**CONNECTING YOU TO WORLD-CLASS MINING ELECTRICAL SOLUTIONS**

Allenwest Ampcontrol designs, manufactures and delivers integrated electrical solutions that improve safety, maintain efficient mining operations and meet stringent regulatory requirements.

We are the industry leaders in integrated electrical, monitoring and control solutions for mining applications.

Our customised solutions are designed to meet the operational requirements and specifications of our global customers. We also support the equipment we supply with spare parts and field service to ensure equipment runs as it is supposed to, doesn’t break down and is statutory compliant.

**OUR PEDIGREE**

Allenwest Ampcontrol brings together two of the world’s leading specialists in their class; the heavy duty flameproof enclosures of Allenwest Wallacetown with the superior electronics of Ampcontrol.

Acquired by Ampcontrol in 2007 the business has continued to lead the market in the provision of Explosion Protection (Group 1 and 2) products for hazardous areas. With our products shipped to over 50 countries across the world from our UK base in Irvine Scotland.

Ampcontrol is one of the world’s premier suppliers of innovative electrical and electronic solutions. We have been in operation since 1968 and boast a global footprint which spans Australia, South East Asia, Europe and Africa. Ampcontrol specialises in system integration and power infrastructure for industrial, mining, tunnelling and renewable markets.

**STANDARDS**

Our solutions are supplied to the following standards as required:

- ATEX
- MA
- GOST
- DGMS
- IECEx
OUR CUSTOMISED ELECTRICAL CAPABILITIES

Ampcontrol provides mine wide electrical solutions, incorporating flameproof and intrinsically safe power distribution and control equipment as well as a range of fully integrated gas monitoring, conveyor control, lighting and fibre optic systems.

POWER DISTRIBUTION & CONTROL

Custom designed flameproof equipment for the distribution of electricity supply, protection, monitoring and control of equipment in hazardous area mining environments.

GAS DETECTION ENVIRONMENTAL MONITORING

Specifically designed for use in coal mining, Gasguard is a highly reliable Group 1 Ex ia certified gas detection system that provides real time monitoring of gas levels integrated into site controls.

Dieselguard provides gas and temperature monitoring, machine shutdown, alarm status and data acquisition for diesel machines in underground mines.

CONVEYOR MONITORING & CONTROL

Safe, efficient and highly integrated, our conveyor monitoring and control systems are driven by our award winning iMAC system and include emergency stop, remote isolation, prestart warning, intercom and broadcast messaging functionality.
miNe WiDe LighTiNg SYSTeMS

We offer a variety of longwall, vehicle and mine wide lighting solutions which can be customised to meet the specific and unique requirements of each mine.

COMMUNICATION SYSTeMS

We support voice communication with IS phone systems incorporating intercoms, broadcast messaging and phones.

Our fibre optic distribution system, H3RO, is a reliable, scalable and cost effective system designed specifically for underground use.
Ampcontrol are recognised as a world class designer and manufacturer of high voltage hazardous area electrical equipment. We work with our clients to deliver mine wide power distribution packages that ensure robust operational capacity.

**POWER DISTRIBUTION & CONTROL**

Ampcontrol’s AUK1000 is the advanced multifunction technology base for Ampcontrol’s power distribution solutions such as motor starters and circuit breakers.

The AUK1000’s primary role is the reliable control, monitoring and protection of electrically driven plant and machinery in hazardous areas. It offers advanced safety, productivity and maintenance features as well as a durable flameproof enclosure.

**Features**

- IECEx certified protection relay
- Multi-function applications with capacity up to 400A and 1,100V
- Customisable isolator and contactor options
- Independent or simultaneous drive sequencing
- Up to four outlets per unit, free standing or assembled into multiple configurations

Ampcontrol’s load centres help customers meet high productivity demands through the simultaneous control of multiple machines by a single unit.

Applications include the supply and protection of continuous miners, longwall shearers, conveyors, water pumps, electric drills and ventilation fans. Load centres feature sophisticated control and protection systems.

**Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage range</td>
<td>500V to 6600V</td>
</tr>
<tr>
<td>Control system</td>
<td>User friendly diagnostics and operational information via colour screen HMI</td>
</tr>
<tr>
<td>Drive modules</td>
<td>Up to 16 drives as per requirements</td>
</tr>
<tr>
<td>Vacuum contactors</td>
<td>150A-500A</td>
</tr>
</tbody>
</table>
**AW2000 Power Centres**

A trusted field proven design, our power centres are formed by mounting a load centre directly onto a transformer. The units provide voltage control and protection to low and medium voltage equipment in underground environments.

The primary side of the transformer is equipped with an HV circuit breaker and secondary transformer protection is incorporated into the incoming section of the load centre.

**Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer rating</td>
<td>Up to 4.5 MVA</td>
</tr>
<tr>
<td>Mounting</td>
<td>Skid frame or rail mounted</td>
</tr>
<tr>
<td>Voltage range</td>
<td>1,100 V, 6,600 V</td>
</tr>
</tbody>
</table>

**SW202 Gate End Boxes**

Ampcontrol’s robust range of gate end boxes control the incoming supply to low voltage electrical motors, providing reliable control and protection in hazardous area coal mines.

The flameproof units are tailored to suit a range of applications including circuit breakers, motor starters, loop winch control, lighting and intrinsically safe power supplies.

The modular design allows for supply as a single freestanding unit or assembled as switchboards.

**Features**

<table>
<thead>
<tr>
<th>Supply system</th>
<th>For usage on systems up to 1,140 V, 3 phase, 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>500 V - 1,100 V</td>
</tr>
<tr>
<td>Vacuum contactors</td>
<td>150 A to 400 A</td>
</tr>
</tbody>
</table>

**Distribution Transformers**

Our dry type transformers used in power centre packages are robust flameproof units designed to reduce maintenance requirements and provide maximum reliability.

Design options include 3 and 5 limb low height construction, disc or spiral wound core construction, a range of vector groups and optional integrated temperature protection.

**Features**

<table>
<thead>
<tr>
<th>Primary voltage range</th>
<th>Up to 11,000 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary voltage range</td>
<td>400 V - 6,600 V</td>
</tr>
<tr>
<td>Transformer rating</td>
<td>Up to 4.5 MVA</td>
</tr>
</tbody>
</table>
MEDIUM VOLTAGE DISTRIBUTION

Ampcontrol’s MV Circuit Breaker range can be applied for critical plant control, monitoring and distribution for secondary power centres, booster fan installations and main trunk belt conveyors.

Developed from our highly successful AW2000 motor starter range, the units are available as free standing units with optional facilities to cable the incoming supply through to another unit or arrange for assembling in switchboard formation by means of bus bar intertrunking boxes. Complete switchboards can be supplied for use in customised and permanent installations.

Features

<table>
<thead>
<tr>
<th>Configurations</th>
<th>Single or multiple switchboard configurations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltages</td>
<td>3,300V - 11,000V</td>
</tr>
<tr>
<td>Breaker type</td>
<td>Vacuum</td>
</tr>
<tr>
<td>Current</td>
<td>630A</td>
</tr>
<tr>
<td>Breaking current</td>
<td>20kA</td>
</tr>
</tbody>
</table>

MEDIUM VOLTAGE MOTOR STARTERS

Motor starters are used for the protection and control of MV motors including conveyor motors, pumps and fans and have the flexibility to be supplied with one or two main drives, or alternatively one drive and an auxiliary transformer up to 5kVA, or two auxiliary transformers up to 5kVA rating each.

Auxiliary transformers can be supplied with various secondary voltages and appropriate control and protection for lighting or ancillary drives such as winches, brake solenoids, fines conveyors, cooling fans and pumps.

Features

<table>
<thead>
<tr>
<th>Construction</th>
<th>Single or multiple units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltages</td>
<td>3,300V - 6,800V</td>
</tr>
<tr>
<td>Contactor type</td>
<td>Vacuum</td>
</tr>
<tr>
<td>Current</td>
<td>630A</td>
</tr>
<tr>
<td>Protection</td>
<td>Electronic overload, phase sensitive short circuit and earth fault</td>
</tr>
</tbody>
</table>
VACUUM CONTACTORS

Ampcontrol heavy duty contactors have been developed for use in the most arduous conditions, primarily for direct on-line switching of squirrel cage induction motors.

They are also suitable for other applications including transformer and capacitor switching.

Models
- Types CMV 15, CMV 30 and CMV 40 for voltages up to 1.2kV
- Types CHV 30 and CHV40/50 for voltages up to 3.6kV

ISOLATORS

For a plug-in option, isolators can be mounted on a support frame and arranged with solid copper connections to plug-in contact assemblies.

This arrangement is particularly useful in applications with restricted access for cabling.

Models
- Type A76, 400A 1,200V
- Type B77, 350A, 600A and 700A, 3,300V
- Type C79, 350A or 700A, 3,300V
- Type B81, 400A or 500A, offload only, 6,600V
- Onload and offload variations available

INTRINSICALLY SAFE POWER SUPPLY

The Ampcontrol IS low voltage power supply is designed for use in underground coal mines, in conjunction with other certified equipment and/or as a replacement for other IS power supply units.

The unit employs active protection with multiple independent production circuits and is encapsulated for use in approved IP65 (minimum) enclosures.

Features
- Highest level of Intrinsic Safety (Ex ia)
- Wide operating temperature range -20°C to 80°C
- Universal operating voltage range (85 - 265VAC)
- High efficiency
- Compact and lightweight enclosure
GAS DETECTION AND ENVIRONMENTAL MONITORING

Mine wide gas monitoring systems can be engineered to site requirements, allowing critical data from flammable and toxic gases as well as oxygen levels to be quickly transmitted to the surface for further analysis.

GASGUARD

Gasguard is a complete gas and oxygen detection system designed for use in underground coal mines.

The system is designed for mine wide usage including continuous miners, roof bolters and longwall machines and integrates with mine SCADA/PLC systems to provide user friendly data acquisition.

Features

<table>
<thead>
<tr>
<th>Toxic sensors</th>
<th>Carbon monoxide and hydrogen sulphide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable gas sensors</td>
<td>Methane</td>
</tr>
<tr>
<td>Sensor enclosures</td>
<td>IP66 cast stainless steel</td>
</tr>
<tr>
<td>Controller</td>
<td>Programmable IS controller</td>
</tr>
<tr>
<td>User interface</td>
<td>Easily operated and reprogrammed</td>
</tr>
</tbody>
</table>

DIESELGUARD

The Ampcontrol Dieselguard diesel machine gas monitor is a gas detection and alarm control unit that can be used to shut down the fuel supply and air intakes on diesel machines.

The monitor is fitted with encapsulated electronics and IS terminations to external sensors and displays.

Features

- IP66 low profile sealed enclosure
- On fully specified units, logged data can be downloaded by a microwave radio signal when the vehicle is within a 50m range of the refuelling centre
- Central logging station
CONVEYOR MONITORING AND CONTROL

Our highly integrated monitoring and control systems suit a variety of above and below ground mining applications. Our focus is on delivering low cost multifunctional installations, high data output systems to assist with fault finding and system maintenance.

iMAC INTEGRATED MONITORING AND CONTROL SYSTEM

The iMAC system is an integrated conveyor monitoring and control system, designed specifically for long line systems for hazardous areas in mining and industry.

Typical applications include the control and monitoring of conveyor systems, pumps, fans and gas monitoring systems. There are many other applications, including railways, where the distributed system is wide spread and incorporates multiple points requiring interrogation, monitoring and control as well as digital input/output and analogue functions.

Features
- Fail safe operation
- Secure and safe operation with self checking system for failure that distinguishes between system faults and genuine trip alarms
- Two and three wire control

VOICECOM

VoiceCom is a multi-station audio communication system suitable for longwall and conveyor applications in underground coal mines. Incorporating prestart alarm, voice messaging and intercom facilities, the voice communications system comprises two main units the VCA VoiceCom Controller and the VAA VoiceCom Amplifier.

Features
- High efficiency down line powered amplifiers
- IP66 stainless steel construction
- Total diagnostic capability
Ampcontrol’s Tip Switches are a dependable and versatile means of monitoring flow and high levels in bulk materials. The probe is completely sealed and self-contained with a built-in time delay, in most cases eliminating the need for costly external circuitry, relay amplifiers and time-delay relays.

Features
- Rugged, light and heavy duty probes
- Built in time delay
- Unaffected by vibration
- Contains no mercury
- Able to be used with coarse or fine materials
COMMUNICATION SYSTEMS

Underground reliable communications and fibre networks help keep operations safe and provide valuable information that improves efficiency. Our safe reliable communications and networking systems are tailored and specifically designed to be robust and suitable for hazardous areas.

H3RO FIBRE OPTIC SYSTEM

H3RO is a reliable and scalable fibre optic distribution system. H3RO features plug and play functionality with pre-terminated cables in a variety of lengths, meaning there is no requirement for fibre optic specialists or tools to install.

The H3RO Bot is an IP68 rated harsh environment industrial FOBOT replacement, manufactured to the highest standards using robust materials.

Features
- IP68 rated
- Simple and portable system
- High performance single mode fibre optic hardware supporting Ethernet and PON architecture
- Robust, quick connect cables
- Exceptional environmental and optical performance

VOICECOM PHONE

The VoiceCom Phone is Ampcontrol’s next generation lightweight phone suitable for Group I hazardous areas. This reliable phone features both audio and visual notification of a call, a double press emergency button, programmable quick call numbers and adjustable volume control to suit particularly noisy environments.

Features
- Lightweight <2kg
- Rugged IP67 design
- Field replaceable handset
- IEC certified
- Programmable quick dial numbers
- Automatic hang up after 30 minutes off the hook
As a leading manufacturer of longwall mine lighting systems and hazardous area lighting, our lights have proven themselves to last in the harshest of industrial environments, with customers coming back to us for truly reliable lighting solutions.

**IS LED LONGWALL LIGHTING**

Underground you need a light that you can rely on. The Intrinsically Safe IS LED is your premier underground mine lighting solution.

Designed with safety and ease of maintenance in mind, it is suitable for use on longwalls and machinery.

The LED features moulded high impact strength, static dissipative and fire retardant nylon, with a clear visor moulded in polycarbonate. It includes ‘O’ rings for moisture protection and is encapsulated to prevent moisture ingress and assist in heat dissipation.

The low profile lights are magnetically mounted for ease of replacement, with optical secondary securing through roof welded pins and ‘R’ clips, or a stainless steel wire lanyard.

Available in a range of colours, each light includes six high powered LEDs that produce the light equivalent of an 11W fluorescent lamp.

The IS LED forms part of a complete lighting system, with the electronic circuitry to drive the LEDs designed for high efficiency, reliability and safety. The system is modular in design making it quick and easy to install and remove as well as being suitable for custom applications.

**Features**
- Six high intensity, long life LEDs
- Dual plug in IP67 connectors
- Anti-static moulded plastic body

**SERIES 500 FLP HEADLIGHT**

The LED headlight is a low power alternative to traditional lights for use on all diesel vehicles, electrically powered machinery and lighting in hazardous areas. With minimal draw on batteries and alternators, the long life LEDs eliminate the need for globe replacement meaning minimal maintenance and light downtime.

**Features**
- Energy draw of 8W
- Heat, UV, chemical, vibration and impact resistant
- In built short circuit, under/over voltage, reverse polarity and thermal protection
FLP1 Ex d LUMINAIRE

The FLP1 Luminaire is a permanent or portable lighting solution designed for hazardous, flameproof and weatherproof applications.

The FLP1 includes a UV stabilised high impact polycarbonate outer case closed by a nut and boss assembly. This assembly is moulded from flame retardant reinforced nylon material. An ‘O’ ring between the outer case and the boss seals the luminaire to IP66/68.

Available in a range of power ratings to suit many applications, with alternative AC or DC voltage available on request.

For ease of maintenance the FLP1 features simple plug in components and a single nut closure system for easy lamp access.

Features
- Available in linear or compact fluorescent lamps
- 3 x M20 cable enters inter-connected to provide earth continuity
- Low profile design
- UV stabilised high impact polycarbonate outer case
- Simple lug in gear for easy maintenance
- Single nut closure system to facilitate easy lamp access
- Plug-in chassis
- Nylon mounting clamps
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