

PTI WIRING SPECIFICATIONS

WIRE & CABLE NEEDED

The following are the recommended wire types for installing PTI Security Systems manufactured products as well as many of the other ancillary products we sell. Wiring requires a high degree of technical knowledge, therefore, we recommend it be done by a trained professional.

AI Device Power & Data Wire Recommendation

(From Controller to AI Devices) * Denotes standard recommended wire

PTI Part #	Belden Wire Code	Ω per 1000' Resistance	Description
wwir1804s *	9418	6.92	18 AWG, 4-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir1804spl	89418	6.92	18 AWG, 4-conductor stranded copper wire with overall shield and common ground (Plenum Insulation)
wwir1804sdb	9552	6.92	18 AWG, 4-conductor stranded copper wire with overall shield and common ground (Direct Burial)

- Never use wire smaller than 18 AWG for installing power to AI devices
- Never use any unshielded wire for installing power and data to AI devices
- Data wire length should never exceed **4000'** in a single linear distance
- Maximum length for power will vary significantly because of voltage drop due to current draw, number of devices, splices, and other factors

Door Alarm Wire Recommendation

(From Multiplexer to Door Switch) * Denotes standard recommended wire

PTI Part #	Belden Wire Code	Ω per 1000' Resistance	Description
wwir2450 *	9585	25.67	24 AWG, 50-conductor solid copper wire (PVC Insulation)
wwir2450pl	N/A	25.67	24 AWG, 50-conductor solid copper wire (Plenum Insulation)
wwir2450db	165185110	25.67	24 AWG, 50-conductor solid copper wire (Direct Burial)

- Never use wire smaller than 24 AWG for installing door switches
- Never use stranded wire for installing door switches
- Applications that require shielded truck line, use direct burial cable

Intercom Wire Recommendation

(From LEF or NEM Base Station to intercoms) * Denotes standard recommended wire

PTI Part #	Belden Wire Code	Ω per 1000' Resistance	Description
wwir1810s *	5345FE	6.92	18 AWG, 10-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir1804s *	9418	6.92	18 AWG, 4-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir1802s	8760	6.92	18 AWG, 2-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir2210s	9946	17.5	22 AWG, 10-conductor stranded copper wire with overall shield and common round (PVC Insulation)

Never 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 linear distance when using 18 AWG or 600 feet in linear distance using 22 AWG.

Camera/Video Wire Recommendations

(From DVR to Camera) * Denotes standard recommended wire

PTI Part #	Belden Wire Code	Ω per 1000' Resistance	Description
wwirsiamese *	549945	10.15/6.92	RG59U / 18 AWG, 2-conductor in same cable (PVC Insulation)
wwirsiamesepl	649948	10.15/6.92	RG59U / 18 AWG, 2-conductor in same cable (PVC Insulation)
wwirrg59u	82.41	10.15	Coaxial Cable with 22 AWG core and stranded copper common ground (PVC Insulation)
wwirrg59upl	89259	10.15	22 AWG, 10-conductor stranded copper wire with overall shield and common ground (Plenum Insulation)
wwirrg59udb	8212	10.15	22 AWG, 10-conductor stranded copper wire with overall shield and common ground (Direct Burial)
wwir1802s **	8760	6.92	18 AWG, 2-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir2210s ***	9946	17.5	22 AWG, 10-conductor stranded copper wire with overall shield and common ground (PVC Insulation)
wwir2450 ***	9585	25.67	24 AWG, 50-conductor solid copper wire (PVC Insulation)

** 1802S can be used for power by many types of cameras.

*** 2450 or 2210 can be used for interior video signal using Baluns