

# SOLUTIONS

banking and finance



**Nothing protects quite like Piller**

# Solutions for banking and finance



*Since its formation by Anton Piller in 1909, Piller has been synonymous with electrical machines of the highest quality and reliability. Today, Piller Power Systems, from its headquarters in Germany and via its regional offices, representatives and distributors worldwide, continues that tradition into the 21st century.*

*Piller Power Systems is a wholly owned subsidiary of the multi-disciplined global UK engineering group, Langley Holdings plc. ([www.langleyholdings.com](http://www.langleyholdings.com))*



Every minute of every day, billions of dollars are moved around the world by the banking system. The efficient operation of the entire global economy depends on the silent activity of a finance system that never sleeps.

Countless financial transactions signify the sale of goods and services - but these rely utterly on the banking sector's ability to ensure that its data processes and complex computerised systems never miss a payment.

A sudden loss of power, therefore, could cause untold damage to a bank's major corporate customers - and could even affect the entire global economy. Which is why many of the world's largest banking corporations and financial institutions have installed Piller power protection systems to ensure they have the highest reliability possible.

It may only be a matter of seconds between power going down and stand-by generators kicking in - but that short delay could cost the bank and its

customers millions of dollars.

As one of the world's leading UPS (Uninterruptible Power Supply) companies, Piller understands the critical nature of maintaining power in that brief period whatever the crisis in the banking sector.

With almost 100 years of experience, the Piller name is synonymous with the utmost quality and reliability in protecting customers' power supplies - particularly in the banking and finance sector.

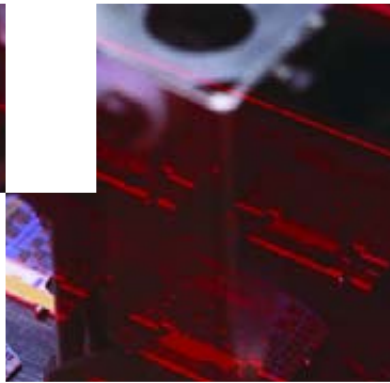
Piller equipment uses top quality components designed and assembled by the best people in the business all with the view of providing your financial institution with a proven solution to protect your operation.

Every organisation hopes they never have to call on their UPS systems - but with Piller there is the ultimate peace of mind that come that crisis, they will work.



# SOLUTIONS

## Piller Power Systems – Solutions



### PILLER SYSTEM ADVANTAGES

- Highest voltage quality and availability of power supply protects critical loads.
- Unique, high reliability of PILLER Power System components.
- Field-proven service life of 20 to 25 years.
- Battery free variants with kinetic, high-performance energy storage systems are available.



### THE PROBLEM

A crash in the computer centre of a bank or loan corporation, which is caused by the power supply, is every data processing manager's nightmare.

The typical situation in today's computer centre is:

- Increasing system uncertainty, particularly due to an increase in harmonic power from non-linear loads, along with increasing sensitivity to mains distortion in the same load groups.
- Increasing demands on availability and security of data: computers are having far-reaching effects and loss of data becomes a fatal situation. Computer centres really must not break down!

Around the world these problems are being reliably solved by PILLER Power Systems.

# Solutions 1



## Bank of Scotland

It may not be well known that, in the UK, in terms of corporate financial expertise, the financial institutions of Edinburgh in Scotland are rivals to the City of London. Among them is the Bank of Scotland, which decided in conjunction with their consultants to replace the existing ageing UPS system with the current PILLER UNIBLOCK design.

The client's computer system is designed on a "split" basis where one computer system acts as a backup to the second system. For the new design, the Bank demanded a power capacity for each half of not less than 1000kVA. At the same time they required system reliability and availability that was comparable to that available from a full parallel / redundant installation.

The Piller solution was to configure 3 x 1100kVA PILLER UNIBLOCK UBR modules, in a "DELTA" configuration (Figure 1), such that at any time, two UPS modules would each be dedicated to the separate 1000kVA computer centre loads and the third module would act as a "hot standby".

Anyone of the three UPS modules can be selected as the standby UPS (Figure 1 "Delta" configuration at the Bank of Scotland).

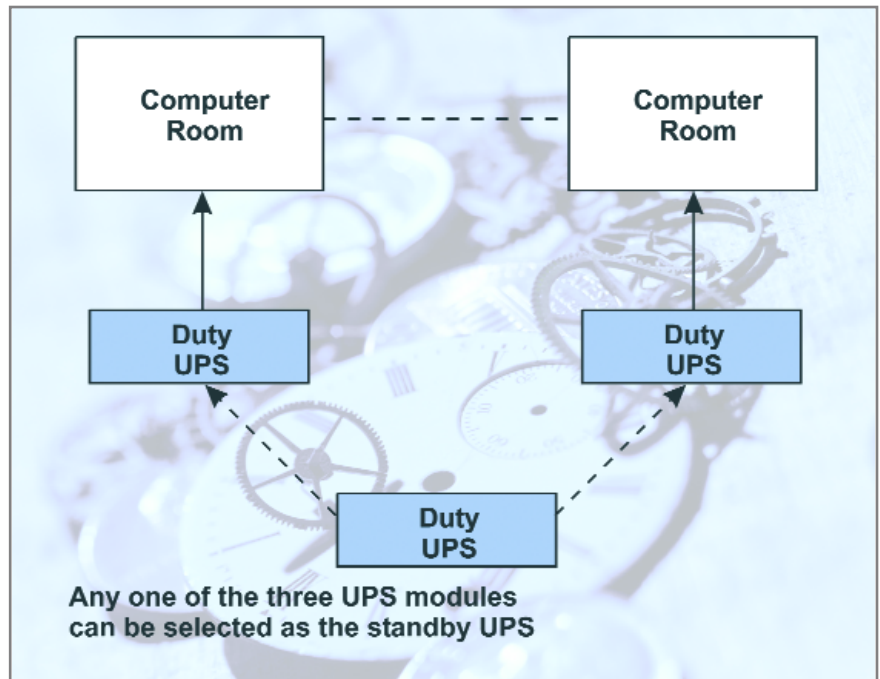


Figure 1: "Delta" configuration at the Bank of Scotland

### System advantages:

- The "hot standby" unit can be paralleled with either of the duty units so that the duty units can then be taken off-line for maintenance. During the entire switch-over phase the vital computer load is never disconnected from the support UPS.
- Also, in the event of certain failure modes, the standby unit will be automatically paralleled with, and ultimately take over from, the failing unit. Again the load remains totally protected. The new system has been installed in the same space as the previous system.
- Taking into account the associated costs of battery systems, switchgear, and installation, the 3 x 1100kVA "DELTA" connected system costs significantly less than the alternative system where two separate fully redundant UPS configurations would be required.

It is the unique PILLER UNIBLOCK UPS feature of "internal redundancy" which gives this Delta configuration the required level of individual module reliability.

The new system retrofit programme was fully commissioned by Piller Power Systems to the total satisfaction of the Bank.

## Solutions 2



### HypoVereinsbank Number 1

Piller Power Systems has installed the most up-to-date technology for ensuring reliable and high-quality power supplies in computer centres in, among others, the HypoVereinsbank, Germany: that is to say redundancy right through to the load.

The planning requirement was the provision of the highest security of supply and power quality to ensure trouble-free operation of the computer centre.

Thanks to proven world-wide competence in the field of secure power supplies for very large computer centres, a PILLER UNIBLOCK UBR system configuration was chosen.

Two fully independent PILLER Power groups (each comprising four 330kVA PILLER UNIBLOCK UBR modules) each feed a meshed comb like system of busbars. The busbars are arranged so that UPS group 1 feeds the first, third, fifth, busbars, etc., and UPS group 2 the second, fourth, sixth busbars, and so on.

An automatic transfer switch (PILLER APOTRANS type) is assigned to each critical load, so that each individual load can be supplied alternatively and

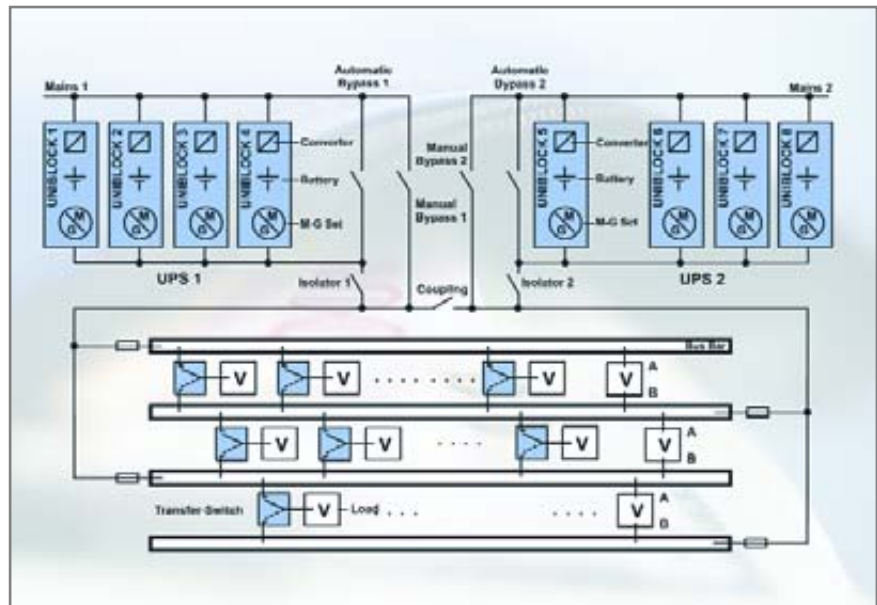


Figure 2: Most up-to-date topology for ensuring reliable power supplies; comb-like busbars

independently from system 1 as well as system 2.

In the event of a mains fault at the supply input, the transfer switch would change over to the other available busbar automatically and without a break.

### System advantages:

- With suitable design, each one of the UPS groups can take over the total load or be completely isolated for maintenance and test operations.

- Trouble-free isolation of an individual load (e.g. for test purposes) without disturbing the other critical loads.
- Today's modern computer have two mains inputs. Such a load is then directly connected via its inputs to the two independent comb type busbars.
- Using system components having the highest proven reliability, a secure supply with this configuration has virtually no limitations!!

# Solutions 3



## HypoVereinsbank Number 2

During the redesign of the uninterruptible power supply for an existing computer centre at the HypoVereinsbank a design with a ring-type secure busbar which runs through all storeys of the building, was improved. Six parts of the building are each fed individually by two 330 kVA PILLER UNIBLOCK modules operating in parallel. In this application, traditional lead-acid batteries are used as energy storage device. Up-stream Diesel sets cover longterm mains failures. The highest availability and reliability of PILLER power supplies were the compelling reasons why a PILLER system solution was chosen for this refit.

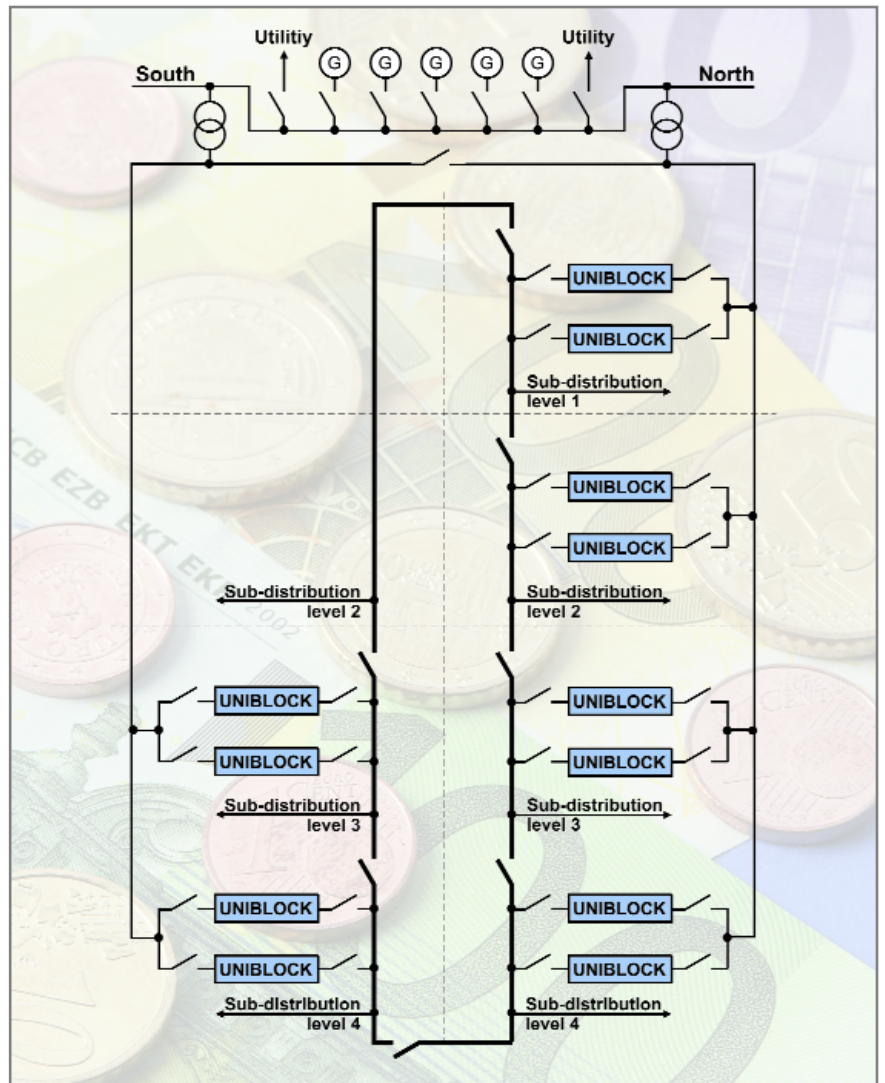


Figure 3: Independent UNIBLOCK Systems configured with a ring-type secure busbar

### System advantages:

- In conjunction with the paralleled PILLER UNIBLOCK modules, the ring main offers
- Solutions for the banking sector multiple redundancy, which ensures the very highest availability.
- In the symmetrically constructed building, each fire zone is individually protected by UPS systems to ensure independent operation.
- For redundancy and maintenance reasons, the secure distribution level of each fire zone can be coupled to the adjacent secure level.

## Unrivalled after sales service

*'...with the "Total Care" programme, Piller simply takes care of everything.'*



Across the globe the Piller network is committed to delivering world-class service resources and Piller clients can always be confident that a highly qualified team of service and support technicians are there to uphold the very best standards of customer care.

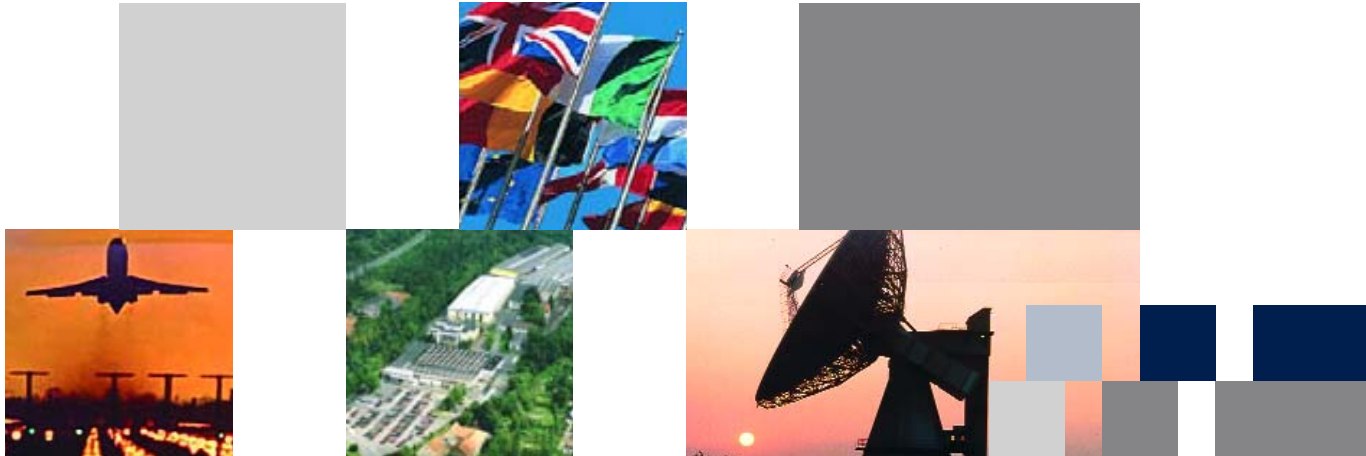
Services range from installation and commissioning to predictive analysis, emergency call-out, spare parts, planned maintenance and training. Sophisticated remote monitoring can track a system's operating status at any time, anywhere. With the Piller "Total Care" programme, Piller simply takes care of everything.

- UPS maintenance
- Battery maintenance
- Technical support
- Operator training
- 24 hour call-out
- Temporary UPS systems
- Comprehensive spares
- Remote monitoring

### References

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