TW3004P
Passive Four-Channel
Video Transceiver

C1665M-A (1/06)

Description

The TW3004P is a four-channel passive video transceiver that can transmit multiple video signals over unshielded twisted pair (UTP) cable. The transceiver can be mounted into a fiber rack (RK5000PS-3U/RK5000-3U). Each transceiver has four rubber feet allowing you to place it on a flat surface, such as a desk or shelf.

The transceiver can be used at the camera and/or monitoring location. It allows for easy connectivity with any video source or destination device, such as cameras, monitors, and matrix switchers. This multi-channel transceiver will transmit video (color/black and white) and Coaxitron® (up the coax) PTZ control signals on the same pair of UTP wires.

Although the transceiver is passive and requires no power, the Pelco badge on the front of the unit illuminates when inserted into a fiber rack. The transceiver has built-in surge suppression.
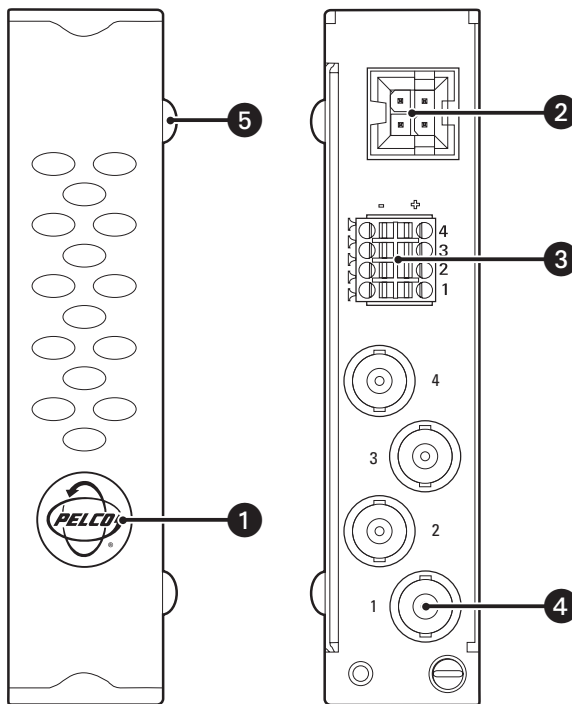
PARTS OF THE TRANSCEIVER

Figure 1. TW3004P Parts

❶	Pelco Badge	❹	BNC Connector (4)
❷	4-Pin Power Connector	❺	Rubber Feet (4)
❸	8-Pin Terminal Block Connector		

Installation

Make sure all parts are present for the unit.

1   Terminal Block (with tension clamps)
1   Wall Clip

MOUNTING

The TW3004P transceiver is three rack units high and can be mounted into a fiber rack or onto a wall using a fiber wall mount kit or the supplied wall clip.

USING A RACK

You can mount a TW3004P into either an RK5000PS-3U or an RK5000-3U. For additional information, refer to the RK5000PS-3U/RK5000-3U Fiber Rack Mount Chassis Installation manual.

USING WALL MOUNT KITS

The optional WM5001-3U wall mount base kit allows attachment of a single TW3004P to a wall. Up to two WM5001-3UEXP wall mount expansion kits can be used to allow attachment of two additional transceivers to the wall. For additional information, refer to the Fiber Wall Mount Kits Installation manual.

USING A WALL CLIP

To attach the TW3004P transceiver to a wall using the supplied wall clip, refer to Figure 2 and do the following:

1. Attach the wall clip to a wall using two screws (not supplied).

2. Slide the transceiver into the clip until the two holes on the bottom of the transceiver align with the two holes on the lower flange of the clip.

3. Attach the transceiver to the clip using the two Phillips pan head screws provided with the clip.
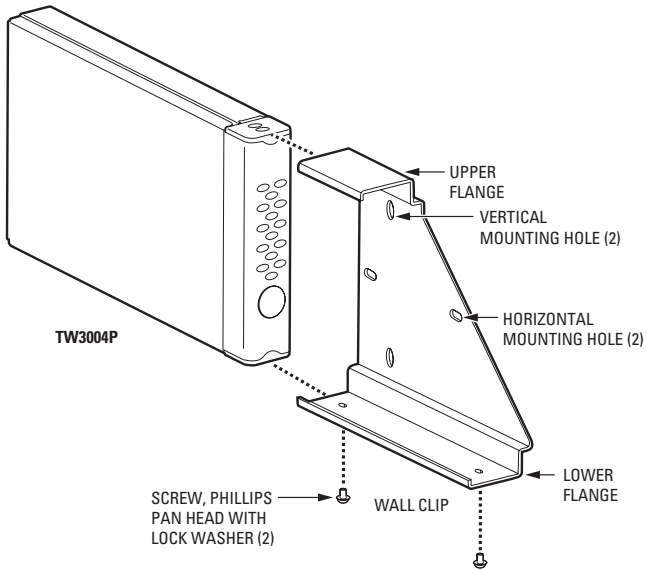
Figure 2. Mounting the TW3004P Using the Wall Clip

APPLICATIONS

Figures 4-7 show how to use the transceivers in various applications. The terminal block on the back of the TW3004P has tension clamps instead of screw terminals.

To connect the UTP wires to the terminal block:

1. Use a small screwdriver to open the clamps (+ and -) for each channel.

2. Insert each wire into the appropriate holes. Figure 3 shows the UTP wires for channel 1.
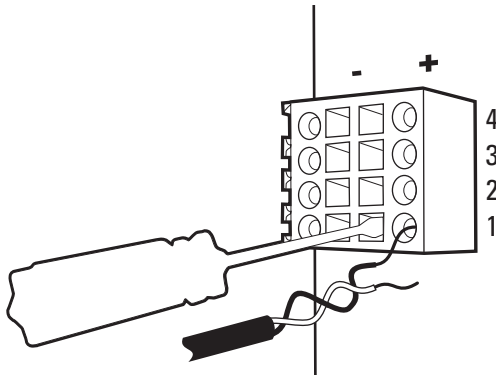

Figure 3. Terminal Block UTP Connections

Table A shows the distance in feet with coaxitron or video only when using a particular type of Cat cable. Table B shows the maximum allowable wire gauge for single wire and stranded wire.

Table A. Cable Distance

Cable Type	Distance (with Coaxitron)	Distance (video only)
Cat3	300 ft	400 ft
Cat5	500 ft	650 ft
Cat5e	750 ft	750 ft
Cat6	750 ft	750 ft

NOTE: Cat5e cable is recommended for optimum video performance.

Table B. Wire Gauge

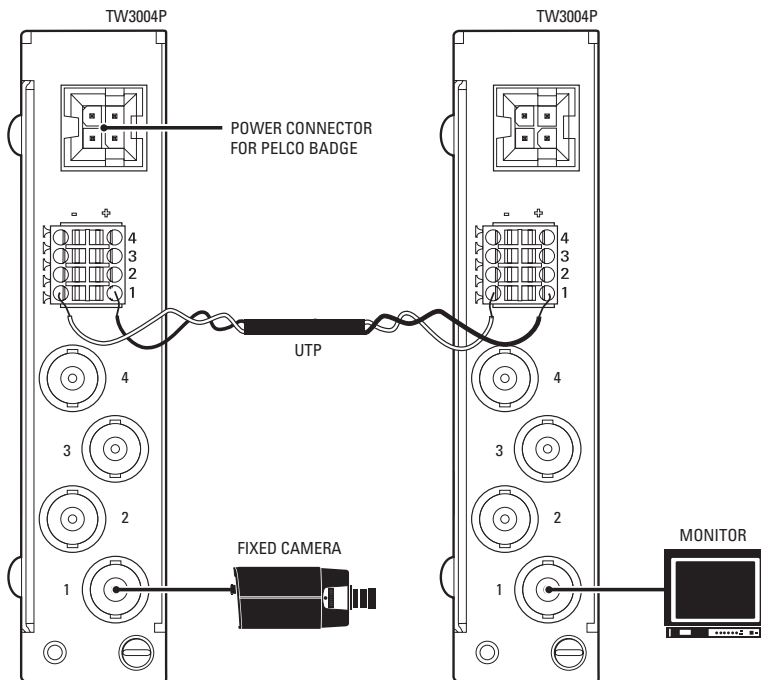| Wire Gauge (maximum allowable)	
Single Wire (solid)	24 AWG (1.5 mm^2)
Stranded Wire (flexible)	24 AWG (1.0 mm^2)

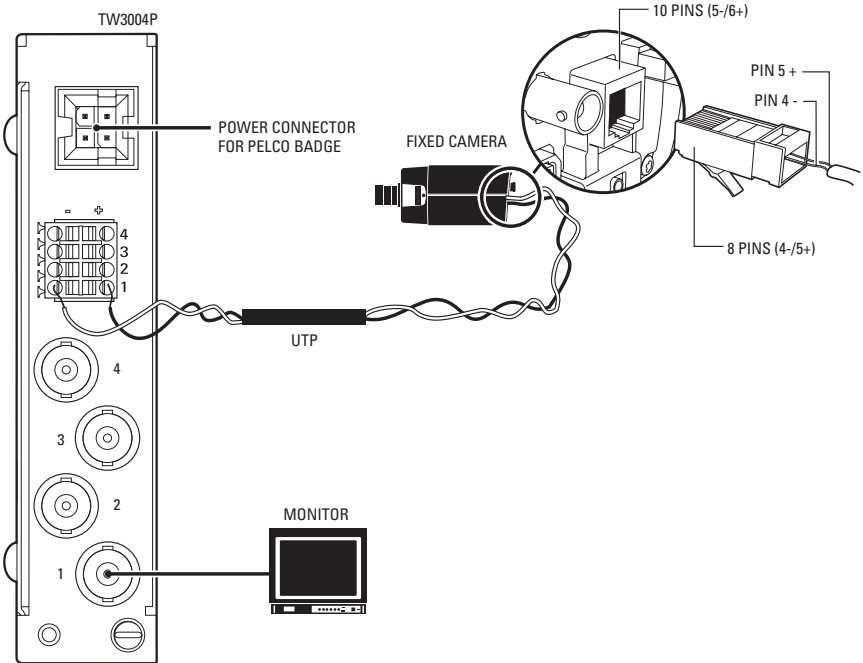**Figure 4.** Connecting Two Transceivers

Figure 5. Connecting a UTP Camera to a UTP Receiver

NOTE: UTP cameras have a 10-pin RJ-45 connector. Standard RJ-45 connectors have 8 pins. Refer to Figure 5 for correct pin outs.
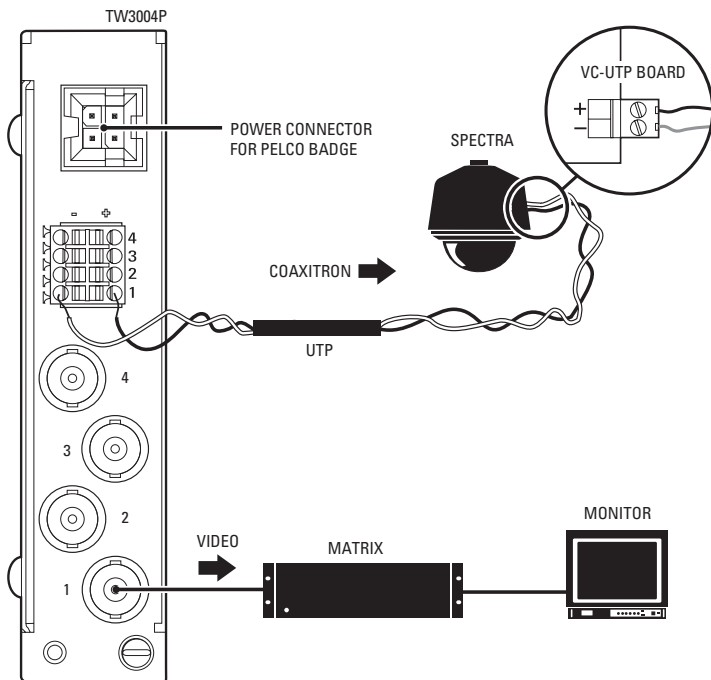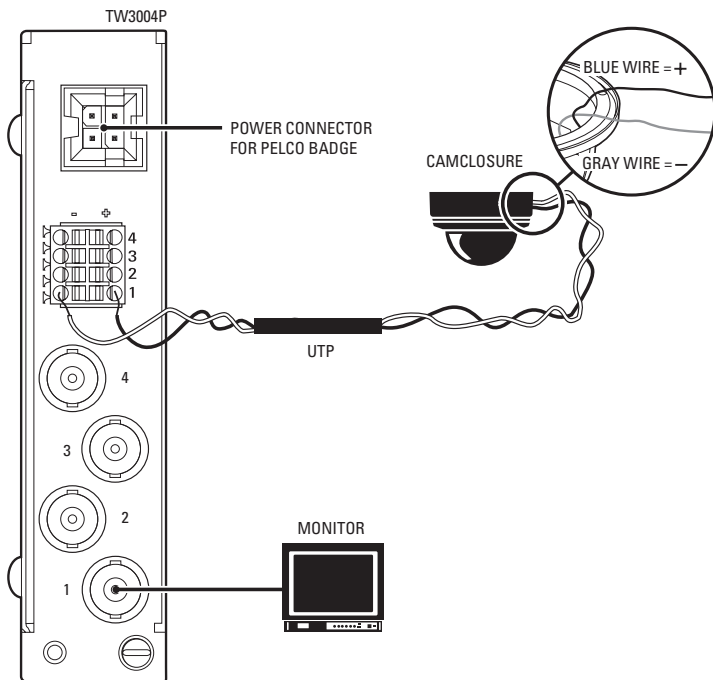
Figure 6. Coaxitron PTZ Control

Figure 7. UTP Camclosure to UTP Receiver

Specifications

ELECTRICAL

Power Source	12 VDC (for Pelco badge only)
Wire Type	Unshielded twisted pair (24 AWG maximum)
Wire Category	Cat3 or better
Wire Impedance	100 ohms +/- 20%
Wire Distance	750 feet maximum
DC Loop Resistance	52 ohms per 1,000 feet
Differential Capacitance	19pF/ft max
Transient Immunity	300 W peak pulse power (8/20 US)
Insertion Loss	72 dB over; 0-8 MHz frequency range

VIDEO CHARACTERISTICS

Video Input/Output	One BNC; internally terminated in 75 ohms
Format	NTSC, PAL, SECAM
Frequency Response	DC to 10 MHz
Common Mode/Differential Mode Rejection	>60 dB typical

MECHANICAL

Connectors	
BNC	Video input/output
8-Pin Terminal Block	UTP input/output
4-Pin Connector	Rack power for Pelco badge
Construction	Steel
Finish	Silver

GENERAL

Operating Temperature	-40° to 185°F (-40° to 85°C)
Relative Humidity	0 to 90%, noncondensing
Data Transmission	Supports Coaxitron up to 750 feet
Dimensions	4.81" H x 1.08" W x 8.75" D (12.22 x 2.74 x 22.23 cm)
Unit Weight	1.46 lb (0.66 kg)

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.

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 on FR/FT/FS Series fiber optic products and TW3000 Series unshielded twisted pair transmission products.

- Three years on Genex® Series products (multiplexers, server, and keyboard).

- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.

- Three years on PMCL200/300/400 Series LCD monitors.

- Two years on standard motorized or fixed focal length lenses.

- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.

- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.

- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).

- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.

- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.

- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.

- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, 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 Pelco, Clovis, California. 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 which 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

In order to expedite parts returned to the factory for repair or credit, please call the factory 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).

All merchandise returned for credit may be subject to a 20% 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. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

> Service Department
> Pelco
> 3500 Pelco Way
> Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

> Pelco
> 3500 Pelco Way
> Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

> Pelco c/o Expeditors
> 473 Eccles Avenue
> South San Francisco, CA 94080 USA
> Phone: 650-737-1700
> Fax: 650-737-0933

REVISION HISTORY

Manual #	Date	Comments
C1665M	12/05	Original version.
C1665M-A	1/06	Revised Table A.

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