

CASE STUDY

ArcelorMittal
Gijón (España)



In the middle of 2013, ArcelorMittal awarded one contract to Ingeteam Power Technology S.A. Industrial Systems Division, to revamp the electric drives of the existing rail mill (Forger, Intermediate and Finisher) of its plant of Gijón (Spain).

The existing DC drives associated with DC motors had thyristor equipment, 4Q analog control in 12-pulse configuration (English Electric manufactured). With the new modernization has remained the power equipment and replaced analog controls manufactured by English Electric, for another Sinamics DC Master (Siemens manufacturing).

DC field current equipment, power and control, have been replaced by new 1Q equipment converter, Sinamics DC Master type.

The new Sinamics DC Master converters are designed to regulate and to control the armature current and dc field current of variable speed drives.

The following materials and works were carried out by Ingeteam Power Technology S.A., for the electrical revamping:

- Reuse existing thyristor rectifiers (4Q) to feed the power.
- Reuse the existing enclosures, with house control and power equipment.
- Material and works to make inside the reused enclosures, such as: cleaning and testing the reused thyristors equipment.
- Change of control and trigger system (based on analog technology) by other digital control with fieldbus capability.
- Replacement of equipment related to the dc field control.
- Supply of new auxiliary control systems: temperature control, grease and lubrication system, fans, heat exchangers
- 10" Touch screen system for monitoring and control of the main drive parameters and variables.
- Adaptation to the new machine safety standards: meeting the performance level PL"c" according to standard EN/ISO 13849-1. The type of stop, according to EN60204-1, meets the category 0 for the new drives fed by ac/dc converters.
- Hardware and Software engineering of the new trigger systems and control / monitoring systems.
- Commissioning of the power and control equipments, as well as integration into the existing plate mill cascade.

Electrical Revamping of the Rail Mill

Diagrama de control

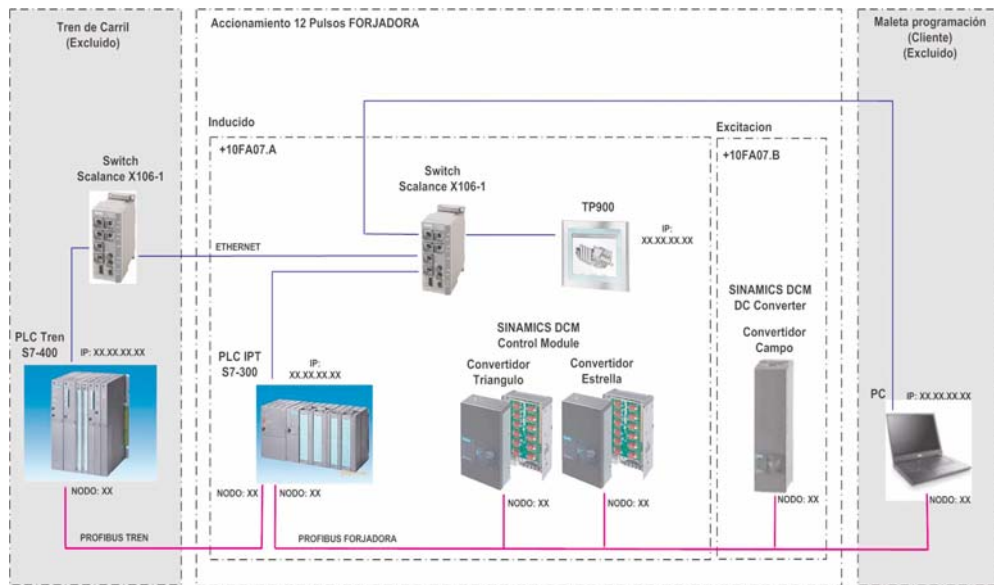


Diagrama de potencia

