



DESIGN GUIDE

AVI-ON WIRELESS CONTROL SOLUTION

System Components

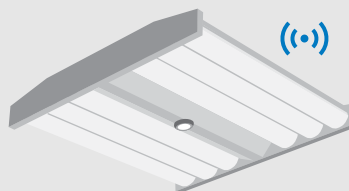
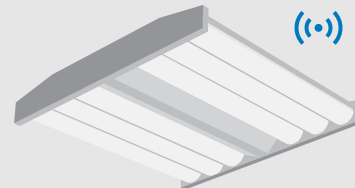
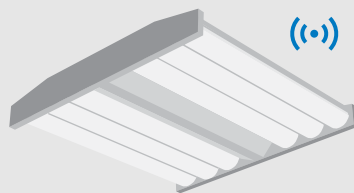


ONLINE PROJECT PORTAL
For customer use after start-up and turnover



MOBILE APP

- Installer tool used during installation
- Post-installation commissioning app provides:
 - Controls scheme
 - Sequence of operations



WILLIAMS FIXTURES WITH AVI-ON CONTROLS
Factory-installed control with radio enables connection between fixtures, wall stations, and other system devices



WALL STATION

- On/off, dimming standard
- Buttons with numbers or percentages



REMOTE ACCESS BRIDGE

- Secure access from local mesh network to customer web page
- Enables full monitoring and system management

AVI-ON DESIGN GUIDE

WIRELESS CONTROL SOLUTION

CONTENTS

INTRODUCTION.....	2	Lens coverage patterns	3
COMPLETE THE LIGHTING DESIGN LAYOUT.....	2	Control schedule example	3
Select Williams luminaires with Avi-on control	2	Warehouse lighting plan complete example.....	4
Warehouse lighting plan example	2	SPECIFICATION CHECKLIST.....	4
Complete lighting control design & sequence of operations.....	3		

INTRODUCTION

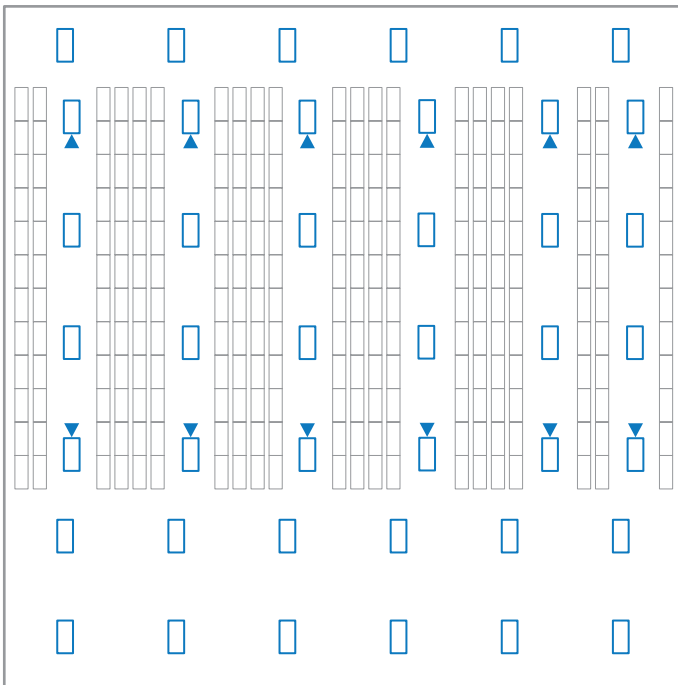
The Avi-on wireless control solution uses Bluetooth mesh technology integrated in Williams luminaires. Combined with wall stations, bridges and commissioning software, the Avi-on wireless control solution is a simple way to provide wireless lighting controls for many application types, including but not limited to: warehouses, gymnasiums, aircraft hangars, big box retail and convention centers.



COMPLETE THE LIGHTING DESIGN LAYOUT

STEP 1: SELECT WILLIAMS LUMINAIRES WITH AVI-ON CONTROL

- All luminaires require a Avi-on controller.
- Select control type shown on spec sheet, which starts with "AVI-"
- Refer to luminaire spec sheet for details.

WAREHOUSE LIGHTING PLAN EXAMPLE



Legend	Description
	Williams luminaire with Avi-on control. Example: -AVI-LVFA
	Williams luminaire with Avi-on sensor. Example: -AVI-LVFA-PIR

AVI-ON DESIGN GUIDE

WIRELESS CONTROL SOLUTION

STEP 2: COMPLETE LIGHTING CONTROL DESIGN & SEQUENCE OF OPERATIONS

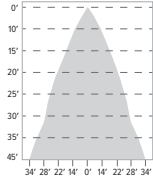
A. Determine control objectives

- Zone lights based on space control requirements, including energy codes, emergency lighting and customer needs.
- Select Avi-on wireless control devices based on zoning and control sequence.
 - Use occupancy sensor lens coverage patterns to add devices to control plan.

LENS COVERAGE PATTERNS

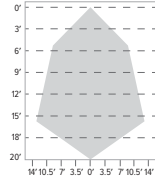
Large motion

40' height: ø68' coverage



Small motion

20' height: ø28' coverage



- If daylighting is required, use the fixture integral sensor.
- **RECOMMENDED:** Create a control schedule defining zones by control device, control type, and description of intended sequence of operation.

CONTROL SCHEDULE EXAMPLE

ZONE NAME	CONTROL DEVICE	LOCATION	CONTROL TYPE	SEQUENCE OF OPERATION ¹
ALL LIGHTS	Wall stations	Near dock doors	Manual control	Manual on, manual off
DK Z1	PIR sensor	Integral Fixture	Occupancy w/daylighting	Auto on/off via OCC (15 min delay) or daylight (100fc)
DK Z2	PIR sensor	Integral Fixture	Occupancy w/daylighting	Auto on/off via OCC (15 min delay) or daylight (100fc)
AL Z1	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
AL Z2	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
AL Z3	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
AL Z4	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
AL Z5	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
AL Z6	PIR sensor	Integral fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
TR Z1	PIR sensor	Integral Fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)
TR Z2	PIR sensor	Integral Fixture	Occupancy	Auto on (10 min to 30%, 10 min off delay) /auto off (all operational hours)

¹ Sequencing starts when user enters space. Organization of sequence is: start of hours of operations; during hours of operations; end of hours of operations.

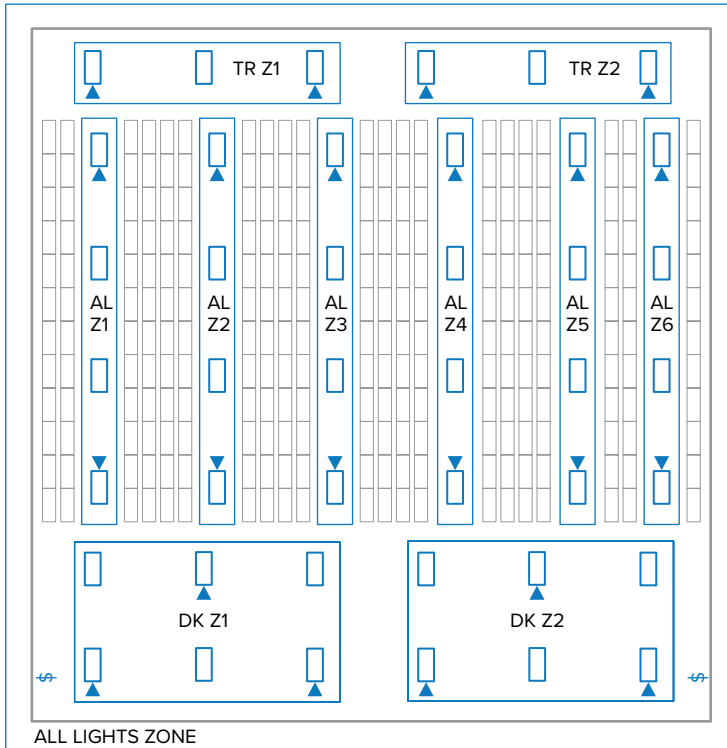
AVI-ON DESIGN GUIDE

WIRELESS CONTROL SOLUTION

B. Update lighting plan with all materials needed for a complete Avi-on wireless control system

- This plan can be used in the online project portal of the commissioning software.
See [Avi-on Installation & Commissioning Guide](#) for details.

WAREHOUSE LIGHTING PLAN COMPLETE EXAMPLE



Legend	Description
	Williams luminaire with Avi-on control
	Williams luminaire with Avi-on sensor
\$	Avi-on manual wall station

SPECIFICATION CHECKLIST

- Specify Williams luminaire with Avi-on control designator
 - Using the luminaire spec sheet, create complete catalog number (include all required luminaire designations).
 - Wireless occupancy sensor integral to Williams luminaire is designated under CONTROL on the luminaire spec sheet.
- Specify Williams Avi-on wireless mesh accessories
 - Wall stations
 - Remote Access Bridge for internet access (if applicable)
 - Network Time Manager (if applicable)
 - Commissioning software tool
 - Installer software tool
- Construction documents
 - Luminaire schedule
 - Reflected ceiling plan with control zones
 - Controls schedule (including sequence of operations)
 - Division 26 specification
- For questions or concerns
 - Contact your local H.E. Williams, Inc. manufacturer's agent, or controls@hew.com
 - For additional installation information, visit avi-on.com/resources/white-papers-documents