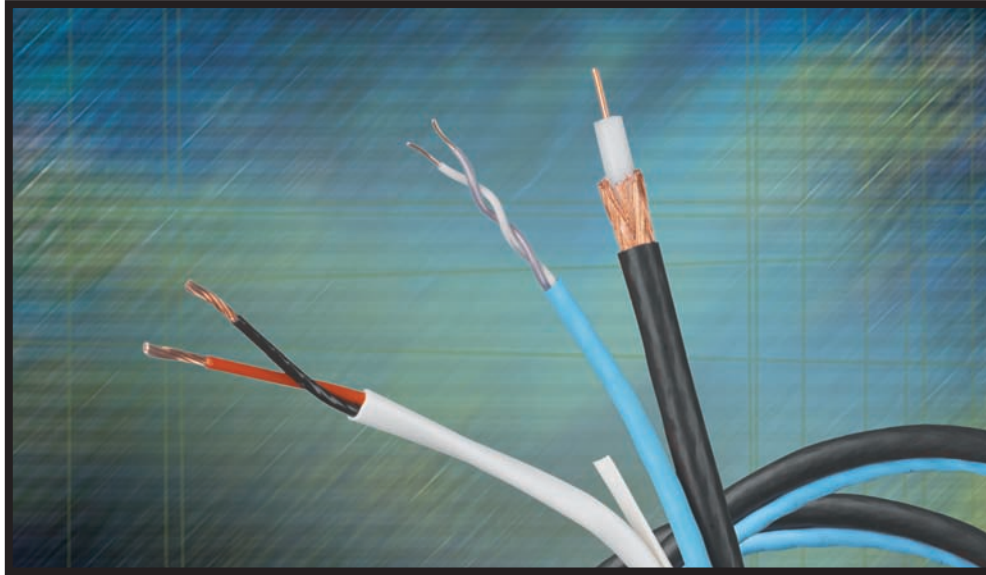


NP 256

Composite Surveillance Monitoring Cables

To suit your CCTV/Surveillance installation needs, Belden® offers Banana Peel® Composite cables for pan/tilt/zoom (PTZ) cameras. Video is achieved with coax, optical fiber or UTP cables; power and control cables complete the composite.



Belden Extends Its CCTV Camera Cable Line With More New Generation® Banana Peel PTZ Composite Cables, and Fiber Plus Copper Composites

Wherever you look today – our offices and public spaces such as hospitals, airports, amusement parks, retail establishments, universities, casinos, sports stadiums and correctional facilities all have a surveillance system in place to monitor the people visiting their facilities and the people working within them.

But whatever the type of equipment used, the objective of these systems is clear: protect the people involved with the facility and the facility's assets.

Surveillance System Camera Technology

Although traditional analog cameras are frequently used in security systems, the use of Digital Signal Processed (DSP) cameras is trending upwards – in part because they produce high quality images and they are better able to handle diverse or extreme lighting conditions. Also, camera users typically have more control setting options, plus DVRs (digital video recorders) enable users to quickly sort through their recorded images, while requiring less storage space than videotapes. Both DSP cameras and DVRs could be handled with existing coax technology.

From an applications standpoint, there are two types of security cameras available: Fixed and PTZ (pan/tilt/zoom). If you consider a CCTV set-up in a casino, the fixed cameras would be appropriate for high-risk, fixed areas – entrances and exits, cash registers, etc.

The PTZ cameras would be more appropriate for the gaming tables since the cameras must be made to move or zoom in on a particular exchange at the table or a particular customer.

New Generation Banana Peel Composite Cables For PTZ Installations

For both riser and plenum PTZ applications, Belden offers composite cables that feature its revolutionary new Banana Peel design. Banana Peel PTZ cables offer the following:

- No overall jacket – Banana Peel cables feature a patent-pending design that affixes the individual cables to a center spline, eliminating the need for an overall jacket.
- The absence of the overall jacket eliminates a whole step in the termination process: the stripping of the jacket.
- Reduces installation time by requiring less set-up, pulling and termination time with the Banana Peel versus individual cables.
- Short circuits, caused by contact with the center conductor while stripping off the outer jacket can be prevented.
- The individual cables are color-coded for easy identification.
- Eliminates the need for pulling several individual components by using an all-in-one Banana Peel cable (reducing installation costs and time).

New Generation® PTZ Banana Peel® composite cables are comprised of the following components in order to accommodate control encoding schemes or protocols such as Manchester, Sensornet and RS-422:

- Video: Coax, Optical Fiber, or UTP
- Power: 2/C Copper
- Control: STP, TP/OAS, or UTP

Availability

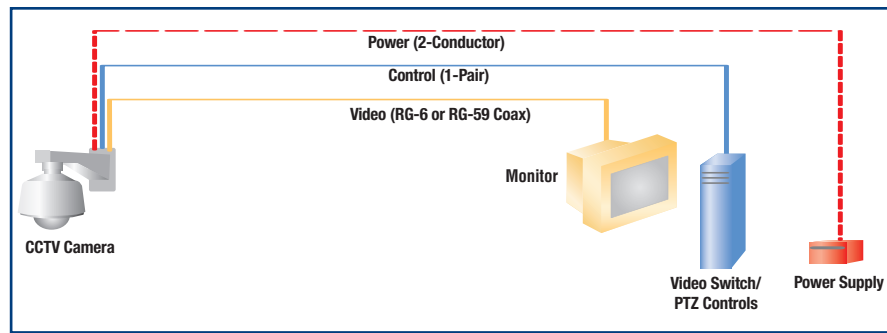
Belden offers a wide range of New Generation cables for pan/tilt/zoom camera applications that meet all your installation needs – whether large or small in scope – in both Plenum-rated and Non-plenum versions. An exceptional line of single coaxes, coaxial/twisted pair composites and unshielded multi-conductor constructions are also available for fixed camera applications.

PTZ Camera Manufacturers Cross-Reference*

Manufacturer	Belden Part No.	Video	Power	Control
Sony, Toshiba, GE Interlogix	500PTZ and 600PTZ	RG-59	2c 18 AWG	1 UTP, 23 AWG
Pelco, American Dynamics	501PTZ and 601PTZ	RG-59	2c 18 AWG	1 STP, 22 AWG (8761-type)
Bosch, American Dynamics	502PTZ and 602PTZ	RG-59	2c 18 AWG	1 STP, 18 AWG (8760-type)
Various	503PTZ	RG-59	2c 14 AWG	2 TP, 22 OAS (5541FE-type)
Various	504PTZ	RG-59	2c 14 AWG	1 STP, 18 AWG (8760-type)

*Always use cables recommended by the camera manufacturer. Check their specs to determine recommended power AWG size and control configuration.

PTZ Banana Peel Layout



PTZ Camera Cable

Banana Peel Composite Cables, Plenum and Riser-rated
The Cable Without a Jacket®



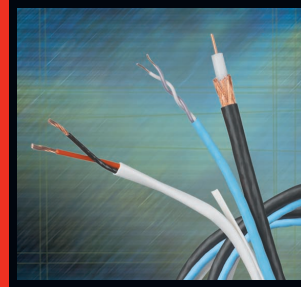
Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Overall Nom. OD		Component Descriptions	Component Jacket Material & Colors	Component Nom. OD	
			Ft.	m	Lbs.	kg	Inch	mm			Inch	mm

Composite • (1) RG-59/U Coax + (1) STP 18 AWG + 2/c 14 AWG (NEC CMR and CEC CMG FT4)

Individual Riser-Rated PVC Jackets • No Overall Jacket													
		503PTZ new	CMR/CMG Vertical Shaft UL 1666	1000	304.8	104.0	47.3	.496	12.6	Video: (1) RG-59 543945 Type	PVC Black	.227	5.77
										Control: (1) STP 18 AWG 8760 Type	PVC Blue	.219	5.56
										Power: 2/c 14 AWG 5100UE Type	PVC White	.244	6.20

Composite • (1) RG-59/U Coax + (2) TP 22 AWG OAS + 2/c 14 AWG (NEC, CMR and CEC CMG FT4)

Individual Riser-Rated PVC Jackets • No Overall Jacket													
		504PTZ new	CMR/CMG Vertical Shaft UL 1666	1000	304.8	93.0	42.3	.496	12.6	Video: (1) RG-59 543945 Type	PVC Black	.227	5.77
										Control: (2) TP 22 AWG OAS 5541FE Type	PVC Blue	.219	5.56
										Power: 2/c 14 AWG 5100UE Type	PVC White	.244	6.20



PTZ Camera Cable

Banana Peel® Composite Cables, Plenum and Riser-rated
The Cable Without a Jacket®



Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Overall Nom. OD		Component Descriptions	Component Jacket Material & Colors	Component Nom. OD	
			Ft.	m	Lbs.	kg	Inch	mm			Inch	mm

Composite • (1) RG-59/U Coax + (1) STP 18 AWG + 2/c 18 AWG (NEC CMR and CMG FT4)

Individual Riser-Rated PVC Jackets • No Overall Jacket												
	502PTZ	CMR/CMG Vertical Shaft UL 1666	500	152.4	45.0	20.5	.451	11.5	Video: (1) RG-59 543945 Type	PVC Black	.227	5.77
			1000	304.8	89.0	40.5	.496	12.6	Control: (1) STP 18 AWG 8760 Type	PVC Blue	.219	5.56
									Power: 2/c 18 AWG 5300UE Type	PVC White	.244	6.20

Composite • (1) RG-59/U Coax + (1) STP 18 AWG OAS + 2/c 18 AWG (NEC CMP and CEC CMP FT6)

Individual Plenum-Rated Flamarrest® Jackets • No Overall Jacket												
	602PTZ	CMP NFPA 262 Plenum	500	152.4	36.0	16.4	.451	11.5	Video: (1) RG-59 643948 Type	Flamarrest Black	.193	4.90
			1000	304.8	70.0	31.8	.496	12.6	Control: (1) STP 18 AWG 82760 Type	Flamarrest Blue	.150	3.81
									Power: 2/c 18 AWG 6300UE Type	Flamarrest White	.158	4.01

Composite • (1) RG-59/U Coax + (1) 23 AWG 100Ω UTP + 2/c 18 AWG (NEC CMR and CEC CMG FT4)

Individual Riser-Rated PVC Jackets • No Overall Jacket												
	500PTZ	CMR/CMG Vertical Shaft UL 1666	500	152.4	33.5	15.2	.451	11.5	Video: (1) RG-59 543945 Type	PVC Black	.227	5.77
			1000	304.8	66.0	30.0	.496	12.6	Control: (1) 23 AWG 100Ω UTP	PVC Blue	.118	3.00
									Power: 2/c 18 AWG 5300UE Type	PVC White	.171	4.34

Composite • (1) RG-59/U Coax + (1) 23 AWG 100Ω UTP + 2/c 18 AWG (NEC CMP and CEC CMP FT6)

Individual Riser-Rated PVC Jackets • No Overall Jacket												
	600PTZ	CMP NFPA 262 Plenum	500	152.4	32.0	14.5	.351	8.9	Video: (1) RG-59 643948 Type	Flamarrest Black	.193	4.90
			1000	304.8	62.0	28.2			Control: (1) 23 AWG 100Ω UTP	Flamarrest Blue	.116	2.95
									Power: 2/c 18 AWG 6300UE Type	Flamarrest White	.158	4.01

Composite • (1) RG-59/U Coax + (1) STP 22 AWG + 2/c 18 AWG (NEC CMR and CEC CMG FT4)


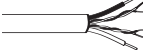

Individual Riser-Rated PVC Jackets • No Overall Jacket												
	501PTZ	CMR/CMG Vertical Shaft UL 1666	500	152.4	36.0	16.4	.351	8.9	Video: (1) RG-59 543945 Type	PVC Black	.227	5.77
			1000	304.8	71.0	32.3			Control: (1) STP 22 AWG 8761 Type	PVC Blue	.177	4.50
									Power: 2/c 18 AWG 5300UE Type	PVC White	.171	4.341

Composite • (1) RG-59/U Coax + (1) STP 22 AWG + 2/c 18 AWG (NEC CMP and CEC CMP FT6)

Individual Plenum-Rated Flamarrest® Jackets • No Overall Jacket												
	601PTZ	CMP NFPA 262 Plenum	500	152.4	33.5	15.2	.351	8.9	Video: (1) RG-59 643948 Type	Flamarrest Black	.193	4.90
			1000	304.8	65.0	29.5			Control: (1) STP 22 AWG 82761 Type	Flamarrest Blue	.116	2.95
									Power: 2/c 18 AWG 6300UE Type	Flamarrest White	.158	4.01

CCTV PTZ Camera Cable


Siamese and Round UTP Composite Cables, Riser- and Plenum-rated

Type	Component Description	Insulation Material	Riser				Plenum			
			Part No.	Rating	Nominal OD		Part No.	Rating	Nominal OD	
					Inch	mm			Inch	mm
Siamese Cat 5e Tested 	2-Pair UTP 24 AWG	Riser: Polyolefin Plenum: FEP Teflon®	5284US	CMR	.208 x .426	5.28 x 10.82	6284US	CMP	.173 x .358	4.39 x 9.09
	(2) Cond. 16 AWG	Riser: PVC Plenum: LSPVC*								
Round Cat 5e Tested 	2-Pair UTP 23 AWG	Riser: Polyolefin Plenum: FEP Teflon	5284UE	CMR	.233	5.92	6284UE	CMP	.220	5.59
	(2) Cond. 16 AWG	Riser: Polyolefin Plenum: FEP Teflon								
Siamese Cat 5e Tested 	4-Pair UTP 23 AWG	Riser: --- Plenum: FEP Teflon	5288US†	CMR	---	---	6288US	CMP	.219 x .452	5.56 x 11.48
	(2) Cond. 16 AWG	Riser: --- Plenum: LSPVC*								

* Low-smoke PVC

† Special construction available upon request.

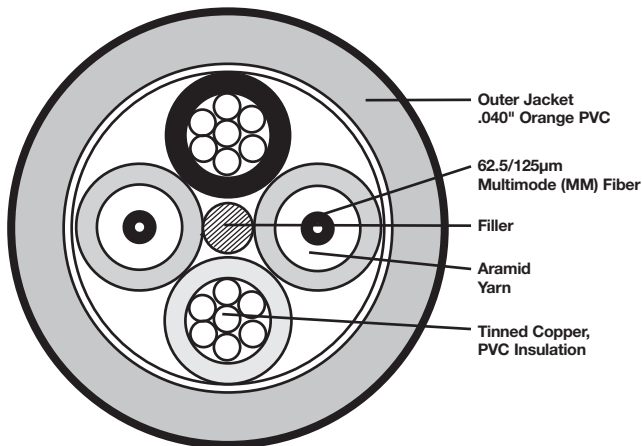
Coax and Power; Siamese Cables for Cameras, Plenum-rated and Non-plenum



Series Type	AWG Size	Stranding	Non-Plenum			Plenum		
			Part No.	Rating	Shield/Braid Coverage	Part No.	Rating	Shield/Braid Coverage
Mini RG-59 (1) Twisted Pair*	25 20	Solid	579945	CM	95% Bare Copper + Unshielded	679948	CMP	95% Bare Copper + Unshielded
RG-59 (1) Twisted Pair* 	20 18	Solid	549945	CM	95% Bare Copper + Unshielded	649948	CMP	95% Bare Copper + Unshielded
RG-6 (1) Twisted Pair*	18 18	Solid	539945	CM	95% Bare Copper + Unshielded	639948	CMP	95% Bare Copper + Unshielded

*Twisted pair for power or control.

(2) Multimode Fiber + (2) Copper Power Conductors Composite Cable

CMR Rated (UL Type CMR-OF)



Code	Optical Fibers (Orange/Blue)	Power Conductors (Black/White)	Overall Diameter
 M98382 UL OFNR c(UL) OFN FT4	62.5/125µm MM (Grade 2); 900µm Tight Buffer	18 AWG 19 strand TC; PVC Insulation	.290"
 M98383 UL OFNR c(UL) OFN FT4	62.5/125µm MM (Grade 2); 900µm Tight Buffer	14 AWG 41 strand TC; PVC Insulation	.290" x .360"

See 2006 Belden Master Catalog page 10.2 for Optical Specifications, Grade 2 Fiber. Other Optical Fiber types and constructions available.