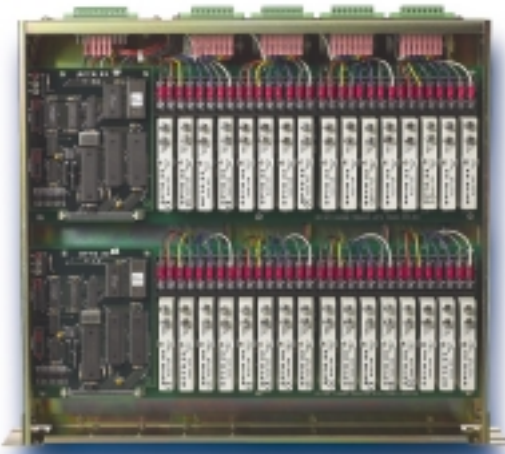


OPTOMATE 7 19" RACK MOUNTING FOR OPTO 22



FEATURES

Modular, high density, 19" rack mounting packaging system for Opto 22 and related components.

May be used with serial Optomux or high speed parallel PAMUX I/O Brain Boards.

Relay Modules increase the output current carrying capacity of the modules from 3 to 10 amps.

Quick disconnect terminal blocks are used throughout for ease of installation and maintenance.

Compact Power Modules operate from universal AC or a wide variety of DC power sources.

A digital Status panel remotes the digital LEDs to the front panel.

Overview

The Optomate 7 packaging system is designed for high density rack mounting of Opto 22 I/O components. The system consists of interface Modules, Relay interface modules, and Power Supply modules. All modules mount in a standard 19" rack and are supplied complete with mounting hardware. Each module requires only 2 system units (3.5") of rack space. Several modules may be combined to make a complete I/O subsystem or RTU.

Interface Modules

Optomate 7 Interface Modules hold one or two Opto 22 Brain boards with 16 position I/O mounting racks. The racks may be digital, analog or both. The Brain boards used may be either the serial Optomux or the high speed parallel PAMUX but not both.

Relay Interface Modules

Relay modules are similar to Interface, modules and include 16 electromechanical relays and a 16 position digital I/O rack. The outputs of the I/O rack are wired to the relays, the primary purpose being to increase the output current carrying capacity from 3 to 10 amps. However the relays may also be wired to permit a control or enable signal used. Both signal and double pole relays are available depending on the applications.

Power Supplies

Optomate 7 Power Modules accept up to four single voltage supplies. Typically these would be +5, +15, -15 and +24 or 48 Vdc. Each power supply includes a front mounting panel with fuse, LED OK indicator and test points. The input power may be universal AC or a wide range of DC.

Digital Status Panel

Opto 22's digital I/O mounting racks have LEDs mounted which indicate the status of each module. However when the racks are mounted in Optomate 7 trays the LEDs are no longer visible. To overcome this problem Transduction offers a Digital Status panel usable with either the Optomux B1 or PAMUX B5 Brain boards. The panel mounts on the front of the Interface or Relay Module. Up to two DSPs may be used in each Optomate 7 tray.

OPTO7-OIM OPTO7-PIM Optomate 7 Interface Module



FEATURES

High density, modular packaging of Opto 22 computer-based I/O

Up to 32 points of digital or analog I/O or 16 of each.

Multidrop up to 128 interface modules for a 4,096 point system.

Rugged industrial grade chassis designed for table top or 19" rack mounting.

Quick-disconnect terminal blocks for output, power and data link wiring.

Supports Optomux (Serial) or PAMUX (Parallel) I/O networks.

Optional Digital Status panel has 16 LED indicators and a Power OK indicator.

DESCRIPTION

Optomate 7 interface modules are 19" rack-mounting trays which hold one or two Opto 22 Brain boards with 16 position mounting racks. Each tray includes rear mounted quick-disconnect terminal blocks for power, I/O connections and Optomux data link wiring. PAMUX is connected via the standard 50-pin flat ribbon connector. All internal wiring from the Opto 22 mounting racks and brain boards are supplied.

Due to quick disconnect connectors used in the interface modules and the physical dimensions of the tray only certain Analog modules may be used. These are listed in the Analog Module Selection Guide.

SPECIFICATIONS

CHASSIS

Construction

18ga. C.R.S. with yellow zinc dichromate plating. Cover is epoxy coated and secured with 4 captive screws.

Physical

17.5"W x 16"D x 3.25"H (455mmW x 407mmD x 83mmH) without rack mounting brackets

Rack-Mounting

19"W (483mm) with mounting ears. Requires 2 system units. Must be installed with slide rails or rear supports.

Status and Connector Panels

Digital Status

Front mounted panel with Power OK, and 16 digital status LED indicators. Space for the user to enter the Brain board address and Baud Rate.

I/O Terminal Blocks (TB1)

Eight 8-pin quick disconnect terminal blocks, (64-pins) with 10 amp rating. Mating connectors supplied.

DC Power Terminal Block (TB2)

Single 8-pin quick disconnect terminal blocks. Mating connector supplied.

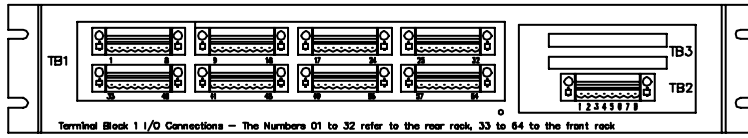
Data Link (TB3)

Single 10-pin quick-disconnect terminal blocks (Optomux) or two 50pin flat ribbon connectors (PAMUX).

OPTO 22 I/O

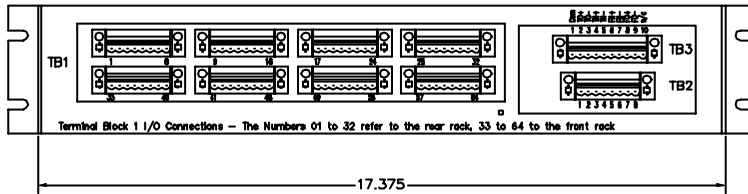
Serial Data Link

Uses Opto 22 B1 and/or B2 Optomux Brain boards wired to the Data Link terminal block (TB3) via 2 twisted pairs.

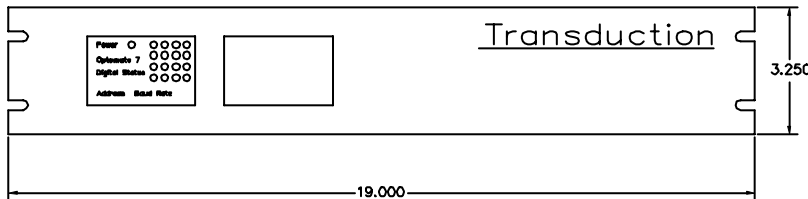


REAR VIEW PAMUX

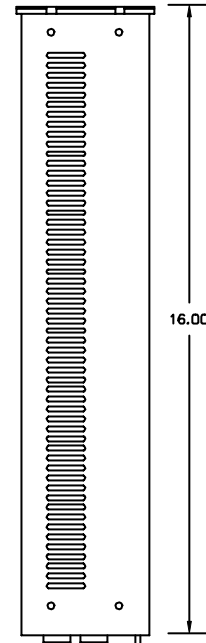
TB1 - I/O CONNECTIONS
TB2 - DC POWER
TB3 - DATA LINK



REAR VIEW OPTOMUX



FRONT VIEW



SIDE VIEW

Analog Module Selection Guide

Type: Current

Description	Input	Output
0-20ma	-	DA8
4-20ma	AD3, 3T	DA3, 3T

Type: Voltage

Description	Input	Output
0 to 5Vdc	AD6, 6T,HS	DA4
0to10Vdc	AD7	DA5
-5 to+5Vdc	AD11	DA6
-10to +10Vdc	AD12	DA7

Parallel Data Link

Uses Opto 22 B5 and/or B6 PAMUX Brain Boards wired to the Data Link terminal block (TB3) via 50-pin flat ribbon cable. Terminator (TERM1) required if the last item on the bus.

Analog I/O Modules

Modules are installed on a PB16AH mounting rack and wired to the I/O Terminal Blocks (TB1). Note: Only certain Analog I/O modules can be used with the Optomate 7 ie: AD3, AD6,AD7,AD11,AD12,DA8,DA3, DA4, DA5, DA6, and DA7. "T" and high speed versions will also work.

Digital I/O

Modules are installed on a PB16H mounting rack and wired to the 110 Terminal Blocks(TB1). Any Digital I/O modules may be used.

ORDERING

OPT07-OIM

Optomux Interface Module
Includes tray and wiring for two Optomux brain boards and 16 channel mounting racks.

OPT07-PIM

PAMUX Interface Module Includes tray and wiring for two PAMUX brain boards and 16 channel mounting racks.

OPT07-RMK

19" Rack Mount Kit. Includes Slide Rails. Requires 5.25" (3 SU)

OPT07-BK

Brackets for 19" Mounting.

OPTO7-ORM OPTO7-PRM Optomate 7 Relay Interface Module



FEATURES

Combines interposing electromechanical relays with Opto 22 computer-based I/O.

16 relays per unit may be SPST or DPST. Switch up to 10 amps at 150VDC.

Rugged industrial grade chassis designed for table top or 19" rack-mounting.

Quick-disconnect terminal blocks for output, power and data link wiring.

Supports Optomux (Serial) or PAMUX (Parallel) I/O networks.

Digital Status panel has 16 LED indicators and a Power OK indicator.

DESCRIPTION

Relay Modules are similar to Interface Modules and include 16 electromechanical relays wired to the outputs of Opto 22 Output modules. The primary purpose of the RIMs is to increase the output current carrying capacity to 10 amps from 3 amps. However they may also be wired to permit a control or enable a signal to allow the outputs to be updated. Order the PB16H, 16 ODC5 modules and B1 or B5 brain boards separately.

SPECIFICATIONS

CHASSIS Construction

18ga. C.R.S. with yellow zinc dichromate plating. Cover is epoxy coated and secured with 4 captive screws.

Physical

17.5"W x 16"D x 3.25"H (445mmW x 407mmD x 83mmH) without rack mounting brackets.

Rack-Mounting

19"W (483mm) with mounting ears. Requires 2 system units. Must be installed with slide rails or rear supports.

Weight

11 lbs. (5.0kg)

Cooling

Convection only.

RELAYS

Construction

Socket mounting with silver cadmium oxide contacts enclosed in a polycarbonate dust cover with holddown clips.

Coils

24VDC supplied as standard, 12 and 150VDC optional. Must be matched to the Opto 22 I/O modules (ODC5 or ODC5A).

Contacts

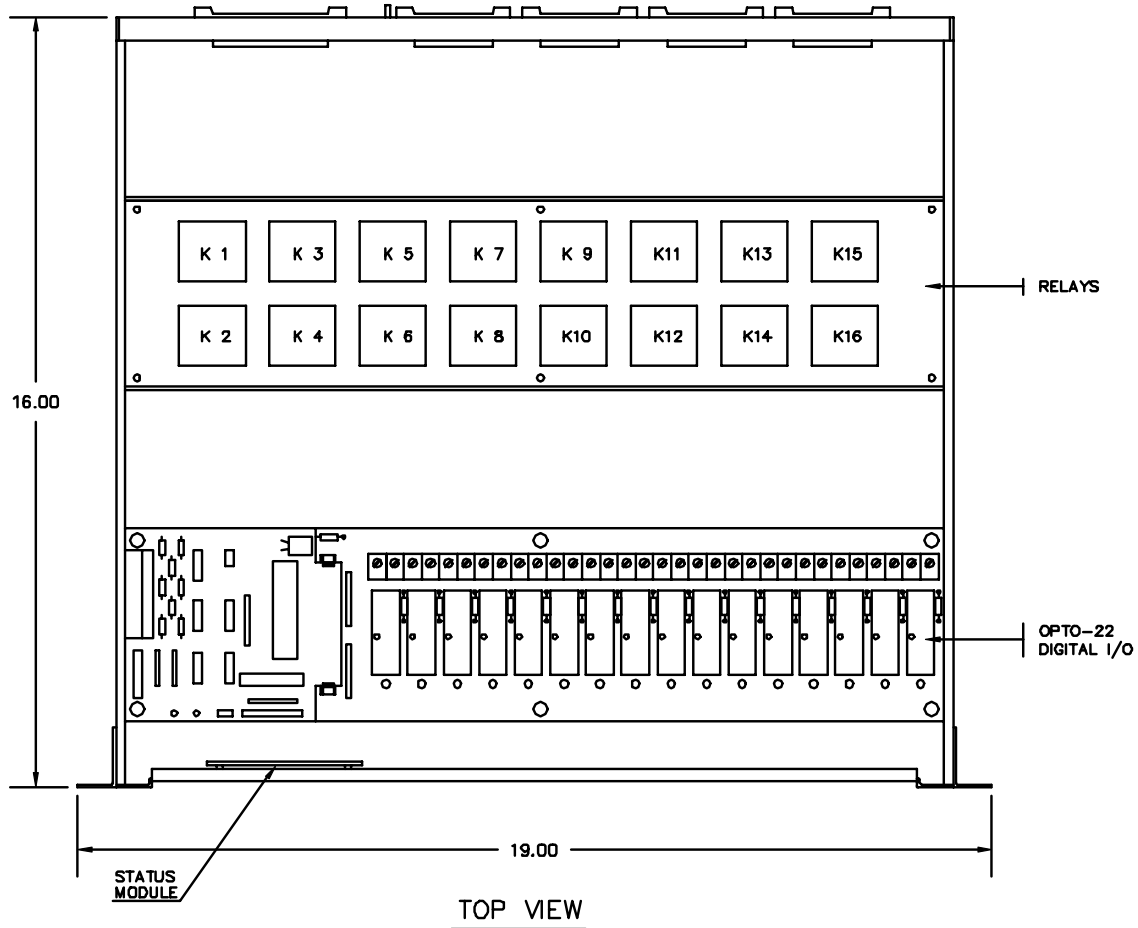
10 Amps @ 150VDC (or 5 Amps @ 300VDC) for SPST (2 contacts), 5 Amps @ 150VDC for DPTST-NO (4 contacts).

Protection

Permanent magnet blow-out to assist in interrupting DC current when contacts are open. 400VPRV CEMF 1 AMP Diodes across each coil.

Wiring

All internal wiring is 300V PVC flame retardant.



STATUS and CONNECTOR PANELS

Digital Status

Front mounted panel with Power OK, and 16 digital status LED indicators. Space for the user to enter the Brain board address and Baud Rate.

Output Terminal Blocks (TB1)

Eight 8-pin quick-disconnect terminal blocks, (64-pins) with 10 amp rating. Mating connectors supplied.

DC Power Terminal Block (TB2)

Single 8-pin quick-disconnect terminal blocks. Mating connector supplied .

Data Link (TB3)

Single 10-pin quick-disconnect terminal blocks (Optomux) or two 50pin flat ribbon connectors (PAMUX).

CONTROL

Solid State Relays

16 Opto 22 ODC5 (for use with 12 and 24 VDC coils) or ODC5A (for use with 120VDC coils) mounted on a PB16H mounting rack.

Serial Data Link

Uses Opto 22 B1 Optomux Brain board wired to the Data Link terminal block (TB3) via 2 twisted pairs.

Parallel Data Link

Uses Opto 22 B5 PAMUX Brain board wired to the Data Link terminal block (TB3) via 50-pin flat ribbon cable. Terminator (Term1) required if the last item on the bus.

ORDERING

OPT07-ORM

OPTOMUX Relay Module

Includes 16 electromechanical relays with 10 amp output capability. Data link wiring is for B1 brain board.

OPT07-PRM

Pamux Relay Module

As above but for use with the B5 brain board.

PM7 PM7A-XX PM7D PM7F Optomate 7 Power Module



FEATURES

Universal input, high efficiency Power module designed for Opto 22 I/O.

Rugged, industrial grade chassis designed for table top or 19" rack mounting.

Front panel mounted test points, line fuse, DC OK indicator.

Quick-disconnect terminal blocks for DC Outputs.

A choice of AC or DC input power.

Power up to 10 Opto 22 I/O racks, half of which may be analog.

DESCRIPTION

Optomate 7 Power Modules are designed specifically to power the Optomate Interface, and Relay Modules. However they can be used as a stand alone supply for Opto 22 components. Up to 4 universal AC or DC input supplies can be accommodated in each module.

Use the following information to compute the power requirements for your Optomate 7 system. Each power Supply comes complete with a panel and cables suitable for mounting in the PM7 Power Module. The panel includes AC fuse, DC OK LED, and Test points.

+5VDC

Add 1/2 amp for each Brain board in the system. If a PAMUX system is used add 1.5 amps if the TERM1 TERMINATOR is used and the last Brain board is a B5 digital. If the last Brain board used is a B6 analog then add 2.0 amps. Add 1/4 amps for each digital status indicator used.

+15VDC

As a guideline, each Analog Brain board and 16 T-Type modules require 600ma so one power supply will handle 3 racks. If non T-Type modules are used 1/4 amp is adequate per rack.

-15VDC

One -15VDC supply is required to match each +15VDC supply.

+24VDC @

For a Loop supply allow 25 ma for each module.

SPECIFICATIONS

CHASSIS

Construction

18ga. C.R.S. with yellow zinc dichromate plating. Cover is epoxy coated and secured with 4 captive screws.

Physical

17.5"W x 10.5"D x 3.25"H (445mmW x 267mmD x 83mmH) without rack-mounting brackets.

Rack-Mounting

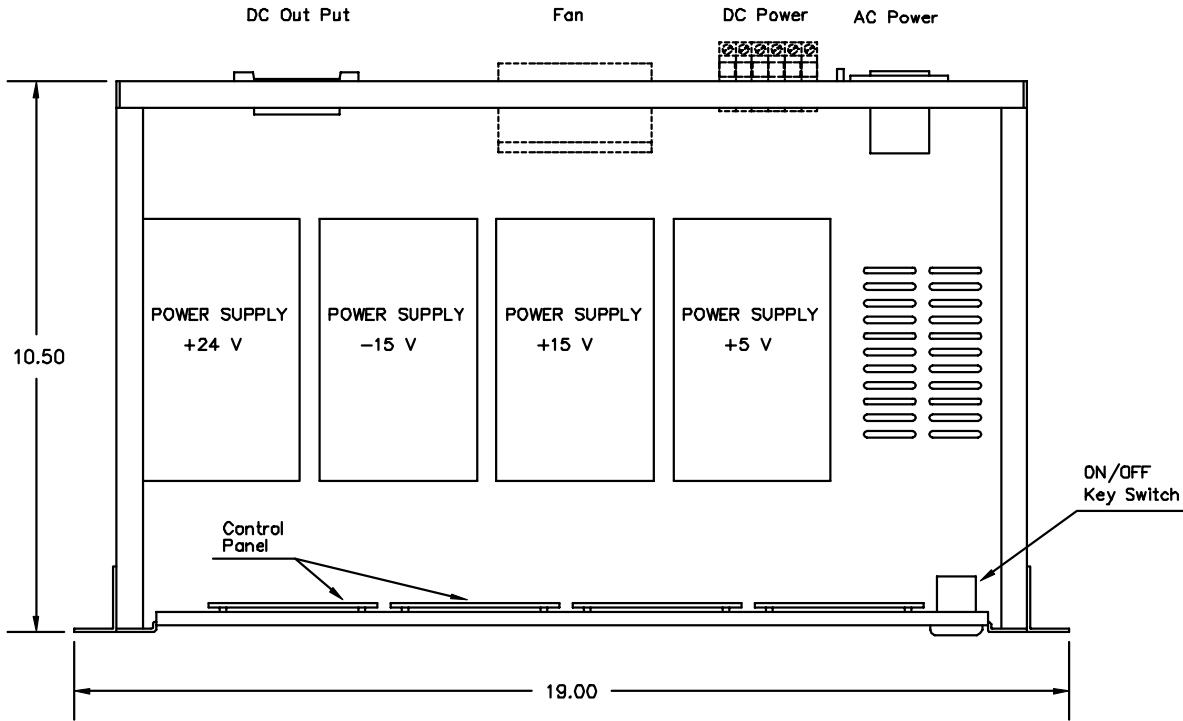
19"W (483mm) with mounting ears. 2 system units high. Must be installed with slide rails or rear supports.

Weight

6-10 lbs. (2.7 to 4.5kg) depending on configuration.

Cooling

Convection or rear mounted fan.



TOP VIEW

POWER SUPPLIES

AC Input

Universal input 85-264VAC, 47440Hz single phase. EMI/RFI filter and keylock switch.

DC Input (Optional)

20-60VDC or 120-150VDC with terminal block input connectors. No EMI/RFI filter.

DC Outputs

Up to 4 supplies may be installed in each power module.

Output Specifications:

Noise- 2% peak to peak.
Ripple- 25mv RMS
Efficiency- 70% typical

Protection

Current limited on all outputs. Indefinite short circuit protection.

Safety Standards

CSA 22.2 #950-m89
UL1950 (supersedes UL478)
VDE-IEC EN60950

EMI Specifications

Internal line filtering which provides compliance to conducted emissions limits of FCC Docket 20780 class B, and VDE 0871/6.78 class A.

ENVIRONMENTAL

Temperature: Operating

0 to +50°C full load.

Storage

-55 to +85°C

TEST PANEL

Fuse

Panel mounted AC or DC fuse.

Indicator

DC OK LED.

Test Points

DC out and Return.

ORDERING

PM7

Power Module

Power module only with space for four PS7 supplies.

PS7A-XX

Logic/Loop/Wetting Supplies

Choose from:

- +5VDC @ 6 amps
- +15VDC @ 2.75 amps
- 15VDC @ 2.75 amps
- +24VDC @ 1.75 amps

PM7D

Input Option Replaces the ON/OFF Key switch, and AC cord with DC input terminal blocks. Input is 120-364VDC. Only one option required per Power Module.

PM7F

FAN Option. Mounts in the rear of the Module.

OPT07DSP Optomate 7 Digital Status Panel

FEATURES

Remote 16 digital status and power OK indicator of Opto22 computer based I/O.

May be used with B1 Optomux or B5 PAMUX brain boards.

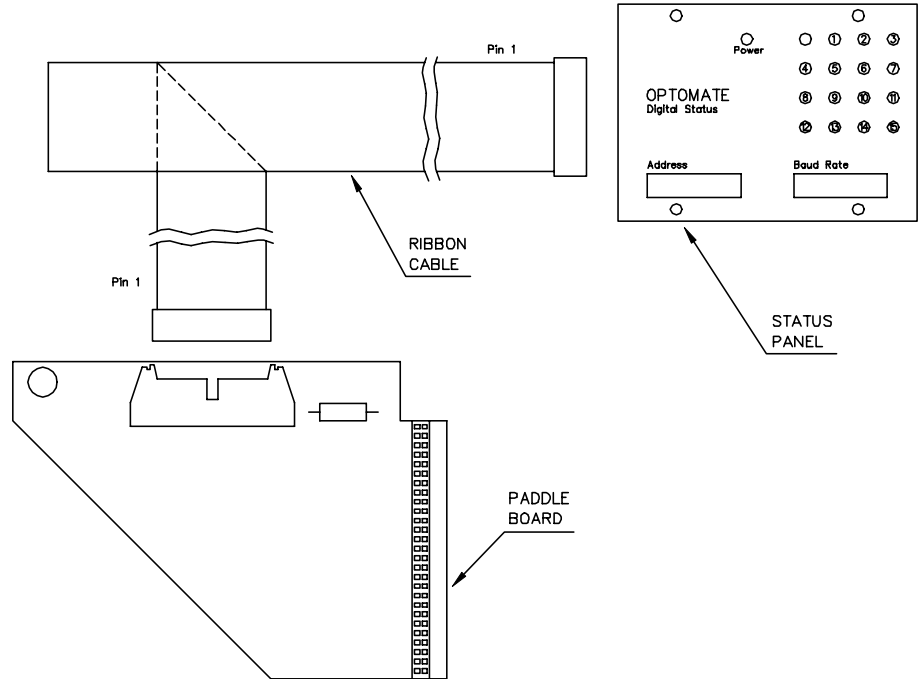
May be used with all "header" type mounting racks.

Easily installed. No modifications to the Opto 22 brain board or mounting rack are required.

The panel may be placed up to 10 feet (3 meters) from the mounting rack.

Works with input and output digital I/O modules as well as third party products such as watchdog timers etc.

Helps with documentation. Space is provided to write or type the brain board address and baud rate.



SPECIFICATIONS

PANEL

Construction

18ga. C.R.S. with yellow zinc dichromate plating. Label is velvet polycarbonate with pressure sensitive adhesive. PC board is secured with 4 screws. Physical 3.0"W x 2.2"H x 0.45"D (77mmW x 56mmH x 12mmD).

Mounting

Panel mounts with 4 screws. Recommended opening size is 2.75"W x 0.70"H (70mmW x 18mmH). Display Power OK and 16 digital status LED indicators. Space for the user to enter the Brain board address and baud rate.

Connector

Header type connector for 20-pin flat ribbon cable.

PADDLE BOARD

Mounting

Mounts between the Opto 22 brain board and mounting rack.

Connector

Header type connector for 20-pin flat ribbon cable.

OPTO 22 I/O

Brain Boards

Optomux B1 and PAMUX B5 compatible

Mounting Racks

Usable with the PB4H, PB8H, PB8HE, PB16H, PB16HC, PB16HE, PB16HQ, PB16J, PB16K, PB16L and Generation 4 (G4) equivalents.

ORDERING

OPT07-DSP

Digital Status Panel

Remotes the status of 16 digital I/O to the front of an interface or relay module. Max. 2 per module.