

Customization Process for Upgraded ESCON Connectors for Power Systems



Overview

These cables have a small form factor, industry standard MT-RJ connector at one end for attachment to the ESCON adapter port.

Key Takeaways

Upgrading and customizing ESCON connectors involves configuring hardware, wiring, and software parameters using ESCON Studio to ensure optimal integration with your power system and motor control requirements. Overview of ESCON Connectors and Controllers

ESCON and ESCON2 are 4-quadrant PWM servo controllers designed for efficient control of DC and brushless DC (BLDC) motors, supporting continuous power up to 1800 W and short-term peaks higher than that . They offer analog and digital I/O, CANopen network integration, and USB/RS232 communication for flexible system control . Upgraded connectors allow seamless integration into modern power systems while maintaining high reliability and performance.

Step 1: Hardware Setup

- Identify the Motor Type: Determine whether the motor is brushed DC or brushless EC (BLDC). This affects wiring and parameter selection .
- Power Supply Verification: Ensure the power supply matches the ESCON controller's voltage and current ratings.

- **Connector Wiring:** Follow the ESCON Hardware Reference for your specific model. Connectors must be properly seated, and all signal lines (PWM, analog, digital, feedback sensors) should be verified for continuity .

- **Feedback Integration:** Connect Hall sensors, incremental encoders, or absolute sensors as required for your application .

Step 2: Software Configuration

- **Install ESCON Studio:** Download and install ESCON Studio on a Windows PC (Windows 10 or 11) with USB or CANopen interface .

- **Controller Detection:** Connect the ESCON via USB; the software will display the controller (e.g., USB0) to confirm communication .

- **Start-Up Wizard:** Enter motor data (speed constant, thermal time constant, number of pole pairs) and system parameters. This ensures the controller is tuned for your specific motor and application .

- **I/O Implementation:** Configure analog and digital inputs/outputs according to your system requirements, including safety interlocks and control signals .

- **Parameter Tuning:** Perform regulation tuning to optimize speed, torque, and acceleration performance. ESCON Studio provides menu-guided wizards for this process .

Step 3: Testing and Validation

- **Initial Test Run:** Operate the motor at low power to verify correct wiring and parameter settings.

- **Performance Verification:** Check speed, torque, and feedback signals. Adjust parameters as needed for optimal performance.

- **Integration into Power System:** Once validated, integrate the ESCON controller with the larger power system, ensuring proper grounding, shielding, and communication with other devices .

Step 4: Documentation and Maintenance

- **Save Parameter Sets:** Use ESCON Studio to save the configuration on a PC for backup and future reference .

- **Regular Checks:** Periodically verify connector integrity, firmware updates, and system performance to maintain reliability.

Additional Considerations

- For mainframe or legacy ESCON systems, consider using solutions like Prizm for FICON-to-ESCON conversion if upgrading older infrastructure .

- Ensure compliance with safety standards and manufacturer guidelines during customization. By following these steps, upgraded ESCON connectors can be effectively customized for power systems, ensuring reliable motor control, efficient operation, and seamless integration into modern applications.

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