Fiber Options

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S730DV

Product Specification

Description: Video and Universal Data

Features

- ✔ **10-bit digital video transmission**
- ✔ **560 TV lines resolution**
- ✔ **All-in-one data: RS232, RS422, RS485, Manchester, Biphase, TTL**
- ✔ **Unique data translation function**
- ✔ **User-configurable data format**
- ✔ **Meets or exceeds EIA/TIA-250C medium haul standard**
- ✔ **Signal-to-noise ratio ≥67 dB**
- ✔ **Maximum operating distance: 11 mi (18 km)**
- ✔ **Enhanced built-in diagnostics**
- ✔ **MTBF >100,000 hours**
- ✔ **24 VAC/12-16 VDC transmitter power**
- ✔ **Forever Warranty™**

Description

The revolutionary new S730DV fiber link takes all the guesswork out of ordering a video and data link. This one link handles all major data formats in both directions including SensorNet™ - it is not necessary to order or stock different models to support different data formats. Configure them as needed for the job and, if the installation changes data formats, just reconfigure the S730DV. Also, the forward data path (from Tx to Rx) can be set to function as a relay to transmit contact activity at the camera back to the control center.

Digital transmission of the video component along with a signal-to-noise ratio of ≥ 67 dB assures clean, noise-free video at the receiver. Moreover, the S730DV supports all major video formats, including color, monochrome, NTSC, PAL, and their many variations. Resolution of greater than 560 TV lines guarantees faithful reproduction of high-resolution closed-circuit video images.

The use of state-of-the-art digital technology throughout the S730DV makes it possible to build in more diagnos-

continued

Basic Model Description

S730DV-1 Single-fiber link uses two different wavelengths for two-way transmission.

S730DV-2 Two-fiber link transmits using 850-nm wavelength over separate fibers for two-way communication.

S730DV-2L Two-fiber link for long-haul transmission using 1300-nm wavelength over separate fibers for two-way communication.

For a complete list of available models, please refer to Table 1.

www.fiberoptions.com

Fiber Options 80 Orville Drive, Bohemia NY 11716-2533 info@fiberoptions.com
US Tel: 631-567-8320 or 800-342-3748 **Fax**: 877-FiberFax (877-342-3732 toll free) or 631-567-8322
For international offices, see the back cover.

Description *continued*

tic functions than ever before. The unit features LED displays for video, optical signal, data in, data out, and enable configuration. In addition, the integrity of the data paths can be tested with a built-in data transmission test procedure; it is not necessary to hook up a data source to test out the link.

The S730DV also features the very valuable data translation function that allows input of one data format and output of a different format. (See DATA SIGNAL section inside.)

TECHNICAL INFORMATION

ELECTRICAL

Input Voltage:	
Standalone transmitter:	24 VAC ± 10%
	12 - 16 VDC
Standalone receiver:	13.5 - 16 VDC
Rack modules:	13.5 - 16 VDC

*For an explanation of the Power Factor, please see the product specification for the 515R or 517R racks or the Fiber Finder.™

Current Requirement:	650 mA
Rack Module Power Factor:	6*
Power Consumption:	8 W
Heat Equivalent**:	0.5 Btu/min
	0.1 cal/min

**This represents the conversion of all input power to heat. The actual geat generated will be less.

VIDEO SIGNAL

Video performance exceeds the requirements of EIA/TIA 250C medium-haul standard.

Number of Video Channels:	1
Video Direction:	Tx → Rx
Standards Supported:	EIA, CCIR, NTSC, PAL
Video Input Signal:	1.0 V p-p nominal composite video.

Input Impedance:	75 Ω
Video Output Signal:	1.0 V p-p composite video, unity gain,
Output Impedance:	75 Ω
Signal-to-Noise Ratio:	≥ 67 dB
Video Bandwidth:	7 MHz
Video Resolution:	>560 TV lines
Differential Phase:	0.7º
Differential Gain:	2%

VIDEO INTERCONNECTION

Recommended Maximum Distance

Video Equip. to Tx:	≤100 ft (30 m)
Rx to Video Equip.:	≤100 ft (30 m

Recommended Cable:	RG59/U coaxial cable; Belden No. 9259

DATA SIGNAL

Number of Data Channels:	1
Data Direction:	Tx ←→ Rx
I/O Data Formats:	RS232 (3-wire and 5-wire), TTL, RS422, Manchester, Biphase, Sensornet™, RS485 (2-wire and 4-wire) with 200 mV, 1 and 2 V off sets & forward relay option
Baud Rate:	RS232 = 250 kbps RS422 = 512 kbps RS485 = 512 kbps Manchester = 250 kbps Biphase = 250 kbps TTL = 512 kbps
Forward Data Format:	Encoded with digital video using 8B/10B encoding
Reverse Data Format:	Frequency shift keyed (FSK)
Bit Error Rate:	$<10^{-9}$

Data Translation: *Allows translation from one format to another. Eliminates need for external translation device. Physical translation only; no protocol interpretation. Manchester and Biphase excluded.*

DATA INTERCONNECTION

Maximum Recommended Distance: The maximum distance from the CCTV control system components to the fiber units is governed by the control system. Refer to the installation manual for the control system.

AGENCY COMPLIANCE AND MTBF

Emissions:	FCC Part 15, ICES-003, AS/NZS 3548, EN55022	Safety:	UL1950, CAN/CSA 22.2, NO.950-95
Immunity:	ENVS0204 EN61000-4-2, 3, 4, 5, 6, 11	MTBF:	>100,000 hours

FCC PART 15 COMPLIANT CE c UL us LISTED

OPTICAL

Wavelength:	Refer to Table 1	Emitter Type:	LED
Optical Mode:	Multimode	Fiber Type:	62.5 µm
Optical Budget:	13 dB standard; higher budgets available	Modulation Type:	Digital time division (TDM) multiplexing
Operating Distance*:		Optical Gain Control:	Optical automatic (OAGC)
S730DV-1:	3.2 mi (5.2 km)		
S730DV-2:	3.2 mi (5.2 km)	Transmitter Launch Power:	-15 dBm
S730DV-2L:	11 mi (18 km)	Receiver Sensitivity:	-28 dBm

*Operating distance is approximate and assumes best fiber.It will be affected by the type and number of splices in the fiber.

DIAGNOSTIC INDICATORS

Level/Loss™:	Bicolor LED	Data Input:	Bicolor LED
Video:	Bicolor LED	Data Output:	Bicolor LED
		Enable Configuration:	Bicolor LED

ENVIRONMENTAL

Temperature Range in Operation:	-40° to +167° F (-40° to +75° C)
Temperature Range In Storage:	-40° to +185° F (-40° to +85° C)
Humidity Range in Operation and storage:	0 to 95% relative, noncondensing

MECHANICAL

Standalone Transmitter

Dimensions:	Length: 4.0 in (102 mm) Width: 4.55 in (116 mm) Height: 1.95 in (50 mm)
Weight:	0.75 lb (0.34 kg)
Shipping Dimensions:	Length 5.7 in (145 mm) Width: 4.6 in (117 mm) Height: 2.2 in (56 mm)
Shipping Volume:	0.033 cu ft (0.001 cu m)
Shipping Weight:	0.85 lb (0.39 kg)
Construction:	Aluminum
Finish:	Black semigloss paint
Mounting Method:	4 No. 6 (3 or 3.5 mm) screws

Rack Modules

Module Width:	1 slot, 1.0 in. (25.4 mm)
Weight:	0.55 lb (0.25 kg)
Shipping Dimensions:	Length: 9.9 in (250 mm) Width: 5.4 in (140 mm) Height: 1.1 in (28 mm)
Shipping Volume:	0.034 cu ft (0.001 cu m)
Shipping Weight:	0.70 lb (0.32 kg).
Finish:	Black semigloss paint

Standalone Receiver

Dimensions:	Length: 9.31 in (236 mm) Width: 6.33 in (161 mm) Height: 1.15 in (29 mm)
Weight:	1.36 lb (0.61 kg)
Shipping Dimensions:	Length: 10.5 in (267 mm) Width: 7.0 in (178 mm) Height: 2.0 in (51 mm)
Shipping Volume:	0.085 cu ft (0.002 cu m)
Shipping Weight:	1.6 lb (0.73 kg)
Construction:	Aluminum
Finish:	Black textured semigloss paint
Mounting Method:	4 No. 6 (3 or 3.5 mm) screws

CONNECTORS

Optical:	ST type standard; others available on special order
Video:	BNC
Data:	8-position detachable screw terminal
Power Input:	
Standalone modules:	4-position detachable screw terminal

Rack modules plug directly into the rack

OPTIONS

Power Supply:	See Table 1

CONTROLS

Data Format:	16-position rotary switch
Alarm Disable:	Jumper allows alarm output to be disabled (rack modules)
Contact Closure:	Jumper enables contact closure (relay) function

TABLE 1: Model Variations

Model Number	Function	Enclosure Type*	Fiber Size	No. of Fibers	Max. Atten.	Wave-length	Power Supply Model
Standalone Modules							
S730DVT-EST1	Transmitter	4 X 4 X 2	62.5	1	13	850/1300	615P or 24 VAC
S730DVR-EST1	Receiver	501R	62.5	1	13	850/1300	615P
S730DVT-EST2	Transmitter	4 X 4 X 2	62.5	2	13	850	615P or 24 VAC
S730DVR-EST2	Receiver	501R	62.5	2	13	850	615P
S730DVT-EST2L	Transmitter	4 X 4 X 2	62.5	2	13	1300	615P or 24 VAC
S730DVR-EST2L	Receiver	501R	62.5	2	13	1300	615P
Rack-Mount Modules							
S730DVT-RST1	Transmitter	515R1, 517R1	62.5	1	13	850/1300	Powered by rack
S730DVR-RST1	Receiver	515R1, 517R1	62.5	1	13	850/1300	Powered by rack
S730DVT-RST2	Transmitter	515R1, 517R1	62.5	2	13	850	Powered by rack
S730DVR-RST2	Receiver	515R1, 517R1	62.5	2	13	850	Powered by rack
S730DVT-RST2L	Transmitter	515R1, 517R1	62.5	2	13	1300	Powered by rack
S730DVR-RST2L	Receiver	515R1, 517R1	62.5	2	13	1300	Powered by rack

**For exact dimensions, see the MECHANICAL sections.

FIGURE 1: OUTLINE DRAWING - S730DVR-E

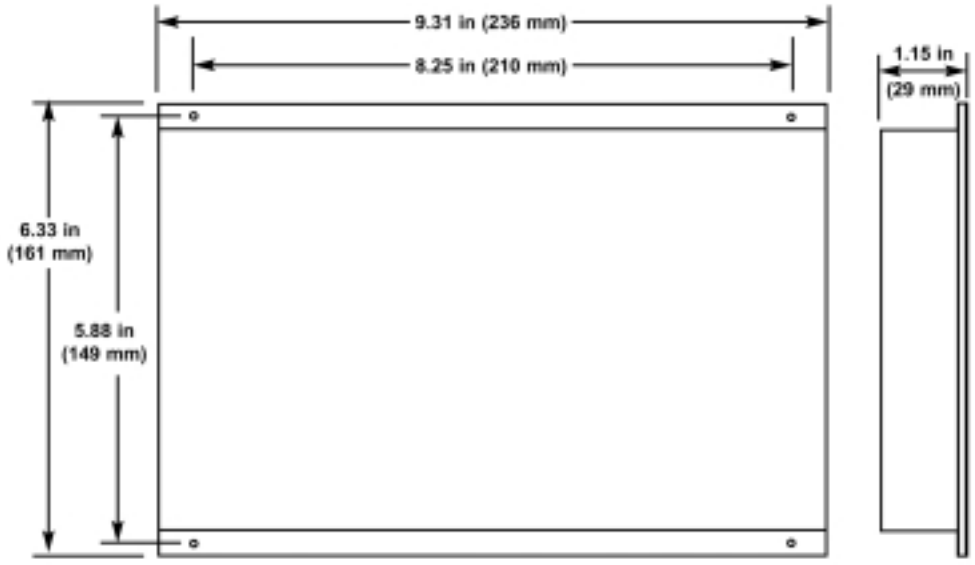
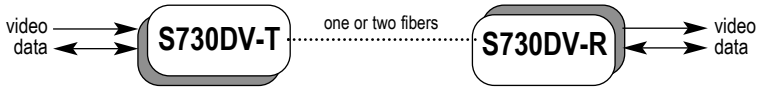


FIGURE 2: SYSTEM DIAGRAM



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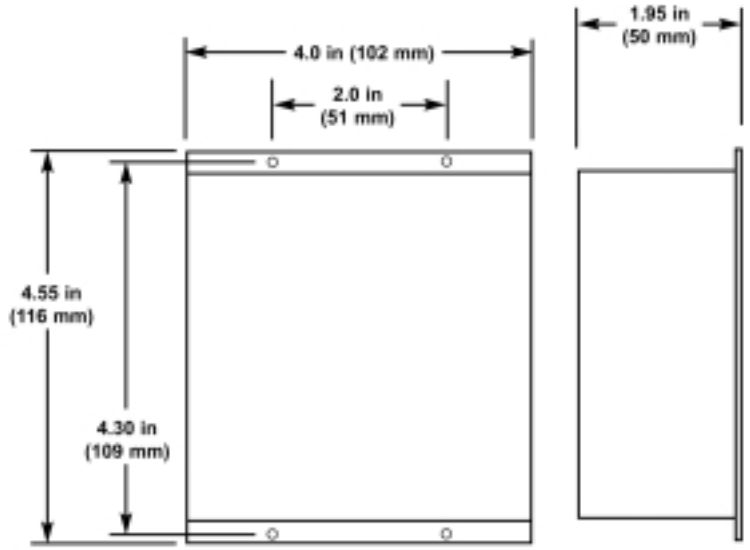
S730DV

Product Specification

FIGURE 3: OUTLINE DRAWING - S730DVT-E



THE FOREVER WARRANTY

Fiber Options, Inc. warrants that, at the time of shipment, the products manufactured by *Fiber Options, Inc.* will be free from defects in material and workmanship. Should any defects appear in the product, *Fiber Options, Inc.* shall repair or replace the product or supply an equivalent, at its sole discretion. A Return Authorization (RA) number is required to send the unit back in case return is necessary. Return shipments to *Fiber Options, Inc.* shall be at the buyer's expense. *Fiber Options, Inc.* will return said equipment prepaid via best way.

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www.fiberoptions.com
80 Orville Drive, Bohemia NY 11716-2533
info@fiberoptions.com

US Tel:	631-567-8320 800-342-3748	**Fax:**	631-567-8322 877-FiberFax (877-342-3732)
UK Tel:	+44 113 238 1668	**Fax:**	+44 113 253 8121
Australia Tel:	+61 3 9370 9192	**Fax:**	+61 3 9370 9936
France Tel:	+33 01 60 86 54 53	**Fax:**	+33 01 60 86 86 04
Germany Tel:	+49 700 34237678	**Fax:**	+49 36256 21991
Hong Kong Tel:	+852 2907 8108	**Fax:**	+852 2142 5063
Latin America Tel:	800-342-3748	**Fax:**	877-342-3732