



Quad Plus®

Converting Expert Solutions from Planning to Support



Quad Plus is an industry leading system integrator providing motors and controls for production machines and web handling lines in the converting industry. We offer complete solutions: from end user required automation system retrofits, OEM required electrics to field services that can include machine control optimization.

Proven Automation Design

There are certain methods of control for all web handling applications known as “sectional control.” Some of these are tension control, electronic gearing, positioning, various torque controls, and turreting winder algorithms. Our team can specify when these controls are implemented and with due diligence of the mechatronics and web handling scheme, determine the sectional control necessary.

Machine Control and Automation

After determining the sectional control type that is needed, the correct automation product is selected to handle the high-speed demands of the system. The drives and automation products are all standard devices that are user-friendly and selected with the customer’s specifications in mind. End-user equipment standards and preferences are an important requirement for automation product selection.

Integration Services

On retrofits, we work with your staff to upgrade your existing control system, which requires not only the knowledge of the existing controls, but current control concept standards. With OEM systems, our control team will work with the OEM’s electrical and mechanical team in order to get the look and feel the OEM expects to provide to their clients.

Premium Support

We provide secure, remote diagnostics and on-site service and repairs. That means faster troubleshooting and less downtime. Plus, we partner directly with control systems parts manufacturers to save you time and money.

Tension and Motion Control Technology



During the converting process, either closed or open loop controls are used for web handling. Closed loop systems use load cell or dancers to control speed and torque to obtain a desired tension set point. Open loop controls do not use feedback devices, but can still obtain desired tensions by using operator controlled motion controls or torque controls. Our team of control system experts can help you achieve the desired results by implementing the proper controls on your converting equipment.

Converting Process Expertise

Quad Plus has the expertise in web handling and control systems and the process knowledge to help you with all of your converting requirements. Our proven experience will help you choose a lead (master) section, define tension zones, recognize and determine the need for drive control modes. Our engineers are also knowledgeable in the process control of delivery, batching and dryer systems.



Coating

Quad Plus professionals are skilled in control systems for coating applications. We have experience engineering and commissioning many high speed coaters over 1200+ mpm (3900+ fpm).



Laminating

Quad Plus' specialty is the installation and calibration of "lay flat" controls to eliminate wrinkling and curl, improve quality, and reduce cost.



Extrusion

Our process control engineers have the skills to fine tune your extrusion and extrusion laminating lines. To control the extrusion process, our team will design and adjust both control concepts and sectional controls.



Slitting

Whether the final product is film, foil, or paper, the slitting process allows bulk rolls to be slit into narrower rolls. Control concepts, sectional controls, and sequencing are used to deliver the best performance during this demanding step.



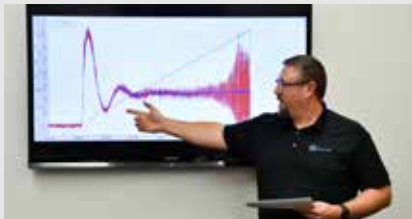
Winding

The Winding and Unwinding process on any converting line is one of the most critical applications. Our engineers have the training and process experience to implement the tension control regulation and programming required for the winding process.



Line Optimization and Speed Increases

Quad Plus engineers and technicians have a long history of optimizing coating and converting lines. Recalibration of controls, using mechatronics and empirical measurements, are necessary to ensure the line is running at optimal speed while maintaining precise tension control and the highest levels of performance and quality possible.



We start by assessing the gear in mechanics, and the associated HP capabilities of the sectional control then make recommendations to improve their performance. Next, the team will analyze the drive section and measure the reflected inertia on the shaft of the motor, making adjustments based on the findings. Finally, we will re-tune the outer loops, as necessary, to achieve a good solid tension control with minimal deviations.

Line Speed increases are similar to Line Optimization, but on the front end, we will review the gear in mechanics and process variables to see if the drivetrain can attain the new speed.

Connect with us



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