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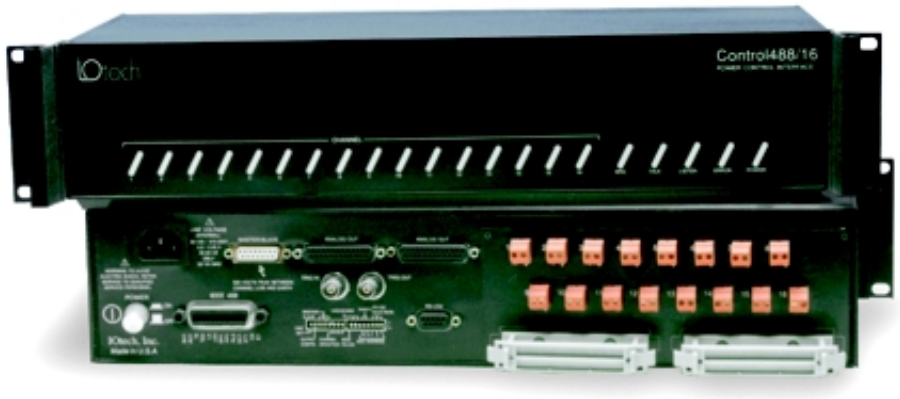
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Control488/16™

16-Channel Power Control Interface with IEEE 488 & RS-232

Features

- **Accepts up to 16 OPTO-22® series or compatible modules for sensing & switching AC & DC voltages**
- **Allows configuration of modules on a per-channel basis**
- **Accommodates both G1 (unfused) & G4 (fused) modules**
- **Provides automatic channel sequencing for host-independent operation**
- **Stores default configuration & switch settings in nonvolatile memory**
- **500 VCM isolation between the analog inputs & the chassis, the digital control lines, & the power line, as well as 500V input/output isolation**
- **Removable screw-termination panels for convienent signal access**



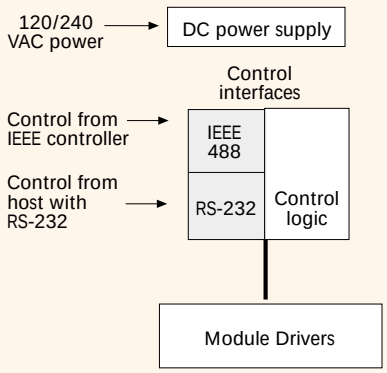
The Control488/16 controls and senses AC and DC power

The Control488/16™ is a modular 16 channel instrument that can be populated on a per-channel basis with OPTO-22® or compatible digital signal conditioning modules for sensing or switching AC and DC voltages. More specifically, the input modules sense 12 to 280 VAC or 24 to 280 VDC signals, and the output modules switch signals up to 3A at 240 VAC or 1A at 200 VDC. These modules can be configured on a per-channel basis to meet application requirements, such as monitoring proximity and limit switches and controlling relays and solenoids for test automation. The Control488/16 also provides a wide range of programmable functions, such as I/O configurations, sequence intervals, trigger modes, and default power-up configuration.

Stand-Alone Operation

The Control488/16 can be programmed to automatically step through a sequence of up to 1100 channel settings. Each step specifies the active and inactive channels and the trigger interval by which the setting is to be repeated. This high level of programmability frees the controlling computer for other tasks, and provides application-specific monitoring and control schemes for fast response times.

Control488/16



Multiple Trigger Modes

The Control488/16 can be triggered by any one of 10 trigger sources, including IEEE 488 Group Execute Trigger (GET), external TTL input, and timebase interval. These triggers initiate the unit's channel output sequence, which can be executed either for a specified cycle count or continuously. A trigger output delay signal, programmable from 10µs to 60s; specifies the delay between the update of outputs and the generation of a TTL output pulse. Together these programmable trigger functions allow the Control488/16 to respond to asynchronous external events and to be integrated with other control devices with widely varying response times.

Control488/16™

General Information

Control488/16 Back Panel

1. **Trigger input (BNC) connector:** initiates scan rates from 250 µs to 60s, depending on external TTL trigger input
2. **Trigger output (BNC) connector:** generates a TTL output pulse from 10 µs to 60s after trigger recognition
3. **RS-232-C (DB9 female) connector:** 300 to 38, 400 baud rates with selectable parity stop bits and XON-XOFF or DTR/CTS handshaking; supports communication up to 1000 feet
4. **IEEE 488 connector:** provides full IEEE 488 control
5. **Master/slave (DB15 female) connector:** used to daisy-chain up to 15 slave units to expand capacity to 256 channels*
6. Power on/off switch
7. **Power input connector:** internally configurable for either 105-125 or 210-250 VAC, 50/60 Hz, plus fuse circuit breaker
8. Standard 2U (3.75") high rack-mountable aluminum case
9. **DIP switches:** easy-to-access switches for selecting communication interface settings, command set, channel grouping, output configuration, and master/slave operation
10. **Digital input/output (removable screw-termination panel) assembly:** provides easy-to-access termination for up to 16 digital I/O lines
11. **Socketed motherboard:** accommodates up to 16 OPTO-22G1 and G4 or compatible modules, configurable on a per channel basis
12. **Cooling fan:** supports 50˚C operating environment
13. 500 VCM isolation



* Consult factory for current support details

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Control488/16™

Specifications & Ordering Information

Module Selection

A wide selection of OPTO-22® or compatible modules (NEMA ICS 2-230-.02) are available. These modules provide the signal conditioning necessary to switch AC or DC loads and to sense AC or DC voltages.

OPTO-22® Switching Modules*

	AC Control			DC Control		Dry-Contact
Module	**PCAC1**	**PCAC2**	**PCAC3**	**PCDC1**	**PCDC2**	**PCDC3**
Operating voltage	12-140 VAC	24-280 VAC	24-280 VAC	5-60 VDC	5-200 VDC	0-100 VDC 0-130 VAC
Nominal line voltage	120 VAC	240 VAC	120-240 VAC	60 VDC max	200 VDC max	100 VDC max 130 VAC max
Isolation	4000V RMS	4000V RMS	4000V RMS	4000V RMS	4000V RMS	1500 VDC
Current rating @ 45°C	3A	3A	3A	3A	1A	1.5A max
Turn-on time	1/2 cycle 0 voltage	1/2 cycle 0 voltage	1/2 cycle 0 voltage	100 µs	100 µs	750 µs
Turn-off time	1/2 cycle 0 current	1/2 cycle 0 current	1/2 cycle 0 current	750 µs	750 µs	750 µs
Contact mode	Normally open	Normally open	Normally closed	Normally open	Normally open	Normally open

OPTO-22® Sensing Modules*

	AC Control				DC Control	
Module	**PSAC1**	**PSAC2**	**PSAC3**	**PSAC4**	**PSDC1**	**PSDC2**
Input voltage range	10-32 VAC	35-60 VAC	90-140 VAC	180-280 VAC	2.5-2.8 VDC	4-16 VDC
Input current @ max line	25 mA	6 mA	11 mA	6.5 mA	30 mA	45 mA
Input allowed for output	1 mA 3V	0.8 mA 9V	3 mA 45V	1.7 mA 80V	0.2 mA 1V	0.7 mA 1V
Turn-on time	5 msec	10 msec	20 msec	20 msec	1 msec	0.05 msec
Turn-off time	5 msec	10 msec	20 msec	20 msec	1.5 msec	0.1 msec

Specifications

Power: 90 to 125 or 210 to 240 VAC, 50/60 Hz
Control488/16 Interfaces
IEEE 488 Interface: SH1, AH1, T6, TE0, L4, LE0, SR1, PP1, RL0, DC1, DT1, C0, and E1
RS-232 Interface (EIA RS-232-C): AB, BA, BB, CA, CB
Baud Rates: 300, 1200, 2400, 4800, 9600
Parallel Interface: 8-bit (7 data plus strobe), TTL levels
Slave Control Output: 8-bit parallel TTL
Dimensions: 425 mm W x 305 mm D x 90 mm H (16.75" x 12" x 3.5")

Ordering Information

Description	Part No.
16-channel programmable controller with IEEE 488 and RS-232 control, and rack-mount kit	Control488/16
AC control module 12-140 VAC (normally open)	PCAC1
AC control module 24-280 VAC (normally open)	PCAC2
AC control module 24-280 VAC (normally closed)	PCAC3
DC control module 5-60 VDC (normally open)	PCDC1
DC control module 5-200 (normally open)	PCDC2
AC/DC input module 12-32 VAC/DC	PSAC1
AC/DC input module 35-60 VAC/DC	PSAC2
AC/DC input module 90-140 VAC/DC	PSAC3
AC/DC input module 180-280 VAC/DC	PSAC4
DC input module 2.4-28 VDC	PSDC1
DC input module 4-15 VDC	PSDC2
Optional spare signal termination panel	STP3
Optional fuse kit package for G1 (unfused) modules	FKP1
Shielded IEEE 488 cable, 6 ft.	CA-7-3
PC serial port-to-master interface cable, 6 ft.	CA-85
PC/AT serial port-to-master interface cable, 6 ft.	CA-86

Related Products

Hardware

Personal488 series p. 263
Serial Communication Boards p. 297

QUICK FIND

For up-to-date information on products, and to order online, visit the IOtech Web site and enter the corresponding page number in the QUICK FIND field.

SHOP ON LINE



CA-85, DB25 to DB9 serial port cable, for Control488/16, 6 ft.



CA-86, PC/AT serial to master interface cable, for Control488/16, 6 ft.

* When ordering OPTO-22® modules for use with DataShuttle, DynaRes, or DataShuttle Express products, add a -W at the end of the part number. For example, PCAC1 becomes PCAC1-W.

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