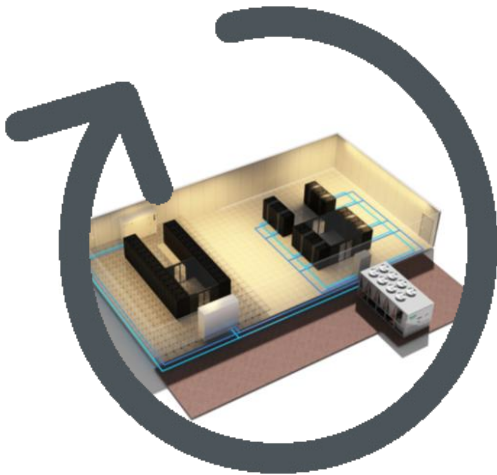


Optimized Management

Schneider Electric integrated cooling optimization

Optimized Management Interface (O.M.I.) for Aquaflair chillers, InRow close coupled cooling units and Uniflair CRACs



Smart interoperation of cooling equipment

The Optimized Management system connects Schneider Electric™ chilled water cooling units to each other to guarantee energy optimization in any thermal load conditions.

The O.M.I. is the physical interface connecting the chiller/s and the InRow™ and/or Uniflair™ units to perform the Optimized Management.

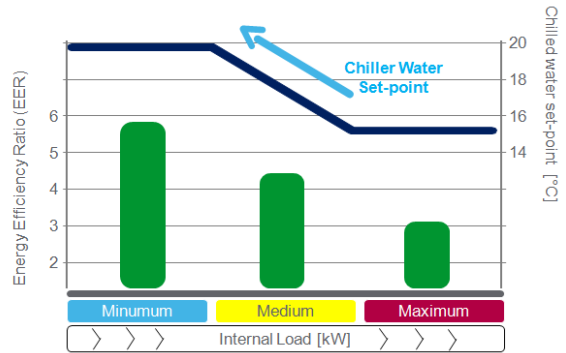
Applications

- > Aquaflair chillers
- > Uniflair Chilled water CRACs
- > InRow Chilled water close coupled units

Main Features

Operation principle

Aquaflair chillers and InRow / Uniflair units are connected together. Continuous communication between chillers and indoor units guarantees sharing of load information so that chilled water set-point varies between the nominal and the max values set in the chillers. Any emergency situation disconnects the Optimize Management operation.



System Interface

The Optimized Management Interface (O.M.I.) is the physical device which allows connection to:

- > Aquaflair chiller range
- > Uniflair Chilled Water units
- > InRow Chilled Water Units
- > Data center infrastructure management (DCIM) or third parts BMSs

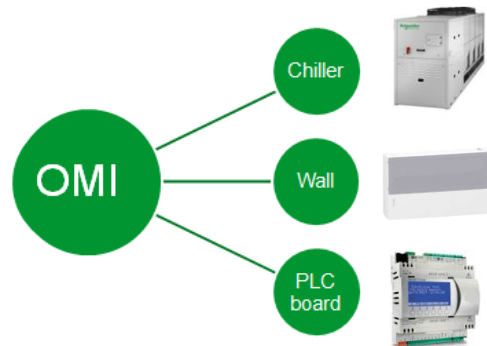
The firmware includes the interface libraries for all Schneider Electric chilled water cooling units. On-site selection allows easy and direct settings. The system is designed to be integrated into new and existing Data Centers with all Cooling devices.



Available versions

According to site configuration, one of the three typologies of the Optimized Management Interface (O.M.I.) may be selected:

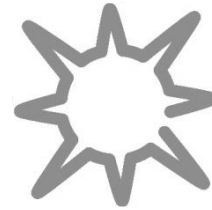
- > Chiller installation (onboard)
- > Indoor installation – Wall mounted
- > Indoor installation – Electrical / PLC board mounted



Main Benefits

Summer mode - Mechanical operation

The chilled water set-point is a key factor for energy consumption of chillers and during the mechanical operation of free-cooling chillers. The optimized management system forces, when possible, operation at high chilled water temperatures, with a consequent significant energy efficiency improvement.



Free-cooling mode

In free-cooling chillers, according to the ambient temperature, the chilled water is partially or totally produced exploiting the thermal exchange with the external air. In mid and low load conditions of the datacenter, the optimized management system forces operation at high chilled water temperatures and increases free-cooling operation.



Emergency operation

When a failure happens in the communication system, the units are instructed to by-pass the optimized management system and operate in standard mode.

This function allows to handle any critical situation and ensure continuous thermal load dissipation.



Datacenter developed with Uniflair CRACs		
Rooms	Number of cooling Units	Number of Optimized Management Interface
1 room	Units < 10	1 OMI
1 room	Units ≥ 10	1 OMI each 10 units
N rooms	Units in each room < 10	1 OMI each room
Specific feature	Units in one room ≥ 10	1 OMI each 10 units of a specific room
Datacenter developed with InRow units		
Rooms	Number of cooling Units	Number of Optimized Management Interface
1 room	Units < 15	no OMI
1 room	Units ≥ 15	1 OMI each 15 units
N rooms	Units in each room < 15	1 OMI each room
Datacenter developed with Uniflair & InRow units (in separate rooms)		
Rooms	Number of cooling Units	Number of Optimized Management Interface
N rooms	CRACs < 10 in each room and InRow < 15 in each room	1 OMI in each room
N rooms	CRACs ≥ 10 in each room and/or InRow ≥ 15 in each room	1 OMI each 10 CRACs / 1 OMI each 15 CRACs
Datacenter developed with Uniflair & InRow units (in the same room)		
Rooms	Number of cooling Units	Number of Optimized Management Interface
1 room	CRACs < 10 or InRow < 15	1 OMI for CRACs / 1 OMI for InRow
1 room	InRow ≥ 15 and/or CRACs ≥ 10	1 OMI each 10 CRACs / 1 OMI each 15 CRACs
N rooms	CRACs < 10 in each room and InRow < 15 in each room	1 OMI for CRACs / 1 OMI for InRow (in each room)
N rooms	InRow ≥ 15 and/or CRACs ≥ 10 in a room	1 OMI each 10 CRACs / 1 OMI each 15 CRACs

In order to select correct the OMI devices necessary for an installation is it important to consider that:

- Each hydraulic circuit need a specific Optimized Management Network
- One chiller must be fitted with an OMI device
- According to the installed models and type the number of devices changes
- Thermal Inertia influence reaction of the system and possible energy improvements generated by the system

FOR MORE DETAILED INFORMATION ON THE O.M.I., PLEASE CONSULT THE TECHNICAL SPECIFICATIONS AVAILABLE AT <https://uninet-it.schneider-electric.com>