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These products are obsolete.

RS422/RS485 MULTIDROP REPEATER FEATURES

> RS-422/485 balanced line drivers
> Operates with up to 5,000 feet of cable
> Visual transmit, receive and power indicators
> Transmission speeds from 300 to 38.4K baud
> Full termination and biasing options on all RS-422/485 lines
> Multidrop repeater station
> Network branching
> Onboard power supply

AC30A [OBSOLETE]

DESCRIPTION

*** NOTE: These parts are obsolete and no longer available. *** Please contact Opto 22 Pre-Sales engineers for more information.

The AC30A and AC30B adapter cards provide the ability to extend a multidrop RS-422/485 communications link beyond 5,000 feet and also allow branching from an RS-422/485 link. When used as a repeater, the AC30A/B retransmits data on the communications link, extending the total cable length an additional 5,000 feet. A star network topology can also be implemented using up to 100 AC30A/B adapter cards on a single RS-422/485 data link.
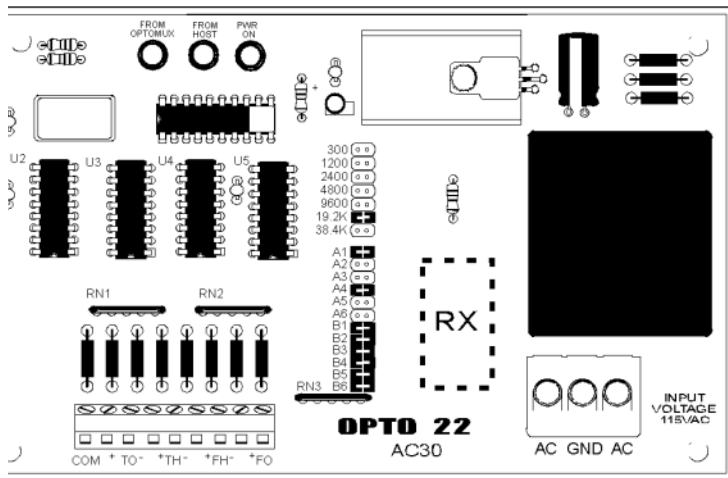
The AC30A/B operates at baud rates up to 38,400 in a half duplex mode using two twisted pairs and a signal common.

The AC30A includes an onboard 115 VAC power supply and the AC30B includes a 220 VAC power supply.

The AC30A/B uses four wires (two twisted pairs) on both the host (TO/FO) and slave (TH/FH) ports. The AC30A/B is not compatible with two-wire RS-485 communications links.


Part Numbers

Part	Description
AC30A [OBSOLETE]	4-wire RS-422/485 Multidrop Repeater 120 VAC
AC30B [OBSOLETE]	4-wire RS-422/485 Multidrop Repeater 220 VAC

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SPECIFICATIONS:

Power Requirements
  AC30A
  AC30B
	115 VAC ± 10 VAC @ 50–60 Hz
	220 VAC ± 20 VAC @ 50–60 Hz

Power Consumption	0.1 amps @ 115 VAC 5 watts (dissipation)
Operating Temperature Range	0 to 70 °C 0 to 95% Humidity (non-condensing)
Isolation	None
Interface	RS-422/485 (4-40 screw terminals)
Baud Rate	Up to 38,400 baud
Distance	Up to 5,000 feet (RS-422/485)
Communications	Half-duplex over two twisted pairs plus a signal common with automatic transmit enable for multidrop
Indicators	Transmit, receive, and power

DIMENSIONS

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USA
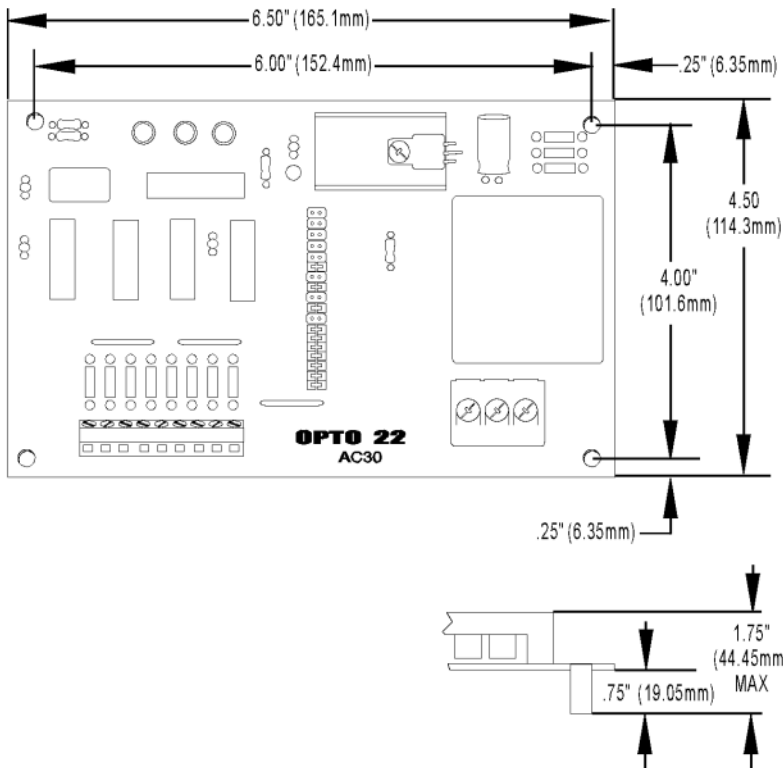
CONFIGURATION

Before using the AC30A/B, it must be configured by selecting the appropriate termination, biasing, and baud rate jumpers.

To set the baud rate, install jumper of desired setting. The options are 300, 1200, 2400, 4800, 9600, 19200 and 38400 baud.

Installing Jumpers B1 and B4 connects 220 Ohm terminating resistors from + to - on the transmitter (to Optomux) and receiver (from Optomux), respectively. In a normal Optomux network these jumpers should both be installed.

Installing Jumpers A1 and A4 connects 220 Ohm terminating resistors from + to - on the transmitter (to Host) and receiver (from Host), respectively. In a normal Optomux network these jumpers should both be installed.

The passive pull up/pull down resistors (A2, A3, B5, B6, A5, A6, B2, B3) should be installed only if no other device on the links have pull up/pull down resistors active.

On an Optomux link, if the AC30A/B is used as a repeater, the jumper setting should be A1, A4, and B1 through B6.

See page 8 for schematic of the termination and biasing jumpers (A1-A6 and B1-B6).

FACTORY SETTING FOR
REPEATER OPTOMUX
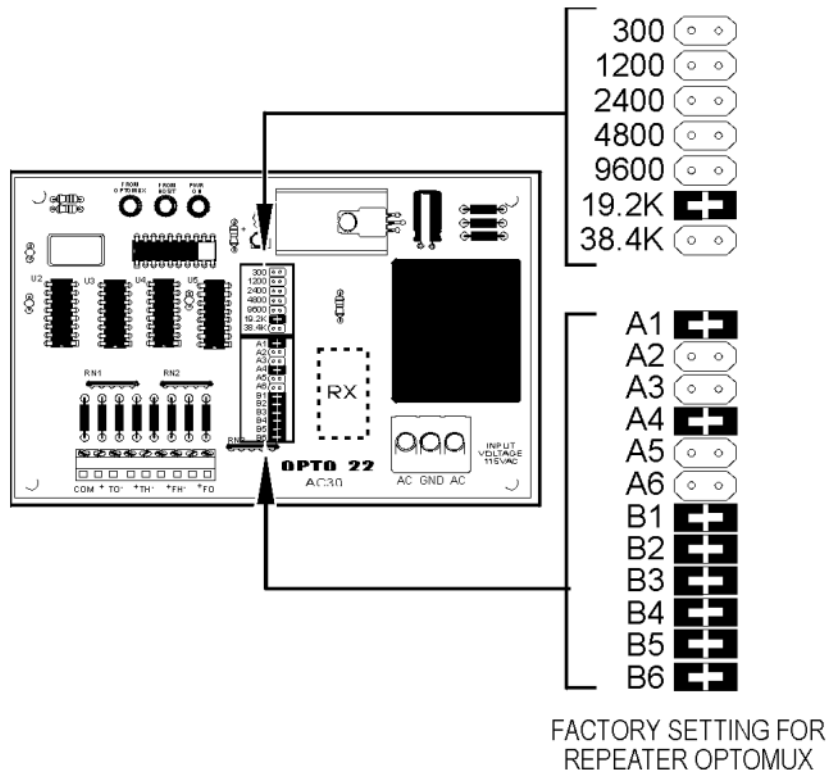
INSTALLATION

Equipment Required

The following should be available during AC30A/B installation.

- Medium size flat-blade screwdriver
- Small size flat-blade screwdriver
- Wire stripper
- Variety of color-coded wires
  - 22-gauge for data link
  - 18-gauge stranded for power supply wiring.

Mounting the AC30A/B

The AC30A/B can be mounted in any attitude on any flat surface. The AC30A/B is supplied with ¾″ standoffs. All the standoffs should be using #6 hardware to provide maximum physical strength. Leave sufficient space around the AC30A/B for data link and power wiring.

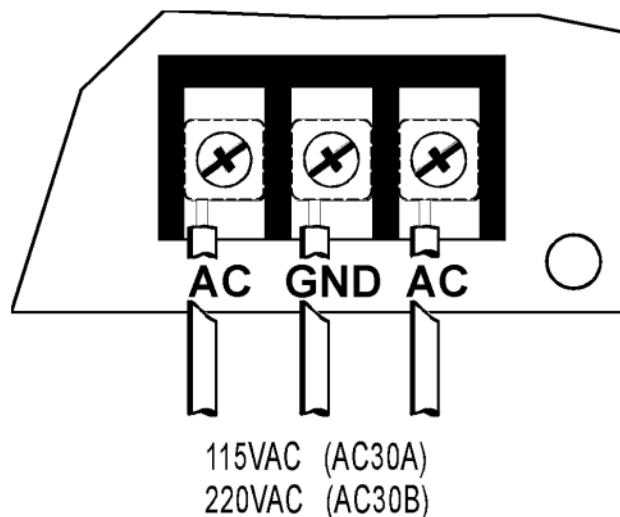MADE IN THE
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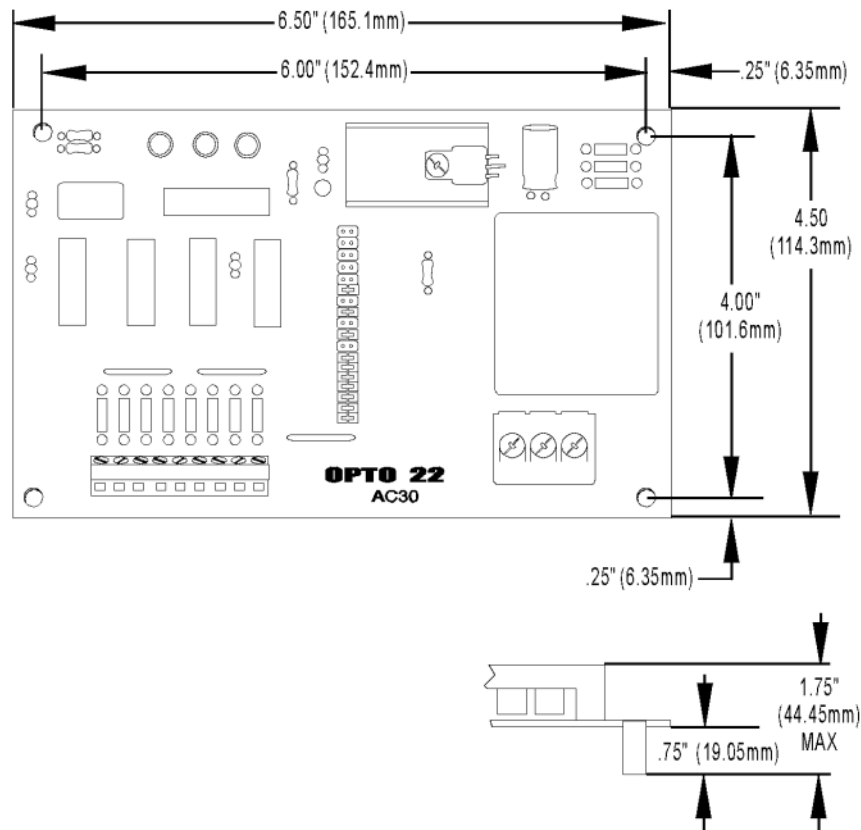
These products are obsolete.

POWER SUPPLY REQUIREMENTS

The AC30A and AC30B contain onboard DC power supplies. The AC30A requires 110 VAC and AC30B requires 220 VAC.

Connecting AC Power to AC30A and AC30B

Caution: Ensure that AC power is OFF while making or removing all connection to the AC30A/B.
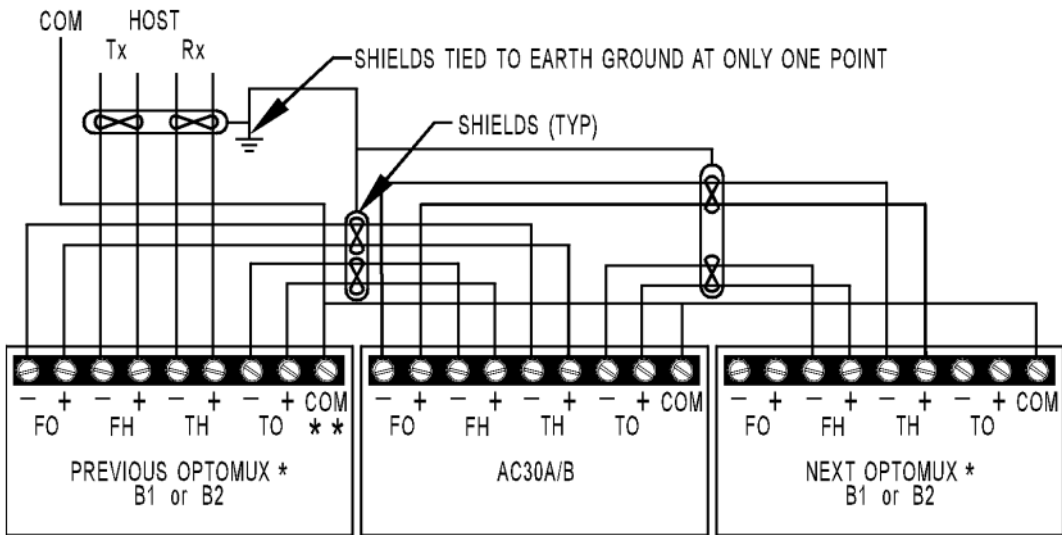

Connecting Common to Ground on AC30A and AC30B

The AC30A and AC30B provide the ability to tie the RS-422/RS-485 Common terminal to ground by installing a ½ watt, 100 ohm resistor at location RX. This is not normally necessary. Note that RS-422 communication links should only be grounded on one end, if at all, to avoid ground loops.
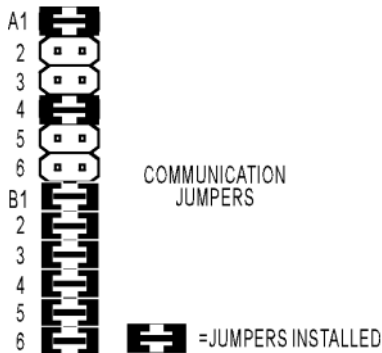
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Network Branch

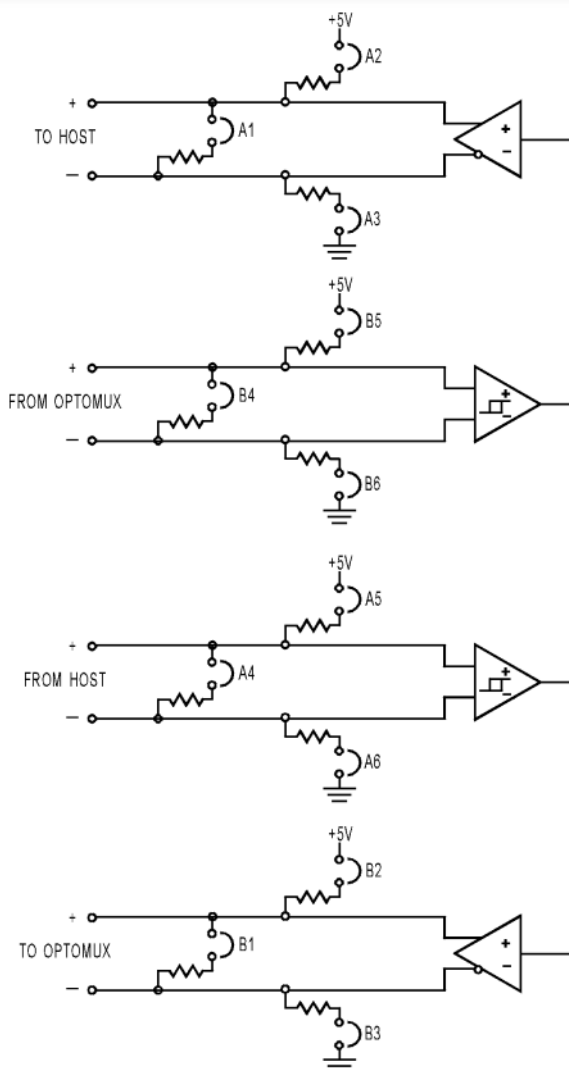Examine the diagram below for installing the AC30A/B in your Optomux network as a network branch.

AC30A/B SCHEMATIC

More about Opto 22
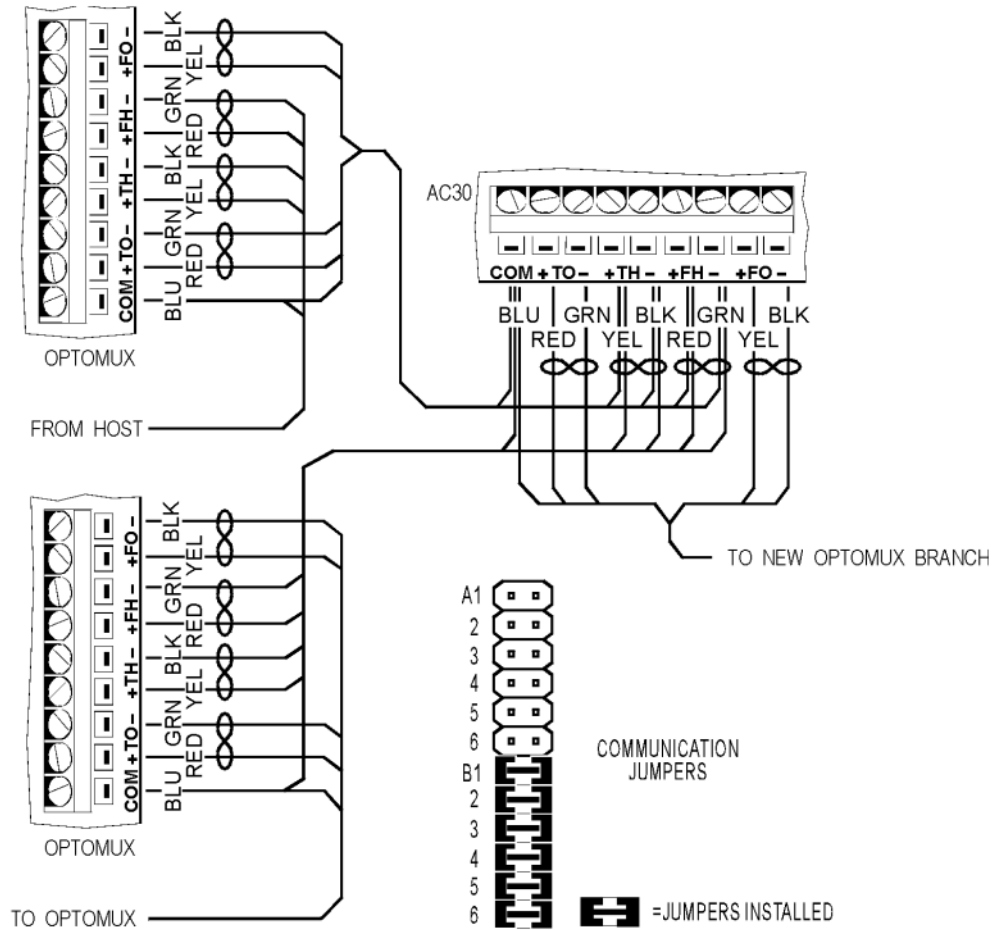
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PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open standards-based hardware and software products. Industrial automation, process control, remote monitoring, data acquisition, and industrial internet of things (IIoT) applications worldwide all rely on Opto 22.

groov RIO®

groov RIO edge I/O offers a single, compact, PoE-powered industrial package with web-based configuration and IIoT software built in, support for multiple OT and IT protocols, and security features like a device firewall, data encryption, and user account control.

Standing alone, groov RIO connects to sensors, equipment, and legacy systems, collecting and securely publishing data from field to cloud. Choose a universal I/O model with thousands of possible field I/O configurations, with or without Ignition from Inductive Automation®, or a RIO EMU energy monitoring unit that reports 64 energy data values from 3-phase loads up to 600 VAC, Delta or Wye.

You can even write an IEC 61131-3 compliant control program to run on groov RIO, using CODESYS. You can also use groov RIO with a Modbus/TCP master or as remote I/O for a groov EPIC system.

groov EPIC® System

Opto 22's groov Edge Programmable Industrial Controller (EPIC) system gives you industrially hardened control with a flexible Linux®-based processor with gateway functions, guaranteed-for-life I/O, and software for your automation and IIoT applications.

groov EPIC Processor

The heart of the system is the groov EPIC processor. It handles a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

In addition, the EPIC provides secure data communications among physical assets, control systems, software applications, and online services, both on premises and in the cloud. No industrial PC needed.

Configuring and troubleshooting I/O and networking is easier with the EPIC's integrated high-resolution color touchscreen. Authorized users can manage the system locally on the touchscreen, on a monitor connected via the HDMI or USB ports, or on a PC or mobile device with a web browser.

groov EPIC I/O

groov I/O connects locally to sensors and equipment. Modules have a spring-clamp terminal strip, integrated wireway, swing-away cover, and LEDs indicating module health and discrete channel status. groov I/O is hot swappable, UL Hazardous Locations approved, and ATEX compliant.

groov EPIC Software

The groov EPIC processor comes ready to run the software you need:

- Programming: Choose flowchart-based PAC Control, CODESYS Development System for IEC61131-3 compliant programs, or secure shell access (SSH) to the Linux OS for custom applications
- Node-RED for creating simple IIoT logic flows from pre-built nodes
- Efficient MQTT data communications with string or Sparkplug data formats
- Multiple OPC UA server options
- HMI: groov View to build your own HMI viewable on touchscreen, PCs, and mobile devices; PAC Display for a Windows HMI; Node-RED dashboard UI
- Ignition or Ignition Edge® from Inductive Automation (requires license purchase) with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications

Older products

From solid state relays, to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and working hard at thousands of installations worldwide. You can count on us for the reliability and service you expect, now and in the future.

QUALITY

Founded in 1974, Opto 22 has established a worldwide reputation for high-quality products. All are made in the U.S.A. at our manufacturing facility in Temecula, California.

Because we test each product twice before it leaves our factory rather than testing a sample of each batch, we can afford to guarantee most solid-state relays and optically isolated I/O modules for life.

FREE PRODUCT SUPPORT

Opto 22's California-based Product Support Group offers free technical support for Opto 22 products from engineers with decades of training and experience. Support is available in English and Spanish by phone or email, Monday–Friday, 7 a.m. to 5 p.m. PST.

Support is always available on our website, including free online training at OptoU, how-to videos, user's guides, the Opto 22 KnowledgeBase, and OptoForums.

PURCHASING OPTO 22 PRODUCTS

Opto 22 products are sold directly and through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at **800-321-6786** (toll-free in the U.S. and Canada) or **+1-951-695-3000**, or visit our website at www.opto22.com.

OPTO 22 • www.opto22.com
43044 Business Park Dr. Temecula, CA 92590-3614

SALES • sales@opto22.com
800-321-6786 • 1-951-695-3000

SUPPORT • support@opto22.com
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