

Application

The Metasys Network Automation Engine (NAE) is an Ethernet-based, supervisory device that connects BAS networks to IP networks. NAEs monitor and control field-level building automation devices, including HVAC equipment, lighting, security, and fire safety equipment. At Release 11.0, the NAE55 is also FIPS 140-2 Level 1 compliant. FIPS 140-2 is a United States government cybersecurity standard that approves cryptographic modules/algorithms used for encryption. Use this document to install the NAE. Figure 1 shows the NAE55 engine.

Figure 1: NAE55 Network Engine



The NAE offers various integration options. Ethernet network integrations include the following options:

- Johnson Controls and 3rd party BACnet/IP, BACnet/SC devices
- Simplex® Fire Alarm Control Unit (FACU)
- Cree® SmartCast® Lighting Control
- Molex® Lighting Control
- Tyco® C-CURE® 9000 or victor® Video Management
- Modbus TCP/IP
- KNX IP
- OPC UA integration at Metasys Release 11.0

Field Bus integrations include the following options:

- BACnet MS/TP
- N2 Bus
- LonWorks® (NAE552x models only)
- Modbus Remote Terminal Unit (RTU)
- Meter Bus (M-Bus)
- Zettler® Fire Panel

Important: For any other custom integrations, contact your local Systems Integration Services (SIS) team before an upgrade. Updated drivers are available on request.

In this installation guide, the term network engine applies to any NAE55 model, unless otherwise stated. For installation instructions on the NAE55s that are approved for Metasys system smoke control applications, refer to the *NAE55 Installation Instructions (Part No. 24-10051-00132)*.

Note: At Metasys Release 10.0 and later, modems (internal and external) and pagers are no longer supported on NAE55 engines that run the Linux operating system, but are still supported on prior releases for engines that use a Windows Embedded operating system. You can field-upgrade a network engine at Release 9.0 that has an internal modem to Release 10.0 or later to acquire new release enhancements, but its modem and pager functionality are lost. If you need modem and pager functionality, do not upgrade the NAE55 engine to Release 10.0 or later.

Installation

Follow these guidelines when installing the network engine:

- Transport the network engine in the original container to minimize vibration and shock damage to the network engine.
- Verify that all the parts shipped with the network engine. The data protection battery and network engine ship together but are packaged separately.
- Do not drop the network engine or subject it to physical shock.
- Do not open the network engine housing (except the data protection battery compartment). The network engine has no user-serviceable parts inside.

Parts included

- one MS-NAE55xx-x model
- one data protection battery
- one installation instructions sheet

Materials and special tools needed

You can mount the network engine by using the fasteners option or the DIN rail option.

- Fasteners option - Three fasteners appropriate for the mounting surface:
 - #8 screws - North America
 - M4 screws - Europe
- DIN rail option - 36 cm (14 in.) or longer section of 35 mm (1 1/8 in.) for DIN rail mount applications only.



Metasys Johnson Controls Manual

Ying Liu



Metasys Johnson Controls Manual:

Controls and Automation for Facilities Managers Viktor Boed, 1998-06-23 Building owners and managers expect fully automated and energy efficient operations on line diagnostic of systems parameters to prevent failures and on line diagnostic of problems prior to exposing occupants to deteriorating environmental conditions A simple HVAC control is no longer acceptable by current standards *Controls and Automation for Facilities Managers* examines principles and applications of HVAC engineering outlining information for design development of operations logic systems diagnostics and building of environmental conditions with reliability and minimum operating cost The book moves from the principles of mechanical engineering related to HVAC systems through DDC applications engineering thereby summarizing complex topics of electrical engineering for mechanical engineers Individual chapters Provide essential information on related mechanical HVAC engineering controls strategies and examples of basic algorithms for on line diagnostics Guide DDC application engineers to a more thorough understanding of mechanical engineering disciplines i e the psychrometric chart as well as guide mechanical engineers to a more thorough understanding of DDC applications engineering i e direct digital controllers and systems Outline information on current topics Discussions also include Indoor air quality presenting material for facilities engineers as well as controls and consulting engineers Utilities metering describing the distribution of real time data over a network including consumption alarms diagnostics trends and reports On line problem diagnostics outlining HVAC and environmental problems *Controls and Automation for Facilities Managers* serves as an exceptional guide for facilities managers and engineers architects and consulting engineers vendors and contractors and other professionals in the design application and implementation of controls and automation systems for industrial educational institutional and governmental facilities This reference will enhance design systems implementation systems operation and maintenance effecting the ultimate goal of its readers implementation of fully automated environmental control systems trouble free operation and optimization of operating and maintenance cost

Web Based Energy Information and Control Systems Barney L. Capehart, Lynne C. Capehart, 2021-01-07 Advances in new equipment new processes and new technology are the driving forces in improvements in energy management energy efficiency and energy cost control The purpose of this book is to document the operational experience with web based systems in actual facilities and in varied applications and to show how new opportunities have developed for energy and facility managers to quickly and effectively control and manage their operations You ll find information on what is actually happening at other facilities and see what is involved for current and future installations of internet based technologies The case studies and applications described should greatly assist energy facility and maintenance managers as well as consultants and control systems development engineers

[How to Design an HVAC System: A Comprehensive Guide](#) Charles Nehme, In an era where our lives are increasingly spent indoors the quality of our built environments has never been more paramount From the air we breathe to the thermal comfort we experience the

unseen forces of heating ventilation and air conditioning HVAC systems silently orchestrate our well being productivity and health Yet for many the intricate workings of HVAC remain a mystery often relegated to an afterthought in the grand scheme of architectural design This oversight however comes at a significant cost not only in terms of comfort and health but also in substantial energy consumption and environmental impact Having dedicated over three decades to the dynamic world of HVAC and MEP consulting across diverse global landscapes I ve witnessed firsthand the transformative power of well designed systems and the profound consequences of their neglect From the complex industrial facilities that power our economies to the towering commercial structures where innovation thrives and the intimate residential spaces we call home the principles of optimal air management remain universal yet their application demands nuanced understanding and precise execution This book *Mastering HVAC System Design A Comprehensive Guide* is born from that extensive experience and a deep seated commitment to demystifying the art and science of HVAC engineering It is crafted not just for seasoned professionals seeking to refine their expertise but also for aspiring engineers architects building owners and anyone keen to understand the critical backbone of modern structures My aim is to bridge the gap between theoretical knowledge and practical application providing a holistic framework that empowers you to design systems that are not only efficient and effective but also sustainable and resilient We will embark on a journey from the fundamental principles of heat transfer and psychrometrics through the meticulous process of load calculations to the intricate dance of equipment selection and sophisticated control strategies We will delve into the critical aspects of indoor air quality energy efficiency and the long term stewardship of these vital systems through proper commissioning and maintenance My hope is that this guide serves as your trusted companion illuminating the path to creating environments that are healthier more comfortable and significantly more sustainable for generations to come Let us design smarter buildings so we can all breathe better Charles Nehme Global HVAC and MEP Consultant **Building Operating Management** ,1996 **Commerce Business Daily** ,1998-11

Health Facilities Management ,1991 **Digital Built Asset Management** Qiuchen Lu,Michael Pitt,2024-10-03 This insightful book presents a comprehensive understanding of the new technologies impacting the digital era of built asset and facility management Informative and accessible it illustrates how the concepts principles strategies and applications of digital built asset management can be improved and implemented in real life practice **Computer Applications in Engineering and Management** Parveen Berwal,Jagjit Singh Dhatteval,Kuldeep Singh Kaswan,Shashi Kant,2022-04-07 The book *Computer Applications in Engineering and Management* is about computer applications in management electrical engineering electronics engineering and civil engineering It covers the software tools for office automation introduces the basic concepts of database management and provides an overview about the concepts of data communication internet and e commerce Additionally the book explains the principles of computing management used in construction of buildings in civil engineering and the role of computers in power grid automation in electronics engineering Features Provides an insight to

prospective research and application areas related to industry and technology Includes industry based inputs Provides a hands on approach for readers of the book to practice and assimilate learning This book is primarily aimed at undergraduates and graduates in computer science information technology civil engineering electronics and electrical engineering management academicians and research scholars Conquering Big Data with High Performance Computing Ritu Arora,2016-09-16 This book provides an overview of the resources and research projects that are bringing Big Data and High Performance Computing HPC on converging tracks It demystifies Big Data and HPC for the reader by covering the primary resources middleware applications and tools that enable the usage of HPC platforms for Big Data management and processing Through interesting use cases from traditional and non traditional HPC domains the book highlights the most critical challenges related to Big Data processing and management and shows ways to mitigate them using HPC resources Unlike most books on Big Data it covers a variety of alternatives to Hadoop and explains the differences between HPC platforms and Hadoop Written by professionals and researchers in a range of departments and fields this book is designed for anyone studying Big Data and its future directions Those studying HPC will also find the content valuable *Facilities Manager* ,1990 *Direct Digital Control of Building Systems* H. Michael Newman,1994 It emphasizes throughout the high performance reliability and reduced cost of modern digital sensors control devices microprocessors computer memory and other electronic components Advanced Automated HVAC Fault Detection and Diagnostics Commercialization Program Donald Frey,Vernon Smith,Architectural Energy Corporation,2008 **Tivoli Integration Scenarios** Redbooks Tivoli Integration Scenarios Team IBM,Andre Ricardo Cavalcanti de Araujo,Antonio Orlando Neto,Ayron Dal Pont,Bill J Layne,Bruno Caiado Paranhos Carneiro,Bruno Nogueira Costa,Carlos Alexandre Salgado Penante,Carlos Felipe Franca da Fonseca,Carolina Escribano Sanchez,Datta S Khot,David Kwock,David Stephenson,Diogo Tadeu Silva de Araujo,Douglas Barranqueiros Gomes,Eravimangalath P Naveen,Krishnan Venkitasubramanian,Leucir Marin Junior,Harshini Mariswamy,Johan Raeymaeckers,Marcel Dubiella Ferreira de Oliveira,Marcel Laurenz,Marianne Hardh,Mario Schuerewegen,Miguel Sanders,Murat Kipel,Rishikesh Kumar,Neetha Mangalore,Ozgun Odabasi,Pankaj Pandey,Rafael Risso Moleiro,Sabri Kizanlik,Sandy Cash,Soumyadeep Paul,Tomasz Sekman,Vasfi Gucer,Yatresh K Agarwal,IBM Redbooks,2011-01-11 This IBM Redbooks publication provides a broad view of how Tivoli system management products work together in several common scenarios You must achieve seamless integration for operations personnel to work with the solution This integration is necessary to ensure that the product can be used easily by the users Product integration contains multiple dimensions such as security navigation data and task integrations Within the context of the scenarios in this book you see examples of these integrations The scenarios implemented in this book are largely based on the input from the integration team and several clients using IBM products We based these scenarios on common real life examples that IT operations often have to deal with Of course these scenarios are only a small subset of the possible integration scenarios that

can be accomplished by the Tivoli products but they were chosen to be representative of the integration possibilities using the Tivoli products We discuss these implementations and benefits that are realized by these integrations and also provide sample scenarios of how these integrations work This book is a reference guide for IT architects and IT specialists working on integrating Tivoli products in real life environments *ASHRAE Journal* ,1993 **Consulting-specifying Engineer** ,2003

Automação Predial 4.0 Jaime Díaz de la Cruz,Eduardo Díaz de la Cruz, O livro Automação Predial 4.0 um tratado prático de automação predial aplica o na área de projetos Foi preparado com o objetivo de oferecer assimilação imediata pela sua simples leitura A abordagem dos temas orienta o leitor encurtando caminho entre a extensa base tecnológica disponível e sua aplicação nos projetos Na primeira parte foram apresentados conceitos relativos ao empreendimento e conceitua o que se pretende aplicar a cada novo edifício a forma da equipe e a formulação dos critérios de projeto Apresenta-se a proposta da elaboração inicial do chamado Programa de Gerenciamento Predial PGP que define escopos diretrizes e tecnologia a ser aplicada para cada novo projeto Na segunda parte são apresentadas as redes que ocupam o moderno edifício corporativo comercial Nesta parte são introduzidos os temas básicos do hardware e software das redes de automação predial De forma ampla são apresentados os produtos desta tecnologia permitindo ao leitor uma introdução consistente nos modernos sistemas de automação predial Na terceira parte é apresentado o sistema de comunicação focado na rede de automação predial seus protocolos e tecnologias de TI Em parte a automação predial chega a nossas mãos pela via da rede corporativa desta forma a análise de uma rede de automação se faz possível quando utilizamos a base de seu sistema de comunicação potencial e desempenho A quarta parte a de maior volume apresenta de forma particular os subsistemas prediais isto as instalações de ar condicionado iluminação sistemas críticos sistemas de incêndio reservatórios e bombas gestão de energia etc A abordagem dos temas objetivamente prática e de imediato aprendizado Inicia-se cada assunto tratando dos diagramas funcionais dos sistemas para logo entrar na forma de elaboração dos quadros de pontos do projeto de automação e na descrição imediata das sequências de controle A quinta parte dedicada a conclusões resumindo o atual cenário da automação predial e seu contexto dentro da Quarta Revolução Para ambos os tratados se destaca a sua afinidade e idêntico percurso pelas vias da digitalização e da conectividade dos processos Finalmente são propostas duas recomendações aplicáveis gestão da automação

Architecture ,1998 Management of Multimedia Networks and Services Alan Marshall,Nazim Agoulmine,2003-09-09 Welcome to MMNS 2003 Multimedia services over IP networks are proliferating at an enormous speed There is also increasing demand for solutions that provide assured levels of service quality All of these require novel paradigms models and architectures for realizing integrated end to end service management rather than managing network elements in isolation Providing scalable Quality of Service QoS while maintaining fairness along with secure and optimal network resource management are key challenges for the future Internet These challenges apply to both wired and wireless networks This book contains all of the papers presented at the 6th IFIP IEEE International Conference on Management of Multimedia Networks and Services MMNS 2003 hosted by The Queen's University

of Belfast Northern Ireland September 7 10 2003 MMNS 2003 follows the successful conferences held in Santa Barbara 2002 Chicago 2001 Fortaleza Brazil 2000 Paris 1998 and Montreal 1997 MMNS uses single track presentations which provide an intimate setting for discussion and debate The conference is known for its high quality papers from various research communities In just six years MMNS has established itself as one of the premier conferences focusing on the management of multimedia networks and services The conference objective is to bring together researchers working in all facets of network and service management as applied to broadband networks and multimedia services The Canadian Architect ,1991
 Hotels ,2003

Reviewing **Metasys Johnson Controls Manual**: Unlocking the Spellbinding Force of Linguistics

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