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Nota di contenuto	Front Cover; Smart BuildingSystems forArchitects, Owners,and Builders; Copyright Page; Contents; Preface; Acknowledgments; Chapter 1: What Is a Smart Building?; Brief History; What Is a Smart Building?; Chapter 2: The Foundations of a Smart Building; Overview; The Framework for Referencing Integration; Physical Layer; Data Link Layer; Network Layer; Transport Layer; Session, Presentation, and Application Layers; Structured Cabling Systems; Twisted-Pair Copper Cable; Fiber Optic Cable; Coaxial Cable; Wireless; Wi-Fi; Wi-Fi Mesh Networking; Zigbee; Communications Protocols; Ethernet XML and SOAPBACnet; LonWorks; Modbus; OPC; Interoperable Smart Building System Databases; Structured Query Language; Open Database Connectivity; Power over Ethernet; Chapter 3: Heating, Ventilating, and Air Conditioning Systems; Overview; Components; Boilers; Chillers; Air-Handling Units; Air Terminal Units; Efficiency; Strategies For Maximizing Hvac Efficiency; Reducing Loads; Equipment Sizing; HVAC Sequence of Operation; Maintenance; Displacement Ventilation; HVAC Controls; Chapter 4: Lighting Control Systems; Overview; System

Control; Relay Panels; Occupancy Sensors; Dimmers
Daylight HarvestingBallasts; Integration into Building Automation Systems; Chapter 5: Electric Power Management Systems; Overview; Monitoring; Display Units; Central Operator Workstation; Demand Response; Electricity Usage Metering and Submetering; Smart Power Strips; POE; Chapter 6: Access Control Systems; Overview; Server or Host Computer; Control Panels; Peripheral Devices; Door Contacts; Request-to-Exit; Electrified Door Hardware; Card Readers; IP POE-Powered Access Control Systems; POE Power Issues; IP and POE Benefits; People Counters; Devices; Chapter 7: Video Surveillance Systems
OverviewMajor Functions; Video Capture; Video Transmission; Video Processing; Recording; Monitoring; Analytics; IP-Based Video Surveillance Systems; Concerns; Advantages; Chapter 8: Video, IPTV, and Digital Signage Systems; Overview; Traditional Video Distribution; Video Display and Viewing; Digital Video Transmitted via a Data Network; Applications; Media Retrieval; Video Conferencing; Distance Learning; Live Feeds From Video Cameras; Digital Signage; Digital Signage Systems; Using Digital Signage; Chapter 9: Fire Alarm and Mass Notification Systems; Overview; Fire Alarm Control Panel
Annunciator PanelFire Detection; Suppression Systems; Notification Devices; Monitoring; Communications and IP; Mass Notification Systems; IP Paging Systems; Chapter 10: Voice Networks and Distributed Antenna Systems; Overview; Voice over IP; Distributed Antenna System; Pico Cells; Business Issues; Emerging Technology Trends; Chapter 11: Data Networks; Overview; Networks; Personal Computers or Other User Devices; Network Switches; Network Servers; IP Addressing; Chapter 12: Facility Management Systems; Overview; Facility Management Software; Work Order Management; Asset Management
Material and Equipment Parts Management

Sommario/riassunto

Smart Buildings Systems for Architects, Owners and Builders is a practical guide and resource for architects, builders, engineers, facility managers, developers, contractors, and design consultants. The book covers the costs and benefits of smart buildings, and the basic design foundations, technology systems, and management systems encompassed within a smart building. Unlike other resources, Smart Buildings is organized to provide an overview of each of the technology systems in a building, and to indicate where each of these systems is in their migration to and utilization of the standard un