



国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

HVDC Zero-flux-Current Measuring System

许继集团有限公司

2020

Introduction



国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Hello! everyone,

This is Mr.Jia, Engineer Lin is busy on the site of Lahore Station, because of net today I and Mr. Liu will instead of him to introduce the Zero-flux current Measuring Systems.

I`m from XJ Group corporation.

目录页

Contents Page

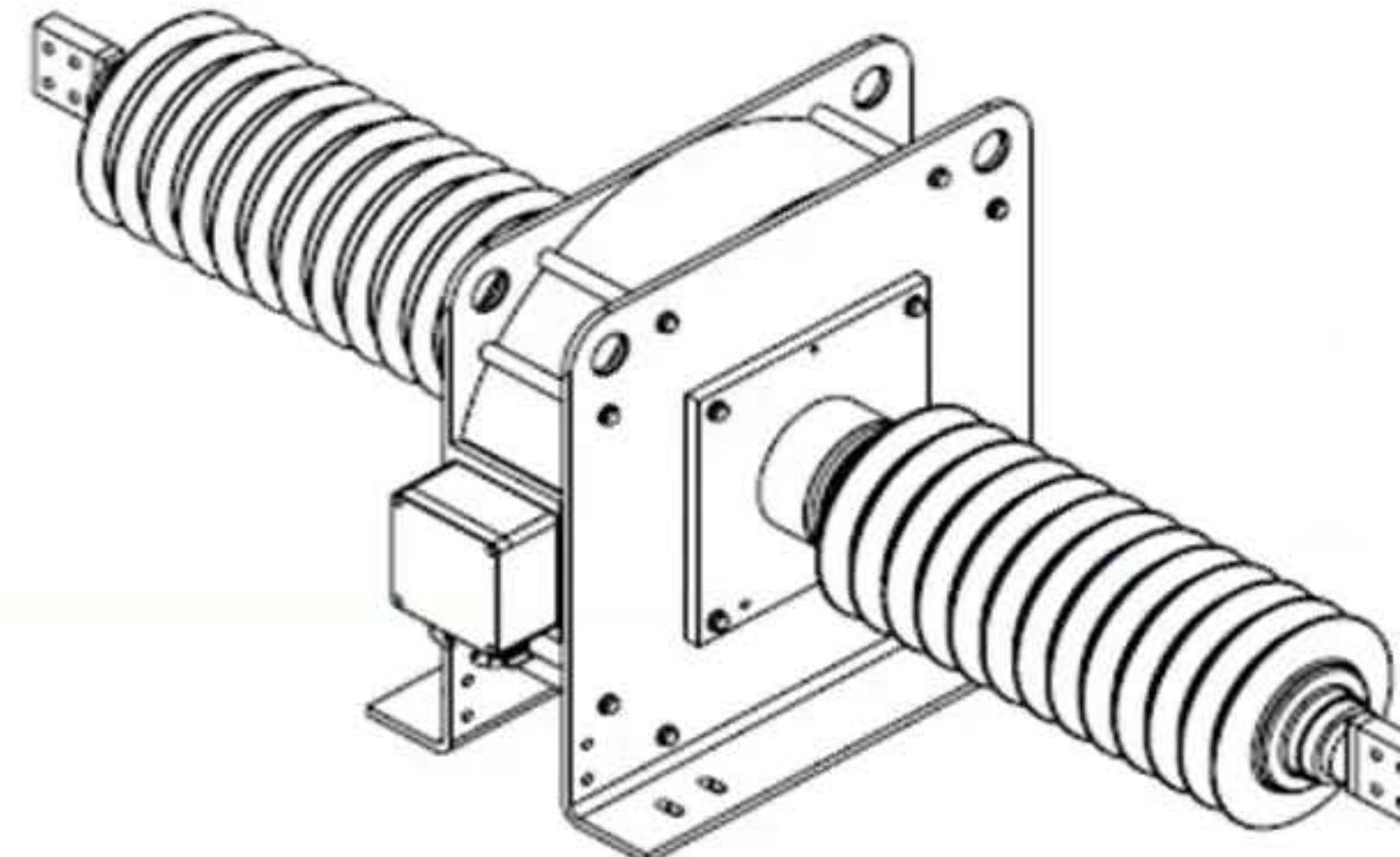
- 1. Introduction**
- 2. The basic principle**
- 3. Structure**
- 4. Assembling**
- 5. Parameters**
- 6. Signal**
- 7. Configuration**





Zero-flux current Measuring Systems is for HVDC applications.

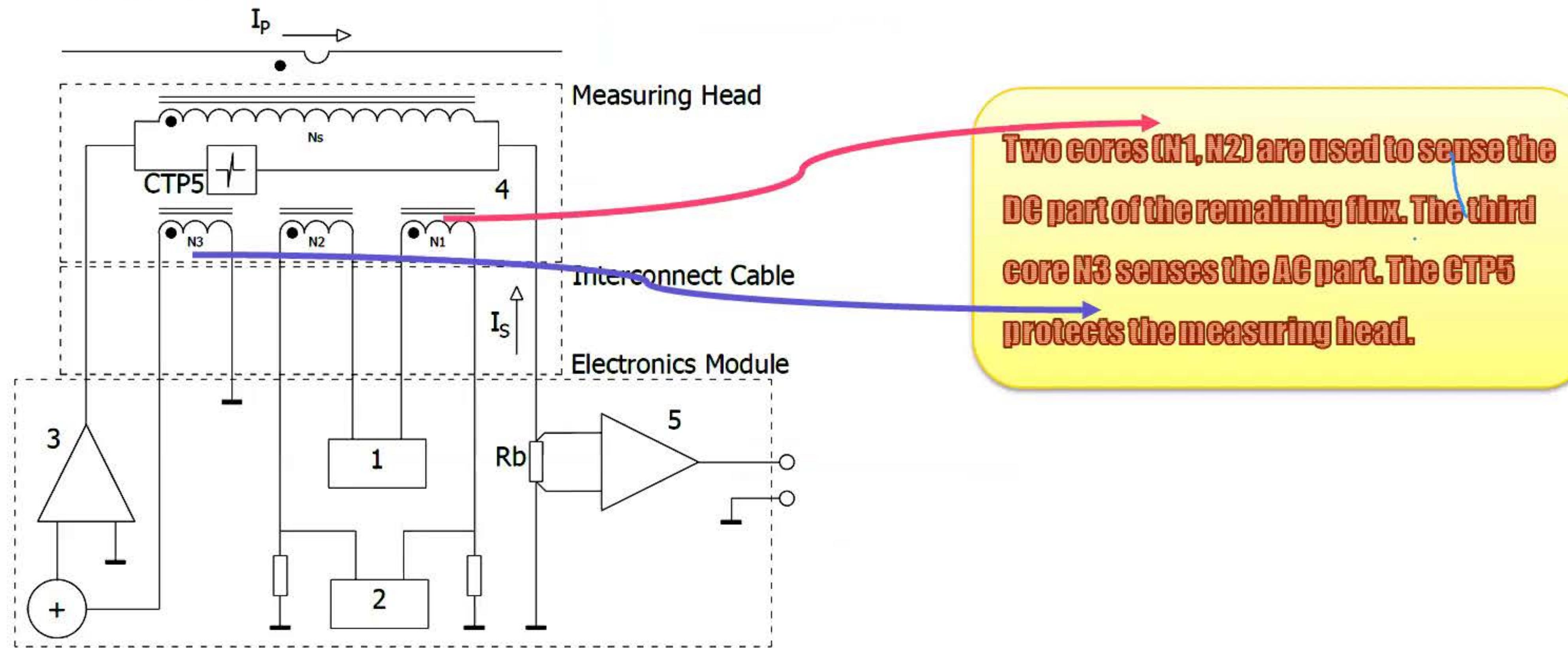
**It can measure direct and alternating currents up to 6 kA (continuously)
with very high accuracy and stability**





The basic principle

The primary current I_p generates a magnetic flux that will be counteracted by the current I_s in the secondary winding (N_s) of the measuring head (4). Any remaining flux is sensed by three toroidal-wound ring cores located within the secondary winding volume.





国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Structure



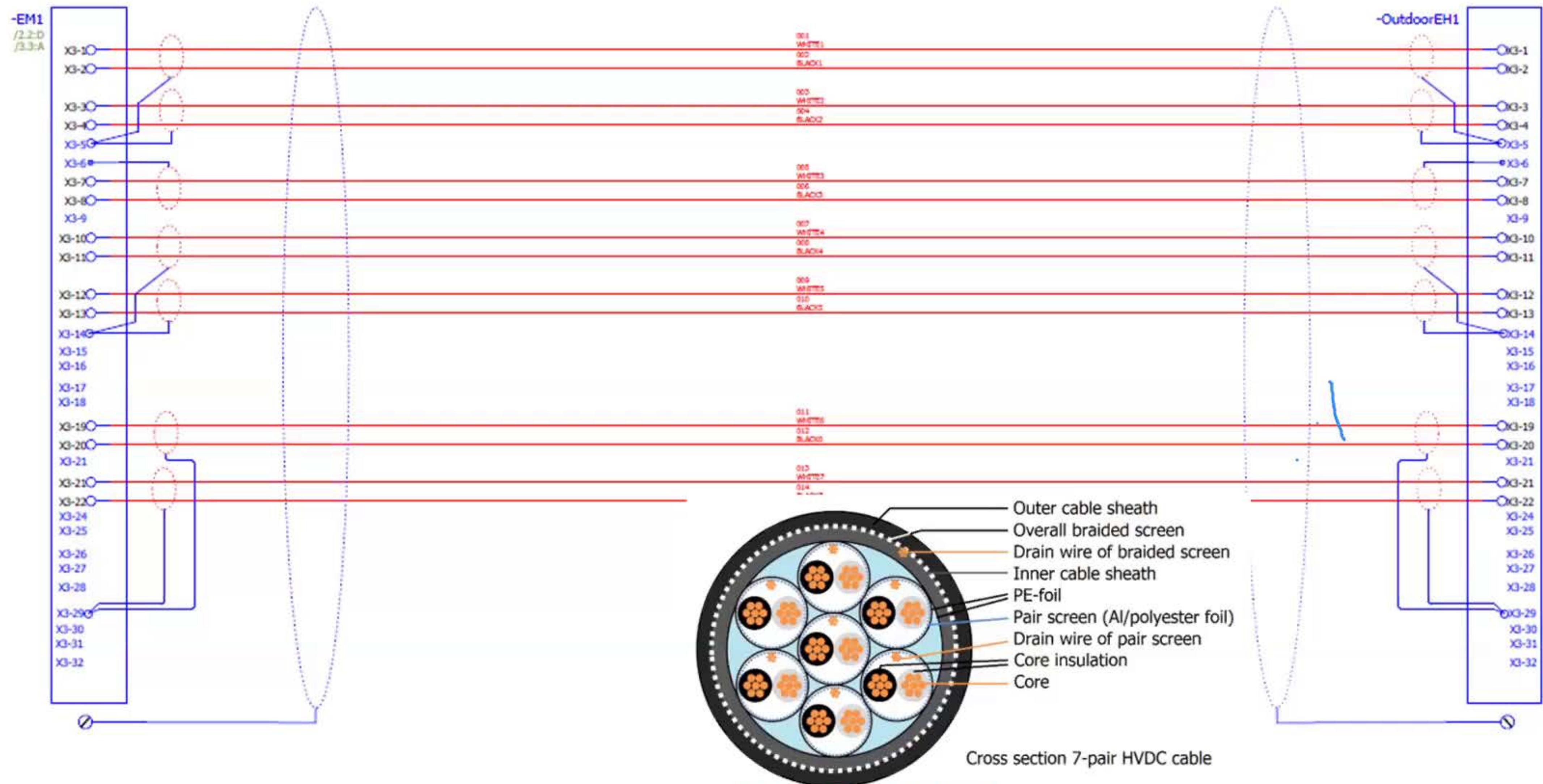
Measuring Head



Electronics Module



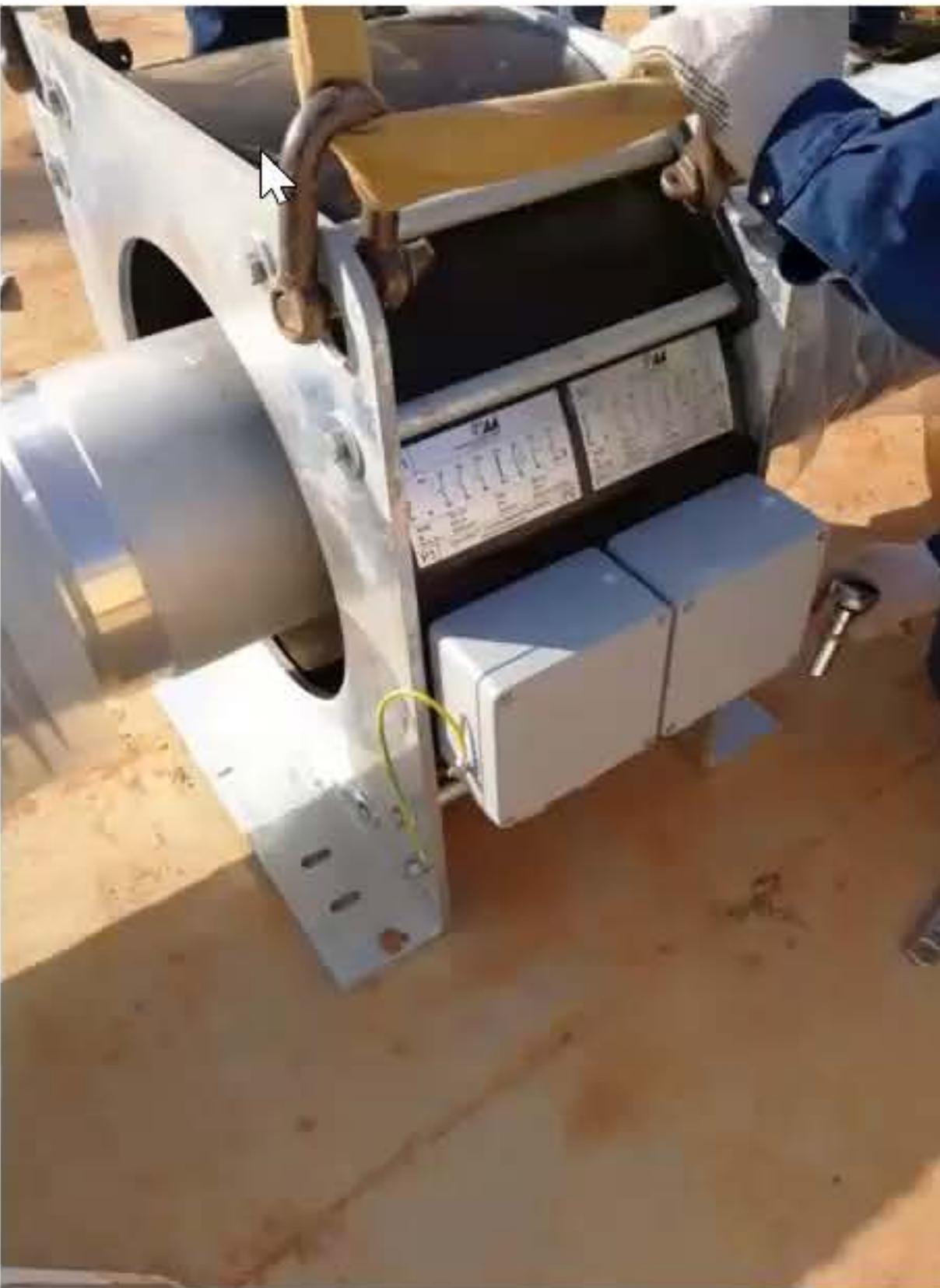
Structure



CABLE



Measuring Head



Bushing



Measuring heads with integrated bushings must be mounted horizontally



Cabinet

The electronics is housed in a 3U high chassis for 19-Inch rack mounting



国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Parameters

The primary rated current can be as high as 4 kA typical. The output voltage at rated current will be as defined by the customer, but normally it is 2 V. In that way it is possible to measure overload currents up to 300 % (6 V) and transient currents up to 600 % (12 V).



国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Parameters

In Matiari-Lahore ± 660Kv HVDC Transmission Project, below parameters are employed.



Rated primary DC current IdN: 3030.3 A

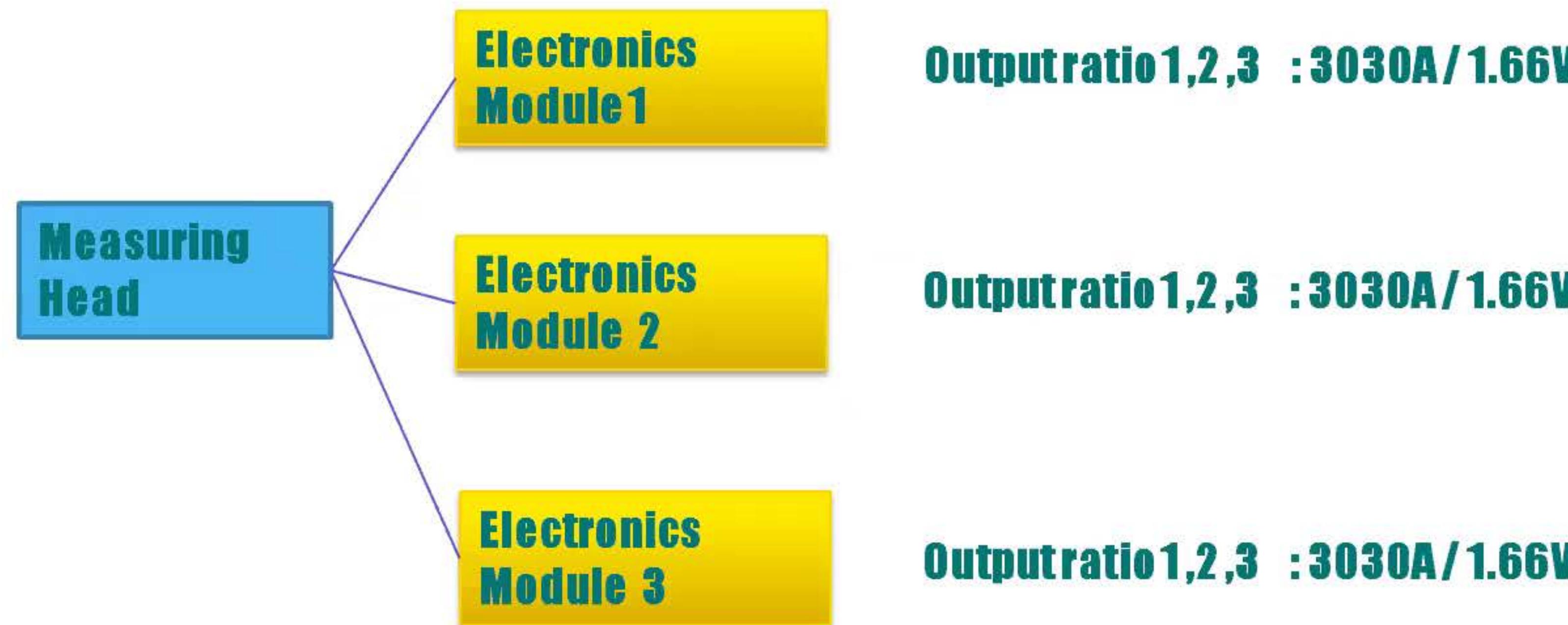


Rated secondary measuring rate V/A: 1.66/[IdN]



Accuracy:

- | | |
|----------------|------|
| a. 10-150% Id | 0.2% |
| b. 150-300% Id | 1.5% |
| c. 300-600% Id | 10% |



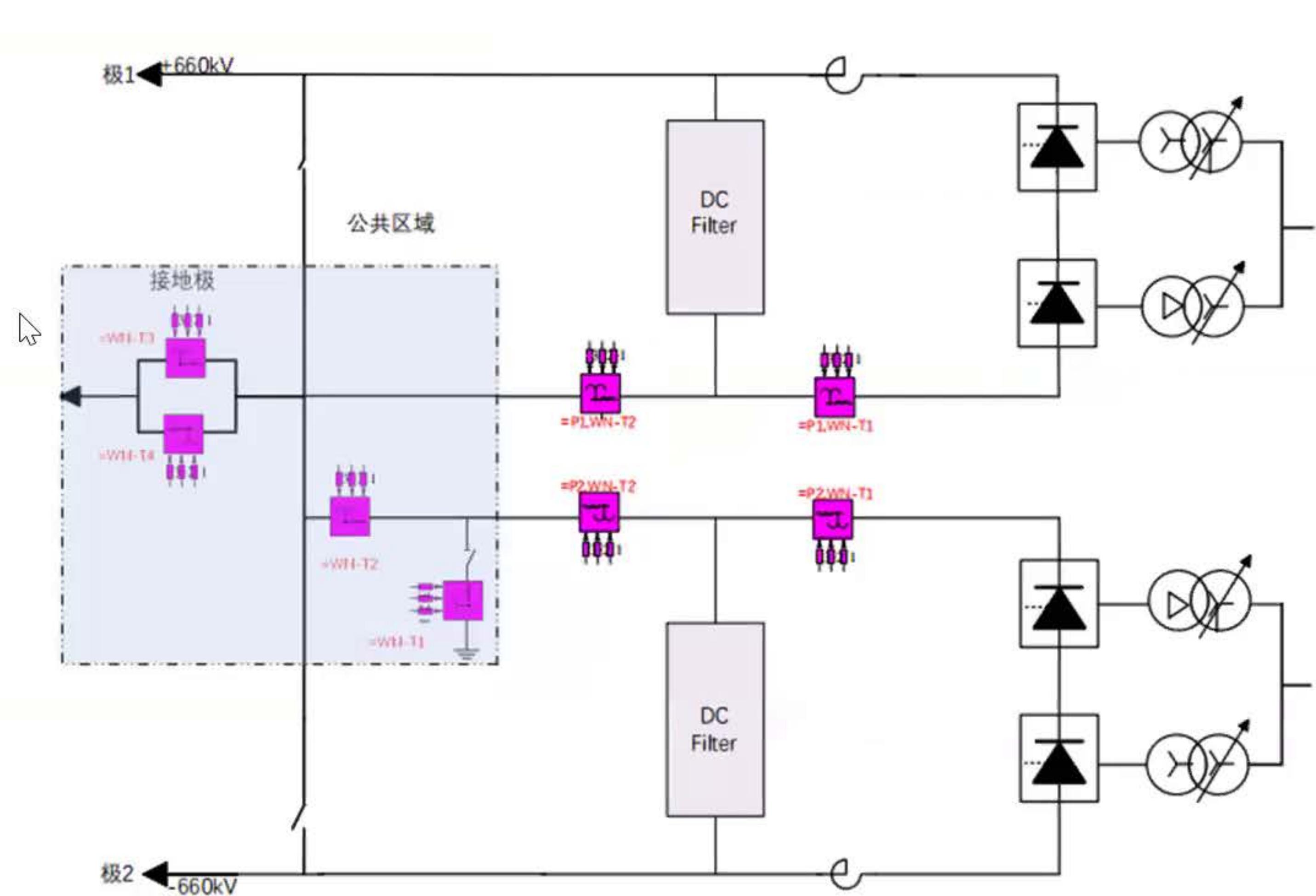


国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Configuration

The location of Measuring Head in Lahore Station



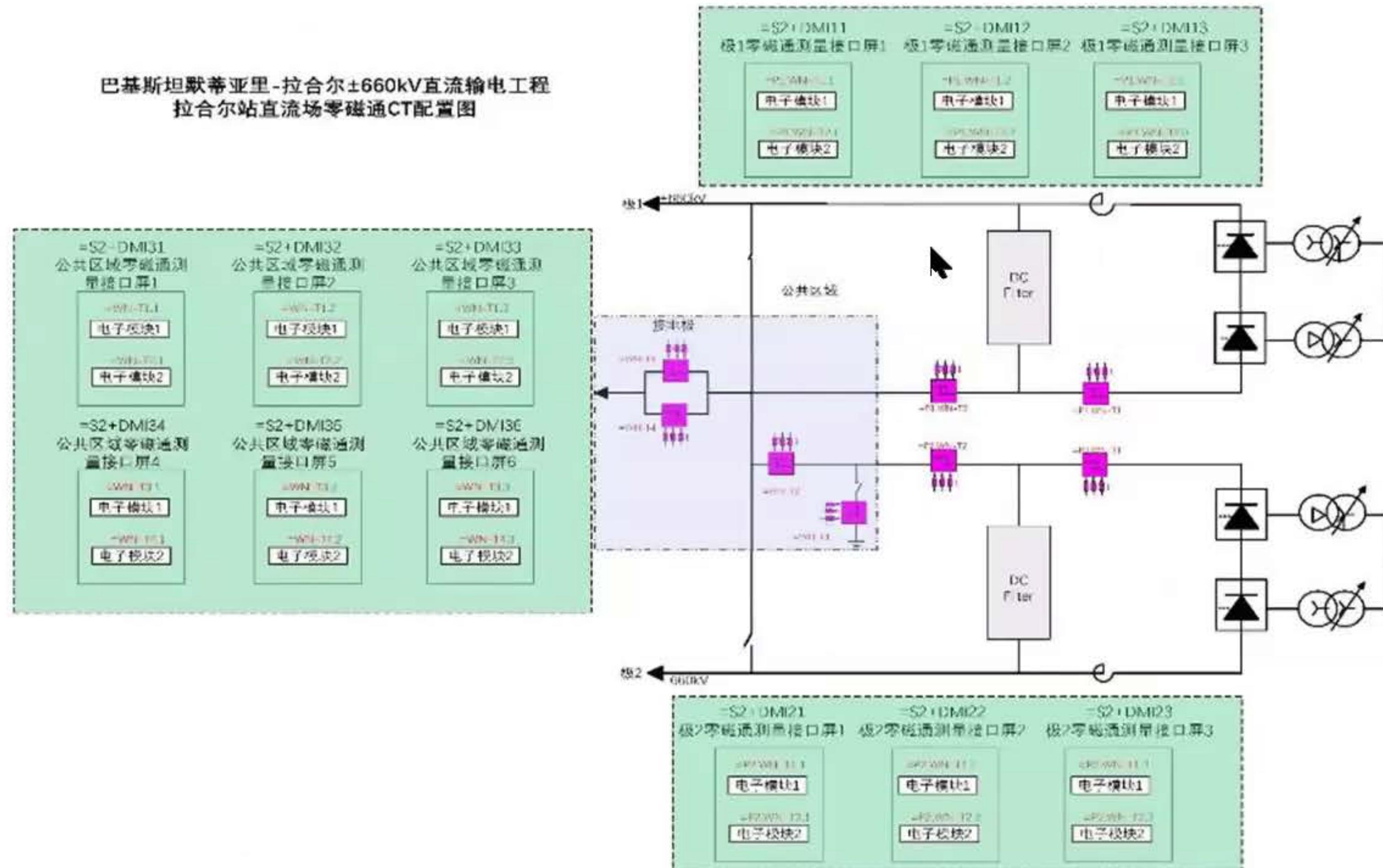


国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

Configuration

The cabinetsetting in Lahore Station





国家电网
STATE GRID

许继集团有限公司
XJ GROUP CORPORATION

感谢!