



by **Schneider Electric**



INSTALLATION AND OPERATION MANUAL

FTV10(M,S)1(ST,FC)M Series

SINGLE MINIATURE FIBER DIGITAL VIDEO 10-BIT
TRANSMITTER WITH ONE-WAY CONTACT CLOSURE

The FTV10(M,S)1(ST,FC)M series video transmitters support the transmission of one channel of short-haul quality 10-bit digital video plus one contact closure over one multimode or single mode optical fiber. It is compatible with the FRV20(M,S)2(ST,FC) series dual channel receivers. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. Bi-color (Red/Green) LED indicators are provided for rapidly ascertaining equipment operating status.

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IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the points where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
15. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Installation should be done only by qualified personnel and conform to all local codes.
17. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
18. Use only installation methods and materials capable of supporting four times the maximum specified load.
19. A CCC-approved power cord must be used to power this equipment when used in China.
20. **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The product and/or manual may bear the following marks:

 This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

 This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:

RISK OF ELECTRIC SHOCK.

DO NOT OPEN.

REGULATORY NOTICES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

PRODUCT OVERVIEW

DESCRIPTION

The FTV10M miniature fiber transmitter provides the ability to transmit one composite video channel and contact closure over one optical fiber. The FTV10M transmitter is compatible with the dual-channel FRV20BM2 series receivers.

Specially designed for use in Pelco® EH2515/EH3512/EH3515 Series camera enclosures and DF5/DF8 Series fixed mount domes, the FTV10M transmitter can also be used as a standalone module (refer to Figure 1).

Features of the FTV10M transmitter include the following:

- 10-bit digitally encoded video for high-quality video transmission over a single fiber
- 1 simplex contact closure
- Multimode fiber support for distances up to 4 km (2.5 mi)
- Single-mode fiber support for distances up to 54 km (33.6 mi)
- Exceeds all requirements for the RS-250C Short-Haul Transmission specification
- Compatible with NTSC, PAL, and SECAM video standards
- Designed to meet NEMA TS 2 and Caltrans traffic signal control equipment standards for ambient operating temperature, mechanical shock and vibration, humidity with condensation, high-line/low-line voltage conditions, and transient voltage protection
- No performance adjustments required
- 9 VDC power supply (Pelco Part#: FEXTPS)
- LED indicators for monitoring of video and contact status
- The FTV10M transmitter is a Class 1 laser product that complies with FDA radiation performance standard 21CFR Subchapter J and with IEC 60825-1 Edition 1.2, 2001-08.

NOTE: Conformal coating is required for operation in environments with relative humidity above 95% (condensing).

9 VDC power supply ordered separately (Pelco Part#: FEXTPS)

MODELS

The FTV10M transmitter consists of the following series of models:

Multimode Models:

FTV10M1STM Single-channel fiber optic video transmitter; multimode, ST connector; transmission distance up to 4 km

Single-Mode Models:

FTV10S1STM Single-channel fiber optic video transmitter; single-mode, ST connector

FTV10S1FCM Single-channel fiber optic video transmitter; single-mode, FC connector

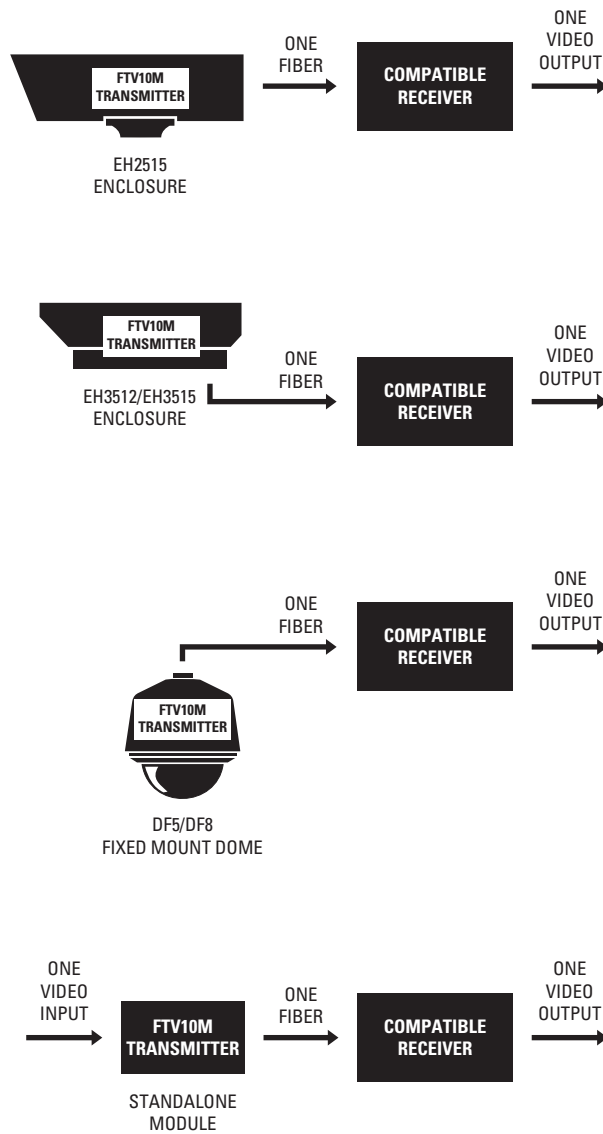


Figure 1. Single-Channel Video Transmission Using FTV10M Transmitter

PRODUCT OVERVIEW

FRONT PANEL

The front panel of the FTV10M transmitter provides connectors and LED indicators (refer to Figure 2).

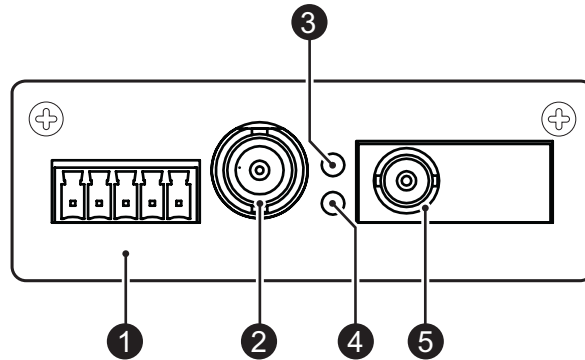


Figure 2. Front Panel of FTV10M Transmitter—Multimode and Single-Mode Models

- ① POWER CONNECTOR + CONTACT CLOSURE CONNECTOR; removable mating connector with screw terminals (not shown)
- ② VIDEO IN BNC CONNECTOR, 75-ohm analog video input
- ③ VIDEO PRESENT LED, status indicator
- ④ CONTACT CLOSURE LED, status indicator
- ⑤ FIBER OPTIC CONNECTOR, ST (multimode and single-mode models) or FC (single-mode models only)

For additional information about front-panel connections, refer to the *Installation* section. For additional information about the front-panel indicators, refer to the *Troubleshooting* section.

PACKAGE CONTENTS

The following items are supplied:

- 1 FTV10M transmitter with attached left and right wall-mounting brackets
- 1 BNC-to-BNC RG179/U coaxial cable
- 1 FTV10M Miniature Fiber Transmitter Installation manual (this manual)

OPTIONAL EQUIPMENT (SOLD-SEPARATELY)

- 1 EH2500 Series accessory kit (Pelco FKIT-EH2500), which contains the following:

- 1 EH2500 bracket
- 2 4-40 x 0.187-inch Phillips flat head screws
- 1 10-32 x 0.375-inch Phillips pan head screw and lock washer

The EH2500 Series accessory kit must be used when installing the FTV10M transmitter into an EH2515 Series enclosure.

- 1 EH3500 Series accessory kit (Pelco FKIT-EH3500), which contains the following:

- 2 EH3500 brackets (one left, one right)
- 4 4-40 x 0.25-inch Phillips pan head screws and lock washers
- 1 Replacement gland
- 1 Rubber plug

The EH3500 Series accessory kit must be used when installing the FTV10M transmitter into an EH3512/EH3515 Series enclosure.

- 1 DF5/DF8 Series accessory kit (Pelco FKIT-DF5DF8), which contains the following:

- 1 DF5/DF8 bracket
- 4 4-40 x 0.187-inch Phillips flat head screws

The DF5/DF8 Series accessory kit must be used when installing the FTV10M transmitter into a DF5/DF8 fixed mount dome.

CONNECTIONS

Before mounting the FTV10M transmitter, note the following transmitter connections (refer to Figure 3):

- Power connection

NOTES:

- A 9–36 VDC or 12–24 VAC power supply can be used to power the transmitter. If a 24 VAC power supply is used, the power supply must be a Listed Direct Plug-In Power Unit marked as Class 2 and rated as 24 VAC, 200 mA (minimum output).
- In extreme temperature conditions, it is recommended that an industrial-rated outdoor power supply such as the Pelco WCS1-4 power supply be used.
- If the FTV10M transmitter is used separately, a 100–240VAC/9VDC 2A, Model FEXTPS is recommended and is shipped separately.
- Fiber connection
- Video input connection (BNC per channel)

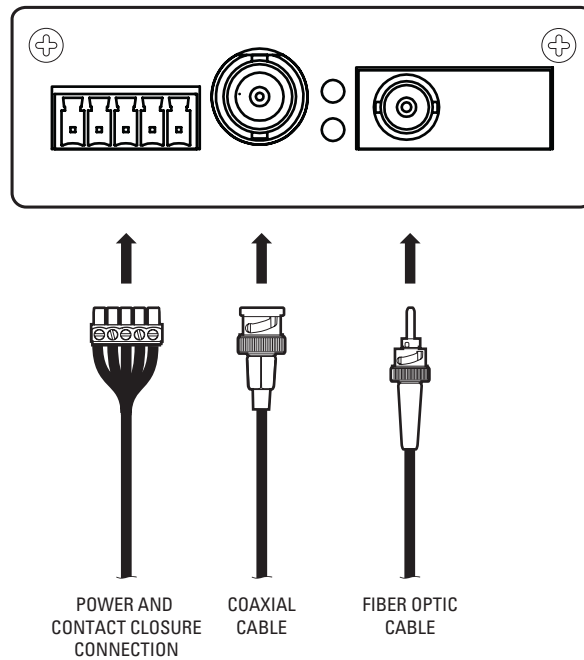


Figure 3. FTV10M Transmitter Connections

MOUNTING

This section provides information about the following:

- Mounting the transmitter to a wall
- Mounting the transmitter into an EH2515 Series enclosure
- Mounting the transmitter into an EH3512/EH3515 Series enclosure
- Mounting the transmitter into a DF5/DF8 fixed mount dome

Note that the transmitter can also be placed on a desktop.

MOUNTING THE TRANSMITTER TO A WALL

NOTE: Before mounting the transmitter to a wall, ensure that the positioning of the unit allows viewing of the LEDs and provides space for making the various cable connections.

The transmitter is shipped with attached left and right wall-mounting brackets. To mount the transmitter to a wall, attach the unit with two screws (not provided) using the wall-mounting keyholes (refer to Figure 4).

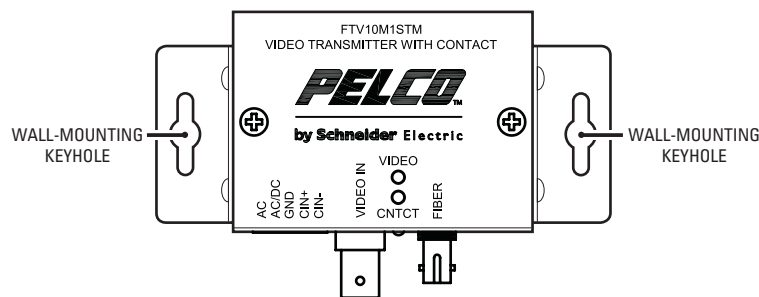


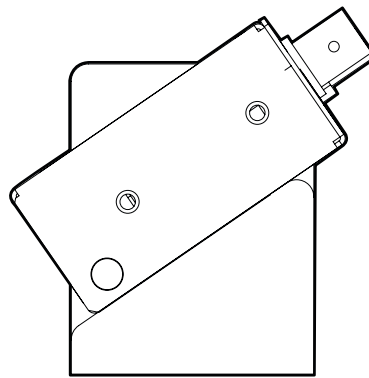
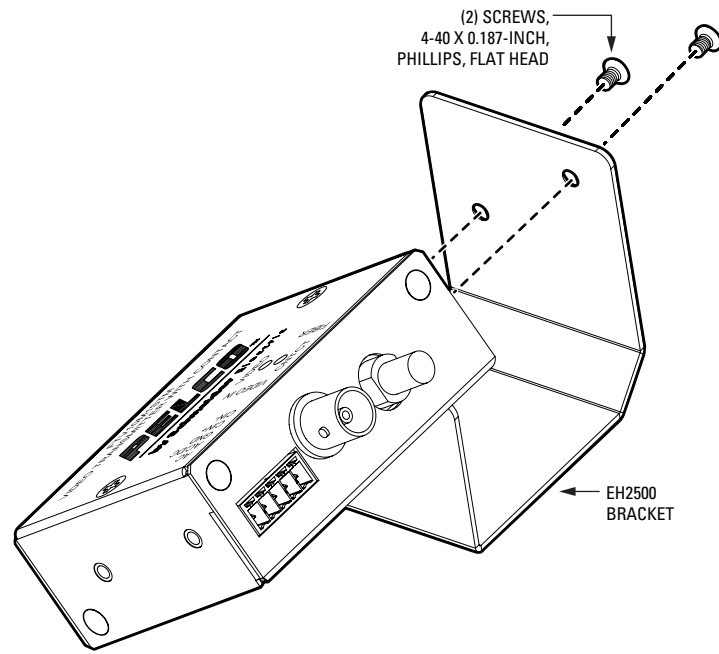
Figure 4. Mounting FTV10M Transmitter to a Wall (Top View of Transmitter)

MOUNTING THE TRANSMITTER INTO AN EH2515 SERIES ENCLOSURE

The following procedure provides instructions to mount the FTV10M transmitter into an existing EH2515 Series enclosure installation.

To mount the transmitter into an EH2515 Series enclosure, do the following:

1. Using a small Phillips screwdriver, remove the left and right wall-mounting brackets that are attached to the transmitter by loosening the four 4-40 x 0.25-inch Phillips pan head screws (two screws each side).
 2. Using the EH2500 bracket and the two 4-40 x 0.187-inch Phillips flat head screws supplied in the EH2500 accessory kit (Pelco FKIT-EH2500), attach the bracket to the transmitter (refer to Figure 5). Note that the transmitter must be positioned at an angle within the bracket.
 3. Disconnect power to the enclosure.
 4. Remove the camera sled from the enclosure by doing the following:
 - a. Using a 5/64-inch hex wrench, loosen the screws on the back of the enclosure.
 - b. Pull the "T" handle until heater wiring connectors, if present, are visible, and then disconnect the heater wiring connectors.
- WARNING:** Damage to the heater wires can occur if the sled is pulled out too far before the wiring connectors are separated.
- c. Slide the camera sled out of the enclosure.
5. Disconnect power wires and video cable from the connectors on the camera.
 6. Mount the EH2500 bracket and attached transmitter into the enclosure by doing the following (refer to Figure 6):
 - a. Position the EH2500 bracket onto the camera sled so that the connectors on the transmitter face the camera.
 - b. Attach the EH2500 bracket to the camera sled using the 10-32 x 0.375-inch Phillips pan head screw and lock washer supplied in the EH2500 accessory kit (Pelco FKIT-EH2500).



SIDE VIEW OF EH2500
BRACKET WITH ATTACHED
FTV10M TRANSMITTER

Figure 5. Attaching EH2500 Bracket (Pelco FKIT-EH2500) to FTV10M Transmitter

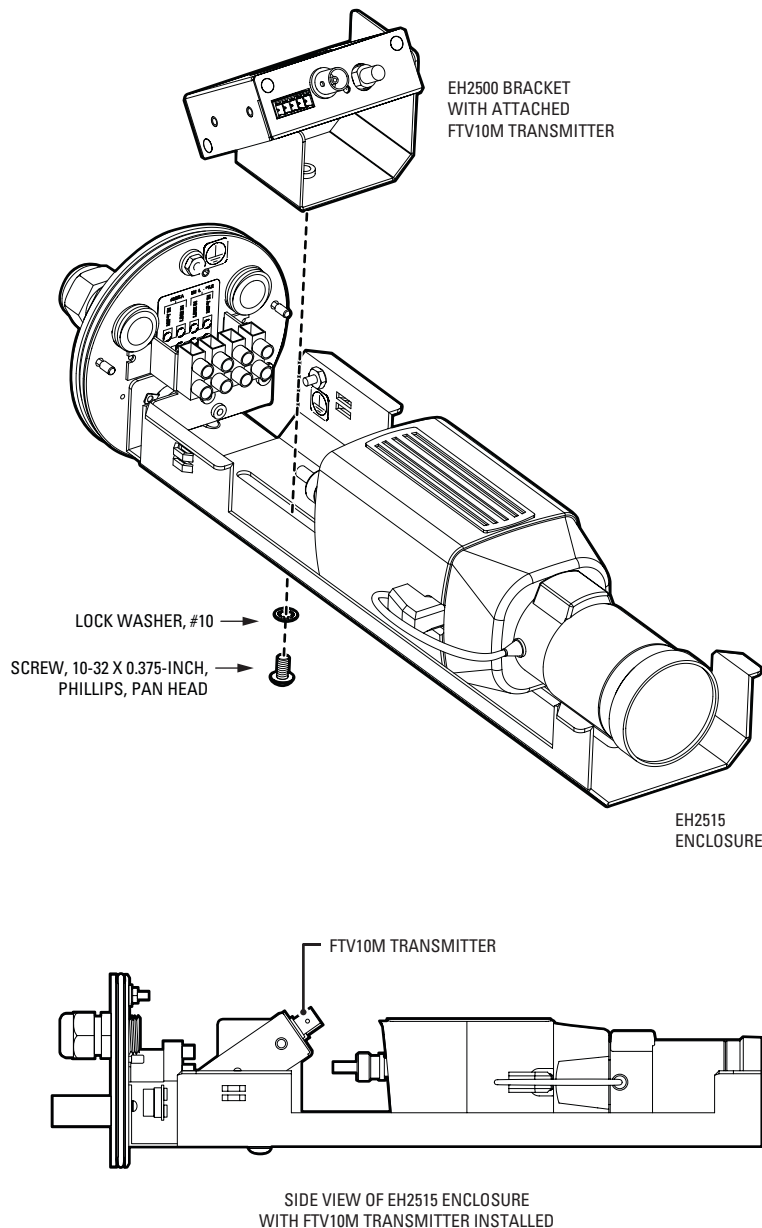


Figure 6. Mounting FTV10M Transmitter into EH2515 Enclosure

7. Connect power, fiber optic, and video cables to the transmitter by doing the following:
 - a. Insert the power cable through either of the two gland connectors on the enclosure, route the cable underneath the transmitter toward the power connector on the transmitter, and then connect the cable to the power connector.
 - b. Insert the fiber optic cable through either of the two gland connectors on the enclosure, and then do the following:
 - ⚠ **WARNING:** When routing the fiber optic cable, be careful not to bend the fiber at a sharp angle. Doing so breaks the fiber.
 - i. Route the cable above the transmitter and then along one side of the camera until you can loop the cable underneath the lens; then route the cable back along the other side of the camera toward the fiber optic connector on the transmitter (refer to Figure 7).
 - ii. Connect the cable to the fiber optic connector on the transmitter.
 - c. Using the coaxial cable supplied with the transmitter, connect the cable to the BNC connector on the transmitter and on the camera.
- NOTE:** For additional information about connections to the transmitter, refer to the Connections section.
8. Reconnect power to the camera.

9. If applicable, reconnect the heater wires of the enclosure.
10. Carefully slide the camera sled back into the enclosure.
11. Reinstall the screws in the rear plate.
12. Reconnect power to the enclosure.

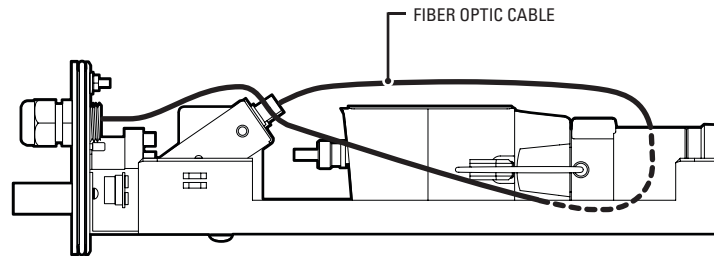


Figure 7. Routing Fiber Optic Cable in EH2515 Enclosure

MOUNTING THE TRANSMITTER INTO AN EH3512/EH3515 SERIES ENCLOSURE

The following procedure provides instructions to mount the FTV10M transmitter into an existing EH3512/EH3515 Series enclosure installation.

To mount the transmitter into an EH3512/EH3515 Series enclosure, do the following:

1. Using a small Phillips screwdriver, remove the left and right wall-mounting brackets that are attached to the transmitter by loosening the four 4-40 x 0.25-inch Phillips pan head screws (two screws each side).
2. Using the left- and right-mounting EH3500 brackets and the four 4-40 x 0.25-inch Phillips pan head screws and lock washers supplied in the EH3500 Series accessory kit (Pelco FKIT-EH3500), attach the brackets to the transmitter (refer to Figure 8). Note that the left- and right-mounting brackets are marked L and R, respectively, to indicate the side of the transmitter to which each bracket should be mounted.

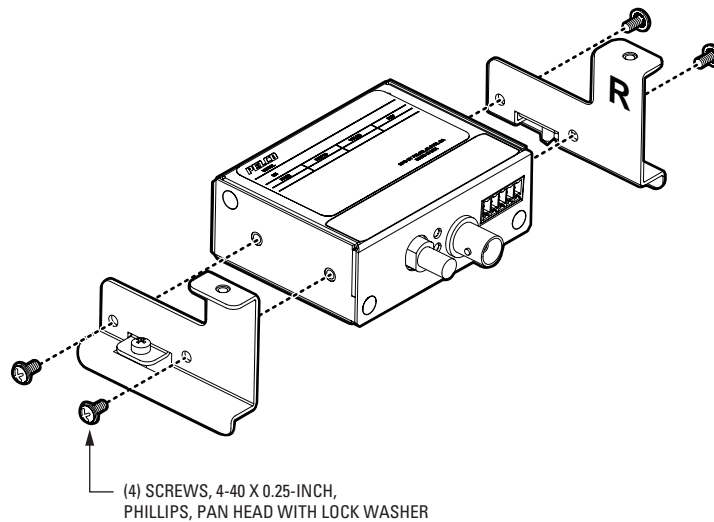


Figure 8. Attaching EH3500 Brackets (Pelco FKIT-EH3500) to FTV10M Transmitter

3. Disconnect power to the enclosure.
4. Unlatch and open the lid of the enclosure.
5. Disconnect power and video cables from the connectors on the camera.
If the enclosure is wired with conduit, skips steps 6-8 below and proceed to step 9. If the enclosure is wired without conduit, proceed to step 6.
6. Pull the power and video cables out of the two glands at the bottom rear of the enclosure.
7. Remove the two glands at the bottom rear of the enclosure.

8. Do the following (refer to Figure 9):
 - a. Using the replacement gland supplied in the EH3500 Series accessory kit (Pelco FKIT-EH3500), attach the gland to either of the cable entry holes on the enclosure. Note that the replacement gland is shorter than the two glands provided for the enclosure.
 - b. Using the rubber plug supplied in the EH3500 Series accessory kit (Pelco FKIT-EH3500), attach the plug to the remaining cable entry hole in the enclosure.

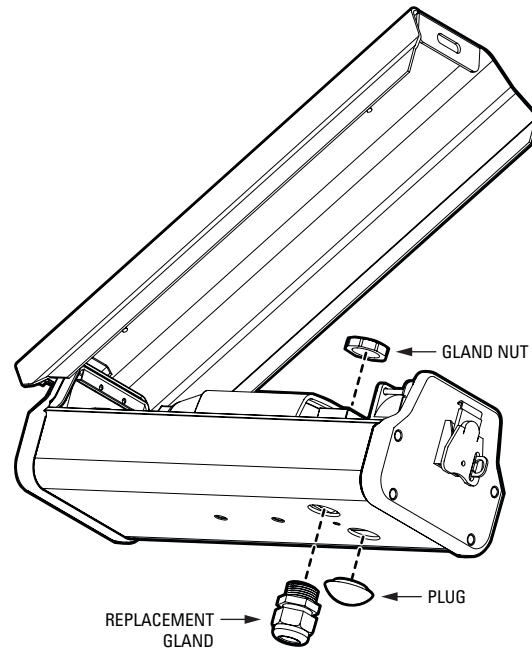
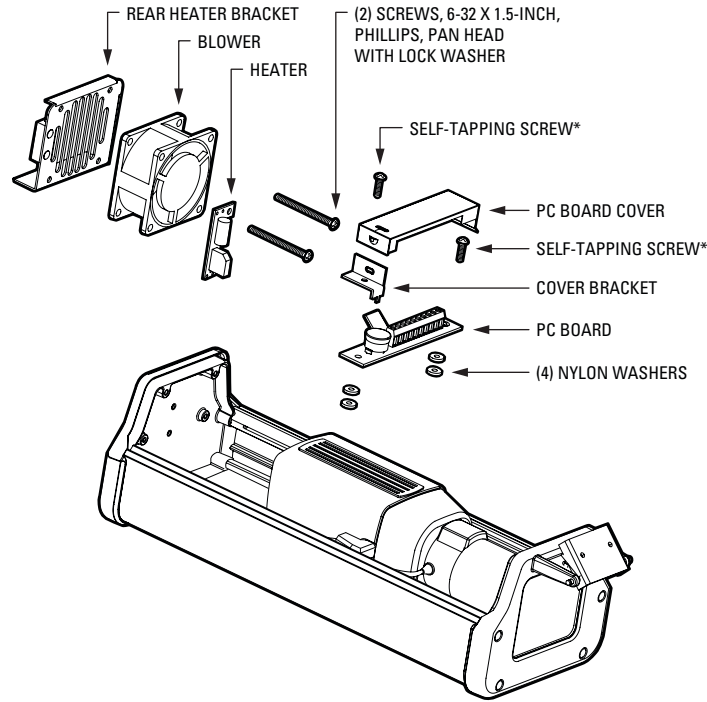


Figure 9. Attaching Replacement Gland and Plug to EH3512/EH3515 Enclosure

9. If the enclosure contains the following accessory items, remove them from the enclosure (refer to Figure 10):
 - a. Remove the heater, blower, and rear heater bracket by loosening the two 6-32 x 1.5-inch Phillips pan head screws and lock washers.
 - b. Remove the PC board cover, cover bracket, PC board, and the associated four nylon washers by loosening the two self-tapping screws. Note that you can discard the self-tapping screws.



* DISCARD SELF-TAPPING SCREWS.

Figure 10. Removing EH3512/EH3515 Enclosure Accessories

10. Mount the transmitter into the enclosure by doing the following (refer to Figure 11):
 - a. Position the transmitter at the rear of the enclosure with the connectors facing the camera.
 - b. Attach the transmitter to the enclosure by tightening the 6-32 captive screw on the left- and right-mounting EH3500 brackets.

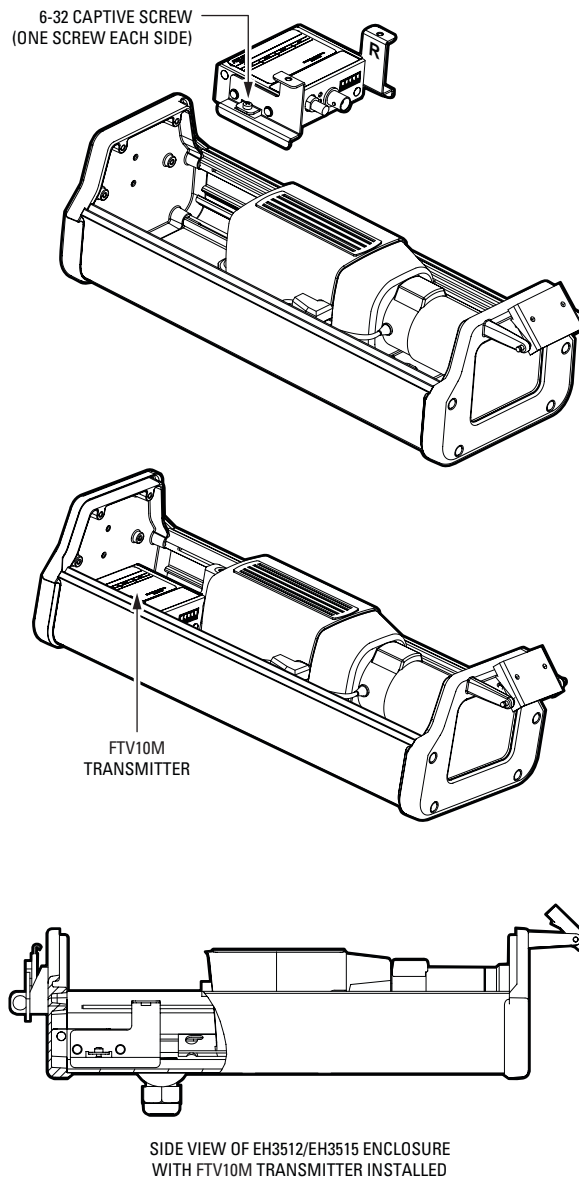


Figure 11. Mounting FTV10M Transmitter into EH3512/EH3515 Enclosure

11. Connect power, fiber optic, and video cabling to the transmitter by doing the following:
 - a. Insert the power cable through the gland or conduit on the bottom of the enclosure, and then connect the cable to the power connector on the transmitter.
 - b. Insert the fiber optic cable through the gland or conduit on the bottom of the enclosure, and then do the following:
 - i. Carefully loop the cable around the camera (refer to Figure 12).
 - ii. Connect the cable to the fiber optic connector on the transmitter.
 - c. Using the coaxial cable supplied with the transmitter, connect the cable to the BNC connector on the transmitter and on the camera.

NOTE: For additional information about connections to the transmitter, refer to the *Connections* section.

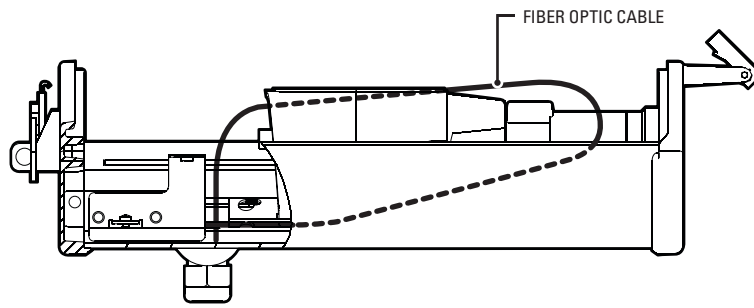


Figure 12. Routing Fiber Optic Cable in EH3512/EH3515 Enclosure

12. Reinstall the enclosure accessories as follows:
 - a. Reattach the rear heater bracket, blower, and heater to the enclosure using the two 6-32 x 1.5-inch Phillips pan head screws and lock washers (refer to Figure 13).

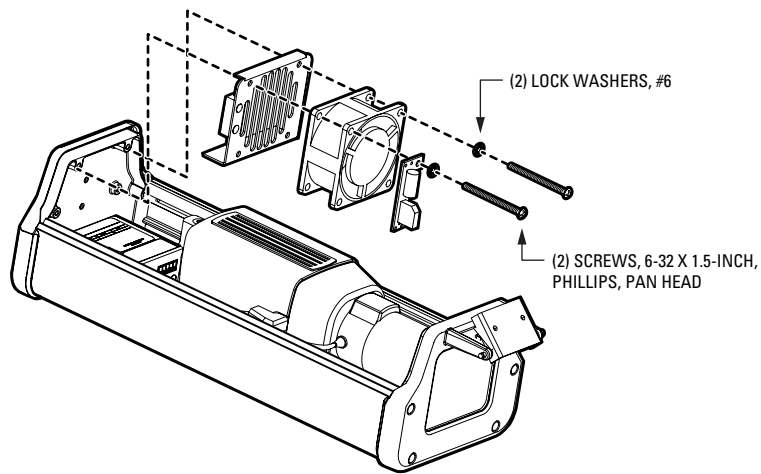


Figure 13. Reinstalling EH3512/EH3515 Heater Bracket, Blower, and Heater

- b. Attach the PC board and related accessories as follows (refer to Figure 14):
 - i. Attach the PC board and the cover bracket to the left EH3500 bracket using one 6-32 x 0.5-inch Phillips pan head screw and lock washer and two nylon washers.
 - ii. Attach the other side of the PC board to the right EH3500 bracket using one 6-32 x 0.5-inch Phillips pan head screw and lock washer and two nylon washers.
 - iii. Snap the PC board cover into place.

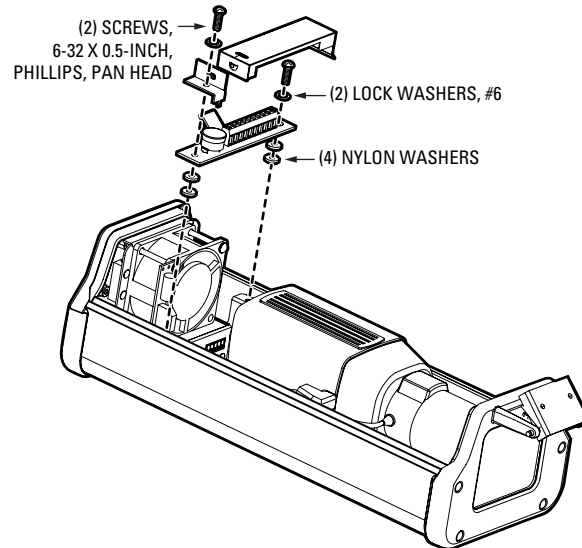


Figure 14. Reinstalling EH3512/EH3515 PC Board

13. Reconnect power to the camera.
14. Close the lid of the enclosure, and latch the lid.
15. Reconnect power to the enclosure.

MOUNTING THE TRANSMITTER INTO A DF5/DF8 DOME

The FTV10M transmitter can be mounted into DF5 and DF8 in-ceiling and pendant fixed mount domes. The following sections provide information about the following:

- Mounting the DF5/DF8 bracket to the transmitter
- Mounting the transmitter into a DF5/DF8 in-ceiling dome
- Mounting the transmitter into a DF5/DF8 pendant dome

Mounting the DF5/DF8 Bracket to the Transmitter

The DF5/DF8 accessory kit (Pelco FKIT-DF5DF8), which is supplied with the transmitter, contains the DF5/DF8 bracket and associated screws. The DF5/DF8 bracket must be mounted to the transmitter before the transmitter is mounted into a DF5/DF8 fixed mount dome.

To mount the DF5/DF8 bracket to the transmitter, do the following:

1. Using a small Phillips screwdriver, remove the left and right wall-mounting brackets that are attached to the transmitter by loosening the four 4-40 x 0.25-inch Phillips pan head screws (two screws each side).
2. Using the four 4-40 x 0.187-inch Phillips flat head screws and DF5/DF8 bracket supplied in the DF5/DF8 accessory kit (Pelco FKIT-DF5DF8), attach the bracket to the transmitter (refer to Figure 15).

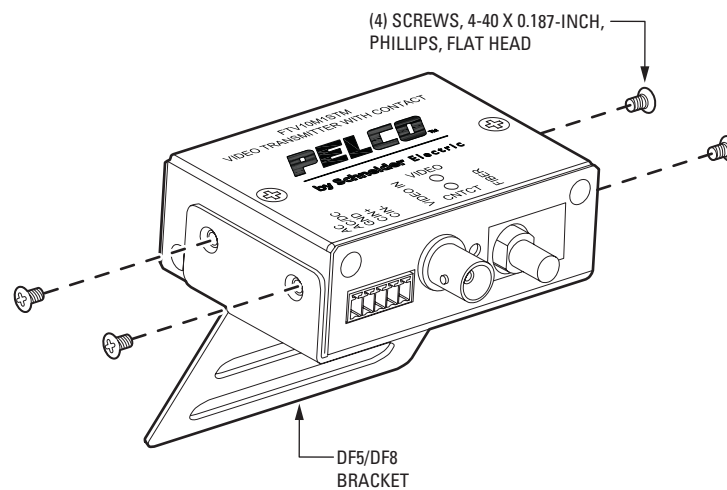


Figure 15. Attaching DF5/DF8 Bracket (Pelco FKIT-DF5DF8) to FTV10M Transmitter

Mounting the Transmitter into a DF5/DF8 In-Ceiling Dome

The following procedure provides instructions to mount the FTV10M transmitter into an existing DF5/DF8 in-ceiling dome installation.

To mount the transmitter into a DF5/DF8 in-ceiling dome, do the following:

1. Mount the DF5/DF8 bracket to the transmitter (refer to the *Mounting the DF5/DF8 Bracket to the Transmitter* section).
2. Disconnect power to the DF5/DF8 dome.
3. Feed fiber optic cable through the conduit fitting of the dome into the back box.

WARNING: When routing the fiber optic cable, be careful not to bend the fiber at a sharp angle. Doing so breaks the fiber.

4. Feed the power cable for the transmitter through the conduit fitting of the dome into the back box.
5. Remove the lower dome from the back box.
6. Disconnect the power wires and video cable from the connectors on the camera.
7. Using a 7/16-inch wrench, remove the tilt bracket and attached camera from the back box. To do so, loosen the nut on the stud of the tilt bracket, and, while holding the camera securely, remove the nut and associated flat washer and lock washer from the stud (refer to Figure 16).

NOTE: In Figure 16, the pan bracket is removed from the back box for illustration purposes only. You do not need to remove the pan bracket from the back box.

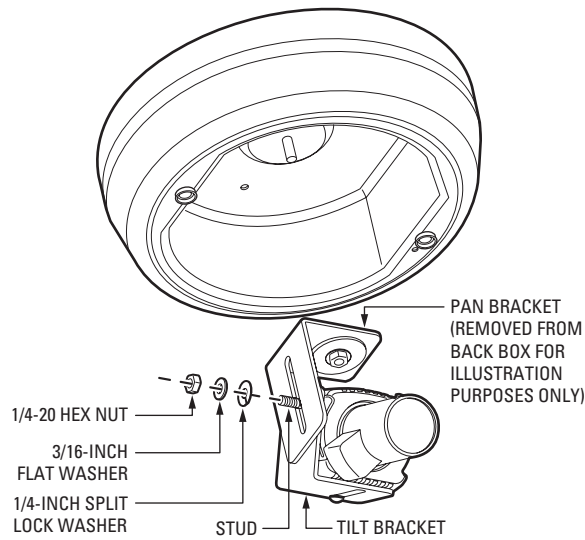


Figure 16. Removing Tilt Bracket from DF5/DF8 In-Ceiling Dome

8. Mount the transmitter into the back box as follows (refer to Figure 17):

NOTE: In Figure 17, the pan bracket is removed from the back box for illustration purposes only. You do not need to remove the pan bracket from the back box.

- a. Do either of the following:
 - i. If the dome is a DF5 dome, align the inner slot of the DF5/DF8 bracket with the slot in the pan bracket of the back box.
 - ii. If the dome is a DF8 dome, align the outer slot of the DF5/DF8 bracket with the slot in the pan bracket of the back box.
- b. Place the camera into the back box at the desired viewing angle.
- c. Insert the stud on the tilt bracket into the aligned slots of the pan bracket and the DF5/DF8 bracket.
- d. Reinstall the flat washer, lock washer, and nut on the stud of the tilt bracket but do not tighten the nut.
- e. Adjust the viewing angle of the camera as necessary.
- f. Tighten the nut on the stud of the tilt bracket using the 7/16-inch wrench.

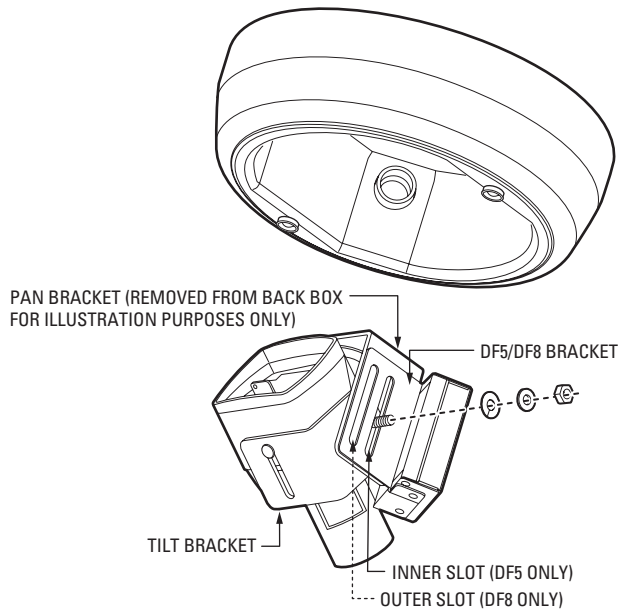


Figure 17. Mounting FTV10M Transmitter into DF5/DF8 In-Ceiling Dome

9. Connect the transmitter as follows:
 - a. Connect power to the transmitter.
 - b. Route the fiber optic cable around the inside of the back box toward the transmitter and connect the cable to the fiber optic connector on the transmitter.

⚠ WARNING: When routing the fiber optic cable, be careful not to bend the fiber at a sharp angle. Doing so breaks the fiber.

- c. Using the coaxial cable supplied with the transmitter, connect the cable to the BNC connector on the transmitter and on the camera.

NOTE: For additional information about connections to the transmitter, refer to the Connections section.

10. Reconnect power to the camera.
11. Reattach the lower dome to the back box.
12. Reconnect power to the DF5/DF8 dome.

Mounting the Transmitter into a DF5/DF8 Pendant Dome

The following procedure provides instructions to mount the FTV10M transmitter into an existing DF5/DF8 pendant dome installation.

To mount the transmitter into a DF5/DF8 pendant dome, do the following:

1. Mount the DF5/DF8 bracket to the transmitter (refer to the Mounting the DF5/DF8 Bracket to the Transmitter section).
2. Disconnect power to the DF5/DF8 dome.
3. Feed the fiber optic cable through the wiring entrance of the dome into the back box.

⚠ WARNING: When routing the fiber optic cable, be careful not to bend the fiber at a sharp angle. Doing so breaks the fiber.

4. Feed the power cable for the transmitter through the wiring entrance of the dome into the back box.
5. Remove the lower dome from the back box.
6. Disconnect the power wires and video cable from the connectors on the camera.
7. Using a 7/16-inch wrench, remove the tilt bracket and attached camera from the back box. To do so, loosen the nut on the stud of the tilt bracket and, while holding the camera securely, remove the nut and associated flat washer and lock washer from the stud (refer to Figure 18).

NOTE: In Figure 18, the pan bracket is removed from the back box for illustration purposes only. You do not need to remove the pan bracket from the back box.

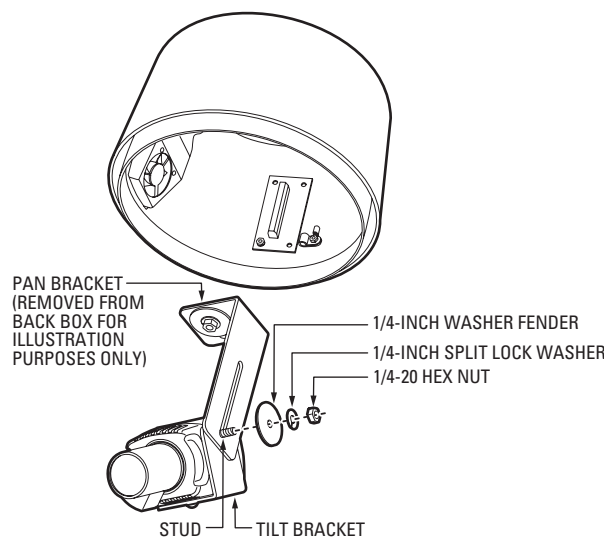


Figure 18. Removing Tilt Bracket from DF5/DF8 Pendant Dome

8. Mount the transmitter into the back box as follows (refer to Figure 19):

NOTE: In Figure 19, the pan bracket is removed from the back box for illustration purposes only. You do not need to remove the pan bracket from the back box.

- a. Do either of the following:
 - i. If the dome is a DF5 dome, align the inner slot of the DF5/DF8 bracket with the slot in the pan bracket of the back box.
 - ii. If the dome is a DF8 dome, align the outer slot of the DF5/DF8 bracket with the slot in the pan bracket of the back box.
- b. Place the camera into the back box at the desired viewing angle.
- c. Insert the stud on the tilt bracket into the aligned slots of the pan bracket and the DF5/DF8 bracket.
- d. Reinstall the flat washer, lock washer, and nut on the stud of the tilt bracket but do not tighten the nut.
- e. Adjust the viewing angle of the camera as necessary.
- f. Tighten the nut on the stud of the tilt bracket using the 7/16-inch wrench.

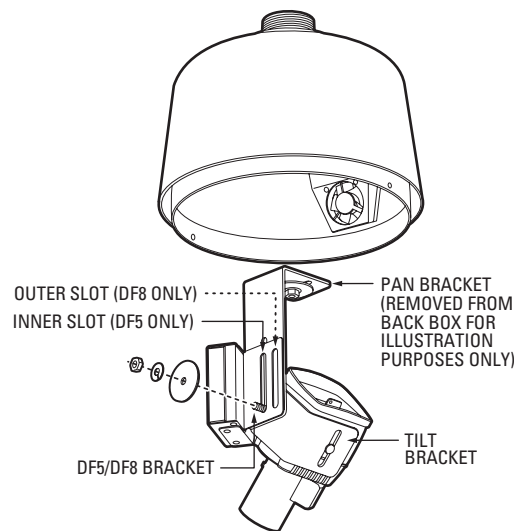


Figure 19. Mounting FTV10M Transmitter into DF5/DF8 Pendant Dome

9. Connect the transmitter as follows:

- a. Connect power to the transmitter.
- b. Route the fiber optic cable around the inside of the back box toward the transmitter and connect the cable to the fiber optic connector on the transmitter.

⚠ WARNING: When routing the fiber optic cable, be careful not to bend the fiber at a sharp angle. Doing so breaks the fiber.

- c. Using the coaxial cable supplied with the transmitter, connect the cable to the BNC connector on the transmitter and on the camera.

10. Reconnect power to the camera.
11. Reattach the lower dome to the back box.
12. Reconnect power to the DF5/DF8 dome.

Troubleshooting

LED indicators on the FTV10M transmitter (refer to Figure 2) allow you to monitor signal status and contact status. Table A provides information about the indicators and associated troubleshooting guidelines.

NOTE: For troubleshooting information indicated by the LEDs on the associated receiver, refer to the manual supplied with the receiver.

Table A. Troubleshooting with Front-Panel Indicators

Indicator Color	Meaning	Possible Cause	Corrective Action
Video Present LED			
Green	Incoming video signal is present on the channel.	–	No action required.
Red	Incoming video signal is not present on the channel.	Video source is not powered on.	Check power connection to the video source.
		Video source is not connected to the transmitter.	Check BNC connections.
		Coaxial cable connected to the transmitter is defective.	Replace cable.
Contact Closure LED			
Green	Contact input is closed.	–	No action required.
Red	Contact input is open.	–	No action required.

Specifications

VIDEO

Number of Channels	1
Modulation Type	Digital modulation, 10-bit resolution
Video Input	BNC, 1.0 Vp-p, 75 ohms; NTSC, PAL, and SECAM
Bandwidth	5 to 10 MHz
Gain	Unity
Differential Gain	<2%
Differential Phase	<0.7°
Tilt	<1%
Signal-to-Noise Ratio	>67 dB typical @ maximum optical loss

GENERAL

Operating Temperature	-40° to 167°F (-40° to 75°C)
Input Power Requirements	9–36 VDC or 12–24 VAC at 2W
LED Indicators	Video Present Contact Closure
Dimensions	2.25" D x 3.00" W x 1.08" H (5.72 x 7.62 x 2.74 cm)
Unit Weight	0.34 lb (0.15 kg)

MECHANICAL

Connectors	
Video	BNC
Power	2-pin connector plus Contact Closure, screw terminal
Fiber Optic	ST for multimode fiber ST or FC for single-mode fiber

Table B. Optical Power Budget, Transmission Distance, And Laser Class 1 Limit

FTV10M Miniature Transmitter	Compatible Receivers	Wavelength	Optical Power Budget	Maximum Transmission Distance	Laser Class 1 Limit*
Multimode (62.5/125 μm)					
FTV10M1STM	FRV20M2ST	1310 nm	12 dB†	4 km (2.5 mi)††	<0.78 mW
Single-Mode (9/125 μm)					
FTV10S1STM	FRV20S2ST	1310 nm	16 dB	54 km (33.6 mi)§	<15.6 mW
FTV10S1FCM	FRV20S2FC	1310 nm	16 dB	54 km (33.6 mi)§	<15.6 mW
<p>* The FTV10M transmitter and compatible receivers are classified by the FDA as Class 1 laser products.</p> <p>† When using 50/125 μm multimode fiber, subtract 3 dB from the optical power budget.</p> <p>†† Maximum transmission distance is limited by fiber bandwidth.</p> <p>§ Maximum transmission distance is based on attenuation of 0.5 dB/km plus a 5 dB buffer for connector and splice losses.</p> <p>NOTES:</p> <ul style="list-style-type: none"> • For conformal coated models, add suffix 'C' to the model number. The conformal coated version of FTV10M1STM, for example, is FTV10M1STM/C. • For models with higher optical power budgets, contact the factory. 					

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years:
 - Fiber optic products
 - Unshielded Twisted Pair (UTP) transmission products
 - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
 - FD Series and BU Series analog camera models
 - Fixed network cameras and network dome cameras with Sarix® technology
 - Sarix thermal imaging products (TI and ESTI Series)
 - Fixed analog camera models (C20 Series, CCC1390H Series, C10DN Series, and C10CH Series)
 - EH1500 Series enclosures
 - Spectra® IV products (including Spectra IV IP)
 - Spectra HD dome products
 - Camclosure® IS Series integrated camera systems
 - DX Series video recorders (except DX9000 Series which is covered for a period of one year), DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
 - Endura® Series distributed network-based video products
 - Genex® Series products (multiplexers, server, and keyboard)
 - PMCL200/300/400 Series LCD monitors
 - PMCL5xxF Series and PMCL5xxNB Series LCD monitors
- Two years:
 - Standard varifocal, fixed focal, and motorized zoom lenses
 - DF5/DF8 Series fixed dome products
 - Legacy® Series integrated positioning systems
 - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, ExSite IP, and PS20 scanners, including when used in continuous motion applications
 - Esprit Ti and TI2500 Series thermal imaging products
 - Esprit and WW5700 Series window wiper (excluding wiper blades)
 - CM6700/CM6800/CM9700 Series matrix
 - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.

- Six months:

- All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes)

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

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This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

PELCO

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