



Rittal – LCP T3+



High-availability IT cooling
with no compromise

LCP T3+, the climate for “maximum availability”

... in the financial world

Admittedly, we have no solution for overheated markets. But we do stay cool when it comes to excluding data losses and system failures.

Nowadays, practically all business processes are IT-based. It is therefore important that your IT infrastructures function reliably in every situation, and that continuity is ensured even in difficult situations. With RimatriX5, Rittal has developed a system platform guaranteeing data centre operators the highest possible availability. The latest addition to the LCP family is geared to high-performance climate control. Liquid Cooling Package T3+ has been designed to provide essentially fail-safe and fault-tolerant climate control for critical high-density server racks with high heat loads – and with that ultimate efficiency!



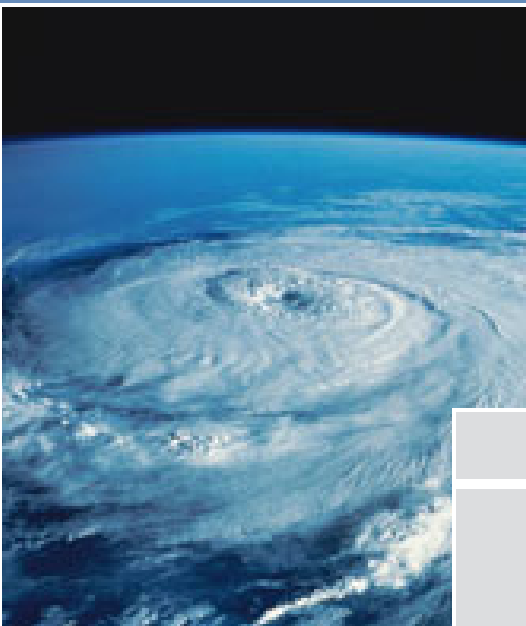
... in science and disaster prevention

Shifts in global climate pose an ever greater threat for the population in many regions of the world. Complex early warning systems are indispensable in the saving of human lives. Their reliability must be given top priority.

... in communications and broadcasting

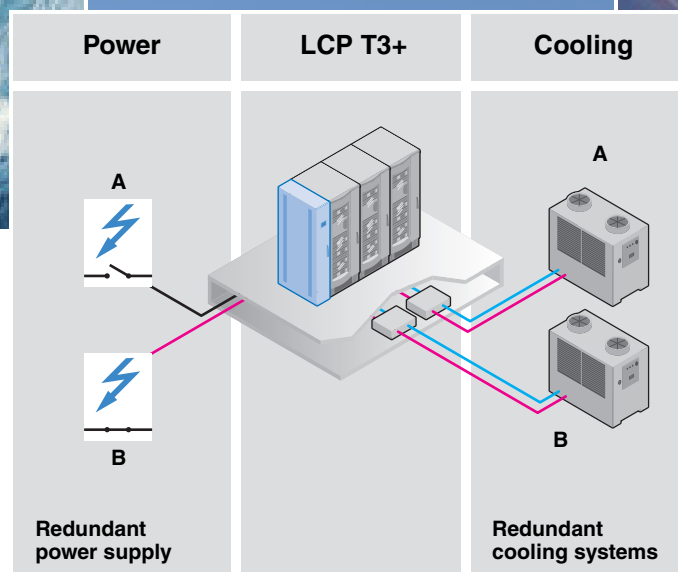
The last minute, a precise pass, a shot on goal, ... the worst possible moment for a worldwide loss of transmission.

Failures due to the overheating of high-speed computers are as good as excluded with Rittal LCP T3+.



... in transport safety

Absolute reliability in all weathers is a prerequisite in air traffic control. With Rittal LCP T3+, system failures are practically excluded even at very high temperatures. That is our promise.



Maximum reliability with redundant cooling and power

At the heart of the LCP T3+ are two embedded cold water circuits, each of which supplies 100% of the nominal cooling output. The power supply to the fans also has a completely redundant layout.

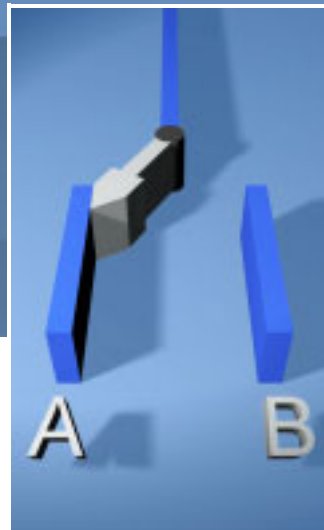
Guarantee of coolness – the technology behind LCP T3+

At the heart of the new LCP T3+ system is a heat exchanger unit comprising two fully integrated cooling circuits and implementing an intelligent control concept. This further development does away with all disturbance-prone air baffle systems and ensures cooling of the whole air flow.

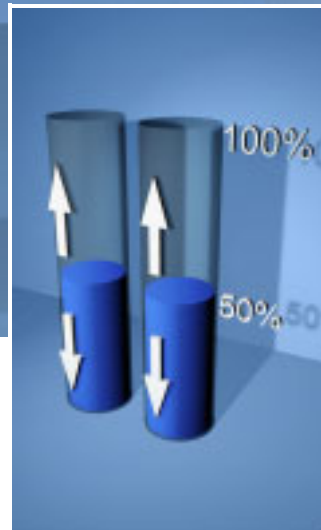
The sophisticated design guarantees maximum availability, even if one circuit is out of action, because each of the two cooling circuits is able to uphold the full nominal cooling capacity of the system. The power supply is configured with two active paths and is maintained at all times with the integration of a transfer switch. In case of a power failure, the supply is switched automatically to the second feed within fractions of a second, with no interruption to operation.



Fault tolerance through intelligent redundancy



Power
Two active power feeds with automatic switching in case of emergency



Cooling
Heat exchanger unit with two active water circuits. A performance dip in one circuit is automatically compensated by the other.

Benefits of the new LCP T3+:

- Efficient cooling of server racks with high thermal loads.
- Two active cooling circuits and two switchable power circuits ensure the best possible resilience.
- The built-in controllers are capable of adapting all device parameters automatically to preserve the required climate conditions.
- A separate decentralised intelligence which automatically recognises emergency situations and responds correspondingly with the “auto-load balancing” and “auto-recovery” functions.

- Interfaces which facilitate user-friendly operation and monitoring via the network or BSM systems.

Innovative measures were implemented to design a highly efficient product with minimised energy consumption:

- Latest fan technology
- Optimised flow and pressure characteristics
- Special heat exchanger to handle potentially high inlet temperatures (significant reduction of chilling demand through free cooling)



Technical specifications:

- Nominal useful cooling capacity: 24 kW fully redundant; 30 kW partially redundant
- Maximum water inlet temperature: 20°C
- Water connections: 2 x inlet/2 x return (A + B)
- Power connections: 2 x 208 – 240 V single-phase (A + B)
- Capacity: 47 U horizontal (2200 mm), further vertical modules upon request
- Dimensions of LCP unit: 300 x 2200 x 1200 (W x H x D in mm)

Features:

- Heat exchanger unit with two active water circuits
- Two active power infeeds with automatic switching in case of emergency
- Redundant fan configuration
- Integrated controller with own web server for network and BMS interfaces
- Touchscreen display
- Auto-load balancing function
- Auto-recovery function
- Latest fan technology. Optimised flow and pressure characteristics. Special heat exchanger to handle potentially high inlet temperatures (significant reduction of chilling demand)

Options:

- Ultra-compact and fully integrated fire detection and extinguisher system
- Automatic server rack door opening
- Various sensors and actuators, e.g. fire detection, humidity and temperature measurement, door contact switches, switching relays, etc.

LCP T3+

Integration into system solutions



Space to perform: Rittal Racks

Rittal offers a broad spectrum of server and network enclosures with a comprehensive range of accessories. Versatile rack systems for individual assembly and configuration of your IT infrastructure.

Powerplay: Rittal Power

Innovative power concepts for energy distribution and protection accommodate all requirements in terms of redundancy, scalability and availability. Practically no downtime, no communication interruptions, no problems. And energy efficiency is also included.

Added value: Rittal Cooling

Climate control concepts from Rittal are synonymous with the minimisation of operating costs and the maximisation of investment security. Point for point, this creates a significant added value.

Bodyguard: Rittal Security

The physical security of the IT infrastructure is pivotal to perfect IT performance. This includes temperature, smoke, humidity and vibration sensors and reliable protection from intruders. All monitoring functions may be freely selected and integrated.

Overview: Rittal Monitoring & Remote Management

Like a well-practised team, the IT monitoring concept provides comprehensive IT security thanks to optimum interaction between all the individual safety components. The risk of failure is reduced to a minimum, preventive intervention is possible at any time.

Efficient, reliable and user-friendly

Components of the LCP T3+ system



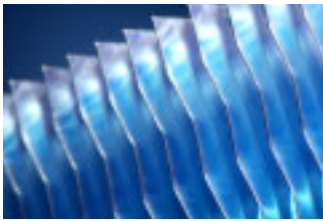
Valve modules:

The two valve modules of the LCP T3+ system are incorporated into the raised floor cavity for easy maintenance. Benefit: The modules are readily accessible and it is a simple matter to replace individual components. The redundant configuration permits maintenance work on the cooling circuits to be performed without switching the system off.



Intelligent software concept:

The integrated controllers are themselves able to detect problems in the chilled water supply and to react accordingly. Furthermore, each unit possesses an integrated web server for convenient network access to the user interface.



Heat exchanger:

High-capacity heat exchanger in interlaced design for reliable performance and efficiency – with two hydraulically independent cooling circuits. High cooling water inlet temperatures of up to 20°C can be handled. That secures enormous potential for cost-effective free cooling and demonstrates the extraordinary performance capabilities of the heat exchanger.



EC fans:

High-quality EC fans, with control functions ensuring precisely the required air flow at all times, establish optimum prerequisites for energy efficiency. It goes almost without saying that the fans are also configured with redundancy. And that applies equally to the control electronics.



Touchscreen:

The built-in touchscreen display shows the most important system information. If required, further operating parameters can be called up at the touch of a finger.



Automatic transfer switch:

The integrated transfer switch ensures uninterrupted operations, even if one of the two power infeeds is lost. Here, too, the concept of redundant supplies has been followed consistently.

All in all – solutions from Rittal

Rittal has one of the largest ranges of enclosures available for immediate delivery. However, Rittal also supplies integrated solutions – up to Level 4. This comprises mechanical installation, power supply, electronic components, climate control and central monitoring. For all of your requirements. Fully assembled and functional.

Wherever in the world you develop and implement solutions for yourself and your customers, we are close at hand. The global alliance between production, distribution and service guarantees closeness to the customer. Worldwide!



Enquiries and information

We will be happy to send you further information or advise you in person.

Please send me the following brochure(s):

- Catalogue 32
- Innovations 2008/2009
- System climate control

From:

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