self Consumption Tax for Demand Billing			0.00
99. Self Consumption Tax for Demand Billing			0.00
100. Self Consumption Tax for Demand Billing			0.00



GEESYS APFCS Automatic Power Factor Correction Panel

Range

- ⚡ Output Rating: 10 kVAR -1000 kVAR
- ⚡ Switching: Contactor / Thyristorised (Ultra Fast)

Features

- ⚡ Manufactured with highly precise modern Amada CNC machine
- ⚡ 11 tank process for corrosion proof powder coating
- ⚡ Ergonomic, compact and robust design
- ⚡ Designed with Fully copper conductor
- ⚡ Heavy Duty power capacitor for long life
- ⚡ Advance C-MOS technology based micro processor relay for intelligent power factor control
- ⚡ Air core reactor for extra safety from inrush current (High currents)
- ⚡ Provision of top and bottom cable entry
Automatic temp. control through fans and louvers in panel
- ⚡ Double side earthing connection
- ⚡ Ref. Standard: IEC 61921/ IS 8623 / IS 16636 / IEC 61439



Principle Operation

- ⚡ To continuously sense and monitor the load conditions by the use of the external CT (whose output is fed to the control relay).
- ⚡ To automatically switch ON and switch OFF relevant capacitor steps to ensure consistent power factor.
- ⚡ To ensure easy user interface for enabling reliable understanding of system operation, such as display of real time power factor, number of switching operations carried out etc.
- ⚡ To protect against any electrical faults in a manner that will ensure safe isolation of the power factor correction equipment.



GEESYS Technologies (India) Pvt Ltd

No. 33A, Alandur Road, Saidapet, Chennai - 600 015, India.

☎ +91 44 450 12354

✉ info@geesysindia.com

📠 IVRS +91 99620 12354

🌐 www.geesysindia.com



Contactor Switched Panels



CAPACITOR DUTY CONTACTOR

EPCOS contactor switched panels are built with special capacitor switching contactors. Capacitor duty contactors have additional auxiliary contacts with current limiting resistors (also called pre charging resistors) in series with it. The inrush current is limited by these auxiliary contacts coming on first and then the main contacts takes over the steady state current of the capacitors.

Use of capacitor duty contactors enhances the life of capacitors as well as that of the complete system and also limits the system transients thus improving power quality.

For special applications and for system voltages higher than 480V, we offer APFC Panels suitable for operation up to 690V.

Contactor switched APFC panels are more suited for slow varying load or

Contactor Switched Panels



STANDARD PANEL, SWITCHGEAR COMPARTMENT SEPARATED FROM CAPACITOR + REACTOR COMPARTMENT

intermittent constant loads. These are available with current limiting or detuned harmonic filter reactors. Apart from the controllers these are built with indicating panel meters as well as with step ON-OFF indications. With the given site conditions or load these can be made custom built as well.

THE RANGE OF CONTACTOR SWITCHED APFC PANELS

Voltage – 230V to 690V.

KVAr – 7 KVAr to 1000 KVAr.

Steps – 4 to 16 steps.

Panel Type – Standard, Semicompartamentalized and Modular.

Other type of panels with special feature of GSM, remote control monitoring, special dust protection, chemical industry, humid atmosphere are also available on request.

Contactor Switched Panels



**MODULAR, PARTLY
COMPARTMENTALIZED
DESIGN WITH RACK
MODULES,
CONTACTOR SWITCHED**

**STANDARD OR
NON-COMPARTMENTALIZED
DESIGN**



Thyristor Switched Panels



THYRISTOR SWITCHED MODULE

EPCOS thyristor switched APFC panels are built with world class EPCOS thyristor switching modules (TSM). These modules are very effective in eliminating the inrush current of capacitors. They are controlled switching devices which can be made to switch on when the voltage across the thyristor is zero, thereby eliminating the inrush current. Additionally, thyristor switching is used when the load variation is rapid as in the case of cranes, lifts, spot welding, plastic extrusion etc. These static switches have a very high speed and thus are ideal for compensating dynamic loads. Since there are no moving parts, the switching life is very high compared to contactors. EPCOS offers high performance thyristor switching modules for system voltages from 380V to 690V. These modules are natural cooled and are highly reliable and are very compact. The power electronic devices used have a rated PIV of 2200V, one of the highest in its class, thus enhancing the reliability of

Thyristor Switched Panels

MODULAR, PARTLY COMPARTMENTALIZED DESIGN WITH THYRISTOR SWITCHED, FRONT OPEN VIEW

the module. TSM is used with accessories such as 1% (di/dt limiting reactor) and EW22 (quick discharge resistor) to enhance the performance of the system.

Thyristor switched APFC panels are more suited for compensation of fast varying loads such as elevators, cranes, welding, rolling mill loads. These are available with current limiting or detuned harmonic filter reactors. The self diagnostic and natural cooled feature of TSM based panels makes it unique and suitable with very arduous conditions of the loads .



THE RANGE OF THYRISTOR SWITCHED APFC PANELS

- ⌚ Voltage – 230V to 690V.
- ⌚ Phase – 1Ph or 3 Ph.
- ⌚ KVA_r – 7KVA_r to 1000 KVA_r.
- ⌚ Steps – 4 to 16 steps.
- ⌚ Panel Type – Standard, Semicompartmentalized and Modular

Other type of panels with special feature of GSM, remote control monitoring, special dust protection, chemical industry, humid atmosphere or individual phase corrections are also available on request.



GEESYS Technologies (India) Pvt Ltd

No. 33A, Alandur Road, Saidapet, Chennai - 600 015, India.

☎ +91 44 450 12354

✉ info@geesysindia.com

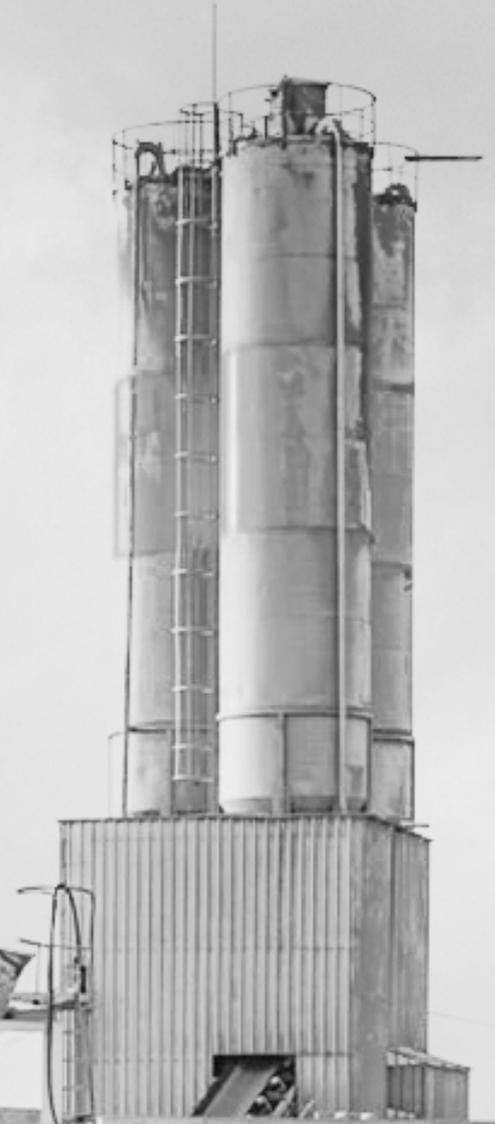
📞 IVRS +91 99620 12354

🌐 www.geesysindia.com





POWER FACTOR APFC



Description

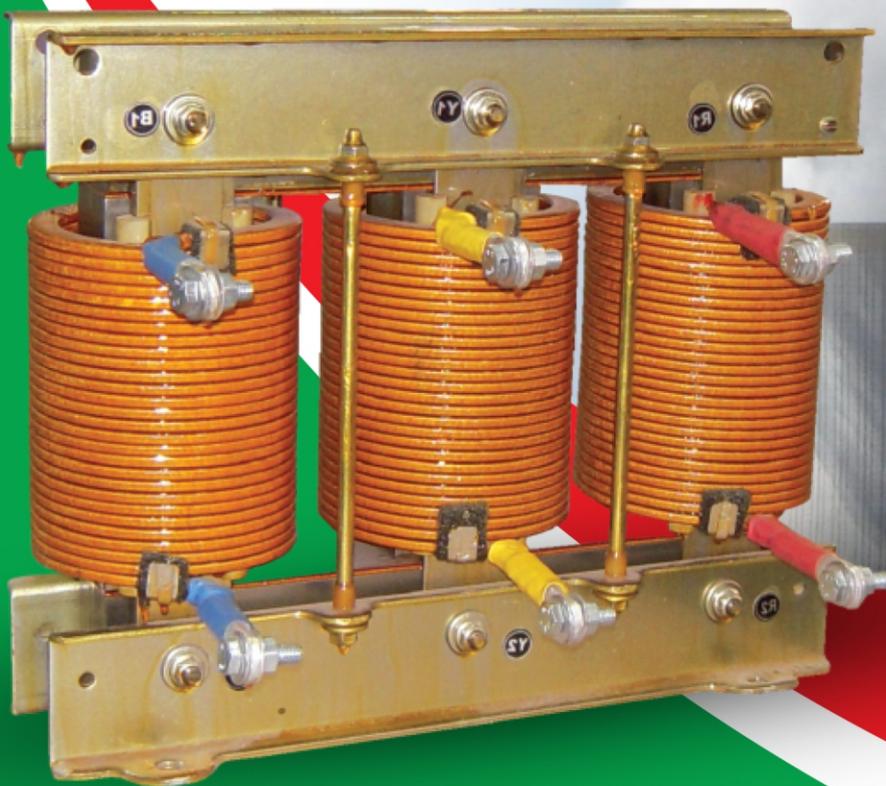
- ⚡ Available from 25 KVAR TO 325 KVAR in Series-I and Series-II
- ⚡ Heavy Duty 3 Phase Cylindrical Capacitor
- ⚡ Expandable Intelligent PF Control for small medium load networks
- ⚡ Ultimate solution for compensation of unbalanced loads
- ⚡ Measure the reactive power of the system through 3CT's from all 3 phase
- ⚡ Highly intelligent Micro processor based 3 phase P.F. Controller with optional
- ⚡ Dual P.F. Setting
- ⚡ LCD Controller with inbuilt Load Manager with front optical port
- ⚡ Optional Plugable Data logger, Ethernet, USB, RS485, GSM modern and capacitor protection modules
- ⚡ Powder Coated-Structure finish with attractive Deep Orange and Dark Blue finish
- ⚡ Incomer TPMCCB
- ⚡ HRC/HCB's are used for backup protection

Technical Specifications

#	Parameters
Parameters	Type-I – Standard Enclosure with separate compartment for Capacitor Banks & Switchgears. Type-II – Modular bolted structure with separate compartments for outgoing HRC / MCB / MCCB and Contactor for each Capacitor Bank. Capacitor Banks are in separate compartment.
Enclosure Finish	Type-I – Epoxy polyester powder coated Deep Orange and Deep Blue structure finish Type-II – Epoxy polyester powder coated RAL 7035 and Deep Orange structure finish Internal parts: rust proof zinc passivated / powder coated
Rated Voltage	415V-440V/50Hz
Output Rating	(Refer to Banking Configurations) Other output ratings, switching combination or design voltages are available upon request
Capacitors	Heavy Duty Cylindrical Power Capacitors used which are rated at 440V, 50Hz
Contactors	Capacitor Duty Contactors with early make contacts
Incoming / Outgoing	MCCB 25kA as Incomer and HRC Fuses / MCB's / MCCB's for backup protection of cap. banks (other combinations on request)
Auto Manual Arrangement	On-Off Push Buttons with ON Indication Lamps. Selector Switch for Auto / Manual mode (optional)
Cooling Arrangement	Axial Flow Fan with Louver and thermostat
Protection class	IP 40
Wiring & Busbar	HR Copper wires are used for all wiring connections to Electrolytic grade Aluminium Busbar section
Power Input	3 Phase with ground (neutral line is not required)
CT Input for sensing	5A/1A from all 3 phases or 1 phase as per controller type
Discharge Resistance	10% of the rated capacitor voltage in about 30 seconds after switching 'OFF' through MOR



HARMONIC BLOCK REACTORS



Description

Geesys filter circuit are designed as three-phase reactors with an iron core and air gap. Harmonic Filter Reactors are made out of highest quality material and very stringent quality control. It has been designed with properties like low temperature rise and lower flux density so that it can operate in worst conditions of ambient and harmonic overloads. They offer very good degree of linearity. Cheaper and non-linear reactors may trigger undesirable chain phenomena during periods of operation with high harmonic values, such as reducing in the inductance with consequent increase in the resonance frequency of the LC group, which would drain off more harmonic current, further reducing its inductance and overload the reactor more and more. Reactors are available with filtering factor of 7% and 14% in 12.5, 25, 50 and 100 KVAR rating. Any other filtering factor and rating can be made on request.

Technical Specifications

#	Parameters
Standard Voltage (Un)	415/440/480V/550/690
Rated Voltage : 3 x 415V Rated (KVAR)	5,10,12.5, 25, 50 &100
Frequency	50 Hz
Capacitance Tolerance	-1000 V
Test Voltage Filtering factors / Tuning Freq.	3000 V 7%, 189 Hz 14%, 134 Hz
Tolerance of inductance	±3%
Linearity ($L > 0.95 \times L_n$) Ambient temperature	200% + 55 C
Insulation class	H
Cooling method	Natural cooling (AN)
Installation, Protection degree	Indoor, IP 00
Operating altitude	1000m above sea level at rated operation
Temp. sensor (normally closed)	155 C
Reference standard	IEC 61558-2-20





GEE SYS Technologies (India) Pvt Ltd

No. 33A, Alandur Road, Saidapet, Chennai - 600 015, India.

+91 44 450 12354

info@geesysindia.com

IVRS +91 99620 12354

www.geesysindia.com

Follow Us

