



Roll Forming Machine Control

Shriram Automation and Horner's EXLW



Roll Forming Project, Thane, Maharashtra, India



Horner EXLW controller

OPPORTUNITY

Shriram Automation is a system integrator for Horner India. A client of theirs purchased a Roll Forming machine from China. The machine control panel had a Delta PLC with a Chinese brand 7" HMI and VFD. The logic of the machine was simple - A piece of sheet metal was passed through the roll forming machine which created a profile. The length of this profile was measured by the encoder. A set length was entered in the HMI e.g 1500mm. After reaching the set length (measured by encoder) a hydraulic shear cuts the profile. The cycle then keeps repeating.

CHALLENGE

It was noticed after every cut that there was a length variation in every profile. Because of this continual problem, the client was facing material rejection from his customers.

SOLUTION

After observation and technical analysis, Shriram came to a conclusion that the problem was due to noise, which was generated by the VFD. They used different techniques to eliminate the noise but the problem persisted. Finally, they came up with a solution to replace the existing HMI and PLC with the Horner EXLW controller, model 5.

Keeping the same VFD they programmed the EXLW and completed some wiring changes. They also configured the analog output of the EXLW for varying the frequency of the VFD. They started testing their logic and observed that the same problem was occurring, in that there continued to be a length variation in the profiles. Then Shriram discovered what the real issue was, the frequency filtering utility for HSC inputs.



Agriculture

- Reduce energy consumption
- Increase overall productivity

Building Automation

- Improve occupant comfort
- Economical operation systems

Material Handling

- Minimize HMI inefficiencies
- Track/log/catalog data

Oil & Gas

- Maximize capacity utilization
- Maintain emission standards

Renewable Energy

- Data logging, remote access
- Sunlight and UV protection

Water/Wastewater

- Station pump control
- Remote water well controls

SOLUTION continued...

They adjusted the filtering of the HSC inputs which produced a significant change in the result. Yes it's true, they were able to eliminate the noise completely! After the elimination of the noise there was a consistency in the length of the profile. The client was finally satisfied and appreciated the decision of changing the PLC.

The client had three roll forming machines and only one of the three of them was having the problem. The other two had less problems related to length, however, the client immediately ordered two more EXLW controllers and told me to replace them in the other two machines.

TESTIMONIAL

"The best thing about HORNER OCS is the All-in-One solution. It's compact build makes it very easy to install in panel (space saving). The single OCS is able to handle Logic, Communication, Removeable media, and Graphics simultaneously. The programming software is very user friendly and only a single software is used for programming logics and graphics."

~ Sunit Gupte, Shriram Automation

