



RENLE RNB series application in paper manufacturing



RENLE RNB8000 Product Introduction

As a new generation drive control system, the RNB8000 controller adopts direct current supply. It is a multi-drive inverter exclusively designed for DC bus. It is a drive system that integrates the V/F and vector. The idea of multi-axis resource-sharing and modular design enable the controller to realize efficient and complex motion control, causing better system performance than other rivals.

Type of control motor: it can control induction machine, synchronization, torque and linear motor.

Control function: it includes both high-precision speed control function and simple location function, enabling relative and absolute positioning of axle.

Design philosophy of TIA: it supports the PROFIBUS – DP, MODBUS, CANBUS and other communication interfaces. It is easy to connect with other control systems.

Application case:

Currently, among the multi-drive systems in the paper industry, the inverter market is basically being monopolized by the foreign brands, like ABB, SIEMENS, and DANFOSS. But in recent years, domestic inverter



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develops rapidly, plenty of domestic brands are taking up a bigger share in the inverter industry. As the first paper machine drive system in the country, the No.6 machine drive system of the Shandong Tianhe Paper Co., Ltd. (www.tianhepaper.net) is a bold attempt made by our company. Since the beginning of 2017, the machine has been in steady operation for over half a year,

Paper Machine Overview

Product Type: static electricity double-gummed

Width of finished paper: 1760mm

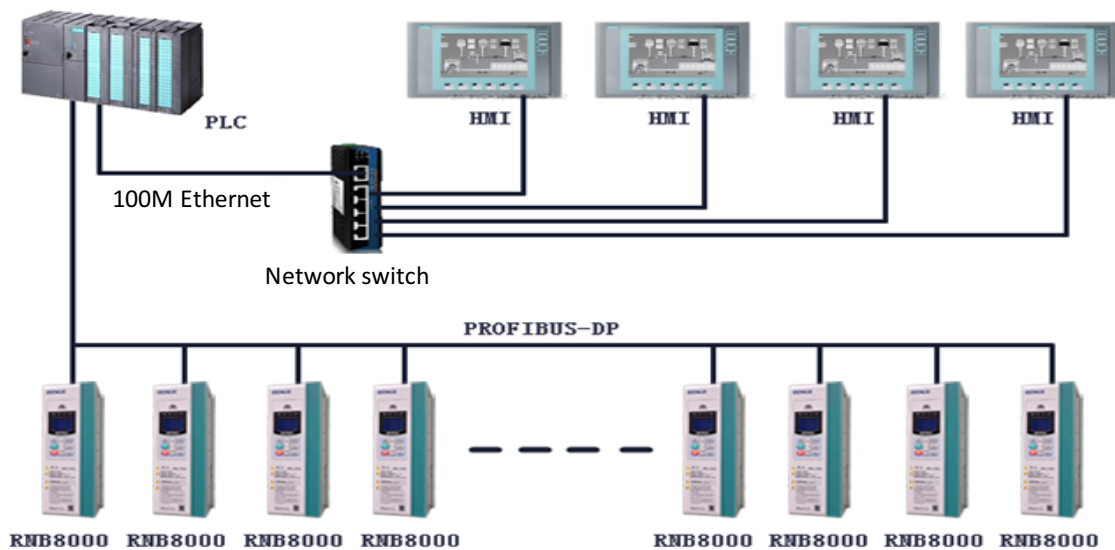
Papermaking basic weight: 40~400 g / m² Main basic weight: 70 g / m²

Design speed: 400m/min

Operating speed: 150~400m/min

Description of control system:

The main drive adopts the RNB8000 series products and has powerful functions. Equipped with the optical-electricity encoder, the inverter can realize the real and high-precision speed closed-loop control by the use of its own speed regulator, ensuring the speed accuracy and stability under low-frequency operation. The optional PROFIBUS-DP communication interface connects with the PLC system. The inverter power of this system ranges from 2.2 KW to 75KW, and is installed with 38 drive points.



The PLC adopts the SIMENS' S7-1200 series products to control the inverter. The PLC is the primary station and the inverter is the slave one, which are used to control the inverter' s functions, like start / stop, running / crawling, tightening up, speed chain, soft tension. The communication adopts the PROFIBUS-DP field bus to increase the bus communication rate, ensure the system speed response, improve the drive stability and save and control a large number of cables.

Programming software adopts TIA PORTAL to easily write and configure the user program. Then that user program can be preserved permanently into the MMC through the CPU communication interface from loss.



HMI

The main HMI



Reel HMI





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On site picture

