1. Record Nr. UNINA9911006597703321

Autore	Brown David
Titolo	Control engineering : control system power and grounding better practice / / by David Brown, David Harrold, and Roger Hope
Pubbl/distr/stampa	Boston, : Newnes, c2004
ISBN	9786611027896 9781281027894 1281027898 9780080529967 0080529968
Descrizione fisica	1 online resource (121 p.)
Altri autori (Persone)	HarroldDavid HopeRoger
Disciplina	333.7932 629.8
Soggetti	Electric power systems - Control Control theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Newnes is an imprint of Elsevier."
Nota di contenuto	Cover; Contents; Introduction; CE Statement; Warnings, Cautions, and Notes; Liability; Chapter 1. Site Preparation Overview; System Availability; Impact of New Technologies on System Availability; Importance of Mean Time to Repair; Electrical Noise Influences; Minimizing Influences; AC Power Considerations; System Ground; Earth Ground; Signal Wiring for Traditional I/O Systems; Signal Wiring for I/O Bus Systems; Intrinsically Safe I/O Systems; Lightning Protection; Chapter 2. AC Power Distribution; AC Power Considerations; AC Distribution System; AC Power Supply Connections Workstations and Peripheral EquipmentAuxiliary Equipment; Chapter 3. DC Power Distribution; DC Power Considerations; DC Power Connections; Bussed Field Power; Resistor-Capacitor Snubbers; Intrinsic Safety Considerations; Chapter 4. System Grounding; Single-Point Ground Techniques; Enclosure Ground Considerations; Effective Grounding; Using Existing Ground Systems; Separating AC and DC Grounds; Ground Wiring; Shield Grounds; Workstations and Peripheral

Devices; AC/DC Controller and I/O Power Supply; DC/DC Controller and I/O Power Supplies; Bulk Power Supplies; Redundant Power Connections Intrinsic Safety Installation GroundingChapter 5. Signal Wiring; Signal Wiring Practices; Electromagnetic Interference (EMI) Reduction; Protection from AC Power Line Noise; Direct Cable Runs; Multi-Pair Cable Runs In Junction Boxes; Low-Level Signal Cable Runs in Junction Boxes; Class 1 Division 2 Recommendations; AS-Interface Considerations; DeviceNet Considerations; FOUNDATION Fieldbus Considerations; Profibus Considerations; Chapter 6. Alarm Wiring; Chapter 7. Earth Ground; Designing an Earth Ground; Testing an Earth Ground; Annual Inspection; Chapter 8. Lightning Protection Reference DocumentsLightning Risk Determination; Lightning Protection Systems; Implementing Lightning Protection; Inspection of Lightning Protection Systems; Appendix A. Variable Speed Drive Considerations; Recommendations; Electrical Noise Examples; Ground Considerations; Motor Ground Connections; VSD Cable Specifications; Critical Cable Lengths; Appendix B. Testing with an Oscilloscope; General Monitoring; Fieldbus Segment Monitoring; Appendix C. Wire Size and Color Codes; Index

Sommario/riassunto

Control system power and grounding is possibly the single most important element to ensure a control system doesn't experience unidentified ""gremlins"" throughout its life. The topic is appropriate to every control system domain, including programmable logic controllers, process control systems, robotics, vision systems, etc. Power and grounding is recognized by a major industry standards organization, ISA, in ongoing standards efforts.Control Engineering and several power and grounding experts have developed this control system power and grounding resource. When used in conjunctio