

System Requirements: Control System Summary

Project Name: Livonia Churchill Football Relight | Project #: 239633

Control System ID: 1 of 1

Distribution Panel Location/ID: Football

Project Information

Control System

Control System ID: 1 of 1

Control System Type: Control-Link[®] Control and Monitoring System with Show-Light[®] Special Effects

Communication Type: PowerLine-ST

Power Requirements

Control cabinet(s):

Control voltage (phase to neutral) 120/60

VA loading - Inrush 2153.0

VA loading - Sealed 198.0

Lighting Circuits:

Voltage/Hertz/Phase 480/60/3

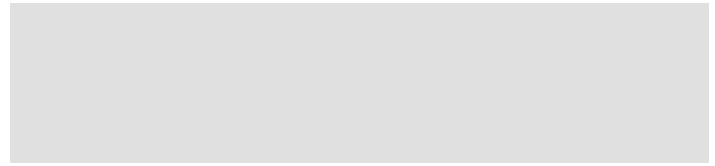
Communication cabinet(s):

Cabinet voltage (phase to neutral) 120/60

Touchscreen(s):

Touchscreen power (receptacle) 120/60

Project Notes:



Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 48
Communication cabinet	1	-
Touchscreen	1	-
Contactors, 30 amperes	4	-
Off/On/Auto switches	1	-

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

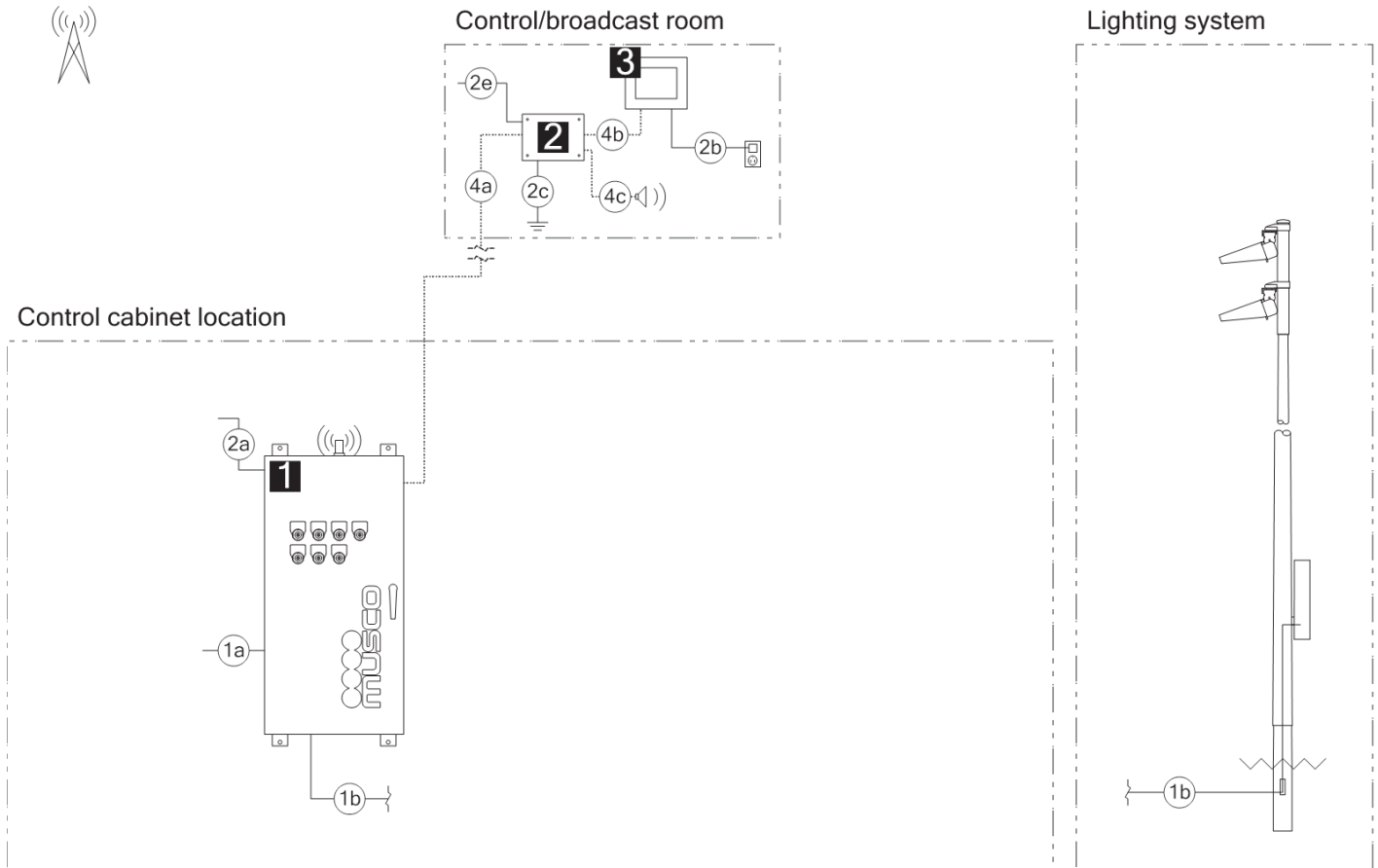
System Requirements: Control System Summary

Project Name: Livonia Churchill Football Relight | Project #: 239633

Control System ID: 1 of 1

Distribution Panel Location/ID: Football

Equipment Layout and Connection Details



Connection Details

ID	Description
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.
2b	Power cord for touchscreen. Requires standard receptacle.
2c	Earth ground connection at communication cabinet location. Requires installation of ground electrode if existing earth ground not present.
2e	Control power with equipment ground.
4a	Communication cable - Communication cabinet to primary control cabinet. Requires Cat5e cable (Belden 7937A or equal), maximum of 1500 feet.

Equipment

ID	Description
1	Control and monitoring cabinet - primary
2	Communication cabinet
3	Touchscreen

Sales Representative: Jefferson Barber | Project Engineer: Zach Morris | Scan: 239633A | Document ID: 239633P1V1C17-1004164557

System Requirements: Control System Summary

Project Name: Livonia Churchill Football Relight | Project #: 239633

Control System ID: 1 of 1

Distribution Panel Location/ID: Football

Equipment Layout and Connection Details

Connection Details - Cont'd

ID	Description
4b	Communication cable - Communication cabinet to touchscreen. 10-foot ethernet cable provided by Musco. Ethernet cable provided by contractor if longer length is needed. Maximum cable length is 300 feet.
4c	Audio cable - Communication cabinet to audio system, provided by contractor. Requires audio cable with 3.5 mm audio plug, maximum of 50 feet.

Equipment - Cont'd

ID	Description
----	-------------

System Requirements: Control System Summary

Project Name: Livonia Churchill Football Relight | Project #: 239633

Control System ID: 1 of 1

Distribution Panel Location/ID: Football

Circuit Summary

Switching Schedule

Field/Switch Description	Switches
Football	1

Control Module ID: 1

Lighting Circuit Voltage: 480/60/3

Circuit Summary by Switch

Switch	Zone Description	Pole ID	Qty of Fixtures	Full load amperes	Contactor Size (Amps)	Cabinet #	Contactor ID
1	Football	F1	13	24.38	30	1	C1
	Football	F2	13	24.38	30	1	C2
	Football	F3	13	24.38	30	1	C3
	Football	F4	13	24.38	30	1	C4