FDVA1-DB1 Series

One Channel Video with Bi-Directional Data,
Point-to-Point Transmission

Product Description

The KBC FDVA-DB1 series uses the most advanced digital technologies to provide excellent repeatable performance for today's CCTV systems. It supports transmission of one analog composite video channel and one bi-directional data channel over one multimode or singlemode optical fiber. PAL, NTSC and SECAM video standards are fully supported and the data channel supports all standard PTZ (Pan-Tilt-Zoom) control signals. The plug-and-play design ensures ease of installation with no electrical or optical adjustment needed. LED indicators are provided to clearly show the operational status of the unit. The series is available in compact or 3U chassis card.

Product Features

- 8 or 10 bit digitally-encoded, non-compressed video transmission
- Unique, 2 channel card module
- Up to 28 receivers in one 3U chassis
- Cost effective WDM single fiber solution
- Switchable 120Ω termination and line biasing
- LED indicators provide quick diagnosis of all important system parameters
- Multimode and singlemode models
- Compact and 3U chassis card configurations

Typical System Configuration

Up to 30km

——— 75Ω Coax
——— Data Cable (depends on data type)
——— Multimode or singlemode fiber
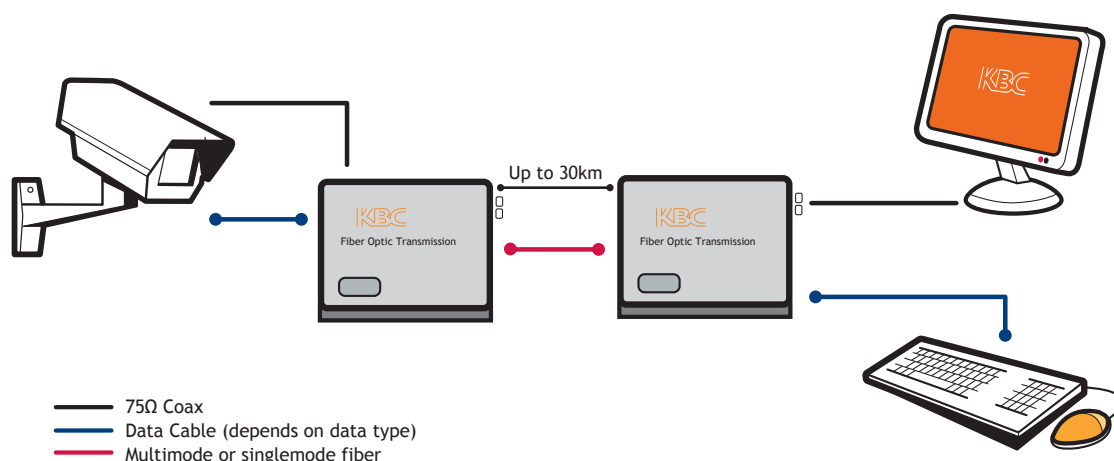
Specifications

Video
No. of Channels	1	
Format	PAL / NTSC / SECAM	
Input/Output	1.0V pk-pk typical, 75Ω	
Bandwidth	5 Hz ~ 6.5 MHz	
Digital Encoding (non compressed)	8 bit	10 bit
Differential Gain (10-90% APL)	<2.0%	<2.0%
Differential Phase (10-90% APL)	<2.0°	<1.0°
SNR	>60dB	>67dB

Data[1]
Data Formats	RS232, RS422, RS485 (2W & 4W)
Number of Two-way Channels	1
RS232 Data Rate	DC – 115.2 kbps
RS422/485 Data Rate[2]	DC – 250 kbps
Bit Error Rate	$<1 \times 10^{-12}$
Encoding Schemes	Manchester, Bi-Phase, NRZ, NRZI

Optical
Wavelength	1310nm/1550nm
Fiber	Multimode or Singlemode
Number of Fibers	1

Power
Power Input	Compact	12-24 Vac/dc @ 200mA
Power Supply[3]		Input: 100 ~ 240 Vac
		Output: +12 Vdc
		UL and cUL listed PSU
Chassis Card		Supplied from FR3 PSU

Environmental
Operating Temperature	-40˚~+70˚C / -40˚~+158˚F
Storage Temperature	-40˚~+70˚C / -40˚~+158˚F
Operating Humidity	0 to 95% non-condensing
Mean Time Between Failure (MTBF)	>100,000 Hours

Mechanical
Dimensions (Compact L x W x H)[8]		70mm x 61mm x 44mm
		(2.8" x 2.4" x 1.7")
Number of 3U Chassis Card Slot[4]		1

Connectors
Video		BNC 75Ω
Data		Screw Block Terminal
Fiber[5]		ST, SC or FC
		(ST fitted as standard)
Power[6]	Compact	Screw Block Terminal

DIP Switch Settings
Data	Switch Selectable
120Ω Termination	On / Off
Biasing	On / Off

Part Number Configurator

FDVA1-DB1-M1T-MSB

- V: 8 Bit Video Resolution
- H: 10 Bit Video Resolution

- 1: Single Module Card
- 2: Dual Module Card

- M: Multimode
- S: Singlemode

- R: Receiver
- T: Transmitter

- B: 3U Chassis Card
- M: Compact

- Blank: Chassis Card
- A: US Power Connection
- B: UK Power Connection
- C: Euro Power Connection
- E: Australian Power Connection

- C: SC Connector
- F: FC Connector
- S: ST Connector
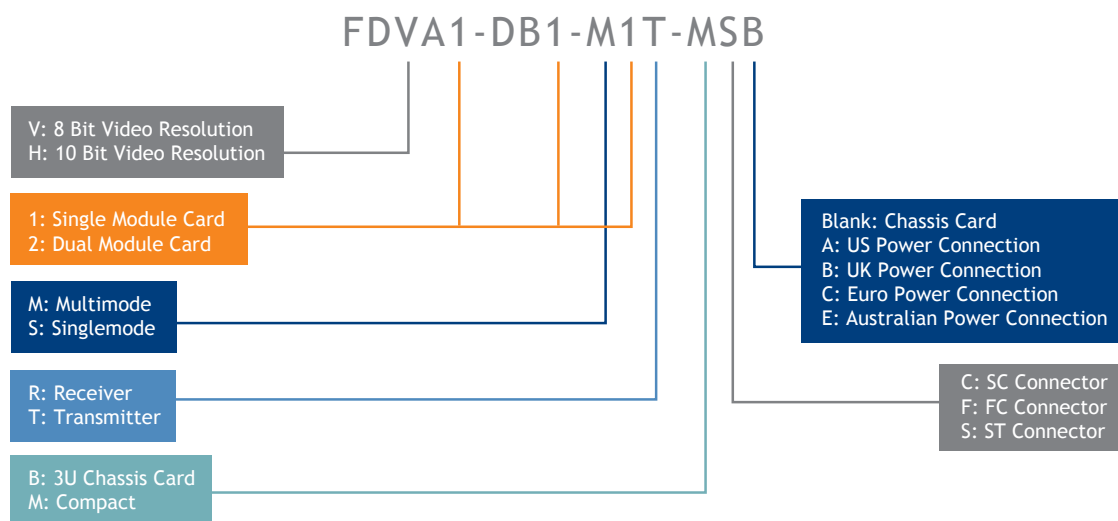
Optical Budget

Part Code	Fiber Type	No.	Optical Budget			Wavelength	Approximate
			50µm	62.5µm	9µm	nm	Transmission Distance[7]
FDVA1-DB1-M1*	Multimode	1	8dB	12dB		1310/1550	0~4km
FDVA1-DB1-S1*	Singlemode	1			15dB	1310/1550	0~30km

Transmission distances up to 120km are available please contact KBC Networks for details. All KBC Networks optical transmitters are LASER based.

1. RS232, RS422 and RS485 are field selectable
2. Data rates up to 1Mbps available, please consult factory.
3. Please select the power plug from US Standard, Euro 2 Circular or UK 3 Pin square when placing order.
4. Supports maximum of up to 14 single slot cards in each 3U Chassis.
5. SC and FC connectors not available on dual module card
6. Power lines are crimped and fitted to screw block connector in factory.
7. Transmission distance is limited by optical loss of the fiber and loss introduced by connectors, splices and patch panels. Fiber bandwidth also limits the transmission distance.
8. Product body dimensions. Please contact KBC Networks for product drawing and dimensions of mount