



FieldPower saves on cabling

If you are looking for a faster, easier and more cost-effective way to distribute single or three phase power to motors and control gear over long distances then FieldPower could be the answer.

Developed in Germany by electrical connection product manufacturer Weidmuller, FieldPower is an innovative and flexible decentralised power distribution system ideal for mechanical and plant engineering applications.

Used extensively in automated airport baggage carousels, intra-logistics, vehicle assembly lines and freight handling conveyors, FieldPower reduces cable runs and shortens installation time by allowing you to Tee-off cabling for motors, starters and variable speed drives in a more effective way.

Released in Europe two years ago, FieldPower comes to New Zealand with a proven performance record and is now exclusively available through industrial product specialists Cuthbert Stewart NZ Ltd (CSL).

CSL business development manager Geoff Thomson says FieldPower is already finding a ready market among New Zealand equipment manufacturers and systems integrators looking for a better way of distributing power to equipment or around plant.

PowerBox

Thomson says the speed and reliability of FieldPower is Weidmuller's patented PowerBox – a cleverly designed junction box that taps off the feeder cable without having to cut and terminate connections.

“The beauty of PowerBox is that it integrates power supply, extension, outgoing motor feeder and distribution in a single module which means you can mount PowerBox at any location within a plant that is handy to the device being powered.

PowerBox accommodates either five-core round or five-core flat power cables ranging from 2.5 to 6 mm².



FieldPower's PowerBox integrates power supply, extension, outgoing motor feeder and distribution in a single module and can be mounted anywhere handy to the device being powered

“From control circuit supply requirements via DC bus right up to single phase and three phase Neutral and Earth distribution for load balancing around the plant or motor supply, the applications are many.

“An electrician I showed it to recently could see endless possibilities with reticulation around construction sites mainly because of the robust design, quickness and outdoor rating.”

Thomson says when you first take a look at the IDC connection module, it looks totally unfamiliar, but it only takes a few minutes to figure out and then you're away.

“Once you have installed a couple you'll soon see how fast and easy PowerBox is to use and how reliable the connections are.

“You simply strip the sheath from the main cable and place the individual cores into the PowerBox base module connection block and snap the contact unit shut.

“Thanks to colour coding this is not only quick but there is no chance of making an error.

“Then, using a screwdriver, all you have to do is close the contact element by moving the screwdriver downwards in a rotating 90° movement and the job is done, creating a safe and reliable contact.

“You'll never have to worry about loose or over-tightened screws because PowerBox uses an insulation displacement connection (IDC) to break through the wire insulation and provide access to the conductors for clamping connections.”

Silicone and halogen free, PowerBox is made from tough polycarbonate with a standard IP 65 rating so it can be safely used in wet and dusty areas.

Complete solution

Once the main through-cable is in place junctions and outgoing circuits to consuming loads such as starters and variable speed drives can be implemented as 'fixed' or 'pluggable' with a current carrying capacity of up to 41A for fixed and 32A for pluggable.

“Again quickness is the key word here

as all you have to do is directly insert the insulation-stripped cores of the outgoing Tee-off cable into the 'push in' connection of the contact block or the plug-in connector."

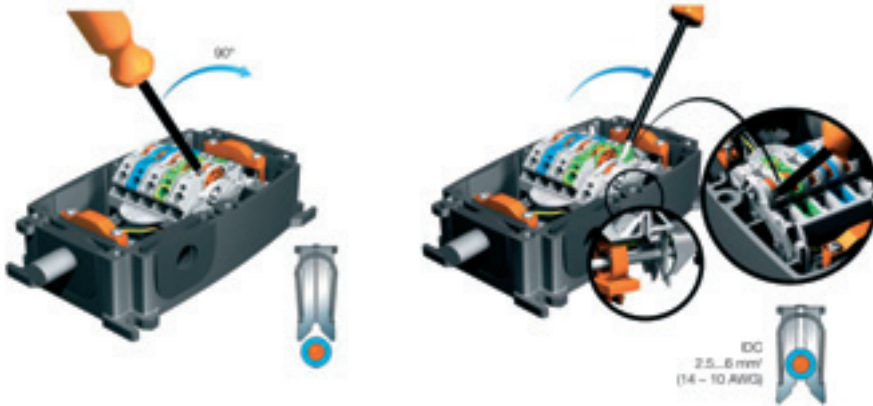
The plug-in connectors (32 A/4mm²) are equipped with rapid and reliable push-in connectivity which is the standard direct-insertion technology for conductor termination.

Twin connectors are also available to implement two single-feeder spur lines which means one or two starters or drives, or other loads, can be connected quickly and reliably to the contact block.

A double version called PowerBox XL provides two complete connection systems in one enclosure or, if the client prefers, the basic IP20 connection unit can be purchased to incorporate in their own enclosure or cabinet.

Thomson says FieldPower also comes with isolator options and PowerBox Fuse modules for ¼ x 1¼ cartridge fuse links to protect loads, outgoing feeders, junctions and reductions to cable cross-sections ranging from 0.5 to 4mm².

A red LED lights up when a fuse fails.



With the sheath stripped from the feeder cable and the individual cores locked into the PowerBox connection block, all it takes is a deft movement with a screwdriver to create a safe and reliable contact.

FieldPower in the field

Auckland-based systems integrators BCS Group is a leading automation provider to the baggage handling, x-ray screening and freight sectors and a big user of FieldPower PowerBox solutions.

BCS project manager Mike Cooper says PowerBox has been specified on several large projects including baggage handling and x-ray screening upgrades at Australia's

Cairns and Melbourne airports.

"As systems integrators we're moving more towards decentralised power distribution in baggage handling and freight applications because it is faster and cheaper to install control gear.

"Because the majority of the work we do is project based we're constantly searching for ways to reduce installation times without sacrificing quality. FieldPower and PowerBox is a good example of technology that helps us to achieve that."

Cooper says the value of decentralised power solutions is that they overcome the need for large central MCC switch panels.

"Because there is no requirement to run cable to and from motors and drives to a central control centre we can significantly reduce the amount of cable we're using on a project. The less cable we have to run the less time we have to spend on the job."

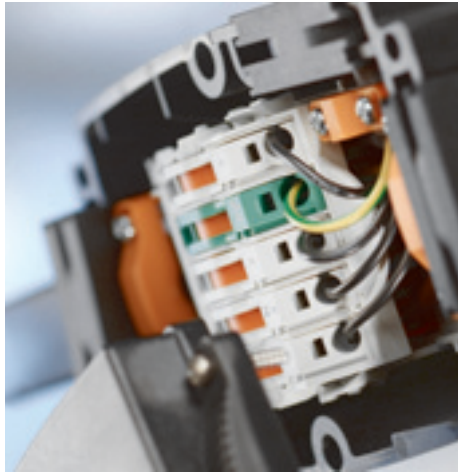
He says baggage carousels and freight conveyors get a hard time so it's important that every electrical connection is engineered to cope with movement and vibration.

"FieldPower PowerBox gives us an engineered connection that we know is reliable.

It also results in a really tidy installation which is also important."

BCS Group has been installing FieldPower product for about 12 months and has specified it for a large Courier Post parcel sorting operation being built in Auckland.

"We've probably used more than 200 PowerBox units at both our Cairns and Melbourne Airport projects and will use as many again on the Courier Post project so



Once the feeder cable is installed, the tap off cable is swiftly connected by tension clamp

they're a well proven solution in our industry."

Weidmuller's Australia-based business and applications engineer, David Head, has utilised FieldPower to reticulate power underground in Australian caves to 24VDC LED lighting control boxes. Weidmuller also manufactures the LED lights which Head has developed.

Head says one main 5 core three phase +N +Earth 6mm² cable is run through the cave and 2.5mm² single phase spurs are dropped off at required intervals to supply the 230VAC feed of 20 Amp 24VDC Weidmuller power supplies.

"The wiring time is greatly reduced but the main customer benefit is in system integrity. As the main feed cable is not cut at any point there is no possible point of failure along the cable. Normally a cable is cut and terminated at each spur point but PowerBox eliminates this along with the work required."

Thomson says he expects further Fieldpower developments as the range evolves and new applications are found.

"Fieldpower is one example of how CSL will do everything we can to find the product and solution from our international suppliers that is right for you." ■

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