CONVERGING SYSTEMS

TechNotes

Revision 9/15/2024

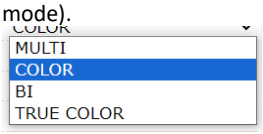
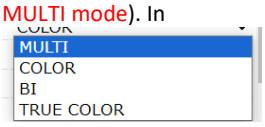
Planning Document for ILC-xx0 controller

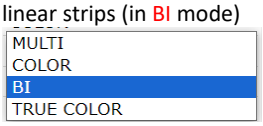
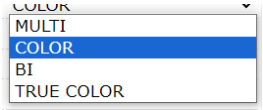
Wiring Instructions/Wiring Topology and Notes for Proper Preparation of ILC-xx0 Intelligent Lighting Controllers

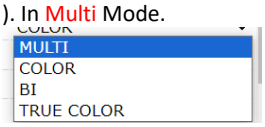
Please refer to appropriate section for your installation.

For Controllers used with FLLA (constant voltage) luminaries	Section 1
For Controllers used with Constant Current Fixtures (Monochrome or RGBW)	Section 2

Platform	Weblink	Typology	Wire Type/Gauge
Section 1: For Connectivity with Constant Current FLLA Linear Strips			
CS-Bus wiring from -e-Node to ILC-xx0 controller, and -ILC-xxx to ILC-xxx controllers	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see Section 4 (see "CS-Bus Wiring Instructions") -Total Run of CS-Bus using CAT cable: 4000 feet (no T's or Y's permitted)	**Daisy-Chain Wiring** -Detail: **Daisy chain** from Port 0 of e-Node downstream to alternating ports on ILC-xx0 devices (i.e. Port 0 on e-Node to Port 1 on first ILC-xxx, Port 0 on first ILC-xxx to Port 1 on next ILC-xxx)	**Purpose**: From e-Node to each downstream ILC-xx0 controller (and from any ILC-xx0 controller to another connected controller): CAT 5+ or better (1-1 wiring with ***color pairs as shown***) **Type**: Category (CAT 5e or better) **Terminator**: Secure 6P6C plugs (Amazon)  **Note:** must observe twisted pairs on 1&2, 3&4, and 5&6 – simply cut off 4th pair on both ends. **Gauge:** http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf
ILC-100m and monochrome FLLA Linear strips	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 15 ("2-Pin Connector Block") -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet.	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent downstream FLLA strips).	**Purpose**: From ILC-xx0 controller to connected load: **Type**: **2**-conductor solid or stranded CL2/CL3 speaker cable **Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18 ~ 14 awg depending upon run. See above chart for exact type.

ILC-200bw and bi-white linear strips	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 15 (“3-Pin Connector Block”) -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet.	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent downstream FLLA strips).	-**Purpose**: From ILC-xx0 controller to connected load: **Type**: **3**-conductor solid or stranded CL2/CL3 speaker cable **Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18 ~ 14 awg depending upon run. See above chart for exact type.
ILC-300 and RGB linear strips.	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 15 (“4-Pin Connector Block”) -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent downstream FLLA strips).	**Purpose**: From ILC-xx0 controller to connected load: **Type**: 4-conductor solid or stranded CL2/CL3 speaker cable **Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18 ~ 14 awg depending upon run. See above chart for exact type.
ILC-400 and RGBW FLLA linear strips (in Color mode). 	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 16 (“5-Pin Connector Block/for RGBW mode”) -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent downstream FLLA strips).	**Purpose**: From ILC-xx0 controller to connected load: **Type**: 5-conductor solid or stranded CL2/CL3 speaker cable **Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18 ~ 14 awg depending upon run. See above chart for exact type.
ILC-400 and monochrome FLLA linear strips (in MULTI mode). In 	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent	**Purpose**: From ILC-xx0 controller to connected load: **Type**: 2-conductor solid or stranded CL2/CL3 speaker cable **Gauge:** http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf

	see page 17 (“5-Pin Connector Block/for 4-CH Mono Mode”) -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet	downstream FLLA strips).	Typically, 18 ~ 14 awg depending upon run. See above chart for exact type.
ILC-400 and bi-white linear strips (in BI mode)  **Note**: The ILC-400 can support one zone of TW using ILC-400 silkscreen markings of 4 & 3 (Phoenix pins 1&2) with C as common +, as well as another zone of TW using ILC-400 silkscreen markings of 1 &2 (Phoenix pins 3 &4) again with C as common + .	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 17 (“5-Pin Connector Block/for Bi-White Mode”) -Total Wattage Supported: 100 watts* - Maximum length of any FLLA strip using a single power feed: 16.4 feet	**Parallel Wiring**. -Detail: Home run from ILC-xx0 output connector to start of each FLLA strip (or Parallel runs to subsequent downstream FLLA strips).	**Purpose**: From ILC-xx0 controller to connected load: **Type**: 3-conductor solid or stranded CL2/CL3 speaker cable (for each TW zone). Two zones possible with ILC_400 **Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18~ 14 awg depending upon run. See above chart for exact type.
Section 2: For Connectivity with Constant Current Monochrome or RGBW Fixtures			
Ilc-450 to constant current RGBW fixture. In Color Mode.  Note: must select proper ILC-450 model for targeted fixture—contact factory	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf see page 17 (“8-Pin Connector Block”) -Maximum number of fixtures connected to each ILC-400 with 48vdc power supply: typically 4 -Model Use: Must use an ILC-450/350ma unit with fixtures requiring 350 ma. Alternatively, must use an ILC-450/700ma unit with fixtures requiring 700 ma.	**Series Wiring**. -Retail: Direct run from 8-pin white output connector on ILC-450 to first fixture (to “IN” connector). Daisy-chain connection from 1st fixture (OUT connector) to each permitted downstream fixture (IN connector). -EOL Terminator: Req’d on last fixture	**Purpose**: From ILC-450 controller to connected load: **Type**: 8-conductor solid CL2/CL3 thermostat cable **Gauge**: 20 awg for system runs up to 233 feet. (Larger gauge wire will not fit into the 8-pin connector)
ILC-400 and constant current monochrome fixtures (***all of same type - current and voltage identical***).	-Wiring Directions https://www.convergingsystems.com/bin/doc/ilc/ilc_manual_2_0_rev1.pdf	**Parallel Wiring** -Detail: Direct run from 8-pin white output connector on ILC-400 to	**Purpose**: From ILC-400 controller to connected load **Type**:2- conductor solid or stranded CL2/CL3 speaker cable

). In Multi Mode.  Note: Must use a Meanwell power supply with adjustable pots for current and voltage. -Set up the system and insert a volt meter and set it to **DC VOLTAGE** and connect that meter in series with circuit and adjust the power supply's **VOLTAGE POTENTIOMETER** under load to the fixture's maximum. -Similarly, add all the current requirements of all the lamps and adjust the power supply's **CURRENT POTENTIOMETER** under load to this maximum current setting.	see page 17 ("4-CH Mono Mode")" -Total Wattage Supported: 100 watts* - Maximum number of any identical fixtures over entire four channels of ILC-400: variable so long as wattage is < above rating.	first fixture. Daisy chain connection from 1st fixture to each permitted downstream fixture. EOL terminator plugged into last fixture. -EOL Terminator: None	**Gauge**: http://www.convergingsystems.com/bin/doc/cable_length_DD.pdf Typically, 18~ 14 awg depending upon run. See above chart for exact type.