



Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

March 19, 2013

Chairman Todd Snitchler
Ohio Power Siting Board
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215-3793

Re: **In the Matter of CC Technologies**)
and Ohio Power Company for) **Case No. 13-0477-EL-EEC**
Approval of a Special Arrangement)
Agreement with a Mercantile Customer)

Yazen Alami
Regulatory Services
(614) 716-2920 (P)
(614) 716-2950 (F)
yalami@aep.com

Dear Chairman Snitchler,

Attached please find the Joint Application of Ohio Power Company (OPCo) and mercantile customer CC Technologies for approval of a Special Arrangement of the commitment of energy efficiency/peak demand reduction (EE/PDR) resources toward compliance with the statutory benchmarks for 2013.

Amended Substitute Senate Bill 221 sets forth in R.C. 4928.66 EE/PDR benchmarks that electric distribution utilities shall be required to meet or exceed. The statute allows utilities to include EE/PDR resources committed by mercantile customers for integration into the utilities programs to be counted toward compliance with a utility's EE/PDR benchmarks. The statute also enables the Commission to approve special arrangements for mercantile customers that commit EE/PDR resources to be counted toward compliance with EE/PDR benchmarks.

The Commission's Order in Case No. 10-834-EL-EEC, established a streamlined process to expedite review of these special arrangements by developing a sample application process for parties to follow for consideration of such programs implemented during the prior three calendar years. Attached is OPCo's version of that application and accompanying affidavit. Any confidential information referenced in the Joint Application has been provided to the Commission Staff for filing in Commission Docket 10-1799-EL-EEC, under a request for protective treatment. OPCo respectfully requests that the Commission treat the two cases as associated dockets.

Cordially,

/s/ Yazen Alami
Yazen Alami

Attachments

Case No.: 13-0477-EL-EEC

Mercantile Customer: CC TECHNOLOGIES

Electric Utility: Ohio Power

Program Title or Description: AEP Ohio Business Incentives for Energy Efficiency: Self Direct Program

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Company Information

Name: CC TECHNOLOGIES

Principal address: 1400 Ravello Dr, Katy, Tx 77449

Address of facility for which this energy efficiency program applies: 5777 Frantz Rd,
Dublin, Oh 43017-1886

Name and telephone number for responses to questions:

Tiffany Leatherwood, Cc Technologies, (614) 761-1214

Electricity use by the customer (check the box(es) that apply):

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at our facility. (Please attach documentation.)

See Confidential and Proprietary Attachment 4 – Calculation of Rider Exemption and UCT which provides the facility consumption for the last three years, benchmark kWh, and the last 12 months usage.

- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.) When checked, see Attachment 6 – Supporting Documentation for a listing of the customer's name and service addresses of other accounts in the AEP Ohio service territory.

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- ☐ Individually, on our own.
- ☒ Jointly with our electric utility.

B) Our electric utility is: Ohio Power Company

The application to participate in the electric utility energy efficiency program is "Confidential and Proprietary Attachment 3 – Self Direct Program Project Completed Application."

C) The customer is offering to commit (choose which applies):

- ☐ Energy savings from our energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ Both the energy savings and the demand reduction from the customer's energy efficiency program. (Complete all sections of the Application.)

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (choose whichever applies):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, 6/1/2009 and the date on which the customer would have replaced your equipment if you had not replaced it early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).

The remaining life of the equipment varies and is not known with certainty. The future replacement date is unknown and has historically been at the end of equipment life. Replacement was completed early to achieve energy savings and to reduce future maintenance costs.

- ☐ Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s):
- ☐ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):
- ☐ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by your energy efficiency program:

- 1) If you checked the box indicating that your project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Unit Quantity (watts) = Existing (watts x units) - Installed (watts x units)

kWh Reduction (Annual Savings) = Unit Quantity x (Deemed kWh/Unit)

Annual savings: 132,982 kWh

See Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation for annual energy savings calculations and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.

- 2) If you checked the box indicating that you installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: kWh

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that your project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: kWh

Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ☒ Coincident peak-demand savings from the customer's energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction check the one that applies):

➤ Choose one or more of the following that applies:

- ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
- ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

The coincident peak-demand savings are permanent installations that reduce demand through energy efficiency and were installed on the date specified in Section 3 A above.

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

$$\text{Unit Quantity (watts)} = \text{Existing (watts x units)} - \text{Installed (watts x units)}$$

$$\text{KW Demand Reduction} = \frac{\text{Unit Quantity (watts)}}{\text{(watts)}} \times \text{(Deemed KW/Unit)}$$

35.6 kW

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for peak demand reduction calculation, and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☒ Option 1: A cash rebate reasonable arrangement.

OR

☐ Option 2: An exemption from the cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

B) The value of the option that the customer is are seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☐ A cash rebate of \$_____. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

OR

☒ A cash rebate valued at no more than 50% of the total project cost, which is equal to \$ 9,024.65. (Attach documentation and calculations showing how this payment amount was determined.)

See Confidential and Proprietary Attachment 5 – Self Direct Program Project Calculation for incentive calculations for this mercantile program.

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than \$_____. (Attach documentation and calculations showing how this payment amount was determined.)

OR

☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of an ongoing efficiency program that is practiced by our organization. (Attach documentation that establishes your organization's ongoing efficiency program. In order to continue the exemption beyond the initial 24 month period your organization will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- ☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____
(Continue to Subsection 1, then skip Subsection 2)
- ☒ Utility Cost Test (UCT) . The calculated UCT value is: 5.1 (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The utility's incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were \$ 49,587.94

The utility's program costs were \$ 797.89

The utility's incentive costs/rebate costs were \$ 9,024.65.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment.

See Attachment 1 - Self Direct Project Overview and Commitment for a description of the project. See Attachment 6 - Supporting Documentation, for the specifications of the replacement equipment 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed. Due to the length of time since the equipment replacement, the make, model and year of the replaced equipment is not available.

- A copy of the formal declaration or agreement that commits your program to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;

See Attachment 2 - Self Direct Program Project Blank Application including Rules and Requirements. All confidentiality requirements are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.)

- 2) a description of any consequences of noncompliance with the terms of the commitment;

See Attachment 2 - Self Direct Program Project Blank Application including Rules and Requirements. All consequences of noncompliance are pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.

- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;

None required because the resources committed are permanent installations that reduce demand through increased efficiency during the Company's peak summer demand period generally defined as May through September and do not require specific coordination and communication to provide demand reduction capabilities to the Company.

- 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,

See Attachment 2 - Self Direct Program Blank Application including Rules and Requirements granting such permission pursuant to the Retrospective Projects/Rules and Requirements that are part of the signed application which is provided as Confidential and Proprietary Attachment 3 - Self Direct Program Project Completed Application.

- 5) a commitment by you to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

See Attachment 1 - Self Direct Project Overview and Commitment for the commitment to comply with any information and compliance reporting requirements imposed by rule or as part of the approval of this arrangement by the Public Utilities Commission of Ohio.

- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

The Company applies the same methodologies, protocols, and practices to Self Direct Program retrospective projects that are screened and submitted for approval as it does to prospective projects submitted through its Prescriptive and Custom Programs. The Commission has not published a technical reference manual for use by the Company so deviations can not be identified. The project submitted is a prescriptive project and energy savings are determined as described in Confidential and Proprietary Attachment 5 - Self Direct Program Project Calculation, and 10-1599-EL-EEC for the work papers that provide all methodologies, protocols, and practices used in this application for prescriptive measures, as needed.



Public Utilities Commission

Application to Commit
Energy Efficiency/Peak Demand
Reduction Programs
(Mercantile Customers Only)

Case No.: 13-0477-EL-EEC

State of OHIO :

Jeremy Doe, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

KEMA Services, Inc agent of Ohio Power
2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

[Signature]
Signature of Affiant & Title

Sworn and subscribed before me this 27th day of Feb, 2013 Month/Year

[Signature]
Signature of official administering oath

Annie Ray, Notary Public
Print Name and Title

My commission expires on 1-13-2014



Angie Doan
Notary Public, State of Ohio
My Commission Expires 01-13-2016



Self Direct Project Overview & Commitment

The Public Utility Commission of Ohio (PUCO) will soon review your application for participation in AEP Ohio's Energy Efficiency/Peak Demand Response program. Based on your submitted project, please select by initialing one of the two options below, sign and fax to 877-607-0740.

Customer Name	CC TECHNOLOGIES	
Project Number	AEP-12-08979	
Customer Premise Address	5777 FRANTZ RD, DUBLIN, OH 43017-1886	
Customer Mailing Address	1400 Ravello Dr, Katy, TX 77449	
Date Received	12/13/2012	
Project Installation Date	6/1/2009	
Annual kWh Reduction	132,982	
Total Project Cost	\$47,359.76	
Unadjusted Energy Efficiency Credit (EEC) Calculation	\$12,032.86	
Simple Payback (yrs)	4.0	
Utility Cost Test (UCT)	5.0	
<i>Please Choose One Option Below and Initial</i>		
Option 1 - Self Direct EEC: 75%	\$9,024.65	<input checked="" type="checkbox"/> Initial: <i>JW</i>
Option 2 - EE/PDR Rider Exemption	19 Months (After PUCO Approval)	<input type="checkbox"/> Initial:

Note: This is a one time selection. By selecting Option 1, the customer will receive payment in the amount stated above. Selection of Option 2: EE/PDR rider exemption, will result in the customer not being eligible to participate in any other energy efficiency programs offered by AEP Ohio during the period of exemption. In addition, the term of Option 2: EE/PDR rider exemption is subject to ongoing review for compliance and could be changed by the PUCO.

If Option 1 has been selected, will the Energy Efficiency Funds selected help you move forward with other energy efficiency projects?

☒ YES ☐ NO

Project Overview:

The Self Direct (Prescriptive) project that the above has completed and applied is as follows.

Replaced (390) 4' 4L T12 with (390) 4' 2L T8
Replaced (9) 4' 2L T12 U-Tube with (9) 2' 2L T8
Add daylight control to (100) 4' 2L T8
Add occupancy sensors to remaining (290) 4' 2L T8 and (9) 2' 2L T8

The documentation that was included with the application proved that the energy measures applied for were purchased and installed.

By signing this document, the Mercantile customer affirms its intention to commit and integrate the above listed energy efficiency resources into the utility's peak demand reduction, demand response, and energy efficiency programs. By signing, the Mercantile customer also agrees to serve as a joint applicant in any filings necessary to secure approval of this arrangement by the Public Utilities Commission of Ohio, and comply with any information and compliance reporting requirements imposed by rule or as part of that approval.

Ohio Power Company

By: *J. F. Will*

Title: Manager

Date: 2/22/2013

CC TECHNOLOGIES

By: *J. Moorman*

Title: Business Support Manager

Date: 02-21-13



Self-Direct Program Project Application

RETROFIT AND NEW CONSTRUCTION

Step 1: Check Project, Equipment, and Customer Eligibility

- ✓ Project must be a facility improvement that results in a permanent reduction in electrical energy usage (kWh).
- ✓ Measures applying for credits must have a minimum operating hours of 2,245 hours per year. Projects with annual energy (kWh) savings greater than the facility's annual energy (kWh) consumption will not be eligible.
- ✓ All installed equipment must meet or exceed the specifications given in the application and be installed in facilities served by AEP Ohio: Customer must have a valid AEP Ohio account number on an eligible AEP Ohio non-residential rate (see terms and conditions for list of eligible rates eligibility requirements).

Step 2: Submit Application

- ✓ Fill out the Customer Information form and the Worksheet for the measures that you installed. You may submit the application via mail, fax, or e-mail.

Submit your application to:
Email: gridsmartohio@kema.com

AEP Ohio Business Incentives for Energy Efficiency
2740 Airport Drive Suite 160
Columbus, OH 43219
Call: (877) 607-0739
Fax: (877) 607-0740

Visit our web site at aridsmartohio.com

- ✓ Submit a completed application prior to November 16, 2012 for any projects completed on or after January 1, 2009. Any applications received after the deadline may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any credit. Complete the checklist page and attach the documentation listed: customer information page, a signed Final Payment Agreement page, measure worksheet, scope of work (type, quantity, and wattage of old and new equipment), dated and itemized invoices for the purchase and installation of all equipment installed and specification sheets for all equipment installed showing that it meets the program specifications.

Step 3: Project Review

- ✓ The program team will review your Application. For some projects, an inspection will be part of the review, and you will be contacted to schedule it.
- ✓ After approval by AEP Ohio, the customer will be sent an Overview and Commitment form to sign for all self-direct projects. After the Overview and Commitment form is returned the project will be submitted to the Public Utilities Commission of Ohio (PUCO) for consideration. The PUCO will assign case number and review the project details that were prepared by AEP Ohio. The PUCO may request additional information, approve or reject the energy efficiency credits.

Step 4: Receive Energy Efficiency Credits

- ✓ The program team will issue the energy efficiency credits, within four to six weeks after PUCO project approval.
- ✓ In lieu of a one-time energy efficiency credit, you may elect to seek an exemption from the Energy Efficiency/Peak Demand Reduction (EE/PDR) Rider for the associated electric account(s) for a defined period of time as stated on this Application. For this exemption the Energy Efficiency Credit amount (Option 1) is compared to the estimated value of the estimated EE/PDR obligation (Option 2), as calculated by AEP Ohio. The value of Option 2 will be approximately equal to the value of Option 1. If exemption is elected, the affected account is not eligible for other programs offered by AEP Ohio during the exemption period. Unless additional resources are committed, you will, after the specified number of months exempted, be again subject to the EE/PDR Rider. New Construction projects are not eligible to elect Option 2. Major Renovation projects that do not have a representative billing history for three years prior to the project installation are also not eligible to elect Option 2.
- ✓ If the energy efficiency credit is elected, you remain in the EE/PDR rider for the period of time that an exemption would have been in effect and may also participate in the AEP Ohio programs. However, during that period of time, you will not be allowed to elect the Option 2 exemption for any additional self-direct projects for the same account number.
- ✓ You are allowed and encouraged to consider using all or a portion of the energy credits, as received from AEP Ohio under this program, to help fund other energy efficiency and demand reduction projects you choose to initiate in the future. Future projects can also qualify for credits under the Prescriptive or Custom programs.

If you are viewing this document in Microsoft Excel, please note that each section of the application is accessible through the tabs at the bottom of the Excel window. Highlighted cells are for inputting information.



Self-Direct Program Project Application

APPLICATION CHECKLIST

APPLICATION	
Required Attachments	
<input type="checkbox"/>	Customer/Contractor Information (Completed and Signed)
<input type="checkbox"/>	Completed Forms for Energy Efficiency Credits Requested AND Signed Final Payment Agreement Page
<input type="checkbox"/>	Itemized Invoices
<input type="checkbox"/>	Equipment Specifications
<input type="checkbox"/>	Scope of Work
<input type="checkbox"/>	W-9 (LLC, Individual, Partnership, Property Management Companies)
Worksheets	
<input type="checkbox"/>	Lighting
<input type="checkbox"/>	HVAC
<input type="checkbox"/>	Refrigeration
<input type="checkbox"/>	Motors and VFD
<input type="checkbox"/>	Custom
Application Date: _____	
Completion Date: _____	
Project Cost: _____	
<i>*Incomplete applications will delay processing and energy efficiency credits. Please complete and submit forms for above checked boxes.</i>	

Please fill out if this is a revised submittal

ORIGINAL SUBMITTAL DATE: _____
APPLICATION NUMBER (IF KNOWN): _____

AEP Ohio Business Incentives Program for Energy Efficiency
2740 Airport Drive Suite 160
Columbus, OH 43219

Phone: (877) 607-0739
Fax: (877) 607-0740
gridsmartohio@kema.com
www.gridsmartohio.com



Self-Direct Program Project Application

TERMS AND CONDITIONS

AEP Ohio is offering prescriptive and custom incentives under the AEP Ohio Business Incentives for Energy Efficiency program to offer the implementation of past cost-effective energy efficiency improvements for non-residential (commercial and industrial) customers. AEP Ohio provides energy efficiency credits (EEC) for the purchase and installation of qualifying cost effective equipment in the customer's facility under the Terms and Conditions provided in this application and subject to regulatory approvals. Energy Efficiency credits will only be provided in the form of a check or an Energy Efficiency/Peak Demand Reduction (EE/PDR) Rider exemption under this program.

Please note that funds are limited and subject to availability.

All applications are subject to review and approval by AEP Ohio, its contractor(s)/agent(s), and the Public Utility Commission of Ohio (PUCO) prior to any EEC payments or exemptions from the EE/PDR rider in this program. Funds are limited and subject to availability.

Program Effective Dates

AEP Ohio Business Incentives for Energy Efficiency program EEC are offered until approved funds are exhausted or November 16th of each program year, whichever comes first. The effective dates of the current program year and application submittal requirements are as follows:

- Self-direct projects are projects completed since 1/1/2009. Self direct projects are eligible to apply for EEC with this application. Future projects that are not yet completed should apply on the Prescriptive/Custom application.
- All 2012 AEP Ohio Business Incentives for Energy Efficiency program Applications should be received no later than November 16, 2012. Any applications received after the deadlines may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any incentive. AEP Ohio reserves the right to extend or shorten this timeline.
- Subsequent program year budgets and plans will be made available towards the end of the existing program year. AEP Ohio currently has filed with the PUCO to offer this program through the 2014 program year.

Program and Project Eligibility

The Self-Direct Program applies to customer facilities served by AEP Ohio's retail electric rates who meet the minimum energy usage requirements of 700,000 kWh per year or who are part of a national account involving multiple facilities in one or more states.

The AEP Ohio Business Incentives for Energy Efficiency program offers both prescriptive credits for some of the more common energy efficiency measures and custom credits for those eligible improvements not included on the list of prescriptive measures. Program credits are available under the AEP Ohio Business Incentives for Energy Efficiency program to include non-residential accounts served on AEP Ohio's regulated retail rates. Qualifying projects must be installed in a facility in AEP Ohio's electric service territory in Ohio. These credits are available to all non-residential customers who pay into the Energy Efficiency and Peak Demand Response (EE/PDR) rider and receive their electricity over AEP Ohio wires, regardless which retail electric supplier the customer has chosen to purchase power. A customer may neither apply for nor receive incentives for the same product, equipment or service from more than one utility.

Custom projects must involve measures, which result in a reduction in electric energy usage due to an improvement in system efficiency. Projects that result in reduced energy consumption without an improvement in system efficiency are not eligible for a custom credit. The project simple payback prior to the incentive payment generally should fall between 1 to 7 years, or pass cost effectiveness test(s) determined by AEP Ohio to qualify for an incentive. Incentives are calculated based on first-year energy savings and peak demand reduction. Peak demand reduction is defined as the reduction in average load over the Performance Hours by the replacement of existing electrical equipment with more efficient electrical equipment. Peak Performance Hours is defined as the time between June 1st and August 31st on weekday, non-holidays, between the hours 3:00 PM and 6:00 PM Eastern Time.

Projects involving measures covered by the prescriptive credit portion of the program are not eligible for a custom credit. However, the applicant has the option to apply for a custom incentive for whole building integrated projects or systems, even if they include prescriptive measures. The prescriptive elements may be capped at the deemed savings and/or incentive level.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Project requirements under the AEP Ohio Business Incentives for Energy Efficiency program include the following:

- Projects must involve a new facility improvement that results in a permanent reduction in electrical energy usage (kWh).
- Projects that are NOT eligible for a credit include the following:
 - Fuel switching (e.g. electric to gas or gas to electric)
 - Changes in operational and/or maintenance practices or simple control modifications not involving capital costs
 - Removal or termination of existing processes, facilities, and/or operations.
 - On-site electricity generation
 - Projects involving gas-driven equipment in place of or to replace electric equipment (such as a chiller)
 - Projects focused primarily on power factor improvement
 - Projects that involve peak-shifting (and not kWh savings)
 - Renewables (Please visit www.gridsmartohio.com for Renewables Program)
 - Are required by state or federal law, building or other codes, or are standard industry practice
 - Are easily reverted/removed or are installed entirely for reasons other than improving energy efficiency
 - Include other conditions to be determined by AEP Ohio
 - Renewables (Please visit www.gridsmartohio.com for Renewables Program)
- Any measures installed at a facility must produce verifiable and persistent energy reduction and must be sustainable and provide 100% of the energy benefits as stated in the Application for a period of at least five (5) years or for the life of the product, whichever is less. If the Customer ceases to be a delivery service customer of AEP Ohio or removes the equipment or systems at any time during the 5-year period or the life of the product, the Customer may be required to return a prorated amount of incentive funds to AEP Ohio.
- Customer cannot apply for incentives for future projects and elect after the fact to apply for credits under this program.
- Confidential information contained in any documents associated with this application will be protected from public filings. However, this information may be disclosed to the Public Utilities Commission of Ohio for further review and approval.
- Used or rebuilt equipment is generally NOT eligible for an incentive.
- All installed equipment must meet state, federal, and local codes and requirements.
- Costs associated with internal labor are not eligible.
- Projects must be installed on the AEP Ohio electric account in Ohio served by an eligible electric rate type listed on the application.
- Equipment must be purchased, installed, and operating (or capable of operating in the case of seasonal uses) prior to submitting a final application for an incentive.
- AEP Ohio will issue incentive payments in the form of checks, not utility bill credits.
- The incentive is paid as a one-time, one-program offer and cannot be combined with incentive payments from other AEP Ohio programs. The customer may be eligible to participate in other programs offered by AEP Ohio, as long as no project receives more than one incentive.

PROGRAM ENERGY EFFICIENCY CREDITS	
Energy efficiency credit levels for one-year energy savings	See tables for prescriptive credits. Custom credits \$0.08/kWh X 75%
Minimum/Maximum simple payback before energy efficiency credit applied	Must pass cost effectiveness test(s) (determined by AEP Ohio). Generally between 1-7 years.
Maximum payout	75% of 50% of the total cost (additional measure caps may apply)
Energy efficiency credit levels for projects completed since 1/1/2009	calculated amount on the Prescriptive or Custom worksheets attached and subject to funding limits
Credit Limit	See Incentive Limits and Tiering section
Credit Calculation Order	Measure credit caps are applied first. Project cost credit limits are applied second. Credit tiering is applied third. And 75% factor applied to credit last.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Energy Efficiency Credit Limits

For both the Prescriptive and Custom measures in this application, the total energy efficiency credits shall be 75% the lesser of: 1) The calculated credit as approved by AEP Ohio, or 2) 50% of Total Project Cost (not including internal labor cost). In calculating the savings and energy efficiency credits for Custom measures, please contact AEP Ohio Business Incentives for Energy Efficiency Program office to determine appropriate baseline for savings.

Incentive Limits and Tiering

- The limit for each self-direct project is \$225,000.
- The limit for each business entity (corporation, LLC, partnership, etc) is based on their tariff, indicated below.

TARIFF	LIMIT PER BUSINESS ENTITY
General Service Tariffs 1, 2, 3 & 4	\$900,000 per year

- A business entity with facilities in both categories can qualify for both limits. All facilities served in one category for a business entity are combined to determine the limit.
- The total credit paid for any self direct application cannot exceed 50% of the total project cost (not including internal labor). In addition to the above project cost limit, credit payment rates vary when a customer's calculated credit exceeds the tiers listed below:
 - **Tier 1** \$0 - \$100,000 = 100% of eligible calculated credit value
 - **Tier 2** \$100,001 - \$300,000 = 50% of eligible calculated credit value
 - **Tier 3** \$300,001 - \$500,000 = 25% of eligible calculated credit value
 - **Tier 4** \$500,001 - Beyond = 10% of eligible calculated credit value

Application

Application should be submitted by November 16, 2012 for any projects completed or or after Jan 1, 2009 or later. Any applications received after the deadlines may not be submitted to the PUCO by November 16, 2012 and could jeopardize approval of any incentive. Project documentation, such as copies of dated invoices for the purchase and installation of the measure and/or product specification sheets, is required. AEP Ohio reserves the right to request additional backup information, supporting detail, calculations, manufacturer specification sheets or any other information to any credit payment.

The location or business name on the invoice must be consistent with the application information. Applications shall all required documentation should be received by November 16, 2012 to be applicable for the 2012 program year.

A signed application with documentation verifying installation of the project including, but not limited to, equipment, invoices, approvals, and other related information must be submitted to AEP Ohio prior to application approval.

The project invoice should provide sufficient detail to separate the project cost from the cost of other services such as repairs and building code compliance. AEP Ohio reserves the right to request additional supporting documentation as deemed necessary to ensure measure eligibility and verify that the expected energy savings will occur. Confidential information contained in any documents associated with this application will be protected from public filings. However, this information could include: equipment purchase dates, installation dates, proof that the equipment is operational, manufacturer specifications, warranty information, and proof of customer co-payment.

The customer understands and agrees that all other terms and conditions, as specified in the application, including all attachments and exhibits attached to this application, serves as a contract for the customer's commitment of energy resources to AEP Ohio, shall apply.



Self-Direct Program Project Application

TERMS AND CONDITIONS

Application Review Process

AEP Ohio will review Applications for eligibility and completeness. Completed applications will be reviewed in the order received. Funds are reserved for the project when AEP Ohio receives a complete application and determines that the project meets the program eligibility requirements. Applicants who submit incomplete applications will be notified of deficiencies upon review of the application, and may lose their place in line in the review process until all requested information is received. Applications must be completed and all information received by the deadlines defined above to begin processing. Applicants are encouraged to call the program hotline if they have any questions about documentation requirements.

Inspections

AEP Ohio reserves the right to inspect all projects to verify compliance with the program rules and verify the accuracy of project documentation. This may include installation inspections, verification of detailed lighting layout descriptions, metering, data collection, interviews, and utility bill or monitoring data analyses. The customers are required to allow access to project documents and the facility where the measures were installed for a period of five years after receipt of incentive payment by AEP Ohio. Customer understands and agrees that Program installations may also be subject to inspections by the PUCO or their designee, and photographs of installation may be required.

Tax Liability

Credits are taxable and, if more than \$600, will be reported to the IRS unless the customer is exempt. AEP Ohio is not responsible for any taxes that may be imposed on your business as a result of your receipt of payment. W-9 (for LLC, Individual, Partnership, Property Management Companies) must be provided along with all applications.

Requirements for Custom Project Electricity Savings Calculation

The annual electricity savings must be calculated for custom projects using industry-accepted engineering algorithms or simulation models. The applicant may estimate the annual electricity usage of both the existing and proposed equipment based on the current operation of the facility. A listing of the pre-existing information requirements is provided at the end of the custom application section. If the previous equipment was at the end of its useful life, the applicant must use, as the baseline, the equipment that would meet the applicable federal and local energy codes unless an "as found" baseline is being used by the applicant. If the applicant is using an "as found" baseline, additional specific information on the pre-existing information must be provided.

The applicant must be able to clearly describe the method used to calculate the savings. The applicant must provide all assumptions used in the calculations and document the sources for these assumptions. If no savings analysis is provided by the customer/contractors, AEP Ohio reserves the right to utilize their approved methodology and analysis to determine energy savings.

The method and assumptions used by the applicant to calculate the annual savings will be reviewed by AEP Ohio. AEP Ohio is solely responsible for the final determination of the annual energy savings and peak demand reduction to be used in calculating the credit amount. AEP Ohio also reserves the right to require specific measurement and verification activities including monitoring the retrofit to determining the credit. Verification of the preexisting consumption may also be required.

AEP Ohio may need to conduct inspections of projects to verify equipment and operating conditions. For custom and "as found" projects, the applicant is required to provide information in order to allow AEP Ohio to verify the baseline usage of the pre-existing equipment. Customers are encouraged to submit projects that warrant special treatment (i.e., non-typical projects) to be considered on a case-by-case basis by AEP Ohio.

Disclaimer

AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measures eligible for credits under this program. AEP Ohio has no obligations regarding and does not endorse or guarantee any claims, promises, work, or equipment made, performed, or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures. AEP Ohio is not responsible for the proper disposal/recycling of any waste generated as a result of this project. AEP Ohio is not liable for any damage caused by the operation or malfunction of the installed equipment.



Self-Direct Program Project Application

Important: Please read the terms and conditions before signing and submitting this application.
You must complete all information and provide required additional documentation to avoid processing delays.

CUSTOMER INFORMATION

Business Type (select one)	Tax Status (from W9)	How Did You Hear?
LARGE OFFICE <input type="checkbox"/>	CORPORATION (Inc., PC, Etc.) <input type="checkbox"/>	AEP Account Representative <input type="checkbox"/>
SMALL OFFICE <input type="checkbox"/>	Government Agency <input type="checkbox"/>	Contractor <input type="checkbox"/>
SCHOOL <input type="checkbox"/>	Individual <input type="checkbox"/>	Distributor <input type="checkbox"/>
SMALL RETAIL/SERVICE <input type="checkbox"/>	Partnership <input type="checkbox"/>	Website <input type="checkbox"/>
LARGE RETAIL/SERVICE <input type="checkbox"/>	Exempt <input type="checkbox"/>	Other <input type="checkbox"/>
HOTEL/MOTEL <input type="checkbox"/>	OTHER (may receive 1099) _____	
MEDICAL - Hospital <input type="checkbox"/>		Operating Days
MEDICAL - Nursing Home <input type="checkbox"/>		Seven days/week <input type="checkbox"/>
ASSEMBLY/MEETING PLACE <input type="checkbox"/>		Five days/week <input type="checkbox"/>
RESTAURANT <input type="checkbox"/>	Operating Hours	Square Footage
GROCERY <input type="checkbox"/>	Low Hours (<8h /day) <input type="checkbox"/>	Affected Area S.F. _____
CONDITIONED WAREHOUSE <input type="checkbox"/>	One shift (8h /day) <input type="checkbox"/>	
UNCONDITIONED WAREHOUSE <input type="checkbox"/>	Two shifts (16h/day) <input type="checkbox"/>	
INDUSTRIAL/MANUFACTURING <input type="checkbox"/>	Three shifts (24h/day) <input type="checkbox"/>	
COLLEGE/UNIVERSITY <input type="checkbox"/>	Building Operating Hours _____	
GOVERNMENT/MUNICIPAL <input type="checkbox"/>	Equipment Operating Hours _____	
OTHER/MISCELLANEOUS <input type="checkbox"/>		

NAME OF APPLICANT'S BUSINESS		PROJECT NAME (IF APPLICABLE)	
NAME AS IT APPEARS ON UTILITY BILL	AEP OHIO ACCT #*	APPLICANT TAXPAYER ID # (SSN/FEDERAL ID)	
MAILING ADDRESS		CITY	STATE ZIP
INSTALLATION ADDRESS		CITY	STATE ZIP

CUSTOMER CONTACT

Please provide all contacts we may need to process for this project. The business contact should be the project decision maker, the technical contact, etc

NAME OF CONTACT PERSON - Preferred Contact for Documentation			TITLE OF CONTACT
CONTACT PHONE #	EXT.	CONTACT FAX #	CONTACT EMAIL ADDRESS

SOLUTION PROVIDER/CONTRACTOR INFORMATION **

NAME OF CONTRACTING COMPANY			
NAME OF CONTACT PERSON			TITLE OF CONTACT PERSON
CONTACT PHONE #	EXT.	CONTACT FAX #	CONTACT EMAIL ADDRESS
MAILING ADDRESS			CITY STATE ZIP

If there are questions about the application who should we contact? Customer ☐ Contractor ☐

As an eligible customer, I verify the information is correct and request consideration for participation under this program.

CUSTOMER SIGNATURE (AEP OHIO CUSTOMER)	PRINT NAME
TOTAL INCENTIVE REQUESTED***	DATE
ESTIMATED COMPLETION DATE	ESTIMATED PROJECT COST

* AEP Ohio Account Number where measure is installed

** Solution Provider/Contractor - Party involved in the application submittal (i.e. specs, scope of work, etc.)

*** Credit cannot exceed 50 percent of the total project cost or other caps described in the Terms and Conditions.



Self-Direct Program Project Application

SELF-DIRECT APPLICATION AGREEMENT

I understand that the location or business name on the invoice must be consistent with the application information. Final Applications and all required supporting documentation should be received by **November 16, 2012 for projects completed on or after January 1, 2009. Any applications received after the deadlines may not be submitted to the PUCO by December 31st, 2012 and could jeopardize approval of any incentive by the PUCO.**

I agree to verification by the utility or their representatives of both sales transactions and equipment installation.

I understand that these credits are available to all non-residential customers who pay into the Energy Efficiency and Demand Response (EE/PDR) rider and receive their electricity over AEP Ohio wires regardless from which retail electric supplier the customer has chosen to purchase power.

I certify that the information on this application is true and correct, and that the Taxpayer ID Number, tax status, and W-9 are the applicant's.

I agree that if: I remove the related product(s) identified in my application before a period of 5 years or the end of the product life, whichever is less, I shall refund a prorated amount of energy efficiency credits to AEP Ohio based on the actual period of time in which the related product(s) were installed and operating. This is necessary to assure that the project's related energy benefits will be achieved.

I understand that the program may be modified or terminated without prior notice.

AEP Ohio reserves the right to refuse payment and participation if the customer or contractor violates Program rules and requirements. AEP Ohio is not liable for energy efficiency credits promised to customers as a result of misrepresentation of the Program.

Customer and customer's contractor shall be responsible to comply with any applicable codes or ordinances.

All submissions become the property of AEP Ohio. It is recommended for you to keep to a copy for your records.

I understand that this project must involve a facility improvement that results in improved energy efficiency. I also understand that all materials removed, including lamps and PCB ballasts, must be permanently taken out of service and disposed of in accordance with local codes and ordinances. I understand it is my responsibility to be aware of any applicable codes or ordinances. Information about hazardous waste disposal can be found at:
<http://www.epa.gov/epawaste/hazard/index.htm>

I understand that the Application and all required documentation should be received by the AEP Ohio Business Incentives for Energy Efficiency program by November 16, 2012 for any projects completed on or after January 1, 2009. Any applications received after the deadlines may not be submitted to the PUCO by December 31, 2012 and could jeopardize approval of any credit by the PUCO. All equipment must be fully operational.

AEP Ohio will pay 75% of the lesser of: 1) The calculated credit as approved by AEP Ohio subject to funding limits or 2) 50% of the project cost (subject to application caps). I understand that AEP Ohio or their representatives have the right to ask for additional information at any time AEP Ohio's Business Incentives Program for Energy Efficiency will make the final determination of energy efficiency credit levels for this project.

The program has a limited budget. Applications will be processed within the budget limits. Applications and all supporting documentation required should be received by November 16, 2012 to be eligible for funding under the current program period.



Self-Direct Program Project Application

SELF-DIRECT APPLICATION AGREEMENT

Customer understands and agrees that all other terms and conditions, as specified in the application, including all attachments and exhibits attached to this application which will serve as a contract for the Customer's Commitment of energy and demand resources to AEP Ohio shall apply.

I understand that AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measure eligible for energy efficiency credits under this program, and, further, that AEP Ohio has no obligations regarding any claims, promises, work, or equipment made, performed, or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures and does not endorse or guarantee same.

Energy efficiency credits will be based upon the final application and program terms and conditions, as well as the availability of funds.

Any and all energy savings generated by the project described in this application are hereby committed to AEP Ohio in order to count against its respective companies' benchmark requirements in S.B.221.

ENERGY EFFICIENCY CREDITS REQUESTED

I have read and understand the program requirements and measure specifications, and Terms and Conditions set forth in this application and agree to abide by those requirements. Furthermore, I concur that I must meet all eligibility criteria in order to be paid under this program.

ALL EQUIPMENT MUST BE INSTALLED AND OPERATIONAL. A CUSTOMER SIGNATURE IS REQUIRED FOR PAYMENT. SIGNED APPLICATIONS RECEIVED BY FAX OR EMAIL WILL BE TREATED THE SAME AS ORIGINAL APPLICATIONS RECEIVED BY MAIL. All submissions become the property of AEP Ohio. Keep a copy for your records.

TOTAL PROJECT COST		TOTAL ENERGY EFFICIENCY CREDITS REQUESTED*
CUSTOMER SIGNATURE (AEP OHIO CUSTOMER)		
PRINT NAME	DATE	ACTUAL COMPLETION DATE

**AEP Ohio will pay the lesser of 1) The calculated credit as approved by AEP Ohio 2) 50% of the total project cost of the project.*



FEATURES & SPECIFICATIONS

INTENDED USE

ES8P provides a high-performance T8 (HPT8) energy-saving alternative to 3-lamp, 18-cell parabolic fixtures. Used in place of parabolics, ES8P can provide 44% energy savings while meeting IESNA recommended illuminance levels. Ideal for retail, educational, and commercial applications requiring lighting power density as low as 0.6 watts/square foot.

ATTRIBUTES

Designed and optimized for use with CEE (Consortium for Energy Efficiency) qualified, high-lumen T8 lamps and energy-efficient electronic ballasts.

Highly reflective surfaces combine with efficient design to produce up to 86% photometric efficiency and a Luminaire Efficacy Rating (LER) of up to 86 using listed lamps and ballast.

CONSTRUCTION

Robust design, precision-tooling and automated assembly combine to create the industry's strongest louver. Rotary sockets provide for simple lamp insertion and positive engagement into lamp contacts. Mechanical light seal requires no foam gasketing. Integral T-bar clips secure fixture to T-bar system. Housing formed of cold-rolled steel.

FINISH

Five-stage iron-phosphate pre-treatment ensures superior paint adhesion and rust resistance. Housing painted after fabrication with environmentally friendly, high gloss, very high reflectivity polyester powder-coat.

Louver painted after fabrication with low gloss, high reflectivity polyester powder coat.

OPTICAL

Mechanical shielding is provided with angled length blades, and linear faceted cross baffles. Contoured housing efficiently directs light downward. Lamp cut-out maximizes shielding even in shallow plenum applications and softens light distribution to deliver a balanced amount of light to both vertical and horizontal surfaces.

ELECTRICAL SYSTEM

Standard ballast is high-efficiency, CEE qualified, instant-start, ≤10% THD, universal voltage and sound rated A.

Optional program-start and step-dimming ballasts available.

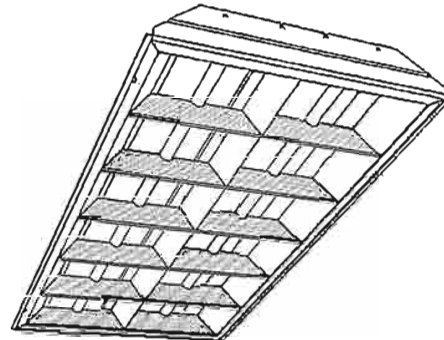
LISTING

Standard: UL; Optional: Canada – CSA or cUL. Mexico – NOM.

Catalog Number	2ES8P 232 BINP L835HT8	Type
Notes	800 Series lamps installed	2ES8

manco TB Lighting

ES8P 2'x4'



2 Lamps
T8

Specifications

Length: 48 (1218)

Width: 24 (609)

Depth: 3-11/16 (94)

Weight: 26 lbs (11.7 kg)

All dimensions are inches (millimeters) unless otherwise specified.

WARRANTY

Light fixture is guaranteed for one year against mechanical defects in manufacture.

Ballast is warranted for five years, and lamp is warranted for three years under system warranty terms provided by lamp and ballast manufacturer. For options, see below.

US PATENTS: 6,210,025; 6,231,213, additional patents pending.

Specifications subject to change without notice.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options** (shown in bold).

Example: 2ES8P 232 BINP L835HT8

2ES8P		232		BINP		L835HT8	
Series	Trim type	Number of lamps/wattage	Voltage	Ballast	Lamp	Options ⁴	
2ES8P	(blank) Lay-in grid	232 2-lamp, 32W T8 (48")	(blank) MVOLT ¹	BILP IS, high efficiency, .78 bf (low)	L835HT8 3100 lumen, long life, 3500°K	EL	Emergency battery pack (nominal 300 lumens)
	F Overlapping flanged	Included.	120	BINP IS, high efficiency, .88 bf (normal)	L830HT8 3100 lumen, long life, 3000°K	EL14	Emergency battery pack (nominal 1400 lumens)
	MT Modular fit-in		277	BIHP IS, high efficiency, 1.20 bf (high) ²	L841HT8 3100 lumen, long life, 4100°K	PWS1836	6' prewire, 3/8" dia., 18-gauge, 3 wires
			347	BSNP PS, step-dimming, high efficiency, .88 bf (normal) ³		QFC	Quick-flex, fixture cable, factory installed prewired cable (RELOC) ⁵
						BDP	Ballast disconnect. Meets codes that require in-fixture disconnect
						CSA	Listed and labeled to comply with Canadian standards
						NOM	NOM Certified

NOTES:

- 1 MVOLT standard for 120V - 277V applications. 50 or 60 Hz operation. Some options require voltage specified.
- 2 CEE qualified ballast is not available in 347V.
- 3 Not available with 347V.
- 4 Other options available may increase fixture depth to 4-1/2". Consult factory if plenum space is a concern.
- 5 Must specify voltage.

Fluorescent

Sheet #: 2ES8P-2x4

PAR-20



FEATURES & SPECIFICATIONS

INTENDED USE

For applications that require the clean appearance of a low profile, brightness controlled wraparound. Provides broad distribution of light for offices, schools and corridors.

ATTRIBUTES

Curved prismatic diffuser with linear side prisms minimize lamp image and provides high angle brightness control. Luminous end plates soften appearance for improved aesthetics.

CONSTRUCTION

Metal parts are die formed from code-gauge steel. Prismatic diffuser is 100% acrylic with sonically welded luminous ends. Continuous side flanges on fixture body provide light trap and continuous diffuser support to prevent accidental opening and simplify maintenance.

FINISH

Five stage iron-phosphate pretreatment assure superior paint adhesion and rust resistance.

Painted parts finished with high-gloss, high-reflectivity baked white polyester enamel (low VOC).

ELECTRICAL SYSTEM

Thermally-protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast is standard. Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

UL/CSA listed ballast disconnect w/strain relief and leads provided standard.

LISTING

UL Listed (standard). Optional: Canada CSA or c-UL Mexico NOM.

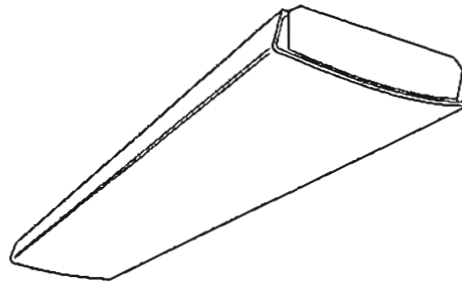
WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Catalog Number	LB 2 32 MVOLT GEB10RS	
Notes		Type LW2

Low-Profile Wraparound

LB



T5 and T8
2 lamps
Narrow body
2', 4' or 8' length

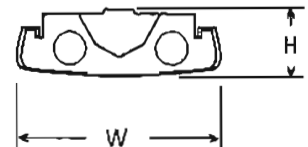
Specifications

T8 Length: 24 (61.00) 48 (122.00)
or 96 (243.90)

T5 Length: 48.5 (121.1) 22.5 (57.2)

Width: 10 (25.40)

Depth: 3 (7.62)



All dimensions are inches (centimeters).
Specifications subject to change without notice.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

Example: LB 2 32 MVOLT GEB10IS

LB	2	32	MVOLT	GEB10RS
Series	Number of lamps	Lamp type	Voltage	Options
LB 2 lamps, 10" wide For tandem, double-length unit, add prefix T. Example: TLB	2 Not included	17 17W T8 (24") 32 32W T8 (48") 14 14W T5 (22.5") ¹ 28 28W T5 (48.5") ²	120 277 347 MVOLT Others available	1/4 One, four-lamp ballast GEB10IS Electronic ballast, ≤10% THD, instant start GEB10PS Electronic ballast, ≤10% THD, program start EL Emergency battery pack (nominal 300 lumens, see Life Safety Section) GLR Internal fast-blow fuse ¹ GMF Internal slow-blow fuse ¹ LSC Lens safety clips (2 per fixture) LP Lamped; specify lamp type and color CSA Listed and labeled to comply with Canadian Standards SSR Specular silver interior finish (95% reflective)

Accessories

Order as separate item

SQ Swivel-stem hanger (specify in 2" increments).

1B Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).

DSH24 Double stem hanger for 4' fixtures, 24" stems.

NOTES:

¹ Must specify voltage.

² All T5 lamp types use GEB10PS ballast only.

Decora Wall Switch Occupancy Sensor

ODS10-ID

APPLICATION

Leviton's Cat. No. ODS10-ID Decora Wall Switch Passive Infrared (PIR) Occupancy Sensor is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications, including:

- Small offices
- Conference rooms
- Lounges
- Class rooms

The ODS10-ID can be used for automatic switching of incandescent lamps and fluorescent and low-voltage lighting with electronic or magnetic ballasts. The unit also features a manual override switch that can be used to keep lights OFF while an area is occupied, which may be desired in conference rooms and other areas during slide or film presentations. The unit installs in place of a single-pole wall switch and fits in a standard wall box. The unit requires a ground connection.

OPERATION

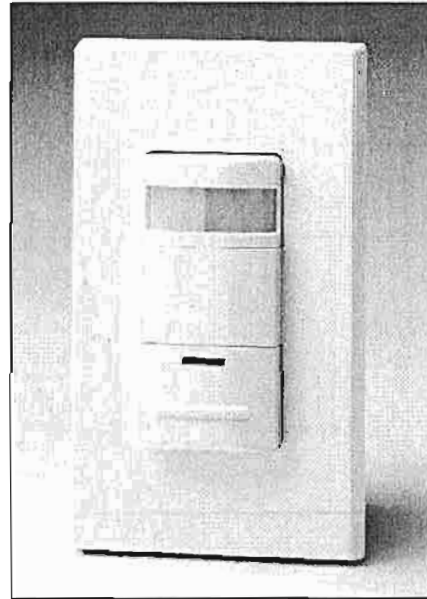
The ODS10-ID uses passive infrared (PIR) detection technology to monitor a room for occupancy through a segmented Fresnel lens. This specialized lens divides the field of view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches the lights ON. The lights will remain ON as long as there is an occupant moving through the sensor zones.

A delayed-OFF time adjustment prevents the lights from switching OFF when the space is occupied. In order to keep the lights ON, a person must pass through a sensor zone at least once during the selected delayed-OFF time interval. An LED indicator blinks each time the unit detects activity in the sensor zones. When the space being monitored by the sensor is unoccupied for the length of time chosen as the delayed-OFF interval, the unit will switch the lights OFF.

To ensure longer service life and compatibility with electronic ballasts, the device carefully times its switching contact opening and closing with the zero crossing point of the AC power curve. This minimizes contact wear caused by in-rush currents from electronic ballasts.

Push-button Manual Override Control

For manual control, the ODS10-ID features a convenient push-button switch. If the lights are OFF, pressing the button will turn lights ON and keep them ON for as long as the room is occupied. The lights will be turned OFF once the room is vacant, after the delayed-OFF time expires. If the lights are ON, pressing the button will turn lights OFF and keep them OFF even if the



Cat. No. ODS10-ID

room is occupied. This feature is particularly useful for media presentations. The lights can be turned back ON by simply pressing the button. The unit will then return to normal operation. If the button is not pressed to turn the lights back ON and the unit does not detect any motion during the delayed-OFF time interval, the lights will remain OFF. The unit then returns to normal operation where the lights will remain OFF until it detects occupancy and automatically switches lights ON.

Manual-ON/Auto-OFF Mode

In this mode, the unit will not turn lights ON automatically when motion is detected. Lights can only be turned ON by manually pressing the push-button. The lights will remain ON as long as the unit detects activity in the sensor zones. The ODS10-ID will shut lights OFF automatically after the space becomes unoccupied and the delayed-OFF time expires. Lights can also be turned OFF manually at any time by pressing the push-button. This mode is ideal for areas where manual ON switching is required but automatic OFF switching is desired for energy savings.

LEVITON SPECIFICATION SUBMITTAL

JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

Self-Contained Ceiling Mount Occupancy Sensor Switch

ODCOS-11 (120V)
ODCOS-17 (277V)
ODCOS-12 (220V)

APPLICATION

Leviton's Self-Contained Passive Infrared Ceiling Occupancy Sensor is the cost-effective choice for commercial and institutional installations, where installation of the recessed ceiling unit is difficult, inconvenient or costly. Available in 120V, 220V and 277V versions, the ODCOS-1 is ideal for storage areas, small bathrooms, copy rooms, mop/sink closets or small spaces without wall switches. The Self-Contained Ceiling Sensor does not require an external control unit for power or switching the load ON and OFF.

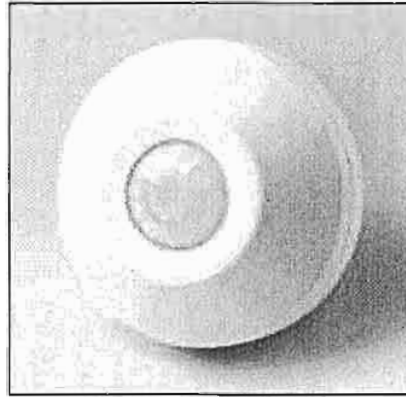
OPERATION

The Cat. No. ODCOS-1 uses passive infrared (PIR) detection technology to monitor a room for occupancy through a segmented Fresnel lens. This specialized lens divides the field of view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches its lighting loads ON. The lights will remain ON as long as there is an occupant moving through the sensor zones.

A delayed-OFF time adjustment prevents the lights from switching OFF when the space is occupied. In order to keep the lights ON, a person must pass through a sensor zone at least once during the selected delayed-OFF time interval. The delayed-OFF time settings can be adjusted from 20 seconds (for test mode) to 15 minutes. When the sensor does not detect motion during the selected delayed-OFF time, the sensor will switch the lights OFF automatically after the time interval expires.

The maximum sensing range is approximately 26 feet in diameter when the sensor is mounted in an 8 foot ceiling. A 13 foot diameter "small motion zone" (approximately 169 sq. ft.) detects relatively small body movements and allows lights to stay ON even though employees may not be moving or walking around the room. The remainder of the field, or "large motion zone," exhibits a lesser degree of sensitivity, requiring larger movements. For coverage area at different mounting heights, see Table 1.

The ODCOS is also equipped with an ambient light override option. This option will prevent the sensor from switching the lights ON when there is ample natural sunlight, regardless of occupancy.



Cat. Nos. ODCOS-11, 17, 12

At a distance close to the detector, slight movement can be detected. As the distance away from the detector increases, the space between the zones of sensitivity increases, and therefore the amount of motion required to trigger the detector increases.

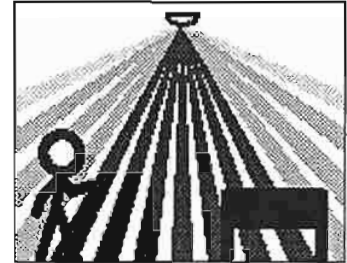
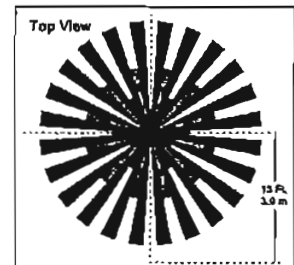
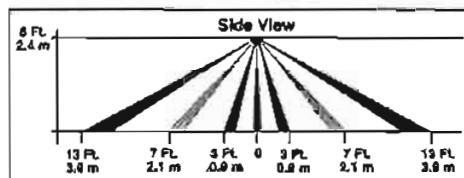
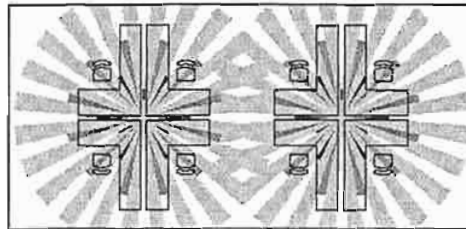


Table 1

Mounting Height		Area of Coverage		Diameter of Coverage	
Feet	Meters	Sq. Feet	Sq. Meters	Feet	Meters
8	2.4	530	47	26	7.8
9	2.7	660	59	29	8.7
10	3.1	804	74	32	9.7
11	3.4	962	90	35	10.7
12	3.6	1200	108	39	11.7

Top View Overlapping Coverage



LEVITON SPECIFICATIONSUBMITTAL

JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

Occupancy Sensor Multi-Technology Ceiling Sensor

OSC20-MOW
OSC10-MOW
OSC05-MOW

The most advanced sensor available. Combines multi-technology with all-digital architecture. Eliminates false triggering. The result is a trouble-free, "install and forget" solution for lighting control.

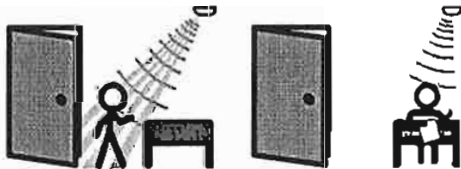
THE OSCxx-MOW SERIES OCCUPANCY SENSOR

- MULTI-TECHNOLOGY FOR HIGHEST RELIABILITY
INFRARED & ULTRASONIC
- SIMPLE, FAST INSTALLATION
- SELF-ADJUSTING
- ALL-DIGITAL, COMPLETE RELIABILITY
- PHOTOCELL BUILT-IN
- CEILING MOUNT



GENERAL OPERATION

Occupancy sensors have two tasks: keeping the lights on while the room is occupied and, conversely keeping the lights off when unoccupied. Ultrasonic (doppler shift) motion detection gives maximum sensitivity yet can be vulnerable to false triggering from air conditioning currents, corridor activity and movement of inanimate objects. Infrared motion sensing gives immunity to false triggering, but lacks sensitivity at greater distances. Leviton multi-technology sensors combine the benefits of both infrared and ultrasonic technologies for unrivaled performance and reliability.



Upon room entry, the infrared detects motion and turns lights on.

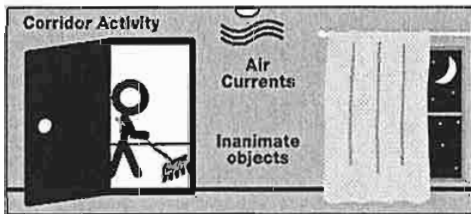
Ultrasonic keeps lights on even with very minor motion.

ADAPTIVE FUNCTIONS

The OSCxx-MOW constantly analyzes and adapts to changing conditions

HOW THE ODCXX-M AUTOMATICALLY ADAPTS

Condition	Example	Adaptive Reaction
Timer Left In Test Mode - The sensor remains in an 6 sec. test mode.	An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go off or on every 6 sec.	The sensor automatically resets the timer to 10 min after 15 min of test mode.
False-On - The sensor incorrectly turns the lights on.	The sensor detects movement in the corridor or hallway and the room lights turn on.	After an initial movement is sensed, if another movement is not sensed within the timer setting then the delayed off time setting is automatically reduced.
False-Off - The sensor incorrectly turns the lights off.	The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn off.	If motion is sensed within a short period after the lights go off, then the current delayed off-time setting is increased.



When unoccupied, lights stay off while air conditioning system cycles on and off, and cleaning crews occupy corridors.

LEVITON SPECIFICATION SUBMITTAL

JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

Product Specifications

RELAY CABINETS	
R08BD-000	Z-MAX (8) Relay Cabinet, Basic, 120V, 277V and 347V, No Relays
R08BD-108	Z-MAX (8) Relay Cabinet, Basic, 120V, 277V and 347V, (8) Standard Relays
R08BD-208	Z-MAX (8) Relay Cabinet, Basic, 120V, 277V and 347V, (8) 2-Pole Relays
R08ND-000	Z-MAX (8) Relay Cabinet, Networkable, 120V, 277V and 347V, No Relays
R08ND-108	Z-MAX (8) Relay Cabinet, Networkable, 120V, 277V and 347V, (8) Standard Relays
R08ND-208	Z-MAX (8) Relay Cabinet, Networkable, 120V, 277V and 347V, (8) 2-Pole Relays
R24MD-000	Z-MAX (24) Relay Cabinet, Master, 120V, 277V and 347V, No Relays
R24MD-112	Z-MAX (24) Relay Cabinet, Master, 120V, 277V and 347V, (12) Standard Relays
R24MD-124	Z-MAX (24) Relay Cabinet, Master, 120V, 277V and 347V, (24) Standard Relays
R24MD-224	Z-MAX (24) Relay Cabinet, Master, 120V, 277V and 347V, (24) 2-Pole Relays
R48MD-000	Z-MAX (48) Relay Cabinet, Master, 120V, 277V and 347V, No Relays
R48MD-124	Z-MAX (48) Relay Cabinet, Master, 120V, 277V and 347V, (24) Standard Relays
R48MD-136	Z-MAX (48) Relay Cabinet, Master, 120V, 277V and 347V, (36) Standard Relays
R48MD-148	Z-MAX (48) Relay Cabinet, Master, 120V, 277V and 347V, (48) Standard Relays
R48MD-248	Z-MAX (48) Relay Cabinet, Master, 120V, 277V and 347V, (48) 2-Pole Relays

RELAY CARDS	
RELAY-ST2	Single-Pole N/O Relay Card, 20A, 120-277V
RELAY-2PL	2-Pole, N/O Relay Card, 20A, 208-480V
RELAY-1NC	Single-Pole N/C Relay Card, 20A, 120-277V
RELAY-2NC	2-Pole N/C Relay Card, 20A, 208-480V
RELAY-347	347V Relay Card, 20A, 347V
RELAY-LAT	Latching Relay Card, 20A, 347V
RELAY-030	Single-Pole N/O or N/C Relay Card, 30A, 120-277V

Reference Z-MAX Relay Card Data Sheet for specifications.

ACCESSORIES	
RAC00-SIB	Switch Input Board - 36 Discrete Inputs
RAC00-MOD	External Modem with Touch Tone Input Capability
RAC00-ETH	Ethernet Module
RAC00-08F	Flush Trim Kit for 8 Relay Cabinet
RAC00-24F	Flush Trim Kit for 24 Relay Cabinet
RAC00-48F	Flush Trim Kit for 48 Relay Cabinet
RAC00-VBR	Voltage Barrier between Relay cards
RAC00-485*	Z-MAX Expansion Module for Bacnet MSTP
RAC00-BUS*	Z-MAX Expansion Module for ModBus or Lonworks
RAC00-BIP*	Z-MAX Expansion Module for Bacnet IP
RAC00-JSC*	Z-MAX Expansion Module for Johnson Control Metasys

*Consult factory for availability.

Cabinet	Length	Height	Depth	Weight – Fully Loaded	Suggested Mounting Height to bottom of cabinet
8 Relays – Networked	13" (330.20 mm)	13" (330.20 mm)	4 11/32" (110.55 mm)	16 lbs (7.26 kg)	53" (1,358.9 mm)
24 Relay Cabinet	20" (514.35 mm)	34" (863.60 mm)	4 11/32" (110.55 mm)	44 lbs (19.96 kg)	32" (825.5 mm)
48 Relay Cabinet	20" (514.35 mm)	54" (1371.60 mm)	4 11/32" (110.55 mm)	65 lbs (29.48 kg)	12" (317.5 mm)

Leviton Manufacturing Co., Inc., Lighting Management Systems Division
20497 SW Teton Ave., Tualatin, OR 97062-8812 USA • PO Box 2210, Tualatin, OR 97062 USA
US Customer Service : (800) 736-6682 Fax: (503) 404-5594 • US Tech Support: (800) 959-6004

Website: <http://www.leviton.com/lms>


LEVITON
Building a Connected World

G-69978/J17

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/19/2013 10:50:26 AM

in

Case No(s). 13-0477-EL-EEC

Summary: Application of CC Technologies and Ohio Power Company for approval of a special arrangement agreement with a mercantile customer
electronically filed by Mr. Yazen Alami on behalf of Ohio Power Company