

Security Assist Mechanisms for Industrial Control Systems with Authentication

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(Pt9)Abstract— Due to a lack of identification and authentication in the communication protocol used for industrial control systems. It is easy for an intruder to forge false information or impersonate a device to send inappropriate commands to other devices, causing them to malfunction or be damaged. This study designs three kinds of identity security mechanisms used in industrial control communication protocols: central control, device to device (D2D), and a hybrid mechanism combining the above two. Using the proposed mechanism can prevent intruders from disguising as legitimate devices to join the industrial network, resulting in information tampering or equipment impersonation.

Keyword— Industry control system, security, authentication.



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