



Wire Recommendations

The following are the recommended wire types for installing PTI manufactured products as well as many of the other access control and security products that we sell to compliment our system. Always refer to local code prior to ordering the wire for your site, as these requirements may be more stringent. We strongly recommend that you purchase the wire for your system from PTI as we have determined the most ideal wire over years of experience and testing. Using the incorrect wire for an application can cause many problems with voltage drop, RF Interference, and ground faults; resulting in lost revenue and greatly increased costs for service, reinstallation, repair, and technical support. Planning and installing the wiring of a site is a process that requires a high degree of technical knowledge; PTI recommends that this be done by a trained professional. If you have questions, please contact our Technical Support Department by telephone at (480) 941-1513 or email at support@ptiaccess.com. If you would like to purchase any of the wire recommended below, please contact our Sales Department representatives by telephone at (800) 331-6224 or by email at sales@ptiaccess.com.

PTI Remote Power & Data Cable (from office to Keypads, CodeXpress', APEX', Multiplexers, and Relay Boards)

PTI Part #	Belden Wire Code	Ohms Per Foot Resistance	Description
WWIR-18-04-S *	9418	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-18-04-SPL	89418	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (Plenum insulation).
WWIR-18-04-S-DB	9552	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (Direct Burial).
WWIR-16-04-S	5202FE	4.35	16 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).

Do not use wire smaller than 18 awg for installing power and data to PTI remotes. * Denotes standard recommended wire.

Door Alarm (from Multiplexer to door switch)

PTI Part #	Belden Wire Code	Ohms Per Foot Resistance	Description
WWIR-24-50 *	9585	25.67	24 awg, 50 conductor solid copper wire (PVC insulation).
WWIR-24-50-DB	165185110	25.67	24 awg, 50 conductor solid copper wire with Aluminum Mylar overall Shield (Direct Burial).
WWIR-24-50PL	N/A	25.67	24 awg, 50 conductor solid copper wire (Plenum insulation).
WWIR-24-24	9566	25.67	24 awg, 24 conductor solid copper wire (PVC insulation).
WWIR-24-24PL	N/A	25.67	24 awg, 24 conductor solid copper wire (Plenum insulation).

Do not use wire smaller than 24 awg for installing door switches. * Denotes standard recommended wire. Applications that require shielded Trunk Line, use direct burial.

We strongly recommend that installation and setup of any PTI equipment be done by a certified, licensed, qualified, and competent person. PTI Integrated Systems can recommend local dealers and installers, but it is up to the customer to verify their qualifications and negotiate any pricing or contracts unless PTI has been specifically contracted in writing to do so for the customer. These guidelines are subject to change without notice. With any setup or configuration, some troubleshooting and adjustment of the configuration may be required. This will differ with every installation depending on many outside and site-specific variables. This troubleshooting and configuration may include purchasing additional equipment. In no circumstances will PTI Integrated Systems be responsible for any damages either incidental or consequential based on these recommendations. All installation of electronics and electrical systems must be in compliance with local, municipal, state, and National Electrical Code. Refer to manufacturer specifications for non-PTI manufactured equipment.

- Warning – Incorrect installation of electrical components can result in damage to electronics as well as personal injury.
- Warning – Cross-wiring the positive and negative on the DC part of the system will damage the electronics.
- Warning – Using incorrect or non-recommended wire can cause many costly, frustrating, and time consuming problems.



Wire Recommendations (Page 2)

Cameras / Video (from switcher/multiplexer in office to camera)

PTI Part #	Belden Wire Code	Ohms Per Foot Resistance	Description
WWIR-Siamese *	549945	10.15 / 6.92	RG59U / 18 awg power in same cable
WWIR-Siamese-PL	649948	10.15 / 6.92	RG59U / 18 awg power in same cable (Plenum)
WWIR-RG59U	8241	10.15	Coaxial Cable with 22 awg core and braided copper common ground.
WWIR-RG59U-DB	8212	10.15	Coaxial Cable with 22 awg core and braided copper common ground. (Direct Burial)
WWIR-RG59UPL	89259	10.15	Coaxial Cable with 22 awg core and braided copper common ground. (Plenum)
WWIR-18-02-S **	8760	6.92	18 awg, 2 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-22-10-S ***	9946	17.5	22 awg, 10 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-24-50 ***	9585	25.67	24 awg, 50 conductor stranded copper wire (PVC insulation).

Siamese wire combines RG59U and two 18 awg conductors in one cable for convenience and cost savings.

* Denotes standard recommended wire.

** 18-02-S can be used for power for many cameras.

*** 22-10-S Cat 3 or 24-50 Cat 3 can be used for interior camera video signal using CCTV Baluns up to 1200 feet. Contact a PTI Sales Rep for information.

Intercom (from LEF or NEM Base Station in office to intercoms in Keypads, CodeXpress®, and APEX® or to other Aiphone Intercom Stations)

PTI Part #	Belden Wire Code	Ohms Per Foot Resistance	Description
WWIR-18-10-S *	5345FE	6.92	18 awg, 10 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-18-04-S *	9418	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-18-03-S	8770	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-18-02-S	8760	6.92	18 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-22-10-S	9946	17.5	22 awg, 10 conductor stranded copper wire with overall shield and common ground (PVC insulation).
WWIR-22-10-PL	6508FE	17.5	22 awg, 10 conductor stranded copper wire with overall shield and common ground (Plenum insulation).
WWIR-22-04-S	8729	17.5	22 awg, 4 conductor stranded copper wire with overall shield and common ground (PVC insulation).

Do not use wire smaller than 22 awg for installing LEF or NEM intercoms. We recommend that 18 awg be used in most installations for best results. Do not exceed 1600 feet in distance when using 18 awg. Do not exceed 600 total feet in distance using 22 awg. * Denotes standard recommended wire.

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