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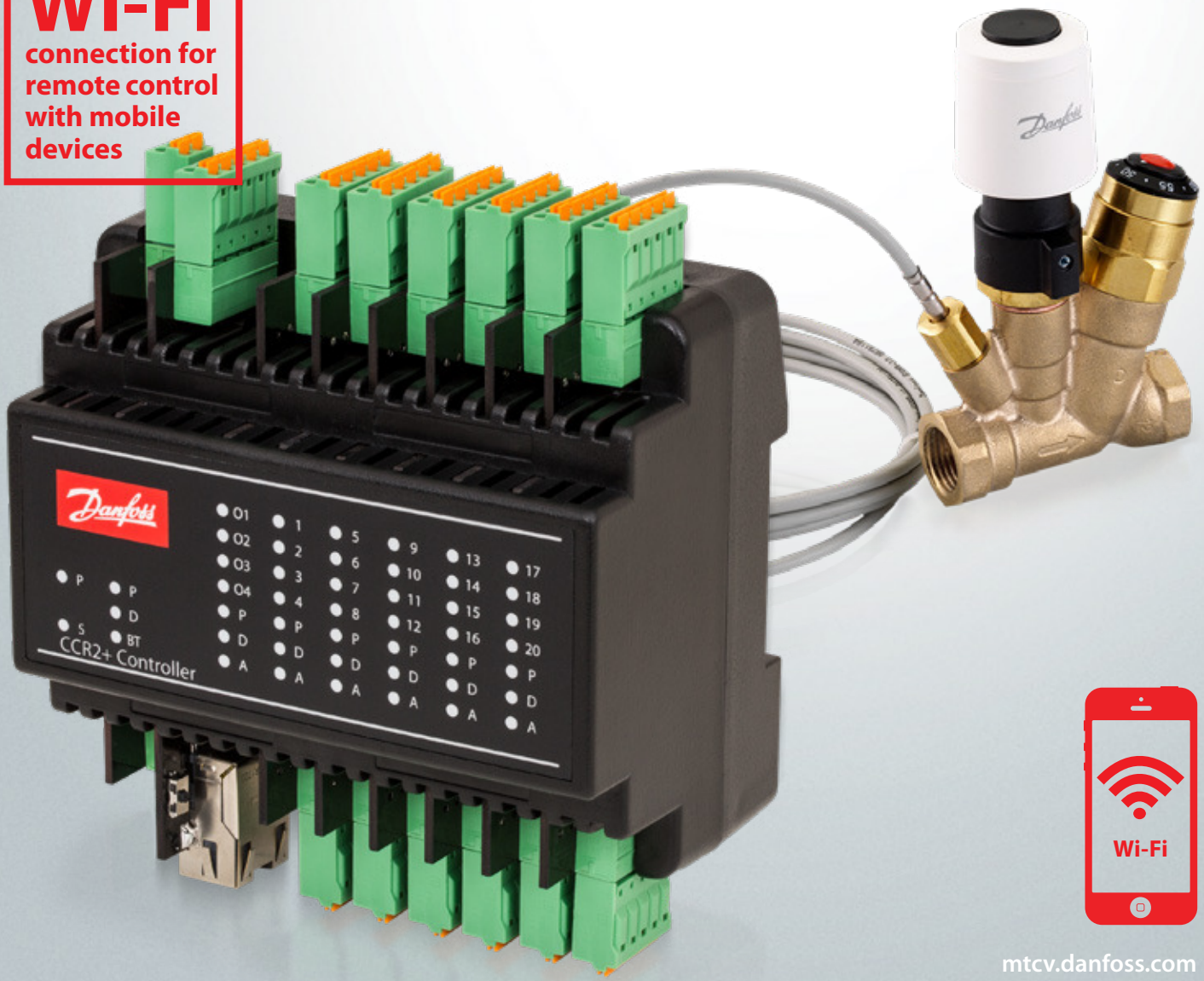
Hydronic Balancing and Control | CCR2+

Smart and energy-efficient Anti-legionella
of domestic hot water systems

With CCR2+ electronic controller and MTCV-C complete thermal balancing solution, a domestic hot water system is fully under control. Together they provide an advanced and cost-effective solution to reduce the risks of Legionella by monitoring and storing temperature data, registering alarms and activation of thermal disinfection flushing processes automatically.

Wi-Fi
connection for remote control with mobile devices



mtcv.danfoss.com

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CCR2+ – for electronic control of DHW systems

Danfoss CCR2+ automates the temperature monitoring and stores the data. The data can be reviewed at any given time on a Wi-Fi or LAN connected PC, tablet or mobile phone. Besides temperature monitoring the controller can also be used to automatically disinfect the system by flushing it with a temporary high water temperature. The electronic registration and optional thermal disinfection offers significant benefits:

- Reduced risk of Legionalla
- Full insight and remote control
- Lower costs
- Connectivity via Smart device, PC, or BMS

Reliable temperature monitoring

The CCR2+ continuously monitors the temperature in hot water circulation systems. In most cases that is established by adding PT1000 temperature sensors in all the Danfoss MTCV thermal balancing valves. This way the temperature in each riser is measured and stored. As the real-time data is always available, it is possible to have a quick intervention in the event of a malfunction. Moreover, the CCR2+ Controller can be used as a tool for diagnostics and commissioning. An optimized DHW system will prevent complaints about temperature deviations and high energy costs.

Energy-efficient disinfection

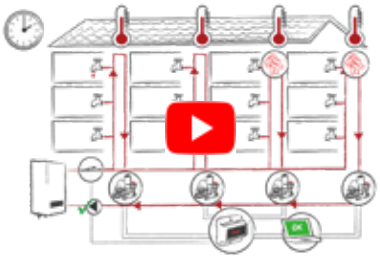
Thermal disinfection (temporarily flushing with extra high water temperature) significantly reduces the risk of bacterial contamination in hot water systems. To establish electronic disinfection the Danfoss MTCV thermal balancing valves are equipped with a disinfection module and thermal actuator (MTCV-C). The fully automatic CCR2+ controls the periodic flushing, riser per riser and minimizes the disinfection times for significant energy savings. The disinfection temperature can be set from 50°C to 78°C. A single CCR2+ Controller can control up to 20 risers. For larger systems it can be expanded with a Slave Unit controlling another 16 risers. In addition, the same circulation pump can continued to be used.

Connectivity

One of the best features of the CCR2+ is its possibilities to connect to mobile devices or a Building Management System (BMS). A user-friendly Wi-Fi connection ensures easy setting and readings via any smart device or PC (via built-in Web Server App). For remote access and insights to multiple systems from different buildings, it is possible to integrate the controller with a BMS systems via RS485 RTU or IP Modbus.

Product type		DN	Code no.
	MTCV-A	DN15 DN20	**003Z4515** **003Z4520**
	Electronic disinfection module – C	DN15/DN20	**003Z1022**
	Socket for ESMB PT1000	DN15/DN20	**003Z1024**
	CCR2+ electronic controller (for 20 sensors) CCR+ slave unit (for 16 sensors)	24 VDC	**003Z3851** **003Z3852**
	Set containing TWA-A thermal actuator and ESMB temperature sensor	24 VAC, NC	**003Z1043**

Domestic Hot Water application



Animation video

Click the image to watch the animation video "How to balance Domestic Hot Water circulation systems" and see how electronic temperature monitoring and thermal disinfection can be integrated.

Main specs:	CCR2+
Housing (DIN rail)	✓
Interface	PC/Mobile/Tablet
Web server module with LAN (TCP/IP) port	✓
Wi-Fi	✓
Modbus RS485 RTU	✓
Modbus IP	✓
Nr. of inputs/outputs (risers)	20
System expansions	+16 (with CCR+ Slave)
LED status indicator	✓
Firmware updates	✓
Storage capacity	8 GB (internal)
Power supply voltage	24 V DC

Danfoss A/S
Heating Segment • heating.danfoss.com • +45 7488 2222 • E-Mail: heating@danfoss.com