



Case studies

## New ABB SACE building Load Management with Ekip Power Controller for SACE Emax 2

## The customer

ABB SACE Division, leading company in the research and development of LV air and moulded-case circuit-breakers, is now fitting out its new building in Bergamo (Italy) with advanced automation technology systems.

## The Challenge

The goal is to reduce the total power absorbed from the Utility by this new building in order to save money and to contribute to a better behavior of the whole electrical system.

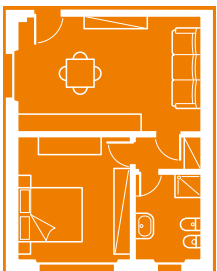
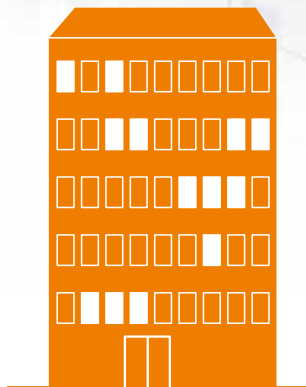
The electrical plant consists of 4 MV/LV transformers. For each of them a circuit-breaker SACE Emax 1.2 is installed as a general low voltage circuit-breaker. The purpose is to control the HVAC loads in an easy and automated manner.



Saving per year

# 11.000 €

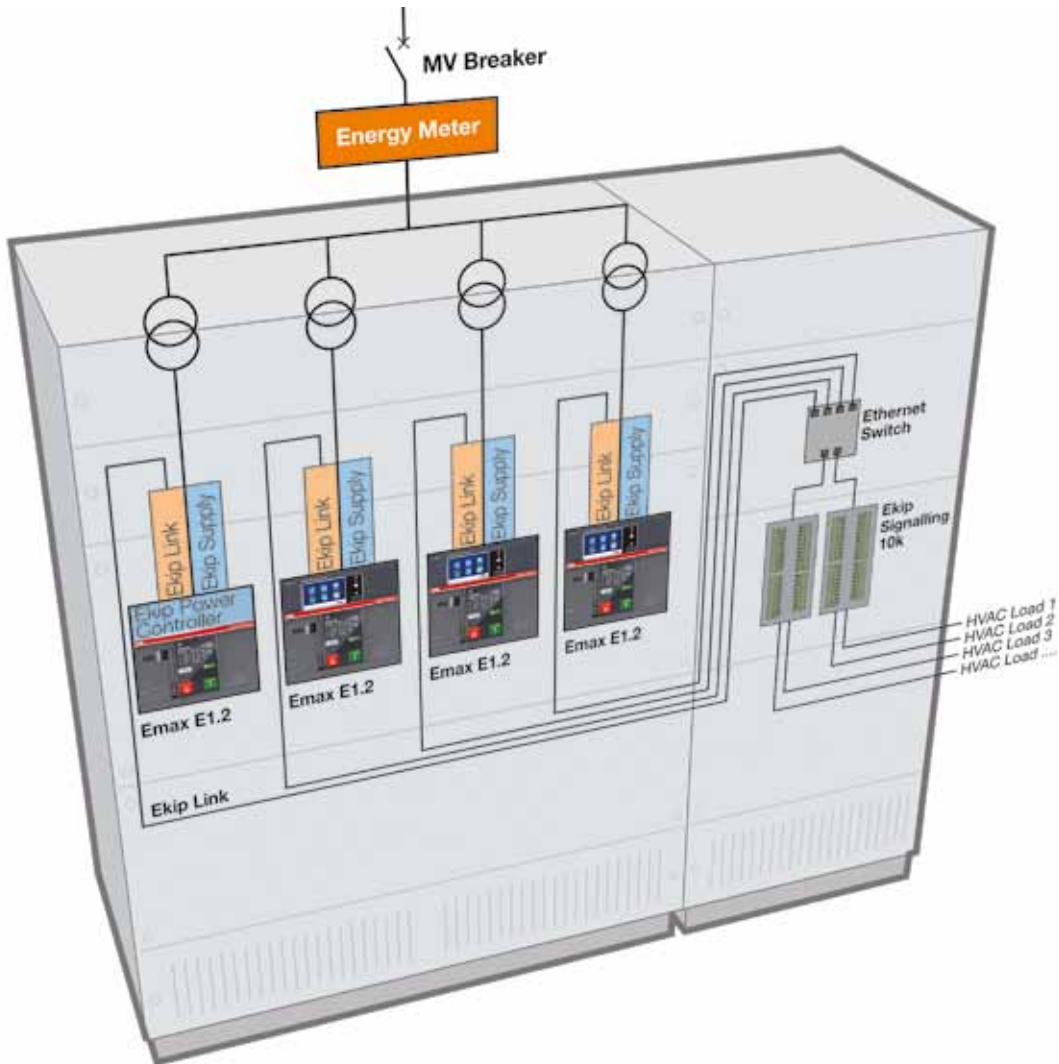
Thanks to Ekip Power Controller  
up to 400 kW of HVAC loads  
can be controlled with  
about 11000 € saving per year!



400 kW equivalent to the  
power absorbed by  
133 apartments  
without change the  
grid configuration

## The ABB Solution

To meet this goal, ABB offers the Ekip Power Controller solution. It is a software embedded into the electronic trip unit already used for overcurrent protection; hence, neither complex control systems nor dedicated software are necessary. To realize the system, it is enough to have a single circuit breaker provided with this function, installed as main LV circuit-breaker; therefore, in this application only one of the four main Emax 1.2 has to be equipped with Ekip Power Controller. It is this circuit-breaker to decide, according to the set parameters and to the total energy absorbed by the grid (sum of the energy flowing through the four Emax 1.2), when and which load must be disconnected. A dedicated communication system called Ekip Link performs the remote command sent to the downstream device, and the communication among the four main Emax 1.2 to get the total power absorption. This enables wiring between switchboards to be simplified to the use of only one Ethernet cable.



### 4 x Emax 1.2 with Ekip Hi-Touch + 1 x Ekip Power Controller function

Ekip Hi-Touch features the measuring and protection module Ekip Measuring Pro and can be fitted with the additional features provided by the internal modules and by the external accessories.

Ekip Power Controller is the new patented function that controls the power absorbed, thereby increasing the efficiency of the system.



### 2 x Ekip Signalling 10K

Ekip 10K Signalling is a signalling unit on a DIN rail for SACE Emax 2. The unit provides 10 contacts for electrical signalling of timing and tripping of protection devices. The Ekip 10K Signalling module can be powered both in DC and in AC and can be connected to Ekip Touch and Hi-Touch trip units via internal bus or Ekip Link modules.



### 4 x Ekip Link module + 1 x Ethernet switch

The Ekip Link module enables SACE Emax 2 to be connected to ABB communication system, for local supervising of switchgear by means of the Ekip Control Panel, and to act as Power Controller. It is suitable for all Ekip trip units and can be fitted at any time to the circuit-breaker terminal box, even when Ekip Com communication modules are present.

# Contact us

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