

Case	Delta Industrial Automation Products for Wood Screw Automatic Seal Rolling Machines				
Issued by	Solution Center	Date	April, 2016	Pages	3
Applicable to	Human Machine Interface DOP-B Series, Programmable Logic Controller DVP Series, AC Motor Drive VFD-EL Series				
Key words	Wood Screw Automatic Seal Rolling Machine, HMI, PLC, AC Motors Drives, VFD-EL Series				

[Application Introduction]

Delta industrial automation products used in the control system of a wood screw automatic seal rolling machine can increase productivity.

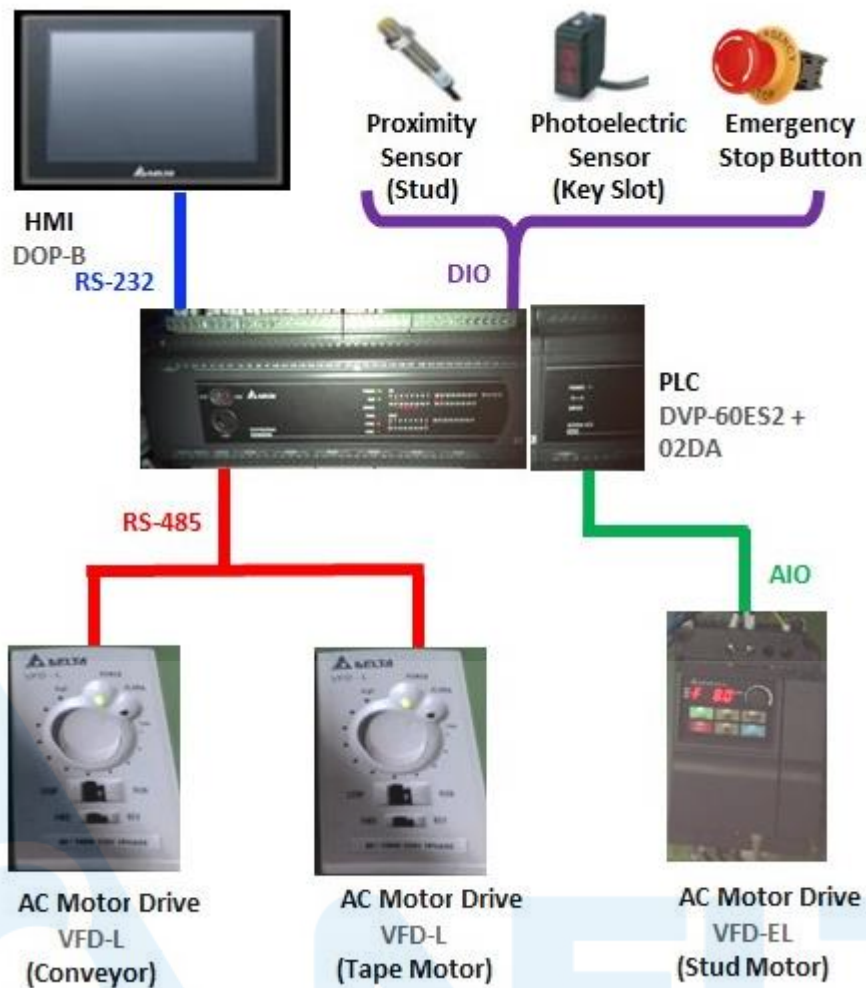
A wood screw automatic seal rolling machine assembles and collates scattered wood screws for auto-feed screw drivers. A vibratory hopper feeder helps arrange the wood screws to a plastic chain slot, and the screws are sequentially aligned and packaged into rolls of collated screws. Collated screws and auto-feed screw drivers are commonly used in the installation of wooden structures and thin steel structures. The screw automatic seal rolling machine can automatically cut strips of collated screws into a specific length and amount according to customized specifications.

[Delta's Products in a Wood Screw Automatic Seal Rolling Machine System Structure]

Delta's Human Machine Interface (HMI) DOP-B Series, programmable logic controller (PLC) DVP Series, AC Motor Drive VFD Series, and smart sensors are used to construct the entire control system. Features of the control system are as follows:

- A PLC processes the logic programs and sends commands for speed control to the AC motor drive via RS-485 communication
- Stable speed control enhances manufacturing quality for proper wood screws alignment
- An independent screw feeding controller provides proper vibration for the vibratory hopper feeder to feed a fixed amount of screws during the wood screw alignment and seal and rolling process
- An HMI provides convenient operation and simple parameter setting with error alarms

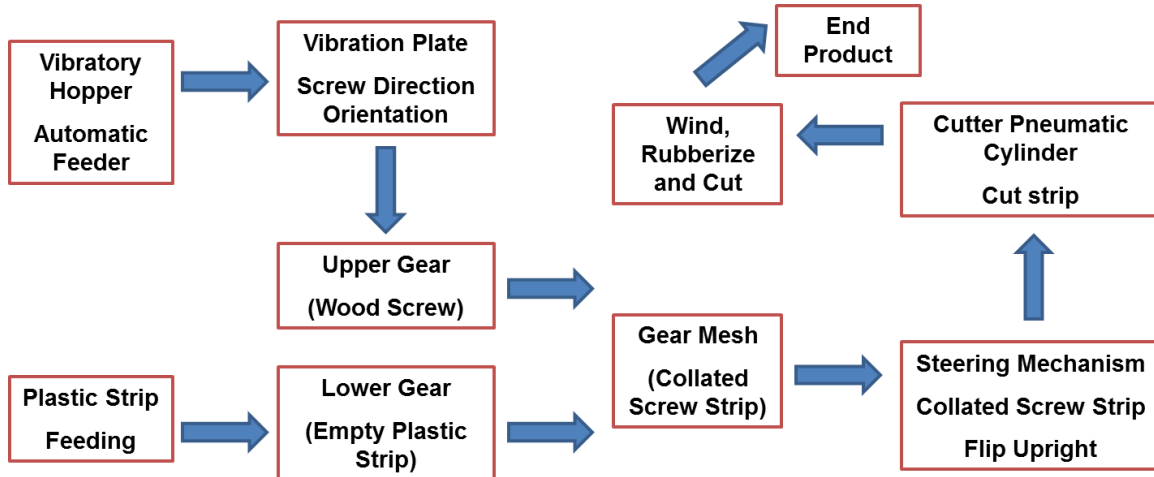
With solid experience and advanced technology, Delta Industrial Automation offers efficient and reliable solutions and service – we are your most trustworthy partner.



[Application Solutions]

Wood screws are automatically fed by the vibratory hopper feeder. Through the vibration motion plate, these screws are oriented into sequential order in the upper gear. An empty plastic strip for collated screws is fed through the lower gear. When both gears mesh, the wood screws are assembled onto the plastic strips. Both the feeding process and assembling process are monitored by sensors to prevent any empty slots on the plastic strips. The machine stops automatically if there is a shortage in material. The front end of the conveyor belt has a steering mechanism where the collated screw strip turns upright for cutting by a pneumatic cylinder cutter. The final process is to wind, rubberize, and cut the collated screw strips.

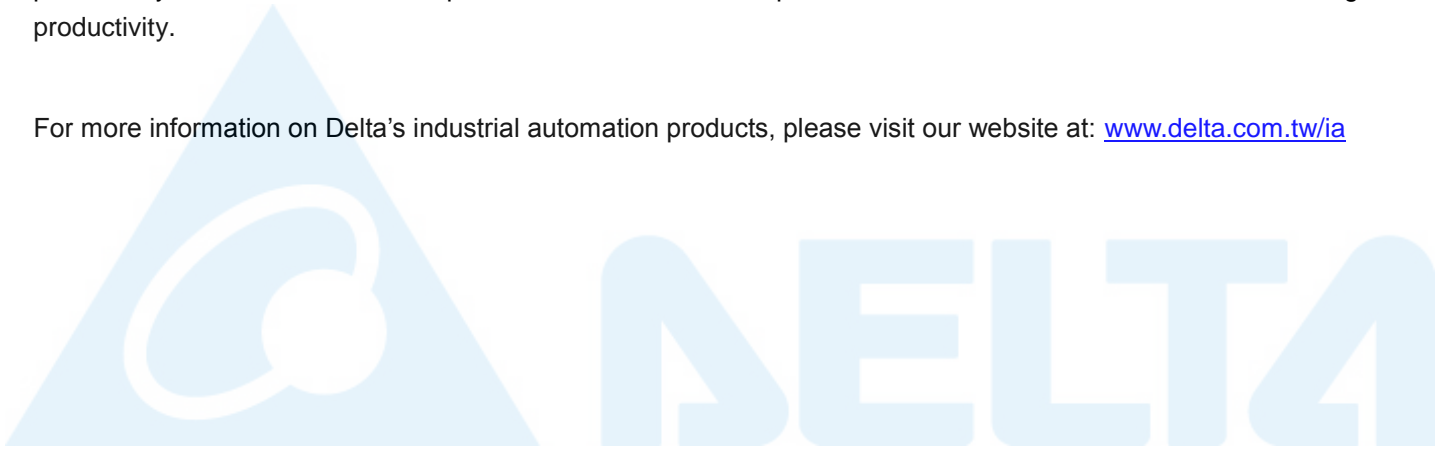
With solid experience and advanced technology, Delta Industrial Automation offers efficient and reliable solutions and service – we are your most trustworthy partner.



[Delta's Solution Increases Productivity]

Delta's industrial automation products together with customized programming and parameter fine-tuning increase productivity to 600 collated screws per minute. Delta's solution provides customers with an efficient solution for greater productivity.

For more information on Delta's industrial automation products, please visit our website at: www.delta.com.tw/ia



With solid experience and advanced technology, Delta Industrial Automation offers efficient and reliable solutions and service – we are your most trustworthy partner.