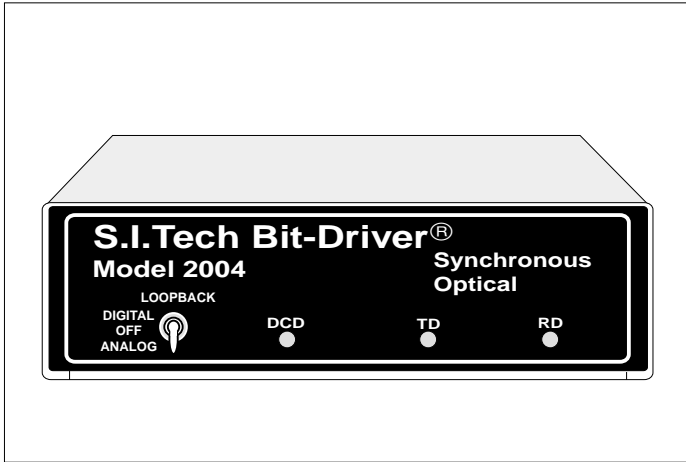


Synchronous Optical Bit - Driver[®]



S.I.Tech Model 2004 optical, synchronous, simplex or full duplex Bit-Driver[®] can be used for in-house process control or in-plant interconnection of a wide variety of EDP equipment. It has switch selectable internal clocking for 2400, 4800, 9600 and 19200 bps. There is an external clocking provision for up to 56K bps operation.

Model 2004 is a stand-alone component complete with RS-232 interface, 120 volt line power cord, plus input and output transmission connections. This system utilizes small size, lightweight fiber optic cable which has complete immunity from -- and does not emit -- either electro-magnetic or RF radiation. It is not affected by high voltages, lightning, is non-conductive, and will not cause a sparking condition. This means the system can be used even in explosive and highly active electrical environment or for secure communications, the transmitter and receiver are electrically isolated.

Model 2004 is an inexpensive answer to dependable, error-less performance in highly congested, noisy equipment areas (Bit error rate $\leq 10^{-9}$). It has status LEDs that indicate the presence of a carrier and data signaling over the communications path. It offers a RS-232 and transmission line loopback capability to verify link integrity and assist in hardware diagnostic problems. A build-in logic probe permits verification of true or false status of all RS-232 signals without a breakout unit.

TRANSMISSION LINE INTERFACE

Operating distance is dependent upon optical fiber core diameter and the cable's optical attenuation. The table below indicates three cables that may be used at any data rate. These cables are available in connectorized assemblies to meet the exact configuration of your application.

S.I.Tech offers complete links including fiber optic cable, connectors, cable assemblies, and Bit-Drivers[®].

Operating Distance for Fiber Optic Cable

Fiber Size (Microns)	Attenuation dB/km	Distance Meters	Distance Feet
100	5.0	2000	6600
62.5	4.0	2000	6600
50	3.0	2000	6600
10 SM	1.0 **	7000	23000

** Single Mode Option

Optical unit connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to T or R by noting cable imprint. On the other end, reverse the connection.

UL & CSA listed. Meets FCC requirements of Class A, Part 15 Computing Devices Standard. Specifications subject to change without notice.

Operation Mode: Synchronous, simplex or full duplex.

Input/Output Interface: RS-232-C, Type D Asynchronous at 2.4, 4.8, 9.6, 19.2 kbps, or external clock to 56 Kbps.

Transmission Line Interface: 2 ST fiber optic connector receptacles for interfacing with fiber optic duplex cable. SMA optional.

Transmission Distance: 6600 ft. (2000 m) (5 km option)

Constant or Controlled

Carrier: Carrier Controlled by DTR

Optical Power into a 50

Micron core Optical Fiber: .5 microwatts, 15 dB power budget @ 880 nanometers

Transmission Wavelength: 880 nanometers (1300 nm option)

Receiver Sensitivity: 15 nanowatts at less than 10^{-9} bit error rate

Operating Temperature: 0 °C to 50 °C

Input Power: 105 to 130 VAC, 50-500 Hz, 10 W Power transformer secondary fused, Three wire standard cord for wall outlet.

220 Volt Version: Model 2004V

Metal Enclosure: 7.5" X 7.0" X 3.0" (19 X 17.8 X 7.6 cm)

Weight: 3 lb.(1.36 kg)

Rack Mount Version: Model 2304

RS - 232 CONNECTOR PINS UTILIZED BY 2004 BIT DRIVER[®]

Pin No	EIA Designation	Description	Symbol	DTE	DCE
1	AA	Protective Ground	Chassis Ground	←	←
2	BA	Transmitted Data	TXD	→	→
3	BB	Received Data	RXD	←	←
4	CA	Request to Send	RTS	→	→
5	CB	Clear to Send	CTS	←	←
6**	CC	Data Set Ready	DSR	←	←
7	AB	Signal Ground	Sig. Gnd.	→	→
8	CF	Data Carrier Detect	DCD	←	←
15	DB	Serial Clock Transmit	SCT	←	←
17	DD	Serial Clock Receive	SCR	←	←
20	CA	Data Terminal Ready	DTR	→	→
24	DA	External Clock	EXC	→	→

** DSR is true when power is on. Unlisted pins not utilized. RTS/CTS delay time is zero. Transmitter enabling is controlled by DTR.

TYPICAL APPLICATION

