

STANDARD ANALOG CURRENT OUTPUT MODULES

Features

- > Provides a single channel of optically- isolated digital-to-current conversion
- > The "T" module is transformer isolated, which eliminates any ground loop problems
- > Modules plug into any Standard Classic analog I/O rack and are secured by a captive screw



DESCRIPTION

Standard (G1) analog current output modules provide a single channel of optically isolated digital-to-current conversion. The "T" module is transformer isolated, which eliminates any ground loop problems. The DA3 and DA8 modules are UL approved.

Modules plug into any Standard Classic analog I/O rack and are secured by a captive screw.

SPECIFICATIONS

	DA3	DA3T	DA8
Output Current	4-20 mA	4-20 mA	4-20 mA
Minimal Current Draw	1.6 mA	1.6 mA	1.6 mA
Accuracy	16 μ A	16 μ A	20 μ A
Power Requirements	20 mA at +15 (+/- 0.25) VDC 10 mA at -15 (+/- 0.25) VDC 24 mA at 5 VDC	22 mA at +15 (+/- 0.25) VDC 22 mA at -15 (+/- 0.25) VDC 24 mA at 5 VDC	20 mA at +15 (+/- 0.25) VDC 10 mA at -15 (+/- 0.25) VDC 24 mA at 5 VDC
Agency Approvals	UL, CE, RoHS, DFARS; UKCA	CE, RoHS, DFARS; UKCA	UL, CE, RoHS, DFARS; UKCA

Response Time	Full scale step change in 3 ms
Resolution	12 bits
Isolation	
Input-to-Output	4,000 Vrms
Input-to-Analog Supply (T Modules)	4,000 Vrms
Temperature	
Operating	0 °C to 70 °C
Storage	- 25 °C to 85 °C

DA3T: All of the lower A terminals on the mounting rack are tied together. These provide a convenient tie point for shared loop source return. To use the DA3T with a common loop supply, connect any one lower A terminal to the shared loop source "-", then jumper upper A to lower A for each DA3T.

Part Numbers

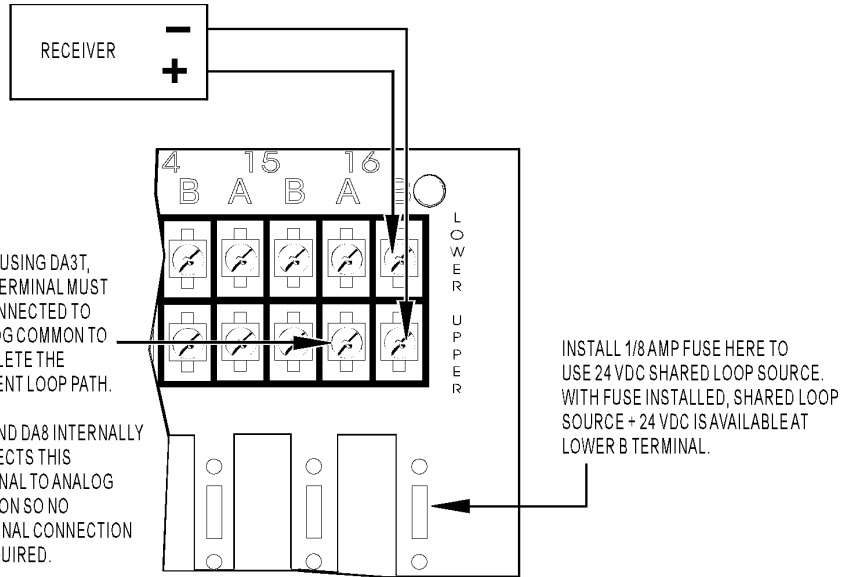
Part	Description
DA3	4-20 MA Output
DA3T	4-20 MA Output Isolated
DA8	0-20 MA Output

CONNECTIONS

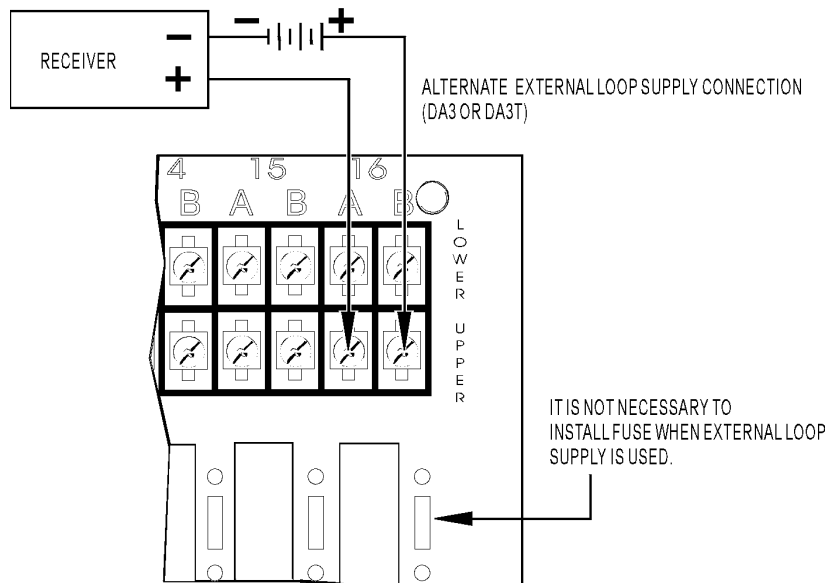
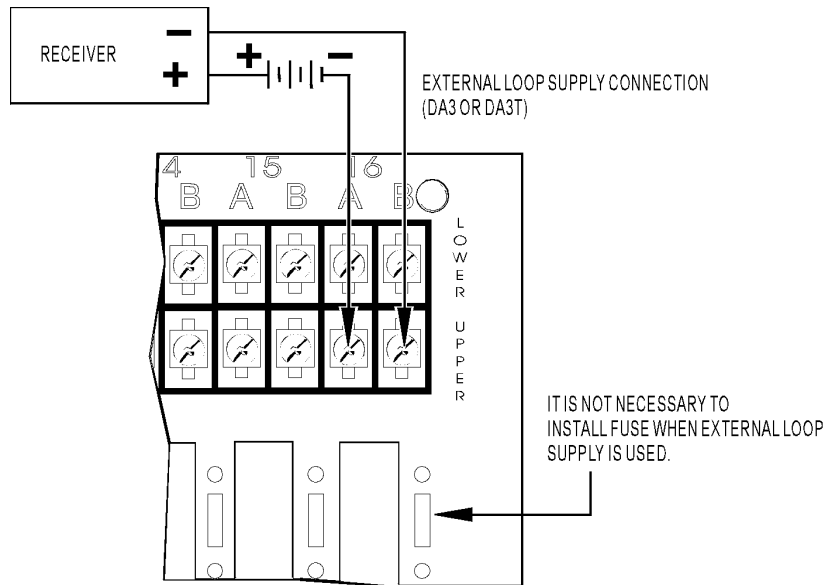
DA3T: All of the lower A terminals on the mounting rack are tied together. These provide a convenient tie point for shared loop source return. To use the AD3T module with a common loop power supply, connect any one lower A terminal to the shared loop source “-”, then jumper upper A to lower A for each DA3T.

NOTE:
WHEN USING DA3T,
THIS TERMINAL MUST
BE CONNECTED TO
ANALOG COMMON TO
COMPLETE THE
CURRENT LOOP PATH.

DA3 AND DA8 INTERNALLY
CONNECTS THIS
TERMINAL TO ANALOG
COMMON SO NO
EXTERNAL CONNECTION
IS REQUIRED.

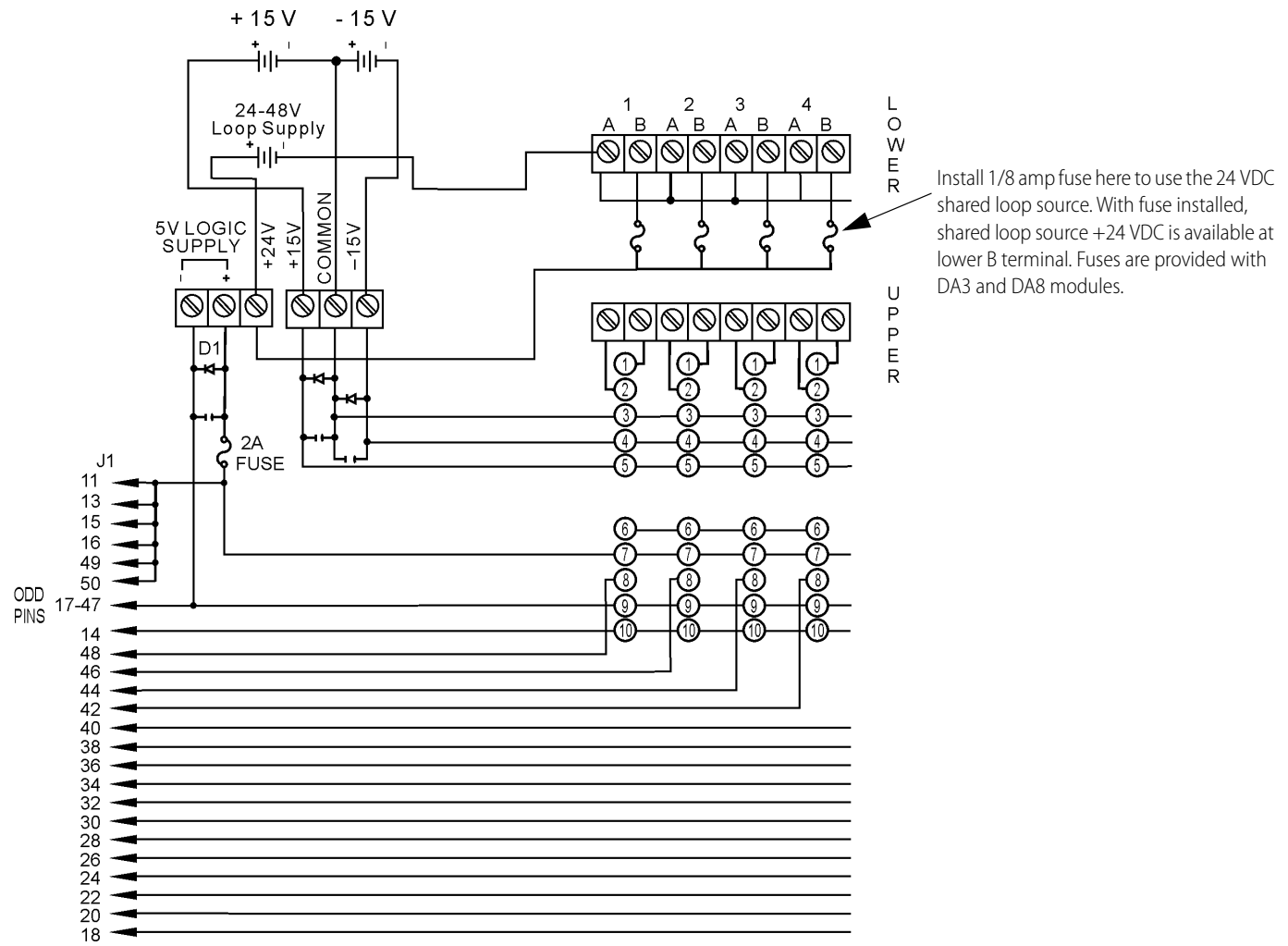


CONNECTIONS (CONTINUED)



SCHEMATICS

ANALOG MOUNTING RACK SCHEMATIC (PB4AH, PB8AH, PB16AH)



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 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.

