

Model 10881A

External Fiber-Optic to Logic Adapter

For Use with All Arbiter GPS Clocks



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Introduction

The Model 10881A Fiber-Optic to Logic Adapter converts a 820-nm light wave digital signal to TTL/CMOS, electrical signal. This product primarily provides a method to convert back to electrical any electrical signal that has been converted to multimode fiber, especially originating from a GPS synchronized clock. The Model 10881A uses an ST fiber-optic connector at the input and either BNC or terminals at the output. Choose between several power supplies available to energize the Model 10881A; these are found under Ordering Information on page 3.

Features

- Field Installable
- Simple Installation: BNC electrical and Type ST fiber-optic connections
- Uses wall-mount transformer or DC-DC (120V to 12V) converter
- 820 nm Wavelength Technology
- Specified with 50/125 m, 62.5/125 m, 100/140 m, and 200 m HCS Fiber

Applications

- For new installations of any Arbiter GPS clock, connect the Model 10881A to the desired end of a fiber-optic link from any digital signal, especially unmodulated (or demodulated) IRIG-B timing signal.
- For existing GPS clock installations using a fiber-optic link to remote devices. Connect the Model 10881A to the end of a fiber-optic cable link, to convert and distribute electrical timing signals.

General Description

The Model 10881A Fiber-Optic to Logic Adapter allows transmission of a digital signal over several kilometers¹ of multi-mode fiber-optic cable. The connected 10881A converts the 820 nm light wave to a +5 V CMOS logic level output signal. The 10881A receives the optical signal and simultaneously sends it as an electrical signal on two separate, individually-buffered BNC or Terminal connectors. Figure 1 provides an illustration of the Model 10881A configurations. The signal logic level is HI whenever the optical signal is ON. Whenever optical data is received the Data LED illuminates (flashes).

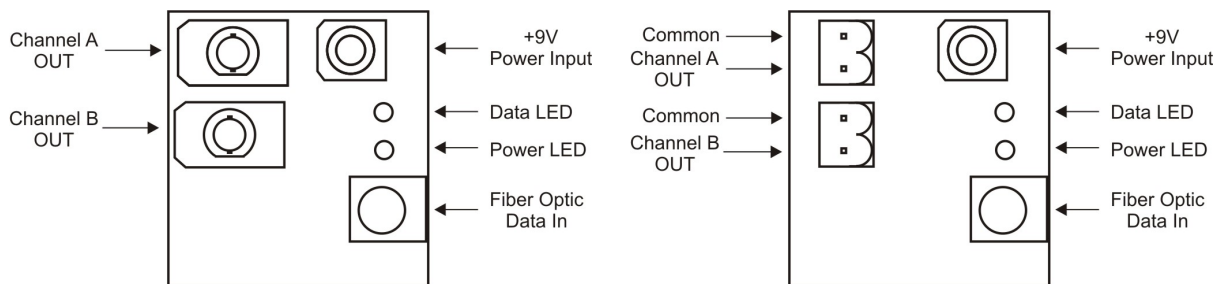


Figure 1: 10881A with BNC and Terminal Output Connectors

¹Refer to Application Note 101 at www.arbiter.com/ftp/datasheets, download appnote101.pdf

Specifications

Input:	Fiber-optic signal via a 62.5/125 μ m fiber; -10 to -24 dBm input level
Connector:	one type ST fiber optic connector.
Output:	+5 V CMOS signal
Connectors:	two (2) standard BNC connectors or two (2) pluggable terminal strips
Impedance:	10 ohms
Current:	± 75 mA maximum
Power Input:	+9 to +13.5 Vdc
Power Supply:	120 Vac, 60 Hz source; 90 to 260 Vac 47 to 63 Hz source; or +72 to +140 Vdc source
Size:	50 x 38 x 50 mm (2.0 x 1.5 x 2.0 in.), overall dimensions including connectors
Weight:	94 g (3.30 oz.)
Temperature:	
Operating:	-10 to +50 °C
Nonoperating:	-40 to +75 °C

Ordering Information

There are several options that you must specify when ordering the 10881A, Fiber-Optic to Logic Converter: (1) BNC or Terminal output connectors, (2) one of three different power supplies (listed below), and (3) whether or not you want DIN Rail mounting.

Available Power Supplies

1. AP0004200, wall-mount transformer (unregulated power supply) for 110 Vac, 60 Hz.
2. AP0006200, DC-DC converter (input: +72 to +140 Vdc, output: 12 Vdc), includes power cord with exposed leads for connection between IEC-320 connector and DC source.
3. AP0009500, wall-mount power supply; input: 90 to 260 Vac, 47 to 63 Hz, output: 9 Vdc @ 1 A, male mini-jack.