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EnergyAce Automatic Power Factor Correction

The EnergyAce range of Power Factor Correction systems have been designed to address the challenges found in many of today's diverse power needs and encompass many years of development and experience to deliver reliable and cost effective energy saving solutions world-wide

THE KEY FEATURES & BENEFITS ENERGYACE POWER FACTOR CORRECTION

~ Heavy Duty Long Life Vishay Capacitors Minimum 440v (525v Detuned)

~ Heavy Duty Long Life Detuning Reactors (189Hz Detuned)

~ Correction to 1.00pf (100% Efficiency)

~ Automatic Plug & Play Set Up (No Need for Commissioning)

~ Installer Friendly Design for Ease of Installation

~ Power Factor Display, Harmonic Alarm and Multi Meter Function

~ Fully Extendable for Future Expansion

~ Flexibility in Manufacture, Dimensions & Rating

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~ High Overload Capability

~ Protection Systems

~ Reassuringly Long Warranties

~ Low Maintenance

~ Maintenance Friendly Design with Accessible Components

~ Wide Range of Models to Suit All Environments & Performance Requirements

~ Standard Range 1kVAr to 1000kVAr

BENEFITS

~ Reduces Energy Consumption - kw/h losses

~ Removes Reactive Power Charge Penalties on Energy Bills

~ Reduces Availability & Capacity Charges on Energy Bills

~ Reduces Maximum Demand based Charges on Energy Bills

~ Improves Renewable Generation

~ Reduces Carbon Emissions

~ Reduces Circuit Currents & Allows For Connection of Additional Loads

~ Reduces Maintenance Costs

~ Eligible for Grant Funding (contact our office for further information)

All mains powered electrical equipment are rated according to their power factor (electrical efficiency), a rating above 0.95pf (95% efficient) is generally considered as good efficiency with the maximum attainable being 1.00pf (100% efficient).

Penalties are generally applied to energy bills when a site operates on a power factor below 0.95pf (95% efficient) in the form of a **Reactive Power** charge although any power factor less than 1.00pf will attract penalties in the form of higher energy bills.

The degree of electrical efficiency is improved by the introduction of Power Factor Correction, a system that introduces power factor correction capacitors to counteract the negative effects of all types of inductive loads like motors.

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Motors can come in many forms, machines, conveyors, mixers, compressors, HVAC, escalators, lifts, all these can be considered as motors and an inductive load that in most cases will require some form of automatic power factor correction.

Power factor correction can considerably reduce circuit currents to allow for additional loads to be introduced to an otherwise overloaded electrical supply and in some cases negate the need for larger electrical supplies and infrastructure when expansion occurs.

Renewable generation can considerably benefit from power factor correction, the reduction of reactive power in the process of power generation with turbine technologies greatly increases export and reduces import of energy offering two opportunities to reduce overall energy costs.

In countries with a developing electrical network and economy, a demand for power commonly outstrips capacity leading to the loss of electrical supply, brownouts and wild voltage swings, power factor correction is vital in these circumstances to relieve pressure on the network .

EnergyAce formed in 2002, have a range of power factor correction systems designed and developed in association with Vishay a world leader in capacitor manufacture and design, our expertise is reflected with many decades of internal experience and award winning business performance.

Sectors utilising the EnergyAce Power Factor Correction system include:

~ Food

~ Plastics

~ Chemical

~ General Manufacturing

~ Agriculture

~ Retail

~ Leisure / Fitness & Hotel

~ Telecommunications

~ Medical & Scientific

~ Commercial & Educational

~ Developing Power Networks

~ Emerging Growing Economies

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Options

~ Incoming Protection MCCB

~ Over Temperature Protection

~ Remote Control / Monitoring

~ Surge & Lighting Protection

~ Single Phase Options

~ Environmental – Up to 60 Deg C (extreme options available)

Standards & Specification

Supply:	400 / 415V 3 phase 50Hz (other voltages & frequency available on request)
Installation:	3 wire (no neutral required)
Standards:	BSEN60831 (IEC831 & IEC70/70), BSEN60439, BSEN60204
IP Rating:	IP42 min (other IP rating available on request.
Operating temp:	-25oC/group D (others available on request)
Losses:	Standard 0.2 watts / kVar
Construction:	14g mild steel fully welded enclosure with hinged lockable door
Finish:	RAL7035 textured light grey (others available on request)
Discharge:	less than 50V one minute after switch off
Cable termination:	M10 on to Busbar, MCCB or Isolator (cable box available for bottom entry)

Optional extras: selector switches, door interlocked isolation devices, alarms, surge suppression

Options available in rating, design & dimensions – see dimensions on next page

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Standard Power Factor Correction - Approximate Dimensions & Weights

kvar rating	Dimensions HxWxD mm	Weight Kg	Additional Width Inc Optional Cable Box mm
30	700x400x210	35	200
50	800x500x210	52	200
62.5	800x500x210	54	200
75	900x600x300	56	200
87.5	900x600x300	60	200
100	900x600x300	61	200
125	1100x600x300	65	400
150	1100x600x300	69	400
175	1300x600x300	72	400
200	1300x600x300	77	400
250	1700x800x400	104	400
300	1700x800x400	112	400
350	1900x800x500	172	500
400	1900x800x500	182	500
450	2100x800x600	192	500
500	2100x800x600	202	500
550	2100x1000x600	212	500
600	2100x1000x600	222	500

Detuned Power Factor Correction - Approximate Dimensions & Weights

kvar rating	Dimensions HxWxD mm	Weight Kg	Additional Width Including Optional Cable Box mm
37.5	1300x600x400	180	400
50	1300x600x400	190	400
75	1700x600x600	240	400
100	1700x600x600	242	400
150	2100x600x600	282	500
175	2100x800x600	345	500
200	2100x800x600	356	500
250	2100x800x600	393	500
300	2100x800x600	451	500
350	2100x800x800	490	500
400	2100x1000x800	617	500
450	2100x1000x800	627	500
500	2100x1200x800	714	500
550	2100x1200x800	752	500
600	2100x1600x800	885	500

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Harmonics & Standard Non-Detuned Capacitors

Many modern electrical equipments use thyristors, invertors and rectifiers e.g. to effect speed control of motors and temperature control of heater banks. Other power electronics are used in such items as UPS and battery chargers. Such non-linear devices produce harmonic disturbance and can dramatically increase the current flowing in the system in addition to other harmful effects. Capacitors and other electrical devices can be damaged by these harmonics.
If you have any harmonic producing loads, please advise us so that we can ensure that your capacitors do not suffer as a consequence