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SK 3313.610
Liquid Cooling Unit

State: 05/11/2026 (Source: www.rittal.com/com-en)

SK 3313.610 - Liquid Cooling Unit LCU CW

The LCU CW essentially comprises an air/water heat exchanger, fans and the controller. It is used to dissipate heat from network/server racks and ensure the effective cooling of built-in components.

Features

Model No.	SK 3313.610
Design	Rack cooling CW
Benefits	Efficient cooling of network/server racks Space-saving installation in the enclosure Control of the server inlet temperature Energy-efficient DC fans Optimum adaptability due to dynamic, continuous control of the cold water volume flow Fan modules may be replaced while the system is operational
Function principle	The LCU CW is built into the network/server rack adjacent to the 482.6 mm (19") mounting level. The heated air is drawn in at the rear third of the rack, cooled via the heat exchanger, and then expelled again from the front section of the rack.
Material	Sheet steel, spray-finished
Colour	RAL 9005
Supply includes	1 liquid cooling unit CW 1 support for LCU CW 3 m braided hose (for condensate discharge) 2 angular hose connectors 90° 12 screws M5 x 12 self-tapping NZ/TX30 1 female multi-point connector (7-pole) 1 set of assembly, installation and operating instructions
Options	Connect a maximum of 16 CMC III sensors

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Features

Monitoring	Monitoring of all system-relevant parameters such as server air intake temperature, server waste air temperature, water inlet/return temperature, water flow, cooling output, fan speed, leakage Direct connection of the unit via SNMP over Ethernet Integration into RiZone
Temperature control	Control of the server inlet temperature
IP protection category to IEC 60 529	IP 20
Duty cycle	100 %
Refrigerant/cooling medium	Cooling medium: Water
Cooling medium note	Water quality according to unit specifications.
To fit	Enclosure type: VX IT Standard 19" mounting angles Width: ≥ 800 mm Height: ≥ 2,000 mm Depth: ≥ 1,000 mm
Dimensions	Width: 110 mm Height: 1,866.5 mm Depth: 756 mm
Rated operating voltage	90 – 264 V, 1~, 50 Hz/60 Hz
Air throughput (unimpeded air flow)	1,500 m³/h
Rated power input	0.5 kW
DC fans	Yes
Fans may be exchanged with the system operational	Yes
Water connections	G ¾" external thread
Permissible operating pressure (p. max.)	1 MPa
Operating temperature range	10 °C...50 °C
Operating temperature range of cooling medium	10 °C...30 °C

Features

Total cooling output	Useful cooling output L24 (server air inlet temperature) W15: 7.9 kW Useful cooling output L24 (server air inlet temperature) W18: 6.8 kW
Packs of	1 pc(s).
Net weight	92.5 kg
Gross weight	102.5 kg
CRA risk class	Default (Low Risk)
Customs tariff number	84186900
ETIM 9	EC000855
ETIM 8	EC000855
Product description	SK 3313.610 Liquid Cooling Unit LCU CW, L24/W15: 7.9 kW, WHD: 110x1866.5x756 mm

Approvals

Approvals	Cyber Security Certificate IEC CB UL + C-UL (listed)
Explanations	Declaration of conformity

Tender text

SK 3313.610 Liquid Cooling Unit LCU CW

The unit essentially comprises an air/water heat exchanger, EC fans and the controller. It is used to dissipate heat from network/server racks and ensures the effective cooling of the built-in components.
The unit is installed at the side adjacent to the 482.6 mm (19") level in a network/server rack or security safe. The dimensions make it suitable for installation in server racks with a width of > 800 mm, a depth of > 1000 mm and a height of > 2000 mm It may be installed on either the right or left side of the rack.
The unit has 3 fan modules, each with 3 EC fans. Fan modules may be replaced while the system is still operational. By default, the fan speed is controlled to the temperature difference between the temperature in front of and behind the heat exchanger.
Optionally, it may also be controlled to the pressure difference in front of and behind the servers. The required pressure difference is adjustable.
The heated air is drawn in at the rear third of the rack, cooled via the heat exchanger, and then expelled from the end face in the front section of the rack. Air routing is horizontal. The device regulates the server intake air temperature, which is individually adjustable.
The water connections are located on the end face of the device facing the server rack door (G ¾" AG). The connections are readily accessible and the pipework inside the server rack or micro data centre may be fitted at the top, side or bottom.
Integral leak monitoring is included. A sensor installed in the condensate tray detects leaks. The controller issues an alarm and interrupts the supply of cooling medium. All components in the condensate section are made from non-corroding materials.

The quantity of condensate produced if the temperature drops below the dew point can be minimised or eliminated altogether using the condensate prevention function. The function is activated by default, but may be deactivated if necessary. If the temperature is approaching the dew point, the server intake air temperature is increased until it is sufficiently far above the dew point.
The unit is equipped with a 7-segment display.
The unit features an NFC interface with a parametrisation app.
The unit is equipped as standard with an integral controller for linking

into the network which monitors and controls operation. The setpoints, alarm thresholds and response in emergency mode can be set within the admissible limits. If the controller should fail, an integral fail-safe mode allows the device to continue cooling. The operator can choose whether the device should continue operating at the set fan speed and water volume when the controller failure occurred, or alternatively, may select and pre-set the fan speed and flow rate of the cooling medium for emergency mode.
The following controller interfaces are accessible from the outside (device end face at the top rear):
2 network interfaces (Ethernet to IEEE 802.3 via 10/100/1000 Base T)
USB interface as an external memory
USB C interface for servicing
Alarm relay as a change-over contact 48VDC/1A
CAN bus connection for 16 Rittal CMC III sensors
A software concept for setting and monitoring all technical parameters is pre-integrated as standard.

Network interfaces: 2xRJ 45 (switched), 10/100/1000 Mbit/s each
Supported protocols: IPv4 / IPv6<(>,<)>
integral web server, HTTP, HTTPS, SSL, SSH<(>,<)>
NTP, TCP/IP v4 and v6, DHCP, DNS, NTP<(>,<)>
Syslog, SNMP v1, v2c and v3, Traps<(>,<)>
OPC-UA, Modbus/TCP,SFTP (update / file transfer)<(>,<)>
email transmission (SMTP)
NFC interface with parametrisation app
User administration including rights management: Yes
LDAP(S) / Radius connection: Yes
USB port for firmware update / data logging function: Yes
Initial commissioning / mass configuration via predefined CSV file
CAN bus interface: RJ45, for connection of) pc(s) CMC III sensors
Optional CAN sensor types: Temperature<(>,<)>
temperature/humidity (combined), infrared access sensor<(>,<)>
leaks, airflow, EFD, smoke detector<(>,<)>
vandalism, differential pressure
Alarm relay: 48V DC/1A
Serial interface:
RS232 (RJ 12) for LTE unit 7030.571
Conformity: CE, UL-listed, CB report
Standards:
Safety: EN 62368
EMC:

EN 55022 / B
EN 61000-4-2
EN 61000-4-3
EN 61000-6-2
EN 61000-6-3
Low-voltage directive: 2014/35/EU
EMC directive: 2014/30/EU
MTBF (at 40 °C) 100,000 hours
Protection category: IP20 (EN 60529)
Protection class: Class 1
Contamination level: 2
Overvoltage category: II
Environmental characteristics: 2011/65/EU (RoHS 2), WEEE
Storage temperature: -20 °C to +70 °C
Ambient temperatures +5 °C to +50 °C
Ambient humidity: 10 - 95% relative humidity, non-condensing
Operating altitude (max.): 3000 m asl

Technical specifications for the device:
Dimensions WxHxD: 110x1866.5x756 mm
Cooling output: 7.9 kW at 15 °C water inlet temperature and 24 °C server intake air temperature
Air throughput (unimpeded airflow) 1500 m³/h
Rated voltage 90-264 V / 1~ 50/60 Hz
Rated output 0.5 kW
Operating temperature range 10-50 °C
Water connections ¾" AG
Coolant: Water / water/Antifrogen N
Cooling medium temperature range 10-30 °C, non-condensing
Admissible pressure of water circuit 1 MPA
Flow rate: 0- 20 l/min
Fill volume: Approx. 3 l
Noise level: Approx. 73 dB(A); free-standing; distance 1 m
Protection category IP20
Weight: 53 kg
CE Declaration of Conformity
Approvals: UL listed
There is a support rail for attachment inside the VX IT network/server rack and a condensate discharge hose (3 m) with two 90° connection brackets included with the supply.

Maintenance: Simple maintenance of the device. The fan assemblies are

easily replaced; the controller slides out in a drawer compartment.