



# 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  $\geq 67$  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  $\geq 67$  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.

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## SERIES S730DV

### 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:		Current Requirement:	650 mA
Standalone transmitter:	24 VAC $\pm$ 10%	Rack Module Power Factor:	6*
	12 - 16 VDC	Power Consumption:	8 W
Standalone receiver:	13.5 - 16 VDC	Heat Equivalent**:	0.5 Btu/min
Rack modules:	13.5 - 16 VDC		0.1 cal/min

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

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

### VIDEO SIGNAL

<i>Video performance exceeds the requirements of EIA/TIA 250C medium-haul standard.</i>		Input Impedance:	75 $\Omega$
Number of Video Channels:	1	Video Output Signal:	1.0 V p-p composite video, unity gain,
Video Direction:	Tx $\rightarrow$ Rx	Output Impedance:	75 $\Omega$
Standards Supported:	EIA, CCIR, NTSC, PAL	Signal-to-Noise Ratio:	$\geq$ 67 dB
Video Input Signal:	1.0 V p-p nominal composite video.	Video Bandwidth:	7 MHz
		Video Resolution:	>560 TV lines
		Differential Phase:	0.7°
		Differential Gain:	2%

### VIDEO INTERCONNECTION

Recommended Maximum Distance		Recommended Cable:	RG59/U coaxial cable; Belden No. 9259
Video Equip. to Tx:	$\leq$ 100 ft (30 m)		
Rx to Video Equip.:	$\leq$ 100 ft (30 m)		

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### TECHNICAL INFORMATION

#### DATA SIGNAL

Number of Data Channels:	1	Baud Rate:	RS232 = 250 kbps RS422 = 512 kbps RS485 = 512 kbps Manchester = 250 kbps Biphase = 250 kbps TTL = 512 kbps
Data Direction:	Tx ↔ Rx	Forward Data Format:	Encoded with digital video using 8B/10B encoding
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	Reverse Data Format:	Frequency shift keyed (FSK)
		Bit Error Rate:	<10 <sup>-9</sup>

**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**



#### 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)	Transmitter Launch Power:	-15 dBm
S730DV-2:	3.2 mi (5.2 km)	Receiver Sensitivity:	-28 dBm
S730DV-2L:	11 mi (18 km)		

\*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

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## TECHNICAL INFORMATION

### ENVIRONMENTAL

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

### 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
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### 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

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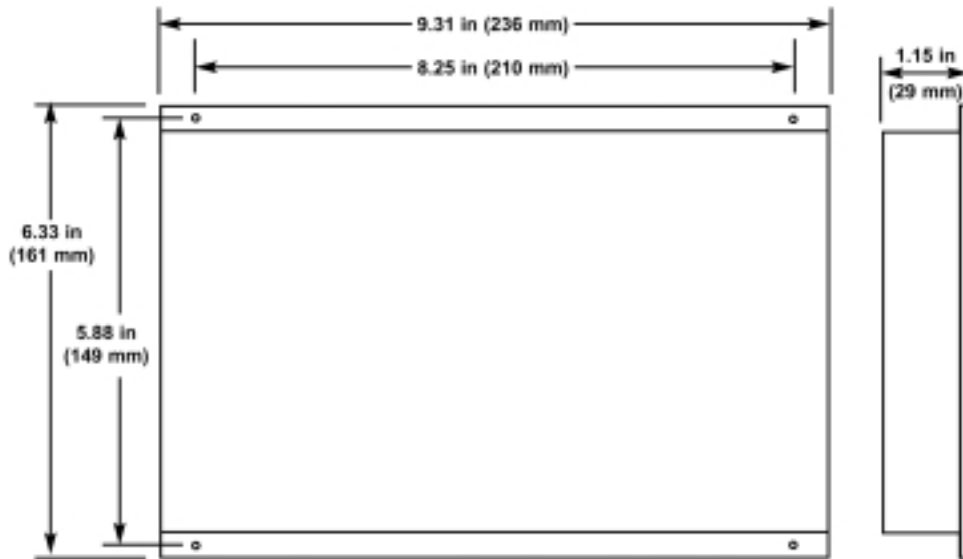
## TECHNICAL INFORMATION

**TABLE 1: Model Variations**

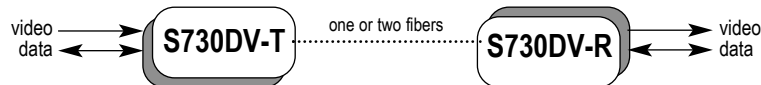
Model Number	Function	Enclosure Type*	Fiber Size	No. of Fibers	Max. Atten.	Wave-length	Power Supply Model
<b>Standalone Modules</b>							
S730DVT-EST1	Transmitter	4 X 4 X 2	62.5	1	13	850/1300	615P or 24 VAC
S730DVR-EST1	Receiver	501R	62.5	1	13	850/1300	615P
S730DVT-EST2	Transmitter	4 X 4 X 2	62.5	2	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
<b>Rack-Mount Modules</b>							
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**



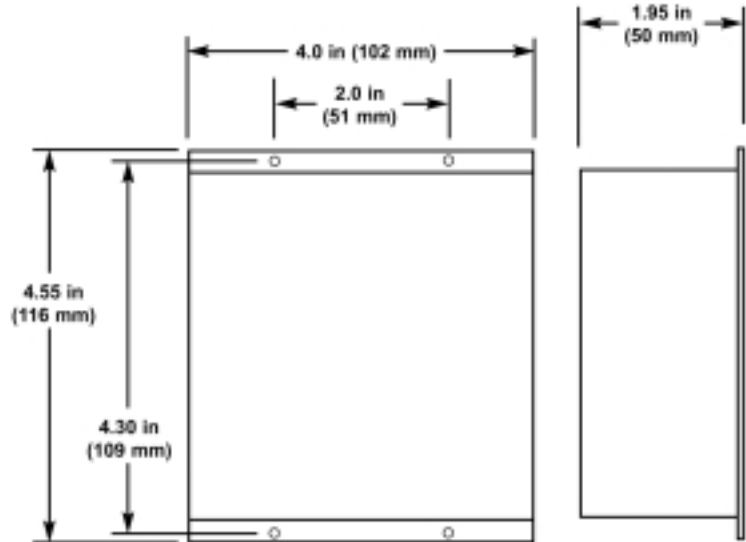
**FIGURE 2: SYSTEM DIAGRAM**



# 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. THIS WARRANTY IS THE SOLE WARRANTY OF FIBER OPTIONS WITH RESPECT TO THE PRODUCT AND IS IN LIEU OF AND EXCLUDES ANY AND ALL OTHER EXPRESSED OR IMPLIED WARRANTIES INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PURPOSE. THIS WARRANTY IS THE SOLE REMEDY AVAILABLE FOR ANY CLAIM BASED ON AN ALLEGED DEFECT IN MATERIAL OR WORKMANSHIP WHETHER SUCH CLAIM ARISES IN CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE. FIBER OPTIONS SHALL NOT BE LIABLE IN ANY WAY FOR ANY CONSEQUENTIAL DAMAGE RESULTING FROM ANY DEFECT COVERED BY THIS WARRANTY.

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