



Proteus 400V Switchgear

controlling the future



MANUFACTURED
IN THE UK



be prepared with Proteus

The re-written standard for 'Low-Voltage Switchgear and Controlgear Assemblies', BSEN61439 parts 1 and 2 replaces parts of the BSEN60439 series.

As a UK manufacturer of power switchgear and controlgear assemblies, Proteus – Industrial Division has invested heavily over the last three years to maintain its commitment to product compliance and ensure that our goods meet the requirement of the BS EN 61439-2:2011, which is mandatory by November 2014.

This verification programme will continue to give our customers confidence and trust they need in the design, safety and reliability of power switchgear assemblies.

Testing covers a multitude of performance parameters, below is a fraction of what is involved:

- Strength of materials and parts
- Degree of protection (IP rating)
- Clearance and creepage
- Protection against electric shock
- Incorporation of switching devices
- Internal circuits and connections
- Dielectric properties
- Temperature rise limits
- Short-circuit protection and withstand strength
- Electromagnetic compatibility



**Compliance is the
key to success.**

**Is your current supplier
of switchgear prepared?**



INDUSTRIAL

scottish & PROJECT southern electric ZEBEC BIOGAS

CONTRACTOR

CRAIG MOFFAT

PRODUCT

PRO2000 LV SWITCHBOARD



An anaerobic digestion facility described by its developers as the "first of its kind in the UK". The plant is Scotland's largest combined organic waste treatment and energy generating facility

Proteus was supplier of the switchboard comprising of 2500A mains Air Circuit Breaker (ACB) and 1000A generator ACB. Key interlocked for manual changeover system, 2 locks 1 key. Essential load supplied by a 600A automatic changeover system providing fully automatic changeover to generator and automatic return to mains. System includes loss of single phase, phase rotation and low voltage monitoring. Terminals are provided for interfacing with the generator control panel. Gen stop / start signal contact and terminals to accept generator ready for load contact. Mains or generator contactor ON indicator lamps and test key switch.

300 kVAr (6 x 50 kVAr steps) of power factor correction capacitors with automatic control relay. Hand off Auto switches allow manual selection of individual stages if required.

Metering of most outgoing circuits via a digital multi meter reading Amps, Volts, Frequency, Power Factor, kW, KVA, kVAr, kWh, kVAh.

dunlop

PROJECT **oil & marine**

PRODUCT

PRO2000 LV SWITCHBOARD

Main switchboard arranged for front access cabling with Form 4 segregation; Ingress Protection to IP31.

Proteus & CEF worked with Dunlop over a 5 year period, replacing a total of 8 switchboards. The switchboards replaced existing 1960's switchgear and had to be manufactured to accommodate the existing cabling.

The switchboard shown is the replacement Main Switchboard. The project was to replace the existing panel and accommodate the existing cables. Due to the value of the board Dunlop invited tenders from other suppliers. However, Proteus Industrial was the only company who could accommodate the cabling, other suppliers had only been interested in supplying standard arrangements. In addition to the existing cabling integral PFC was built in.

The switchboard consisted of 2 x 2000A ACB incomers and a 2000A Bus Coupler. A key interlock system was provided to prevent parallel running. Outgoing devices were fitted with metering.





innovia PROJECT films

CONTRACTOR

NEVILLE COX

PRODUCT

PRO2000 LV SWITCHBOARD



In March 2014, Innovia Films announced that they had signed a contract with the Bank of England for Innovia Security to supply Guardian® polymer substrate for the next generation of £5 and £10 bank notes and as a result, they are working to construct an Innovia Security plant on land adjacent to their Wigton, Cumbria BOPP facility. The plant is expected to be completed and operational by 2016 and will result in 70 to 80 new jobs.

Proteus Industrial switchgear has supplied Innovia Films since 2010 in an on-going programme of replacing much of their old switchgear with the latest, and in some cases totally bespoke, control equipment. By working closely with Neville Cox, Electrical Engineering Manager - OPP and his electrical team at Innovia, a new order has just been placed by City Electrical Factors (CEF) Carlisle branch, for two purpose built Pro2000 switchboards to distribute 400v power throughout the state of the art Innovia Security facility as part of the programme. Designed and built in the Proteus factory in Telford, Neville was able to see his specification being made during a recent visit. "As a British manufacturer ourselves it is great to be able to talk and actually see our own panel being built" said Neville, "I cannot think of another company left in the UK that could offer this service."



STORY
03



INDUSTRIAL

proclad group

PROJECT

CONTRACTOR

D GARDINER ELECTRICAL

PRODUCT

**PRO2000 LV LOAD CENTRE
1600A INCOMER C/W NON TARIFF DMM
CLASS 1 & 2 TNS SURGE ARRESTOR
FLEXIBLE GLAND PLATE TO SUIT
EXISTING INCOMING CABLES**

Sales Engineers visited Proclad to offer P.F.C. solutions. Whilst there, they made arrangements to meet the factory's Facility Manager. The team explained to the Facility Manager what Proteus could offer them to improve their company's electrical installation.

The Proclad Facility Manager explained that due to expansion and new machinery, the factory was looking to upgrade its power supply with a new main switchboard, something that Proteus pride themselves on providing.

Proteus then carried out a site survey and along with the electrical contractor designed a bespoke board which fitted in nicely with the existing system. For convenience, the implementation of the new system had to take place over the weekend. However, the installation was completed with a day to spare as, to quote the Electrical Contractor, boards designed by Proteus 'fit like a glove'.





drayton manor

THEME PARK - THOMAS LAND

PROJECT

CONTRACTOR

BIRCH ELECTRICAL AND DATA

PRODUCT

PRO2000 LV SWITCHBOARD



Proteus Switchgear PRO2000 LV switchboard was designed to tap off from an 11kV ring to supply the vast majority of the Thomas Land's electrical needs.

The timescale for the project was tight from the onset and as quoted by the contractor only Proteus Switchgear offered to meet the challenge. The goods were specified, quoted, designed and supplied within 8 weeks. Keeping the progress of the project on schedule and supporting the contractor along the way with respect to technical support and advice were key to customer satisfaction.

Proteus Switchgear were also noted for their excellent co-operation and team work when it came to accommodating a significant mid-project modification to the switchboard involving the upgrading of an outgoing switch fuse from 100A to 250A. With the assistance of Proteus staff the work involved in changeover was completed in less than 1 hour.

The contractor claims the high profile of the installation and overall successful completion and handover of the project has also increased the profile of his company and led to further job opportunities for his team with work on this scale.



north PROJECT foreland GOLF COURSE, BROADSTAIRS, KENT

CONTRACTOR

H. W. SMITH

PRODUCT

PRO800 PANEL BOARD

Proteus Switchgear supplied a Special MCCB panel board to fit in a restricted size room. Built as an L shape to fit into corner of room. 400A incomer arranged for top entry cables feeding 19 x 63A TP and 1 x 25A SP MCCBs. The TP MCCBs are pre-wired to direct connection, full load, and non-tariff kilowatt hour meters. Built to IP31, front access and form 3B type 2 group mounted.

Proteus Industrial Switchgear once again demonstrates the 'solution solving' versatility within its range of products.



ramada PROJECT hotel CANNOCK

PRODUCT

PRO2000 LV SWITCHBOARD

Pro2000 switchboard to Form 2, IP31 and front access cabling. 2000A main incomer feeding 32 x 63A & 100A TP&N and 28 x SP&N MCCB's all with kWh meters monitoring outgoing loads. Board also fitted with a 12 way local distribution board and 1000A TP&N MCCB with kWh meter monitoring existing loads.

The board monitors a hotel complex supplying the hotel and retail outlets around the hotel perimeter. To best utilise space within the complex grounds the switchboard was installed in a purpose built switch room located in the traffic island at the centre of the complex road way. To fit in the available space the board was built "back to back" giving a double fronted board.

STORY

06





PROJECT **KJ electrical**

CONTRACTOR
KEITH JONES

PRODUCT
PRO800 PANEL BOARD

Proteus Industrial provide bespoke 160A - 180A earth leakage units to the requirements of their customer KJ Electrical.

KJ Electrical are a national company who install power supplies to wind and solar farms. Keith Jones from KJ Electrical needed the earth leakage units to provide RCD protection to the AC supply generated by the wind and solar farms.



PROJECT **sharpe
Interpak**
AYLESHAM, KENT

CONTRACTOR
ED HUTCHINSON

PRODUCT
PRO2000 INCLUDING PFC

Firstly cost savings were made against a major competitor who originally quoted the contractor. Secondly the client Sharpak requested that the switchboard and switch fuses to be in their corporate colour. Finally delivery was also a key factor and Proteus offered by far the best delivery time and worked closely alongside the contractor on technical issues, liaising with them on delivery and installation.

Sharpak are focused on reducing carbon foot print and investment in PFC and upgrading their switchboard made this possible.



R E T A I L

kwikfit

PROJECT

CONTRACTOR

DSSR

PRODUCT

PRO800 PANEL BOARD

Proteus Industrial Switchgear have been manufacturing purpose built, Moulded Case – Composite Panel Boards for Kwik Fit – Motoring Centres since 1995 and to date have supplied more than 100no' panels across the UK.

DSSR – Electrical Consultants in Harrogate have recently improved the panel design, modernising it for use within BS7671 Amendment 1&2 – 17th Edition Wiring Regulations. The panel is specifically designed to fit a purpose built space within the stores with room for the electricity boards cut out and metering equipment.



Kwik Fit

carphone warehouse

PROJECT

PRODUCT

PRO800 PANEL BOARD

Proteus supplied a number of Carphone Warehouse outlets with a simplistic energy management panel. The customer was able to control the heating and lighting contactors from a "Last man out" switch. This ensures all non-essential circuits are switched off when staff members leave at the end of the day.



Carphone Warehouse

STORY
08

center parcs

PROJECT

CONTRACTOR

CENTER PARCS M&E

PRODUCT

ABX BOARD



The ABX board is the smallest three phase Industrial board on the market today, and was created from an enquiry that the Nottingham branch had from one of their largest customers – Center Parcs.

Center Parcs required a three phase supply for their chalets but did not like the large industrial boards available on the market. Proteus was asked if we could supply a smaller board but with the three phase supply facility, Industrial Division then developed the ABX board, a truly unique alternative design.

The ABX board is available with a solid metal enclosure that is supplied with a side hinged opaque steel construction door, it comes standard with a three phase busbar and a 100A 4P isolator pre-fitted, removable top gland plates and rear knockouts for easier installation, the ABX comes in a range of outgoing ways from 2 - 8 (horizontally). The board can be fitted with a translucent (PC) front door panel on request and a lockable lid must be specified as it is an optional extra. Alternative incomers also accommodated e.g. 4 Pole RCCBs.

PROTEUS OFFER:

FREE SITE SURVEYS

FREE QUOTATIONS

FREE TECHNICAL DRAWINGS

UPON REQUEST

Proteus CAD drawings or technical wiring diagrams accompany any bespoke product order

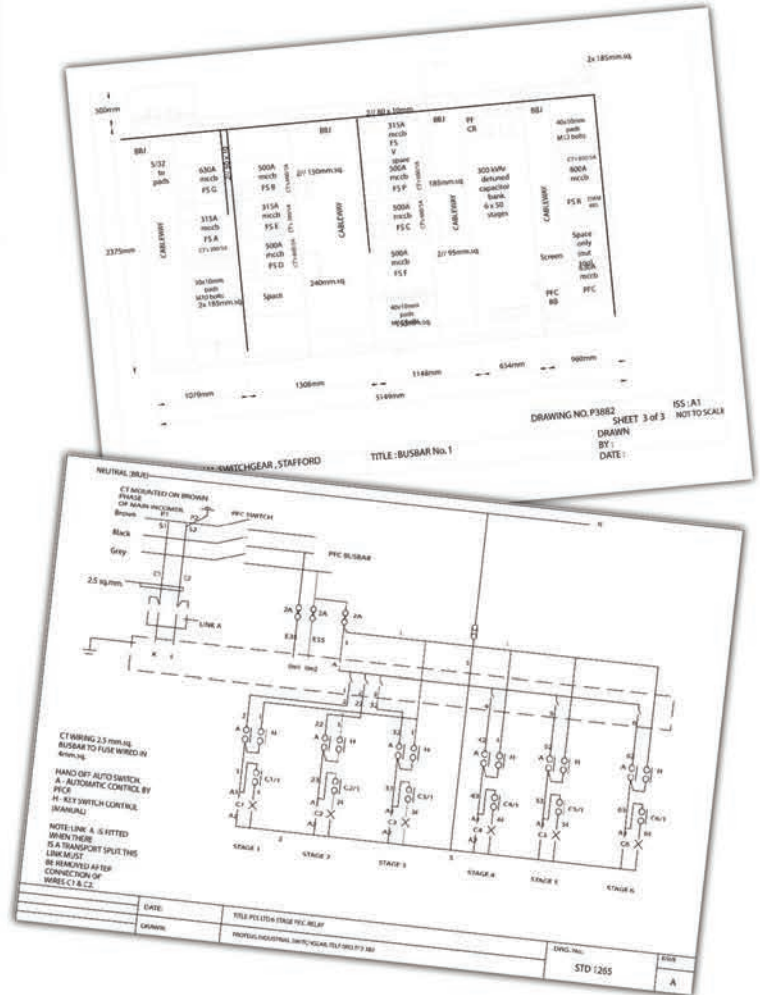


Bentley **HEVACOMP**

amtech **LUCKINSlive**

Proteus are now
live on Bentley
Hevacomp® ready
for your selection

Find a wide range of
Proteus products on
the Luckins® database



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