# Echoflex Reference Guide
## Elaho Recommended Cable Specifications

## Overview

Echoflex recommends the following cables for low-voltage data transmission in permanently installed Elaho lighting control systems.

## Recommended Cable

| Wire Type | Purpose | Maximum Length | Notes |
|---|---|---|---|
| Belden 8471* | Elaho Data Signal | 500 m (1,640 ft) | A 2.5 mm$^2$ (14 AWG) ESD Ground wire is required when control wires are not installed in grounded metal conduit |
| Category 5 or 6 | Elaho Data Signal | 305 m (1,000 ft) | Not all topologies are supported using Category 5/6 cable; careful planning is required to ensure the proper termination kits are available and the wire is pulled appropriately.<br><br>Cat5 wiring may be terminated using EchoConnect Cat5 Station Termination Kit and must be installed using a bus topology. Refer to the installation guide that is provided with the Cat5 Station Termination Kit (8186A1207) for information to terminate Cat5 wiring. |
| 1.5 mm$^2$ (16 AWG) (typically black/red wire pair) | Auxiliary Power 24 VDC | | Refer to the related user documentation for details about whether there is a requirement for Auxiliary Power. |

*Echoflex highly recommends use of Belden 8471 (or equivalent) as the preferred cable type for EchoConnect data signal.

## Compatible Substitutions

The following cable types are acceptable substitutions for the recommended cable.

| Manufacturer | Model | Cable Jacket Plenum Rating |
|---|---|---|
| Advanced Digital | 911602 | Plenum |
| | 11602R 6602K2 | Non-Plenum |
| Alpha Wire | 1899C | Non-Plenum |
| Belden | 8471 8473 85102 9487 2412 (Ethernet) 1351A (Ethernet) 1533R (Ethernet) | Non-Plenum |
| Coleman Cable | 94762 | Non-Plenum |
| Connect-Air | W161P-2062B | Plenum |
| | W161P-1145LK | Non-Plenum |
| General Cable (Carol) | C8861 | Non-Plenum |
| | C8621 81333XX (Ethernet) | Plenum |

# Echoflex Reference Guide
## Recommended Cable

| Manufacturer | Model | Cable Jacket Plenum Rating |
|---|---|---|
| Lake Cable | PF162CT19-ECH | Plenum |
|  | 162CPT19 | Non-Plenum |

| Manufacturer | Model | Cable Jacket Plenum Rating |
|---|---|---|
| Liberty Wire and Cable | 16-2C-VAN<br>16-2C<br>24-4P-L5HT (Ethernet) | Non-Plenum |
|  | 16-2C-P<br>16-2CP-BLK | Plenum |
| REMEE | 900985 | Non-Plenum |
| TMB | PCLP1PTPB | Plenum |
|  | PCLP1PT<br>PCLP2PT | Non-Plenum |
| West Penn | 25225B | Plenum |

A complete listing of substitute cables is provided on the ETC website. See etcconnect.com/Support/Cable-Cross-Database.