OPTO 22

SOFTWARE
OPTOCONTROL
OPTOINTEGRATION MODBUS

DATA SHEET

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Form 914-010126

Description

Part Number	Description
OPTOINTMB	OptoIntegration Kit Modbus

The Modbus OptoIntegration Kit allows Opto 22 controllers using OptoControl to communicate via a serial port as a master or slave using either the Modbus ASCII or RTU protocol.

The kit is a set of OptoControl subroutines that transmit and receive message strings according to the Modbus specifications for devices as defined in the *Modicon Modbus Protocol Reference Guide* (part number PI-MBUS-300), available from Modicon/AEG Schneider Automation. These subroutines will transmit and receive Modbus messages using Opto 22 controller serial ports and Modbus standard coil, input, and register numbers. The desired information is stored or retrieved using OptoControl numerical tables.

The Modbus RTU protocol is a fast, efficient binary protocol that uses all 8 bits of each character. The Modbus ASCII protocol uses two ASCII characters to send and receive each character of the Modbus message. While less efficient than its RTU counterpart, it is widely accepted as a communication standard for remote telemetry applications. Modbus PLUS protocol is a peer-to-peer network and is not part of this kit. However, converters can be obtained that allow Modbus protocol to interface with a Modbus PLUS network.

Features

The following function codes have been implemented in support of Modbus functionality:

Code	Description	Code	Description
01	Read Coil Status	05	Force Single Coil
02	Read Input Status	06	Preset Single Register
03	Read Holding Registers	15	Force Multiple Coils
04	Read Input Registers	16	Preset Multiple Registers

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Products

Opto 22 produces a broad array of reliable, flexible hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications.

SNAP Ethernet Systems

Based on the Internet Protocol (IP), SNAP Ethernet systems offer flexibility in their network connectivity and in the software applications they work with. The physical network may be a wired Ethernet network, a cellular wireless network, or a modem. A wide variety of software applications can exchange data with SNAP Ethernet systems, including:

- Opto 22's own ioProject™ suite of control and HMI software
- Manufacturing resource planning (MRP), enterprise management, and other enterprise systems
- Human-machine interfaces (HMIs)
- Databases
- Email systems
- OPC client software
- Custom applications
- Modbus/TCP software and hardware.

SNAP Ethernet system hardware consists of controllers and I/O units. Controllers provide central control and data distribution. I/O units provide local connection to sensors and equipment.

SNAP OEM Systems

Opto 22 SNAP OEM I/O systems are highly configurable, programmable processors intended for OEMs, IT professionals, and others who need to use custom software with Opto 22 SNAP I/O modules.

Linux® applications running on these systems can read and write to analog, simple digital, and serial I/O points on SNAP I/O modules using easily implemented file-based operations. Applications can be developed using several common development tools and environments, including C or C++, Java, and shell scripts.
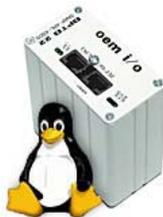
M2M Systems

Machine-to-machine (M2M) systems connect your business computer systems to the machines, devices, and environments you want to monitor, control, or collect data from. M2M systems often use wireless cellular communications to link remote facilities to central systems over the Internet, or to provide monitoring and control capability via a cellular phone.

Opto 22's Nvio™ systems include everything you need for M2M—interface and communications hardware, data service plan, and Web portal—in one easy-to-use package. Visit nvio.opto22.com for more information.

Opto 22 Software

Opto 22's ioProject and FactoryFloor® software suites provide full-featured and cost-effective control, HMI, and OPC software to power your Opto 22 hardware. These software applications help you develop control automation solutions, build easy-to-use operator interfaces, and expand your manufacturing systems' connectivity.

Quality

In delivering hardware and software solutions for worldwide device management and control, Opto 22 retains the highest commitment to quality. We do no statistical testing; each product is made in the U.S.A. and is tested twice before leaving our 160,000 square-foot manufacturing facility in Temecula, California. That's why we can guarantee solid-state relays and optically-isolated I/O modules *for life*.

Product Support

Opto 22's Product Support Group offers comprehensive technical support for Opto 22 products. The staff of support engineers represents years of training and experience, and can assist with a variety of project implementation questions. Product support is available in English and Spanish from Monday through Friday, 7 a.m. to 5 p.m. PST.

Opto 22 Web Sites
- www.opto22.com
- nvio.opto22.com
- www.internetio.com (live Internet I/O demo)

Other Resources
- OptoInfo CDs
- Custom integration and development
- Hands-on customer training classes.

About Opto 22

Opto 22 manufactures and develops hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications. Using standard, commercially available Internet, networking, and computer technologies, Opto 22's input/output and control systems allow customers to monitor, control, and acquire data from all of the mechanical, electrical, and electronic assets that are key to their business operations. Opto 22's products and services support automation end users, OEMs, and information technology and operations personnel.

Founded in 1974 and with over 85 million Opto 22-connected devices deployed worldwide, the company has an established reputation for quality and reliability.

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