2010-0516

VILLAGE OF ORLAND PARK
SMART ENERGY FUND AGREEMENT

THIS AGREEMENT, entered into this 8th day of November, 2010, between the Village of Orland Park, Illinois (hereinafter referred to as "Village") and the following designated Owner/Lessee, to witness:

Owner's Name:	Terry Kunes
Lessee's Name:	Terry's Lincoln Mercury, Inc.
Name of Business:	Terry's Lincoln of Orland Park
Tax ID#/Social Security #:	36-2709641
Address of Property to be Improved:	9401 W. 143rd Street
PIN Number:	27-10-100-024 and -025

WITNESSETH:

WHEREAS, the Village of Orland Park has established a Smart Energy Fund for application within the Village of Orland Park (the "Village") and funded it through the American Recovery and Reinvestment Act of 2009 via the United States Department of Energy's Energy Efficiency and Conservation Block Grant (EECBG); and

WHEREAS, said Smart Energy Fund is administered by the Village for the purposes of helping property owners and tenants of commercial structures within the Village to conserve resources and install high performance, energy efficient and renewable energy systems; and

WHEREAS, pursuant to the Smart Energy Fund the Village, subject to its sole discretion, will reimburse Owners/Lessees for the cost of eligible energy efficiency/ renewable energy improvements to commercial structures within the Village up to a maximum of one-half (1/2) of the approved contract cost of such improvements or $20,000.00, whichever is less; and

WHEREAS, the Owner/Lessee's property is located within the Village, and the Owner/Lessee desires to participate in the Smart Energy Fund pursuant to the terms and provisions of this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements obtained herein, the Village and the Owner/Lessee do hereby agree as follows:

SECTION 1

With respect to energy efficiency/ renewable energy improvements, the Village shall reimburse an Owner/Lessee for the cost of improvements to the Owner/Lessee's property at the rate of fifty percent (50%) of such cost.

The actual total reimbursement amounts per this Agreement shall not exceed $20,000.00. The improvement costs that are eligible for Village reimbursement include all labor, materials, equipment, and other contract items necessary for the proper execution and completion of the scope of work as shown on the plans, design drawings, specifications and estimates approved by the Village. Such plans, design drawings, specifications, estimates and scope of work are attached hereto as Exhibit A.

The energy efficiency/ renewable energy improvements to be performed pursuant to this Agreement are:

Per Timm Electric bid:
- Install a new lighting control panel for exterior site lighting;
- Standardize the entire facility (excluding outdoor lighting) to replace the variable lighting fixtures, most of which are existing T12 fixtures, with 25w T8 electronic fixtures;
- Replace all the existing 400w Metal Hallide (MH) interior fixtures with 6 lamp T8 25w fixtures;
- Replace all the candelabra 40w lamps with 2.5w LED lights

T-Bay II 6-Light T5HO/T8 Housing
- Standard unit for implementation;

GE Ecolux Starcoat T8 (Model #72130-F32T8/25WSPX41EC);
- 25 watt bulbs;
- ComEd Smart Ideas for Your Business (SIYB) compliant;

GE LFL Ultramax Electronic High Efficiency Multivolt Instant Start Ballast
- ComEd SIYB compliant;

Lutron Softswitch 128 Switching System/ Panel
- Model # XPS48-FT;
- FOMX-1B-SL-WH - 1 button OMX wall-station;
- Telephone Startup;
- Control panel for outdoor lighting;

Lithonia Lighting I-Beam Fluorescent Lighting Bay 6-Lamp T8
- 48"Lx17.5"Wx4"D;
- (Shop and Service Area);
- ComEd SIYB compliant;

Lithonia Lighting GT8 2'x4' Troffer
- 48"Lx24"Wx3"D;
- Recessed lay-in 2x4 3 lamp T8;

- (Office Area);
- ComEd SIYB compliant;

Lithonia Lighting C General Purpose Strip
- 96"Lx4"wx2"D;
- T8 Strip-lights 1 and 2 lamp T8;
- Use tandem units for 8' applications;
- (Parts and Storage);
- ComEd SIYB compliant;

Speclight FPP t8, CF Parabolic Body Troffer
- 6 lamp profile configuration;
- Highbay with reflector;
- (Showroom);
- ComEd SIYB compliant;

SECTION 2

No improvement work shall be undertaken until its design has been submitted to and approved by the Village. Following approval, the Owner/Lessee shall contract for the work and shall commence and complete all such work within ninety (90) days from the date of such approval.

SECTION 3

The Development Services Director shall periodically review the progress of the contractor's work on the energy efficiency/ renewable energy improvements pursuant to this Agreement. Such inspections shall not replace any required permit inspections by the Building Inspectors. All work which is not in conformance with the approved plans, design drawings and specifications shall be immediately remedied by the Owner/Lessee and deficient or improper work shall be replaced and made to comply with the approved plans, design drawings and specifications and the terms of this Agreement.

SECTION 4

Upon completion of the improvements and upon their final inspection and approval by the Development Services Director or his/her designee, the Owner/Lessee shall submit to the Village a properly executed and notarized contractor sworn statement showing the full cost of the work, as well as each separate component amount due to the contractor and each and every subcontractor involved in furnishing labor, materials or equipment in the work. In addition, the Owner/Lessee shall submit to the Village proof of payment of the contract cost pursuant to the contractor's statement and final lien waivers from all contractors and subcontractors. The Owner/Lessee shall also submit to the Village a copy of all of the invoices for professional services fees for preparation of plans and specifications. The Village shall, within thirty (30) days of receipt of the contractor's statement, proof of payment and lien waivers, and the professional services statement, issue a check to the Owner/Lessee as reimbursement for one-

half (1/2) of the approved construction cost estimate or one-half (1/2) of the actual construction cost, whichever is less, subject to the limitations set forth in Section 1 hereof.

SECTION 5

If the Owner/Lessee or his contractor fails to complete the improvement work provided for herein in conformity with the time limitation, approved plans, design drawings and specifications and the terms of this Agreement, then upon written notice being given by the Development Services Director to the Owner/Lessee, by certified mail to the address listed above, this Agreement shall terminate and the financial obligation on the part of the Village shall cease and become null and void.

SECTION 6

Upon completion of the improvement work pursuant to this Agreement, the Owner/Lessee shall be responsible for properly maintaining such improvements in finished form and without change or alteration thereto, as provided in this Agreement, unless changes are submitted for review and are approved by the Village Board. Such approval shall not be unreasonably withheld if the proposed changes do not substantially alter the original design concept of the improvements as specified in the plans, design drawings and specifications approved pursuant to this Agreement. In the event the approved energy efficiency/ renewable energy improvements are not properly maintained or alterations are made to the improvements without prior consent from the Village, the Village reserves the right to terminate this Agreement, hold the applicant liable for any architectural design and consultant fees incurred by the Village, and require reimbursement in full for all monies expended towards the project through this Smart Energy Fund.

SECTION 7

This Agreement shall be binding upon the Village and upon the Owner/Lessee and its successors, to said property for a period of ten (10) years from and after the date of completion and approval of the energy efficiency/ renewable energy improvements provided for herein. It shall be the responsibility of the Owner/Lessee to inform subsequent Owner/Lessee(s) of the provisions of this Agreement, and to be aware of the requirement for prior Village approval of any alteration whatsoever to the building energy systems funded by the Smart Energy Fund.

SECTION 8

The Owner/Lessee releases the Village from, and covenants and agrees that the Village shall not be liable for, and covenants and agrees to indemnify and hold harmless the Village and its officials, officers, employees and agents from and against, any and all losses, claims, damages, liabilities or expenses, of every conceivable kind, character and nature whatsoever arising out of, resulting from or in any way connected directly or indirectly with the energy efficiency/ renewable energy improvement(s), including but not limited to actions arising from the Prevailing Wage Act (820 ILCS 30/0.01 et seq.) and the Davis-Bacon Act (40 U.S.C. 3141 *et seq.*) The Owner/Lessee further covenants and agrees to pay for or reimburse the Village and its officials, officers, employees and agents for any and all costs, reasonable attorneys' fees,

liabilities or expenses incurred in connection with investigating, defending against or otherwise in connection with any such losses, claims, damages, liabilities, or causes of action. The Village shall have the right to select legal counsel and to approve any settlement in connection with such losses, claims, damages, liabilities, or causes of action. **The provisions of this Section 8, as well as Sections 6 and 7, above, shall survive the completion of said façade improvement(s).**

SECTION 9

Nothing herein is intended to limit, restrict or prohibit the Owner/Lessee from undertaking any other work in or about the subject premises, which is unrelated to the energy efficiency/ renewable energy improvements provided for in this Agreement.

SECTION 10

This Agreement shall be enforceable by any action at law or in equity, including actions for specific performance and injunctive relief. The laws of the State of Illinois shall control the construction and enforcement of this Agreement. The parties agree that all actions instituted on this Agreement shall be commenced and heard in the Circuit Court of Cook County, Illinois, and hereby waive venue in any other court of competent jurisdiction. Before any failure of any party to perform any obligation arising from this Agreement shall be deemed to constitute a breach, the party claiming the breach shall notify the defaulting party and demand performance. No breach of this Agreement shall be found to have occurred if performance is commenced to the satisfaction of the complaining party within thirty (30) days of the receipt of such notice.

IN WITNESS THEREOF, the parties hereto have executed this Agreement on the date first appearing above.

OWNER

Terry Kunes

VILLAGE OF ORLAND PARK,
an Illinois home rule municipality

By: _____
Village Administrator

LESSEE (if applicable)

Terry's Lincoln Mercury, Inc
David A Cornaire
General Manager

ATTEST: _____
Village Clerk

SYSTEMS OVERVIEW

**TOTAL WATTAGE CONSUMPTION OF EXISTING SYSTEM = 932,000,000 WATTS*

** TOTAL WATTAGE OF PROPOSED SYSTEM= 464,000,000 WATTS*

** TOTAL ENERGY SAVINGS PER YEAR $59,887.00*

** TOTAL REBATES COM ED: $21,287.00*

EPACT [TAX INCENTIVE] $19,200.00 (35% TAX BRACKET) = $6720.00

VILLAGE OF ORLAND PARK $20,000.00

TOTAL PROJECT COST $93,800.00 INCLUDING CONSULTATION

** TRUE R.O.I. 9.18 MONTHS*

QUALIFICATIONS

Timm Electric Inc. and Electrical Solutions Network, Inc. **are uniquely qualified to perform consulting service, design and installation for Terry's Lincoln Mercury. Our offices are devoted exclusively to Energy Efficiency consultation, design and installation. As such, we bring to our clients:**

- **Extensive knowledge of energy efficient products and application;**
- **Complete understanding and deciphering of Com. Ed. application process;**
- **Complete understanding of EPACT IRS tax incentive program;**
- **Coordination of installation processes;**
- **Continual education of available products and services;**
- **Years of experience in procurement of materials, installation and services.**

We look forward to progressing towards a future in energy efficiency.

Aaron Spencer & Terence Smith

Aaron Spencer & Terence Smith

PROJECT OVERVIEW

TERRY'S LINCOLN MERCURY

ENERGY EFFICIANCY PROGRAM

PREPARED: SEPTEMBER 2010

Timm Electric, Inc. **&** ***Electrical Solutions Network, Inc.*** **Has prepared this proposal to provide the most comprehensive consultation and energy saving proposal to Terry's Lincoln Mercury possible. We have designed and composed not only one of the highest payback facility system layouts in our careers; but a system we believe will create a showplace in** ***Energy Efficiency*****.**

GOAL

We believe the goal of Terry's Lincoln Mercury is to achieve the highest level of energy efficiency in the most comprehensive, accessible, and cost effective manner. Terry's Lincoln Mercury places a high priority on working with programs and vendors that will provide the utilization and cost information necessary to achieve a long term strategy towards energy efficiency.

LONGTERM GOALS

- **Create an employee, customer and environmental friendly atmosphere;**
- **Obtain data of current system and outline plan to create future efficiency programs;**
- **Re-investment of energy efficiency into further initiatives;**
- **Fully take advantage of all local utility and federal tax incentive programs to obtain these goals.**

TIMM Electric, Inc.
Providing TEGG Electrical Services

17832 Mills Road • Joliet, IL 60433
(815) 723-4501 • Fax (815) 723-7243
www.timmelectricinc.com

ENERGY SAVINGS PROPOSAL

TERRY'S LINCOLN MERCURY
Outdoor Lighting Control

Number of fixtures	154	Hours burned per year	2160
Watts/fixture current system	1078	Cost per kwh	.1050
Watts/fixture proposed system	589		

Investment to upgrade/fixture	***$185.00(per circuit)***
Annual maint. Costs current system	***$2200.00***
Annual maint. Costs proposed system	***$1100.00***

Cost of Electricity

Current system	*$37,150.50*	per yr
Proposed system	*$20,572.00*	per yr

Energy savings (proposed system)

Cooling savings per year		*$0.00*
Each fixture	per yr	*$222.00*
Entire site	per yr	*$16,578.50*

Investment Recovered (Payback)

Energy savings alone will recover investment in	20 months
Maintenance Saving (including cooling and maintenance)	19 months

Investment to upgrade	***$28,490.00***
Net annual saving	*$17,678.50*
ESTIMATED COMM ED REBATE	*$7,923.35*
Investment (R.O.I.)	*1.16 Years*

Audit conducted by: Aaron Spencer & Terence P. Smith

ESN
Electrical Solutions Network, Inc.
302 Turnbridge Drive
Shorewood, IL 60404

Ph: 815-462-8215
Fx: 815-741-0467

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ENERGY SAVINGS PROPOSAL

TERRY'S LINCOLN MERCURY
SHOP/SERVICE

Number of fixtures	37	Hours burned per year	4320
Watts/fixture current system	458	Cost per kwh	.1050
Watts/fixture proposed system	116		

Investment to upgrade/fixture	***$430.00***
Annual maint. Costs current system	***$500.00***
Annual maint. Costs proposed system	***$50.00***

Cost of Electricity

Current system	***$7687.00***	per yr
Proposed system	***$1947.00***	per yr

Energy savings (proposed system)

Cooling savings per year		***$976.00***
Each fixture	per yr	***$155.00***
Entire site	per yr	***$5740.00***

Investment Recovered (Payback)

Energy savings alone will recover investment in	28 months
Maintenance Saving (including cooling and maintenance)	27 months

Investment to upgrade	***$15910.00***
Net annual saving	***$7166.00***
ESTIMATED COMM ED REBATE	***$3700.00***
Investment (R.O.I.)	**1.70 YEARS**

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ENERGY SAVINGS PROPOSAL

TERRY'S LINCOLN MERCURY
OFFICE/ PARTS/STORAGE

AVERAGE WATTAGES OF EXISTING AND PROPOSED

Number of fixtures	164	Hours burned per year	4320
Watts/fixture current system	132.50	Cost per kwh	.1050
Watts/fixture proposed system	58		

Investment to upgrade/fixture	*$176.28*
Annual maint. Costs current system	*$650.00*
Annual maint. Costs proposed system	*$50.00*

Cost of Electricity

Current system	*$9857.00*	per yr
Proposed system	*$4315.00*	per yr

Energy savings (proposed system)

Cooling savings per year		*$942.00*
Each fixture	per yr	*$34.00*
Entire site	per yr	*$5542.00*

Investment Recovered (Payback)

Energy savings alone will recover investment in	54 months
Maintenance Saving (including cooling and maintenance)	49 months

Investment to upgrade	*$28910.00*
Net annual saving	*$7084.00*
ESTIMATED COMM ED REBATE	*$7200.00*
Investment (R.O.I.)	3.06 YEARS

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ENERGY SAVINGS PROPOSAL

TERRY'S LINCOLN MERCURY SHOWROOM

Number of fixtures	24	Hours burned per year	4320
Watts/fixture current system	458	Cost per kwh	.1050
Watts/fixture proposed system	116		

Investment to upgrade/fixture	***$485.00***
Annual maint. Costs current system	***$400.00***
Annual maint. Costs proposed system	***$40.00***

Cost of Electricity

Current system	***$4986.00***	per yr
Proposed system	***$1263.00***	per yr

Energy savings (proposed system)

Cooling savings per year		***$634.00***
Each fixture	per yr	***$155.00***
Entire site	per yr	***$3723.00***

Investment Recovered (Payback)

Energy savings alone will recover investment in	32 months
Maintenance Saving (including cooling and maintenance)	30 months

Investment to upgrade	***$11640.00***
Net annual saving	***$4716.00***
ESTIMATED COMM ED REBATE	***$2400.00***
Investment (R.O.I.)	**1.95 YEARS**

Audit conducted by: Aaron Spencer & Terence P. Smith

ESN
Electrical Solutions Network, Inc.
303 Turnbridge Drive
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Ph: 815-402-0210
Fx: 815-741-0467

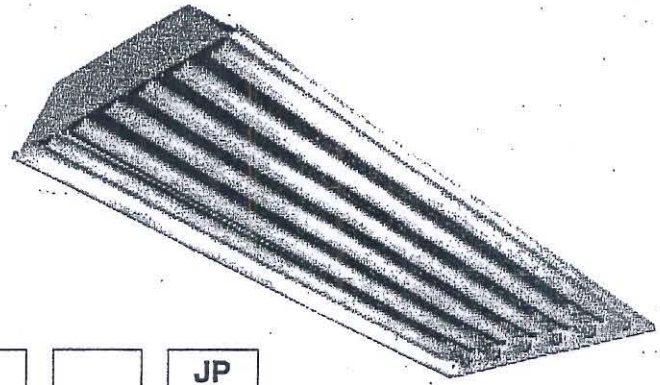
CATALOG NO. _____

TYPE NO. _____ JOB NAME _____

Stonco

4-32

T-Bay II
6-Light T5HO/T8



ORDERING INFORMATION

Catalog Number: Example: TBW632EB2-5JP

TB	W	6		EB			JP
FIXTURE	BODY WIDTH	LAMPS	WATTAGE	BALLAST SOURCE	CIRCUIT	VOLTAGE	OPTIONS
TB-T-Bay II Series Industrials	W-Wide (6 Light)	6	32-32W T8 54-54W T5HO	EB-Electronic ballast	2-(2) 3-light ballasts 4-(1) 2-light ballast and (1) 4-light ballast	5-480V 8-120-277V (voltage sensing)	JP-Job pack

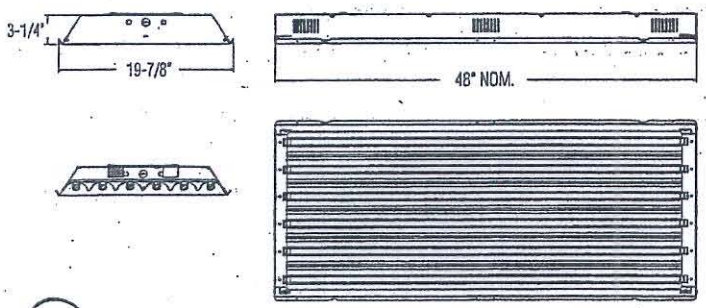
OPTIONS

3C- 3-foot SO cord only
6C- 6-foot SO cord only
3F- 3-foot SO cord and 15-amp NEMA plug (specify voltage)
6F- 6-foot SO cord and 15-amp NEMA plug (specify voltage)
3T- 3-foot SO cord and 20-amp NEMA plug (specify voltage)
6T- 6-foot SO cord and 20-amp NEMA plug (specify voltage)
JP- Job Pack - environmentally friendly packaging, eliminates individual cartons
CP- Center mount for 3/4" pipe (includes hardware and box)
CH- Center mount with hook (includes hardware, hook and box with fixture balanced)
835- Includes 35k lamps (installed)
841- Includes 41k lamps (installed)
MD- Installed motion sensor. Cannot be used with CH or CP center mount option
E1- 1-lamp emergency powerpack (450 lumen T8 / 700 lumen T5HO) (cannot be center-mounted) (specify voltage)
E2- 1-lamp emergency powerpack (1,100 lumen T8 / 1,250 lumen T5HO) (cannot be center-mounted) (specify voltage)

PRODUCT SPECIFICATIONS

- Precision die-formed 22GA steel housing.
- Architectural post painted finish eliminates exposed edges for safe handling.
- Beveled Miro 4 reflector surrounds each lamp for optimum efficiency.
- Hinged reflector panel/access door.
- Accepts stem, pendant, chain or cable mounting.
- Instant-on.
- Low profile.
- Top access plate located at each end.
- T8 units provided with 1.18 ballast factor instant start electronic ballast.
- T5HO units provided with 1.0 ballast factor programmed rapid start electronic ballast.

TECHNICAL INFORMATION



UL Damp Location Listed.

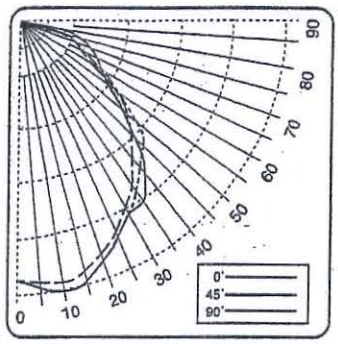
4-32 T-Bay 6-Light T5HO/T8

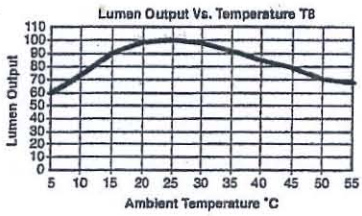
PHOTOMETRICS

Lamp Type: **F32T8/835**
Initial Lumens: **2950**
# of Lamps: **6**

Candlepower Distribution

Vertical Angle	Horizontal Angle 0	22.5	45	67.5	90	Zonal Lumens
0	5973.	5973.	5973.	5973.	5973.	
5	6018.	6032.	6047.	6077.	6107.	578.0
10	6122.	6137.	6287.	6347.	6362.	
15	6074.	6167.	6302.	6272.	6257.	1764.1
20	5733.	5913.	5913.	5928.	5958.	
25	5478.	5688.	5658.	5643.	5658.	2610.2
30	5074.	5269.	5254.	5239.	5269.	
35	4775.	4940.	4940.	5089.	5149.	3130.1
40	4266.	4401.	4475.	4655.	4670.	
45	3846.	4012.	4207.	4176.	4101.	3169.2
50	3413.	3487.	3742.	3413.	3308.	
55	2919.	2979.	3053.	2664.	2634.	2573.1
60	2365.	2530.	2230.	2170.	2230.	
65	1825.	2006.	1676.	1961.	2035.	1879.3
70	1362.	1392.	1496.	1706.	1766.	
75	883.	868.	1198.	1377.	1421.	1215.1
80	433.	584.	838.	883.	868.	
85	119.	284.	284.	284.	284.	287.3
90	14.	14.	14.	14.	14.	





These tests were performed according to standard IESNA procedures. A specific ballast and lamp combination was used. Other lamp and ballast combinations may yield different results. This test was conducted in a controlled laboratory environment where the ambient temperature was held at 25°C.

Field performance may differ in regards to change in luminous output as a result of differences in ambient temperature and mounting method.

The above chart is a temperature profile of T5lamps. It graphs light output versus ambient temperature. It may be helpful in determining the feasibility of using a T5 lighting system.

Lumen Summary

Zone	Lumens	%Lamp	%Fixture	Zone	Lumens	%Lamp	%Fixture
0-30	4952.	28.0	28.8	90-120	0.	0.	0.
0-40	8082.	45.7	47.0	90-130	0.	0.	0.
0-60	13825.	78.1	80.3	90-150	0.	0.	0.
0-90	17206.	97.2	100.0	90-180	0.	0.	0.
			Total Luminaire =	0-180	17206.	97.2	100.0

IES Spacing Criteria: End = 1.3 Diagonal = 1.3 Cross = 1.2

ACCESSORIES

GRIP5- 5-foot aircraft cable with hanger (2 per)
GRIP10- 10-foot aircraft cable with hanger (2 per)
GRIP20- 20-foot aircraft cable with hanger (2 per)
TSCHAIN- Heavy-duty chain and hanger (2per)
TSMTG- Universal mounting plate with chain
MD360- Motion sensor for 120 or 277 volt
MD360-5- Motion sensor for 480 volt
TBWLENS- Single gasketed clear prismatic acrylic lens/hinged door frame
TBWGUARD- Wire guard for wide housing with clips for mounting to door or housing and hinged door frame
TBWLENS-CL- Single gasketed clear acrylic lens/door frame and hinged door frame
TBWLENS-DG- Double gasketed clear prismatic acrylic lens/hinged door frame
TBWLENS-DG-CL- Double gasketed clear acrylic lens/door frame
TSWLENS- Wrap-style lens for wide housing

GE Lighting

72130 - F32T8/25WSPX41EC

GE Ecolux® Starcoat® T8

- Saves energy compared to standard wattage lamps
- Passes TCLP, which can lower disposal costs.

High Color Rendering
Energy Savings

Reduced Wattage

GENERAL CHARACTERISTICS

Lamp Type	Linear Fluorescent - Straight Linear
Bulb	T8
Base	Medium Bi-Pin (G13)
Wattage	25
Rated Life	40000 hrs
Rated Life (instant start) @ Time	36000 h @ 3 h 40000 h @ 12 h
Rated Life (rapid start) @ Time	40000.0 @ 3.0/46000.0 @ 12.0 h
Bulb Material	Soda lime
Starting Temperature	15 °C (59 °F)
LEED-EB MR Credit	42 picograms Hg per mean lumen hour
Additional Info	TCLP compliant

PHOTOMETRIC CHARACTERISTICS

Initial Lumens	2500
Mean Lumens	2350
Nominal Initial Lumens per Watt	100
Color Temperature	4100 K
Color Rendering Index (CRI)	85
S/P Ratio (Scotopic/Photopic Ratio)	1.8

ELECTRICAL CHARACTERISTICS

Open Circuit Voltage (instant start) Min @ Temperature	550 V @ 15 °C
Cathode Resistance Ratio - Rh/Rc (MIN)	4.25
Cathode Resistance Ratio - Rh/Rc (MAX)	6.5
Current Crest Factor	1.7

DIMENSIONS

Maximum Overall Length (MOL)	47.7800 in(1213.6 mm)
Nominal Length	48.000 in(1219.2 mm)
Bulb Diameter (DIA)	1.000 in(25.4 mm)
Bulb Diameter (DIA) (MIN)	0.940 in(23.9 mm)
Bulb Diameter (DIA) (MAX)	1.000 in(25.4 mm)
Max Base Face to Base Face (A)	47.220 in(1199.4 mm)
Face to End of Opposing Pin (B) (MIN)	47.400 in(1204.0 mm)
Face to End of Opposing Pin (B) (MAX)	47.500 in(1206.5 mm)
End of Base Pin to End of Opposite Pin End (C)	47.670 in(1210.8 mm)

PRODUCT INFORMATION

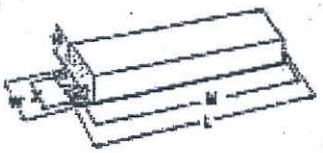
Product Code	72130
Description	F32T8/25WSPX41EC
Standard Package	Case
Standard Package GTIN	10043168721308
Standard Package Quantity	36
Sales Unit	Unit
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	36
UPC	043168721301

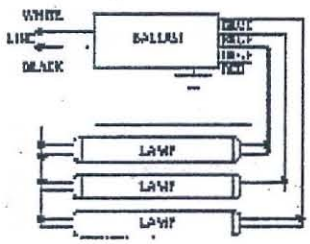
GE Lighting

78621 - GE332MAX-L/ULTRA

GE LFL UltraMax™ Electronic High Efficiency Multivolt Instant Start Ballast

- Energy saving high efficiency instant start electronic ballast (> 90%)
- Multi-Voltage Technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices.
- Anti-Striation Control for better light quality, with no striations.
- UL 55C Ambient Rating - HighTemperature Protection Circuit
- Cold temperature -20F Minimum Starting Temperature





GENERAL CHARACTERISTICS

Application	3 or 2- F32T8 120 to 277 "L".77 BF
Category	Linear Fluorescent
Ballast Type	Electronic - High Efficiency Multivolt Instant Start
Starting Method	Instant start
Lamp Wiring	Parallel
Line Voltage Regulation (+/-)	10 %
Ambient Temperature (MAX)	40 °C(4 °C)
Case Temperature	70 °C(158 °F)
Ballast Factor	Low (.77)
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Additional Info	Anti-striation control/Auto-restart/Thermally protected

PRODUCT INFORMATION

Product Code	78621
Description	GE332MAX-L/ULTRA
Standard Package	Case
Standard Package GTIN	10043168786215
Standard Package Quantity	10
Sales Unit	Standard Pack
No Of Items Per Sales Unit	1
No Of Items Per Standard Package	10
UPC	043168786218

DIMENSIONS

Case dimensions	
Length (L)	9.5 in(241.30 mm)
Width (W)	1.3 in(33.02 mm)
Height (H)	1.2 in(30.48 mm)
Mounting dimensions	
Mount Length (M)	9.0 in(228.60 mm)
Mount Width (X or F)	0.9 in(22.10 mm)
Mount Slots (MS)	0.3 in(8.20 mm)
Weight	1.1 lb
Exit Type	Side
Remote Mounting Distance to Lamp	18 ft
Remote Mounting Wire Gauge	18 AWG

Lead lengths	Qty	Exit	Length (± 1 in.)
Black	1	Left	25.0 (635mm)
Blue	3	Right	31.0 (787mm)
Red	1	Left	37.0 (940mm)
White	1	Left	25.0 (635mm)

ELECTRICAL CHARACTERISTICS

Supply Current Frequency 50 Hz/60 Hz

SAFETY & PERFORMANCE

- cUL Listed
- FCC - CLASS A Non-Consumer
- UL Class P
- UL Listed
- UL Type 1 Outdoor
- UL Type CC
- UL Type HL
- RoHs Compliant
- NEMA Premium®

SPECIFICATIONS BY LAMP & WATTAGE

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)	Crest Factor (<=)	THD% (<=)	Min. Starting Temp (°F/°C)
FE15T8	2	120	27	0.23 A	0.77	2.85	99	1.4	10	0.0 / -18
FE15T8	2	277	27	0.11 A	0.77	2.85	88	1.4	10	0.0 / -18
FE15T8	3	120	33	0.28 A	0.70	2.12	99	1.4	10	0.0 / -18
FE15T8	3	277	33	0.13 A	0.70	2.12	91	1.4	10	0.0 / -18
F32T8/WM	2	120	53	0.44 A	0.87	1.64	99	1.4	10	50.0 / 10
F32T8/WM	2	277	53	0.2 A	0.87	1.64	95	1.4	12	50.0 / 10
F32T8/WM	3	120	69	0.58 A	0.77	1.12	99	1.4	10	50.0 / 10
F32T8/WM	3	277	68	0.25 A	0.77	1.13	97	1.4	10	50.0 / 10
F32T8/25W	2	120	44		0.84	1.91	99	1.4	10	60.0 / 16
F32T8/25W	2	277	44		0.84	1.91	97	1.4	10	60.0 / 16
F32T8/25W	3	120	58		0.77	1.33	99	1.4	10	60.0 / 16

F32T8/25W	3	277	57		0.77	1.35	98	1.4	10	60.0 / 16
F32T8	2	120	56	0.47 A	0.89	1.59	99	1.4	10	-22.0 / -30
F32T8	2	277	55	0.21 A	0.89	1.62	96	1.4	10	-22.0 / -30
F32T8	3	120	72	0.6 A	0.77	1.07	99	1.4	10	-22.0 / -30
F32T8	3	277	71	0.26 A	0.77	1.08	97	1.4	10	-22.0 / -30
F28T8	2	120	49	0.4 A	0.84	1.71	99	1.4	10	50.0 / 10
F28T8	2	277	49	0.19 A	0.84	1.71	95	1.4	10	50.0 / 10
F28T8	3	120	64	0.54 A	0.77	NaN	99	1.4	10	50.0 / 10
F28T8	3	277	63	0.24 A	0.77	1.22	97	1.4	10	50.0 / 10
F25T8	2	120	45	0.38 A	0.86	1.91	99	1.4	10	-22.0 / -30
F25T8	2	277	44	0.17 A	0.86	1.95	94	1.4	14	-22.0 / -30
F25T8	3	120	57	0.48 A	0.77	1.35	99	1.4	10	-22.0 / -30
F25T8	3	277	57	0.22 A	0.77	1.35	96	1.4	10	-22.0 / -30
F25T12	2	120	47	0.39 A	0.80	1.70	99	1.4	10	0.0 / -18
F25T12	2	277	47	0.18 A	0.80	1.70	95	1.4	10	0.0 / -18
F25T12	3	120	60	0.5 A	0.70	1.17	99	1.4	10	0.0 / -18
F25T12	3	277	59	0.22 A	0.70	1.19	96	1.4	10	0.0 / -18
F17T8	2	120	32	0.27 A	0.87	NaN	99	1.4	10	-22.0 / -30
F17T8	2	277	32	0.13 A	0.87	NaN	91	1.4	10	-22.0 / -30
F17T8	3	120	41	0.34 A	0.78	1.90	99	1.4	10	-22.0 / -30
F17T8	3	277	41	0.16 A	0.78	1.90	93	1.4	10	-22.0 / -30

CAUTIONS & WARNINGS

Warning

- Risk of Electric Shock
  - Properly ground ballast and fixture.
  - Turn power off before servicing—see instructions.

WARRANTY INFORMATION

GE Lighting warrants to the purchaser that each ballast will be free from defects in material or workmanship for period as defined in the attached documents from the date of manufacture when properly installed and under normal conditions of use.

GE Consumer & Industrial
Lighting

T8 Fluorescent UltraMax®
Instant-Start System Limited Warranty

GE Consumer & Industrial, Lighting ("GE") is pleased to provide the following limited warranty covering the GE T8 fluorescent lamps listed below and GE UltraMax® linear fluorescent instant-start electronic ballasts purchased directly from GE.

GE warrants that the below-referenced lamps and ballasts, when operated together as a system, comply with their published specifications and are free from defects in materials and workmanship for the respective periods of time set forth below.

Lamp Remedy: If a GE T8 lamp mentioned below fails due to defects in materials or workmanship within the time periods indicated below, then GE will provide a credit to the direct purchaser ("Purchaser") equal to the current price GE charges Purchaser for the lamp. This warranty applies only to lamps that are operated on a burning cycle of three (3) hours or more per start; operated a maximum of 4,000 hours per year; operated on GE UltraMax® linear fluorescent instant-start electronic ballasts that have been properly wired and installed; operated within the electrical values shown on the ballast label; and operated in lighting equipment designed and approved for the application and in environmental conditions (temperature, humidity and air movement) within the normal specified operating range of the system.

F32T8, F32T8/WM	30 months
F28T8/XL, F32T8/XL, F32T8/XL/HL and F32T8/XL/WM	36 months
F32T8/SXL, F32T8/25W	48 months
F96T8	24 months
F96T8/XL, F96T8/XL/WM, F96T8/XL/WMP	36 months

Note: The above warranties also apply to the GE covRguard® (CVG) versions of the products listed above.

Ballast Remedy: If a GE UltraMax® linear fluorescent instant-start electronic ballast fails due to defects in materials or workmanship within five (5) years after the date of manufacture, then GE will, at its option, either (1) provide a credit to Purchaser equal to the current price GE charges Purchaser for the ballast and, in GE's discretion, either retain a service provider to install the replacement ballast or pay a reasonable labor allowance that is pre-approved by GE, or (2) refund the purchase price paid to GE for the ballast. This warranty applies only to GE UltraMax® linear fluorescent instant-start electronic ballasts that are operating the GE T8 lamps referenced above; have been properly wired and installed; operated within the electrical values shown on the ballast label; and operated in lighting equipment designed and approved for the application and in environmental conditions (temperature, humidity and air movement) within the normal specified operating range of the system.

Terms & Conditions: Operation of this lamp/ballast system in frequently-switched applications (5 or more cycles per day, maximum 3000 starts during warranty period) or in conjunction with automated controls (such as, but not limited to, occupancy sensors), or operating cycles other than those stated above, may void this warranty. The foregoing lamp and ballast warranties apply only to direct purchases from GE, but do not apply to failures caused by acts of God or as a result of any abuse, misuse, abnormal use, or use in violation of any applicable standard, code or instructions for use in installations, including, but not limited to, those contained in the National Electrical Code, the Standards for Safety of Underwriters Laboratory, Inc., Standards for the International Electrotechnical Commission, Standards for the American National Standards Institute or, in Canada, the Canadian Standards Association. *GE reserves and has the right to examine failed lamps and/or ballasts to determine the cause of failure and patterns of usage.* The date of purchase and lamp installation date must be verified to validate the elapsed operating hours if a warranty claim is made. If lamp life is not properly validated, the lamp date code will be used to establish elapsed burning time based on estimated usage.

The foregoing warranties constitute the sole and exclusive remedy of the purchaser and the sole liability of GE for lamp and ballast warranties. **NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED.** In no event shall GE be liable for any other costs or damages including lost profits, indirect, incidental, special or consequential damages.

To Make a Warranty Claim: Retain the failed products and notify your GE sales representative within thirty (30) days of the failure. This warranty extends only to Purchaser. However, GE will honor, under the terms of this Limited Warranty, valid warranty claims made by Purchaser for the remedy set forth above as a result of warranty claims made to Purchaser by its customers and indirect customers.

McDonald Associates Inc

Project ID: C 174817.1 Rev 4
Date Created: 18-Aug-2010
Date Revised: 18-Aug-2010

(Specification Product Quotation)

Job Name: Tyson Motors
Job Location: Joliet, IL
Rep Agency: McDonald Associates Inc
Quoted By: Lisa Kowalski

Quotation Based Upon:

design build by Kerry Felske

Qty.	Model Number
2	**XPS48-FT**

Pre-assembled Softswitch128 switching panel containing forty-eight feed-through relays (16A continuous rating per relay circuit, over-current protection by others) and an integral controller. Requires a dedicated 120 or 277 volt 20A control circuit (20A-1P over-current protection by others.) Controller accepts up to two contact closure inputs and can be connected to up to 32 Lutron digital control devices. All system programming is done through the integral controller. Dimensions (inches(cm)): 59(150)H x 15.875(41)W x 4.1(10.3)D. Weight (w/o packaging): 61 lbs.(kg)

1	**FOMX-1B-SL-WH**

1-Button OMX Wallstation with Status LED, White

1	**Telephone Startup**

Includes Telephone Start-Up with a Lutron Representative and a limited one year warranty.

Lead Time After Release is 4 Weeks.

Standard Exceptions:

1. All controls are provided with a white finish unless noted otherwise in the product description column of the bill of material.
2. Any deviation from this bill of material is subject to a new quotation.
3. Feed-thru panels (NO BREAKERS) require a 20 amp/single pole circuit breaker per circuit, which are to be SUPPLIED BY OTHERS.
4. Lutron All-In-One Cable for any control and/or panel links is not included in this quotation, unless otherwise noted.
5. Grafik Systems and Home Systems software is available in English only.
6. Switching modules are rated for 16A continuous load per circuit.
7. Up to (16) Softswitch 128 panels, (512) circuits, (32) digital control stations may be wired per system.
8. XPS panel includes controller with LCD to progran and monitor the system. An astronomic timeclock is also included inside the panel.
9. This quotation does not include a photocell, please contact Lutron Electronics if required.
10. A Lutron Softswitch128 link expansion module (XPS-E-120/277-FT) is required if more than (32) digital control stations are needed, not to exceed a total of (96) digital control stations. Only (1) Softswitch128 link expansion module can be used per system.
11. A dedicated 120V or 277V circuit is required for control operation.
12. If any Lutron panel(s) or EcoSystem ballast(s)/module(s) are designated as emergency equipment, an upstream normal/emergency automatic transfer switch (by others) is required to feed normal/emergency Lutron panel(s) and EcoSystem ballast(s)/module(s). Upon loss of normal power and application of emergency power, all normal/emergency Lutron panel(s) and EcoSystem ballast(s)/module(s) default to full intensity and remain there until normal power is restored.

Project Specific Exceptions:

Quotation Terms and Conditions

QUOTATIONS

This Quotation is based on Lutron's interpretation of provided documents for design intent only; determination of compliance with project specific plans and/or specifications is the responsibility of others.

McDonald Associates Inc

Project ID: C 174817.1 Rev 0
Date Created: 16-Aug-2010
Date Revised: 16-Aug-2010

(Specification Product Quotation)

Job Name: Tyson Motors
Job Location: Joliet, IL
Rep Agency: McDonald Associates Inc
Quoted By: Lisa Kowalski

Quotation Based Upon:

design build by Kerry Felske

Qty.	Model Number

1 QSGRJ-6E-TWH

GRAFIK Eye QS with EcoSystem 6 zone E120 series control unit capable of setting 16 preset scenes of lighting, four of which are selectable on face of unit, and 0 shade columns. First 3 zones are line-voltage dimming zones and can be optionally programmed to be EcoSystem zones. EcoSystem bus is integral to the unit, supporting up to 64 EcoSystem ballasts, which can be assigned to one of the 6 zones. Integral support for daylight and occupancy sensors attached to EcoSystem ballasts or interfaces, including the ability to link EcoSystem-connected daylight and occupancy sensors to the 3 line-voltage outputs. The unit contains a 434 mhz radio frequency antenna for wireless functionality. The GRAFIK Eye has wireless interconnects to Lutron wireless devices such as occupancy sensors and keypads. Features include an adjustable 0 second to 60 minute fade rate per scene, an integral infrared receiver, and an integral astronomic timeclock. Control mounts in a standard 4-gang US wallbox, 2 3/4" min. depth (3 1/2" recommended). Dimensions (inches (mm)): 4 11/16(119)H x 9 3/8(239)W x 3/8(10)D. Unengraved. Unit Color: TRANSULUCENT & WHITE

1 LRF2-DCRB-WH

Radio Powr Savr Wireless Daylight Sensor - Ceiling mount, battery-powered, 1.6 in (41mm) diameter, white

1 GRX-IT-WH

GRAFIK Eye handheld wireless infrared scene selector capable of selecting four scenes and off with master raise/lower function a white ABS finish. Dimensions (inches(mm)): 5 11/16(145)H x 1 1/2(38)W x 7/8(22)D.

1 LSC-SILV-CS-IN-1

1st year of Silver Level Support and Maintenance Plan, included at no cost. This plan supplements the product warranties to provide full parts and labor coverage. Additional one-year contracts can be purchased for up to ten years of coverage. Refer to Silver Level Support and Maintenance Plan for complete details.

1 LSC-SILV-CS-IN-2

2nd year of Silver Level Support and Maintenance Plan, included at no cost. This plan supplements the product warranties to provide full parts and labor coverage. Additional one-year contracts can be purchased for up to ten years of coverage. Refer to Silver Level Support and Maintenance Plan for complete details.

1 EcoSystem Factory Start-Up

EcoSystem Start Up includes one (1) on-site half-day (1/2-day) visit by a Lutron Services Company Engineer or Authorized Lutron Services Representative during normal business hours. The visit will include a system functional test and instruction on the use of the EcoSystem Programmer. Contractor must complete all ballast wiring/installation, sensor wiring/installation, and control station wiring/installation prior to the visit. The visit must be scheduled at least 14 days in advance. To schedule a visit, please call the Scheduling Department at 800-523-9466.

Lead Time After Release is 4 Weeks.

Standard Exceptions:

1. All controls are provided with a white finish unless noted otherwise in the product description column of the bill of material.
2. No provisions for emergency lighting have been included in this quotation.
3. Any deviation from this bill of material is subject to a new quotation.
4. Factory Start-up pricing is based on full access to all affected rooms during normal business hours.
5. EcoSystem ballast module C5-BMF-2A allows integration of Lutron's 3-wire phase controlled dimming ballast into EcoSystem Bus (Hi-Lume and ECO-10 eries only).

6. EcoSystem Digital Control Electronic Dimming Ballast (EC-5T series) are lighting management units which communicate status and sensor inputs over the EcoSystem Bus. They offer 100%-10% dimming and provide energy savings and flexibility for customer public and private spaces.
7. The distributor is responsible for ensuring compatibility of EcoSystem ballast/ballast module interface with fixtures.
8. Formal submittal drawings are not provided by Lutron on EcoSystem product. Individual EcoSystem product submittal cut sheets can be found at the following Lutron web link: http://www.lutron.com/ecosystem.
9. EcoSystem ballasts and modules terminals only accept solid wire. Class 2 sensor inputs require #22AWG solid wire and line voltage inputs and the EcoSystem bus accept #16 AWG or #18 AWG. See product documentation for more details.
10. EcoSystem PDA software is available in English only.
11. All fixtures for use with Ecosystem dimming ballasts require rapid-start sockets.
12. Lutron recommends EcoSystem Cable, or suitable alternative, for (Class 2) Sensors and (Class 1 or 2) EcoSystem Bus wiring. Quotation and purchase of cable does not imply agreement by fixture manufacturers to pre-install ballasts and cabling.
13. All electrical devices should match system controls. Use Lutron Claro switches, receptacles, jacks and wallplates as required. Multi-gang wallplates allow low voltage and line voltage devices to mount under a single, screwless plate with no visible hardware.

Project Specific Exceptions:

Quotation Terms and Conditions

QUOTATIONS

This Quotation is based on Lutron's interpretation of provided documents for design intent only; determination of compliance with project specific plans and/or specifications is the responsibility of others.

Quoted prices are firm (3) months from date of quotation. After three (3) months and up to six (6) months, all quotations will be subject to a maximum of 10% escalation to cover increased costs of labor and materials. All quotations must be requoted after six (6) months.

Upon written request, Lutron will provide the country of origin for the products quoted.

ORDER

All sales of Lutron products are pursuant to Lutron's Terms and Conditions of Sale ("Terms"). Terms may be accessed via DIMS and are also available upon request. No terms and conditions other than the Terms, including any terms and conditions in any document attached to or incorporated by reference to any order accepted by Lutron, shall be binding upon Lutron unless accepted in writing by Lutron.

An order may be placed against this quotation on a Hold-for-Release basis. An order will not be considered firm unless accepted in writing by Lutron. Acceptance of an order does not imply conformance to plans and specifications.

All Hold-for-Release orders not released for immediate shipment within 3 months from the date of order acceptance will be subject to a maximum 10% escalation to cover increased costs of labor and materials.

All Hold-for-Release orders not released for immediate shipment within 6 months from date of acceptance will be subject to a new quotation. All Hold-for-Release orders not released within 12 months from the date of acceptance shall be considered cancelled and subject to a cancellation charge.

TERMS

1%-10th prox./Net 25th.

DESIGN

Quotation is based on Lutron standard design, finish and construction unless indicated otherwise. Drawings approved by the end-user or authorized representatives are required for all custom dimming system orders. Approved drawings will take precedence over all plans, specifications, or other written and verbal agreements. Changes in the drawings and/or Bill of Materials will require a new quotation.

SERVICE

Service is provided by Lutron Services Co., Inc., a wholly owned subsidiary of Lutron Electronics Co., Inc..

CANCELLATIONS

There will be a minimum cancellation charge of 25% of the value of the equipment should an order be cancelled after release. Hold-for-Release orders are subject to automatic cancellation with a minimum fee of 10% plus drawing fees after 180 days.

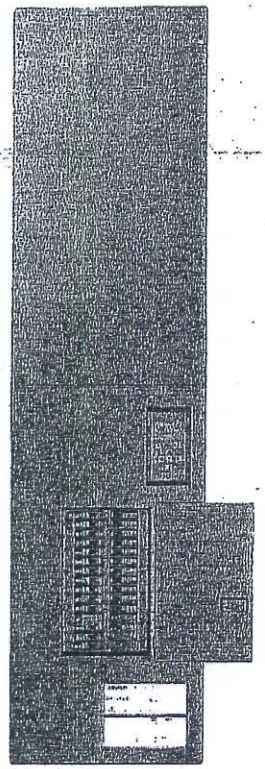
RETURNS

Material may be returned to Supplier only with prior written authorization from Customer Service (upon request from your Lutron representative). Upon authorization, a Return Good Authorization (RGA) form will be issued based on the following terms and conditions:

1. Product must be either (i) defective in materials or workmanship from Supplier, or (ii) new and unopened and in original carton. Any product received contrary to this provision is subject to return or no credit issued.
2. All defective returns must be properly packaged. Any returned units that have been damaged in shipping due to insufficient packaging will be subject to no credit issued.
3. Products must be returned within the warranty period. Out-of-date products are subject to return or no credit issued.
4. Goods returned are only for those products previously authorized and written on the RGA form. Any unauthorized returned products are subject to return or no credit issued.
5. A minimum of 25% restocking charge will apply to any approved new material returns.
6. All freight and duties on returned goods are the responsibility of the Fabricator. An RGA # must be referenced on all outside cartons and packing list. All returned goods are shipped to:

   Lutron Electronics
   ATTN: RETURN GOODS DEPARTMENT
   6560 Stonegate Drive
   Suite 200
   Allentown, PA 18106

Softswitch128 Switching System



Softswitch128 Panel

System Overview

Softswitch128 is a switching system that is ideal for small to medium sized switching projects. A system consists of panels, control stations, occupancy sensors, and photocells. Softswitch128 panels contain Lutron's one million cycle Softswitch™ relay and the Softswitch128 Controller.

Softswitch128 is easy to install and simple to program. Softswitch128 also includes a CEC/Title24 approved astronomical time clock for system automation.

System Features

- Digital control for up to 512 circuits.
- Add up to 32 digital control stations (wallstations and interfaces) for multiple points of control.
- Up to sixteen (16) Softswitch128 panels may be used.
- Add the Softswitch128 Expansion Module (XPS-E-120/277-FT) to the system for increased control station capacity. Three links of up to 32 control stations each (96 control stations total) may be added with the Expansion Module present.
- Integrated CEC Title 24 listed astronomical time clock.
- Lutron Softswitch technology for every switched output (resistive, inductive and capacitve) to full 16A.
- Softswitch relays are rated for all light sources as well as motors.
- RS232 interface available (OMX-RS232).
- Contact closure input and output devices available (OMX-IO and OMX-CCO-8).
- Keyswitch wallstations available (NTOMX-KS).
- Normal or emergency panel capability.
- Softswitch128 panel is prewired and pre-tested.
- Panels for 120 V/277 V, 347 V, and 480 V applications. Contact a Lutron representative for details on 347 V and 480 V switching.
- 208 V loads are wired phase-to-phase in 120 V panels. See Lutron Application Note #102 for details.
- Feed through, branch circuit breaker, and rough-in type panels are available.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Softswitch128 Controller

Softswitch128 Controller

Overview

The Softswitch128 Controller is used to configure the entire Softswitch128 system. The controller features an LCD user interface to facilitate programming all switching system and astronomical time clock (ATC) parameters.

Features

- Program wallstations to recall light patterns, to toggle any switch leg(s), to activate delay-to-off and to activate contact closures on a button by button basis.
- Integrated astronomical time clock (ATC) automates switching and contact closure outputs with up to 500 user-defined events within 7 daily schedules and 40 holiday schedules. Each day may have 25 events.
- ATC events automatically select patterns, start afterhours mode, or end afterhours mode.
- Events may be copied and pasted for fast programming.
- ATC events may be triggered by time of day or by an offset from sunrise or sunset.
- System location is programmable by internal city database or by specifying latitude and longitude.
- ATC automatically adjusts for leap year and daylight savings time (where applicable).
- Programmable afterhours mode with user-selectable "blink warn" and user programmable refresh time.
- Two integrated user-configurable contact closure inputs.
- Override capability is available at the panel for controls, timeclock, and switch legs.
- Controller is located in the Softswitch128 panel for easy access.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Specifications

Standards

- UL Listed
- CSA
- NOM

Power

- Input power: 120 V/277 V, 347 V[1] and 480 V[1]. All voltages 50/60 Hz, phase-to-neutral.
- Branch Circuit Breakers: UL-rated thermal magnetic. AIC ratings:
  120 V – 10,000 A
  277 V – 18,000 A
  347 V – 14,000 A
- Lightning strike protection: Meets ANSI/IEEE standard 62.41-1980. Can withstand voltage surges up to 6000 V and current surges up to 3000 A.
- 10-year power failure memory: restores lighting to levels prior to power interruption.

Load Types (relay ratings)

- 16 A Tungsten, 120 V~
- 16 A AC General Use, 100-347 V~
- 16 A Electric Discharge Lamp (ballast)
- 16 A Resistive, 277 V~
- 16 A Inductive,100-347 V~
- 1/3 HP, 120 V~
- 1 HP, 220-277 V~

Switching Modules (120V, 277V, 347V)

- Softswitch relay is rated for 16 A continuous use, which is the maximum continuous load for a 20 A Overcurrent Protection Device (Branch Breaker).
- Patented Softswitch™ circuit eliminates arcing at mechanical contacts when loads are switched. Extends relay life to an average of 1,000,000 cycles (on/off) for resistive, capacitive or inductive sources.
- Relay is mechanically held.

Wiring

- Internal: Wired and tested by Lutron.
- System communications: low voltage Class 2/PELV wiring connects Softswitch128 panels to control stations.
- Line (mains) voltage: feed and load wiring only (feed-through Softswitch128 panels also require a feed for the Softswitch128 controller).

Physical Design

- Enclosure: NEMA-Type 1, IP-20 protection; #16 U.S. Gauge Steel. Indoors only.
- Weight:
  27 lbs (13 kg) for Mini panels
  80 lbs (37 kg) for Standard panels
  135 lbs (61 kg) for Large panels
  150 lbs (69 kg) for Extra Large panels

Mounting

- Mini and Standard size panels: surface mount or recess mount between 16 in. (40 cm) studs.
- Large or Extra Large panels: surface mount only.

Environment

- 32-104 °F (0-40 °C). Relative humidity less than 90% non-condensing.

Short Circuit Current Ratings (other ratings available)

Panel Type	Voltage	Std. SCCR Rating
XPS Feed Through (all sizes)	120/277	25,000 A
XPS Main Lug Panels (all sizes)	120/277	25,000 A

[1]Consult your Lutron representative for details on 347 V and 480 V switching.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Specifications (continued)

Softswitch128 Controller

- Configures entire Softswitch128 system.
- Two low voltage (15-24 VDC) contact closure inputs, momentary or maintained, pull up or pull down.
- Emergency Sensing.
- Astronomical Time Clock.
- Digital Control Link.
- Mounted in Softswitch128 panel.

Astronomical Time Clock

- Capable of up to 500 events.
- 7 daily schedules and 40 holiday schedules are available.
- 25 events per day.
- Holiday events are programmable one year in advance.
- Holiday schedules are programmable to run for up to 90 days.
- ATC location programmable by built-in city database or by entering latitude and longitude, plus a sunrise or sunset offset to adjust for local geography.
- CEC Title 24 listed.

OMX-RS232

- Interfaces the Softswitch128 system to a PC, touchscreen, or building management system (BMS).
- Use RS232 strings to set light levels and enable/disable time clock events.

OMX-AV

- 5 low voltage contact closure inputs and 5 outputs.
- Inputs may select patterns, toggle lights, or activate delay-to-off.
- Interfaces with occupancy sensors or photosensors (with relay) to activate patterns or turn off lights in an unoccupied space.
- Contact closure outputs are activated by button presses, contact closure inputs, time clock events, or emergency status.
- See OMX-AV specification for mounting, wiring, contact closure output ratings, and voltage limits. Note: only the above features are supported by Softswitch128.

OMX-CCO-8

- Integrates third party motorized window treatments or A/V equipment.
- Outputs are activated by button presses, contact closure inputs, time clock events or emergency status.
- See OMX-CCO-8 product specification for mounting, wiring and voltage limits.

Contact Closure Inputs

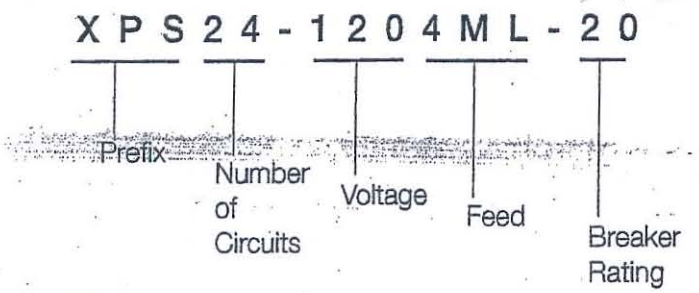
- Two closure inputs are available at the Softswitch128 controller.
- May be configured as pull up to 15 or 24 VDC (externally supplied) or pulled down to common.
- Programmable as maintained or momentary.
- Functions are programmable on contact close, contact open or both.

Wall Stations

- One to seven button seeTouch™ and single button FOMX controls are available.
- Buttons are programmable to select patterns, toggle circuits or activate delay-to-off.
- Buttons are programmed at the Softswitch128 controller.
- Wall controls are powered by and communicate via the Softswitch128 low-voltage communication link.
- See specification submittals for seeTouch and FOMX wallstations for wiring and mounting details.
- Keyswitch control is also available.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

How to Build a Model Number



Prefix

XPS for Softswitch128 panels.

Number of Circuits

Total number of circuits (switch legs) in the panel.

Voltage

Omit for feed through panels.
120 for 100 - 127 V or 208 V
277 for 277 V
347[1] for 347 V

Feed

FT for feed through panels.
4ML for 3 phase 4 wire feed.
3ML for 1 phase 3 wire feed.

Breaker Rating

Omit for feed through panels.
20 for 20 A branch circuit breakers; 20 A branch circuit breakers have a 16 A continuous load rating.

Example Model Numbers

Example 1

Model number for 120 V Softswitch128 panel with 28 circuits and Lutron installed 20A branch circuit breakers:
XPS28-1204ML-20

Example 2

Model number for 120/277 V Softswitch128 panel with 12 circuits without circuit breakers:
XPS12-FT

Sample 3

Model number for a 120 V Softswitch128 panel with 12 circuits and 20 A branch circuit breakers and a split-phase feeder:
XPS12-1203ML-20

Sample 4

Model number for a 347 V Softswitch128 panel with 24 circuits with Lutron installed 20 A branch circuit breakers:
Contact your Lutron Representative

[1] Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Feed-Through Softswitch128 Panel Models

(without branch circuit breakers)

Mini Softswitch128 Dual-Voltage Feed Through Models for 120 V or 277 V, or 347 V[1]

Panel Model	Switch Legs	Feed Type	Maximum Feed
XPS8-FT	8	Feed Through	20 A
XPS12-FT	12		
XPS16-FT	16		

Standard Softswitch128 Dual-Voltage Feed Through Models for 120 V or 277 V, or 347 V[1]

Panel Model	Switch Legs	Feed Type	Maximum Feed
XPS20-FT	20	Feed Through	20 A
XPS24-FT	24		
XPS28-FT	28		
XPS32-FT	32		
XPS36-FT	36		
XPS40-FT	40		
XPS44-FT	44		
XPS48-FT	48		

Wire Sizes

- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Hot/Live) and Switched Hot/Live connect directly to Terminal Block for Switch Legs.

1 Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Softswitch128 Panels with Branch Circuit Breakers

Standard Softswitch128 Panels with Circuit Breakers for 120 V (max. feed is 200 A)

Model Prefix	Switch Legs	Feed Type	Branch Breaker[1]
XPS8	8	3Ø 4W or 1Ø 3W Main Lug Accepts #4 AWG (25 mm²) to 250 KCMIL (MCM) (120 mm²)	20 A
XPS12	12		
XPS16	16		
XPS20	20		
XPS24	24		
XPS28	28		

Large Softswitch128 Panels with Circuit Breakers for 277 V / 347 V[2] (max feed is 250 A)

Model Prefix	Switch Legs	Feed Type	Branch Breaker[1]
XPS8	8	3Ø 4W Main Lug Accepts #4 AWG (25 mm²) to 350 KCMIL (MCM) (185 mm²)	20 A
XPS12	12		
XPS16	16		
XPS20	20		
XPS24	24		
XPS28	28		

Large Softswitch128 Panels with Circuit Breakers for 120 V (max. feed is 225 A)

Model Prefix	Switch Legs	Feed Type	Branch Breaker[1]
XPS32	32	3Ø 4W or 1Ø 3W Main Lug Accepts #4 AWG (25 mm²) to 250 KCMIL (MCM) (120 mm²)	20A
XPS36	36		
XPS40	40		
XPS42	42		

Extra Large Softswitch128 Panels with Circuit Breakers for 277 V / 347 V[2] (max. feed is 300 A)

Model Prefix	Switch Legs	Feed Type	Branch Breaker[1]
XPS32	32	3Ø 4W Main Lug Accepts #4 AWG (25 mm²) to 350 KCMIL (MCM) (185 mm²)	20 A
XPS36	36		
XPS40	40		
XPS42	42		

Wire Sizes for Switch Legs

- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²)

[1] 20 A breaker, 16 A continuous load rating.

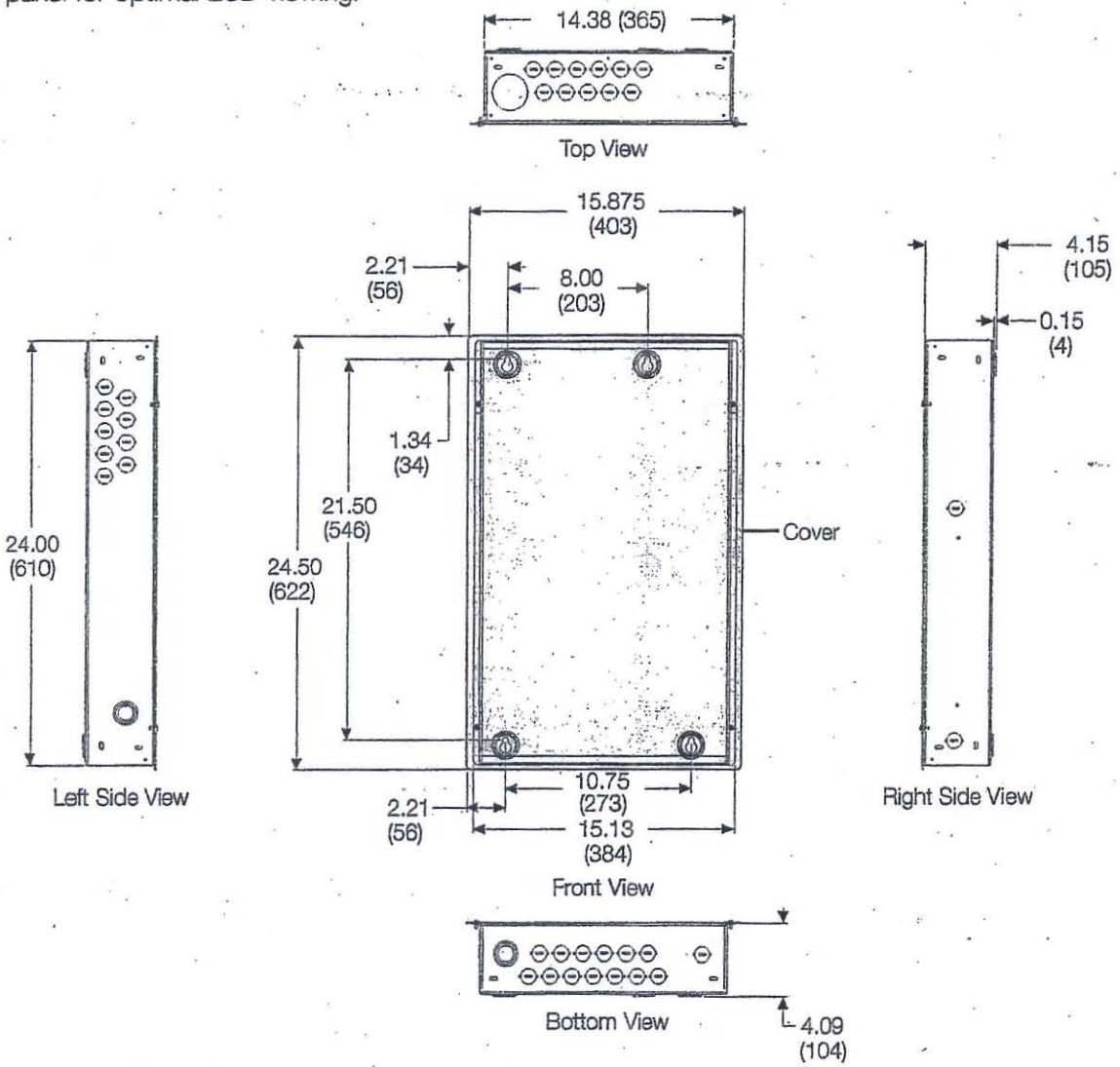
[2] Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Mini Softswitch128 Panel Dimensions

Suggested Mounting Height:

Mount Mini Softswitch128 at a height of 45 in. (1130 mm), measured from floor to bottom of panel for optimal LCD viewing.



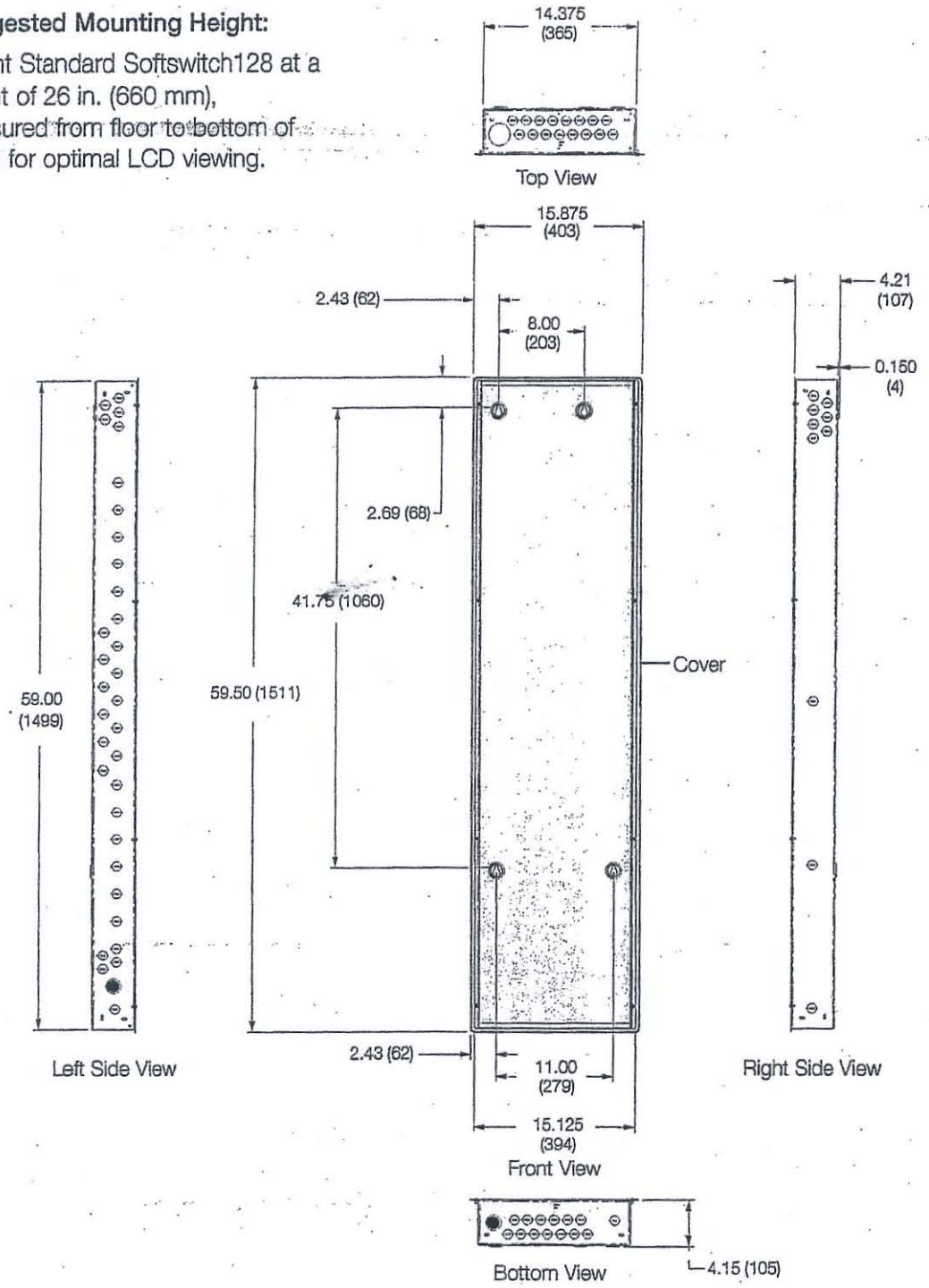
All dimensions in inches (mm).

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Standard Softswitch128 Panel Dimensions

Suggested Mounting Height:

Mount Standard Softswitch128 at a height of 26 in. (660 mm), measured from floor to bottom of panel for optimal LCD viewing.



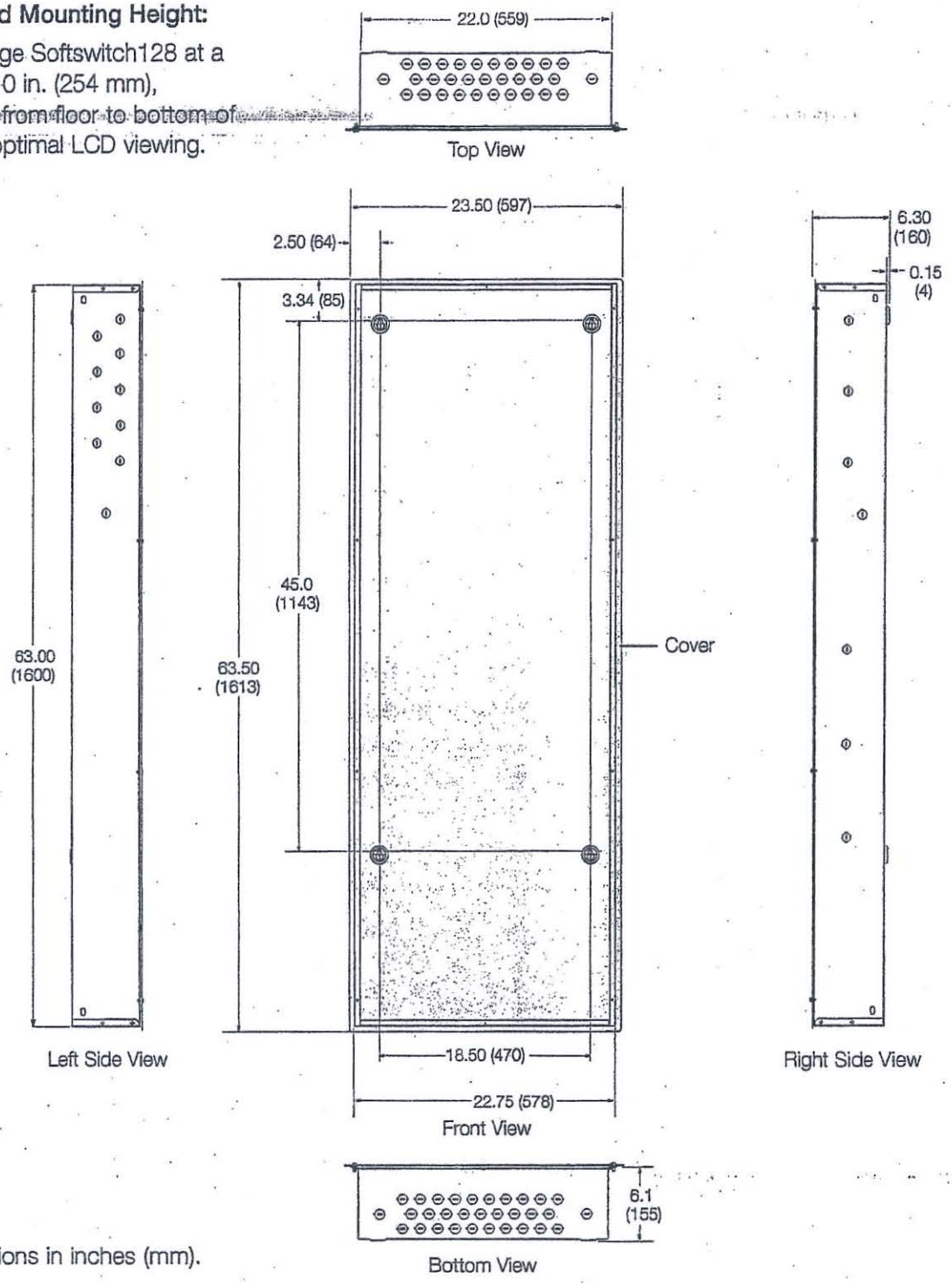
All dimensions in inches (mm).

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Large Softswitch128 Panel Dimensions

Suggested Mounting Height:

Mount Large Softswitch128 at a height of 10 in. (254 mm), measured from floor to bottom of panel for optimal LCD viewing.



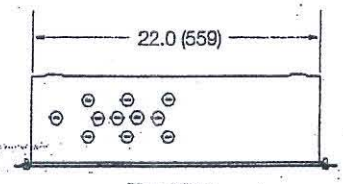
All dimensions in inches (mm).

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

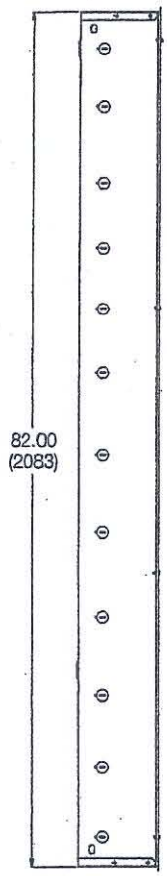
Extra Large Softswitch128 Panel Dimensions

Suggested Mounting Height:

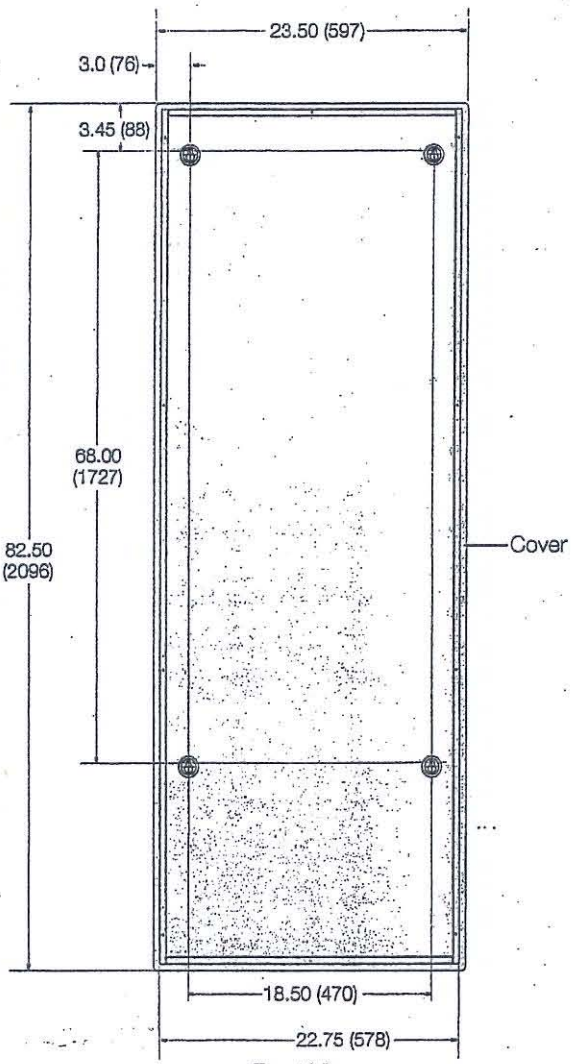
Mount Extra Large Softswitch128 at a height of 7 in. (178 mm), measured from floor to bottom of panel for optimal LCD viewing.



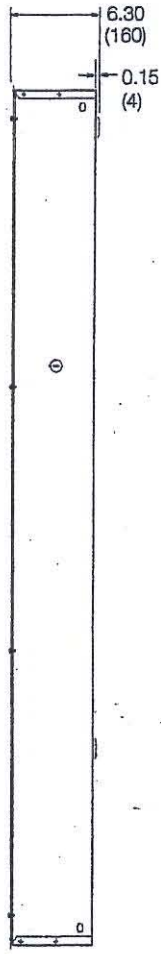
Top View



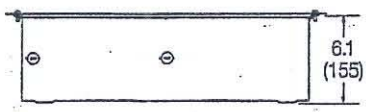
Left Side View



Front View



Right Side View



Bottom View

All dimensions in inches (mm).

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Mounting for Softswitch128 Panels

- For indoor use only!
- Consult dimensions page for panel size, conduit knockouts, and mounting holes.
- Mount where ambient temperature is 32-104 °F (0-40 °C).
- Panels weigh up to 150 lbs. (68.5 kg). Reinforce wall structure for weight and local codes.
- Mount panel where audible noise is acceptable. (internal relays click.)
- Mount panel so line (mains) voltage wiring is at least 6 ft. (1.8 m) from sound or electronic equipment and wiring.
- Mount within 7° of true vertical.

Suggested Mounting Height:

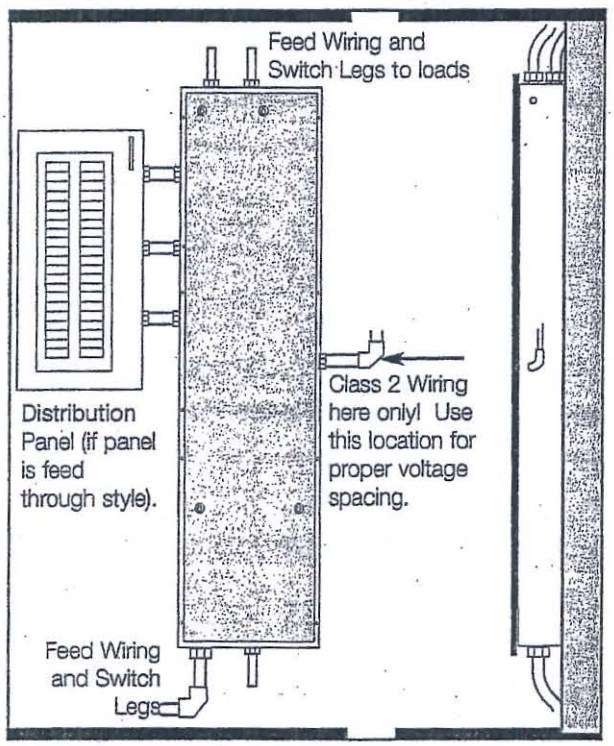
For optimum viewing of the Softswitch128 Controller, mount Softswitch128 panels at the recommended distance from the floor (measured from floor to bottom of panel).

Panel Size	Distance
Mini and TUB16	45 in (1130 mm)
Standard and TUB48	26 in (660 mm)
Large	10 in (254 mm)
Extra Large	7 in (178 mm)

Surface Mounting

- Lutron recommends using 0.25 in. (6 mm) mounting bolts.
- Leave 1.25 in. (38 mm) clearance on each side of panel for cover.

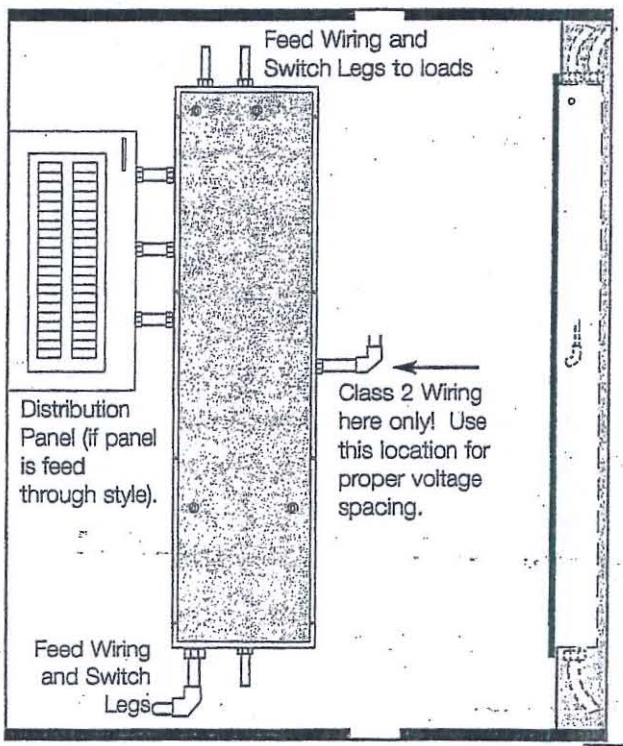
Front View Side View



Recess Mounting

- Mount panel from flush to 0.125 in. (3 mm) below finished wall surface.
- Leave 1.25 in. (38 mm) clearance on each side of panel for cover.

Front View Side View



Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Feed-Through Softswitch128 Wiring Overview

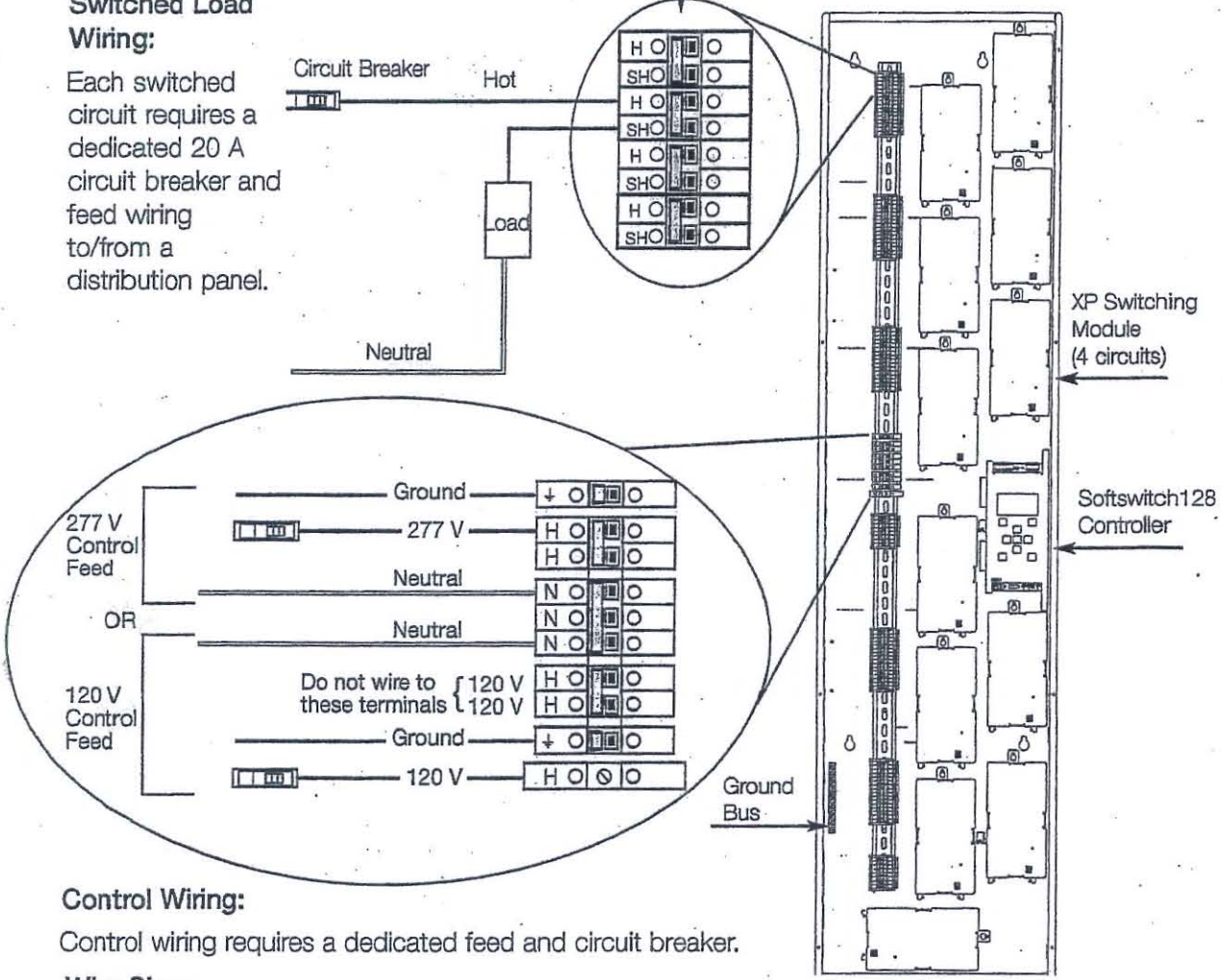
Wire the Softswitch128 panel as shown. Use a trough when the Softswitch128 Panel is not adjacent to a distribution panel. Splice Neutrals in trough.

Do not remove bypass jumpers until load wiring is verified.

Leaving bypass jumpers installed allows Softswitch128 panels to be used to provide temporary lighting, until load wiring is verified.

Switched Load Wiring:

Each switched circuit requires a dedicated 20 A circuit breaker and feed wiring to/from a distribution panel.



Control Wiring:

Control wiring requires a dedicated feed and circuit breaker.

Wire Sizes

- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²) for Feed Wiring and Switched Load Wiring.
- Power (Hot/Live) and Switched Hot/Live connect directly to Terminal Block for Switch Legs.

Control Circuit:

- Supplies power for internal operation.
- Lutron recommends a dedicated 120 or 277 V~, 20 A 1 phase 2 wire feed to power the control circuit in the panel.
- If control circuit is tapped from a circuit that powers a relay in the panel, it draws a maximum of 1.5 A toward the total load for that circuit.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Rough-In Softswitch128 Panels - Feed Through Only

(without branch circuit breakers)

Rough-in panels are ordered and delivered as two parts: an empty tub and a pre-wired baseplate. The pre-wired baseplate includes switching modules, terminal blocks, Softswitch128 controller, power supply and panel cover.

The following tables detail the model numbers for the two components required for available rough-in panels.

Mini Softswitch128 Rough-In Panels

(maximum feed per circuit: 20 A)

Switch Legs	Tub Part Number	Baseplate Number (120/277 V)
8	TUB16	SINT8-FT
12	TUB16	SINT12-FT
16	TUB16	SINT16-FT

Standard Softswitch128 Rough-In Panels

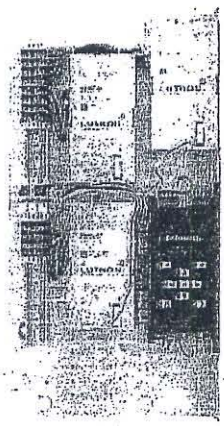
(maximum feed per circuit: 20 A)

Switch Legs	Tub Part Number	Baseplate Number (120/277 V)
20	TUB48	SINT20-FT
24	TUB48	SINT24-FT
28	TUB48	SINT28-FT
32	TUB48	SINT32-FT
36	TUB48	SINT36-FT
40	TUB48	SINT40-FT
44	TUB48	SINT44-FT
48	TUB48	SINT48-FT

Wire Sizes

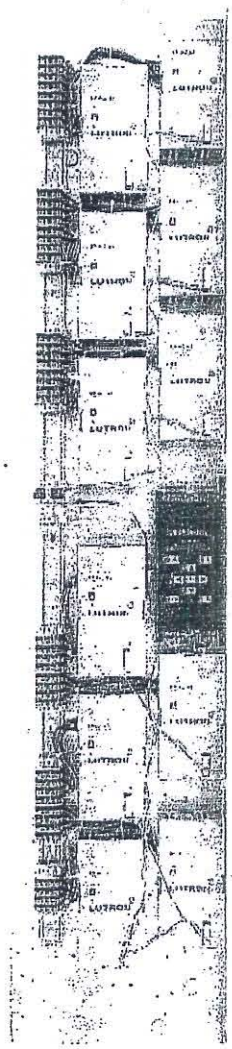
- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Hot/Live) and Switched Hot/Live connect directly to Terminal Block for Switch Legs.

Mini Baseplate



SINT12-FT

Standard Baseplate

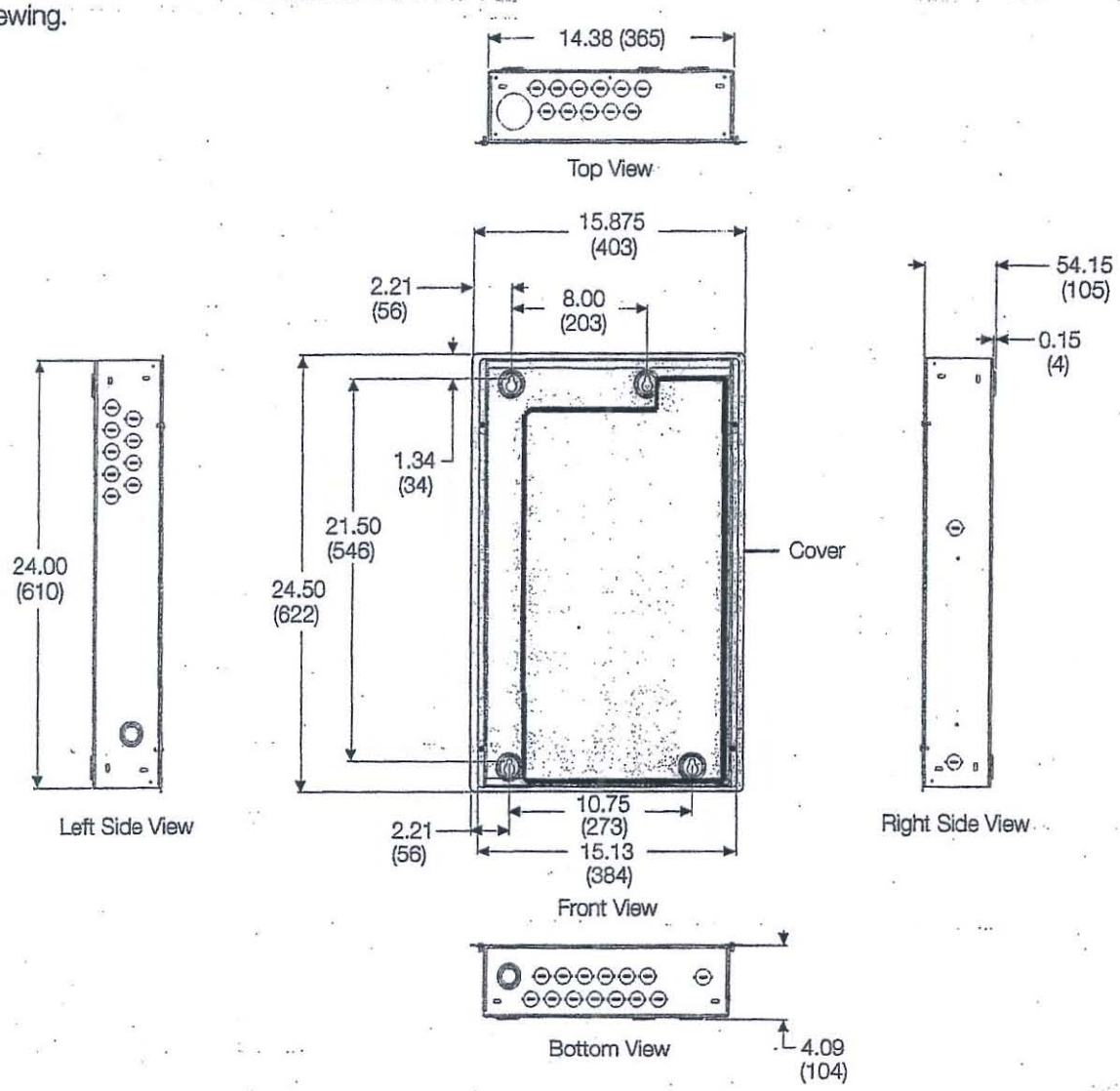


SINT44-FT

TUB16 Dimensions

Suggested Mounting Height:

Mount TUB16 at a height of 45 in. (1130 mm), measured from floor to bottom of panel for optimal LCD viewing.

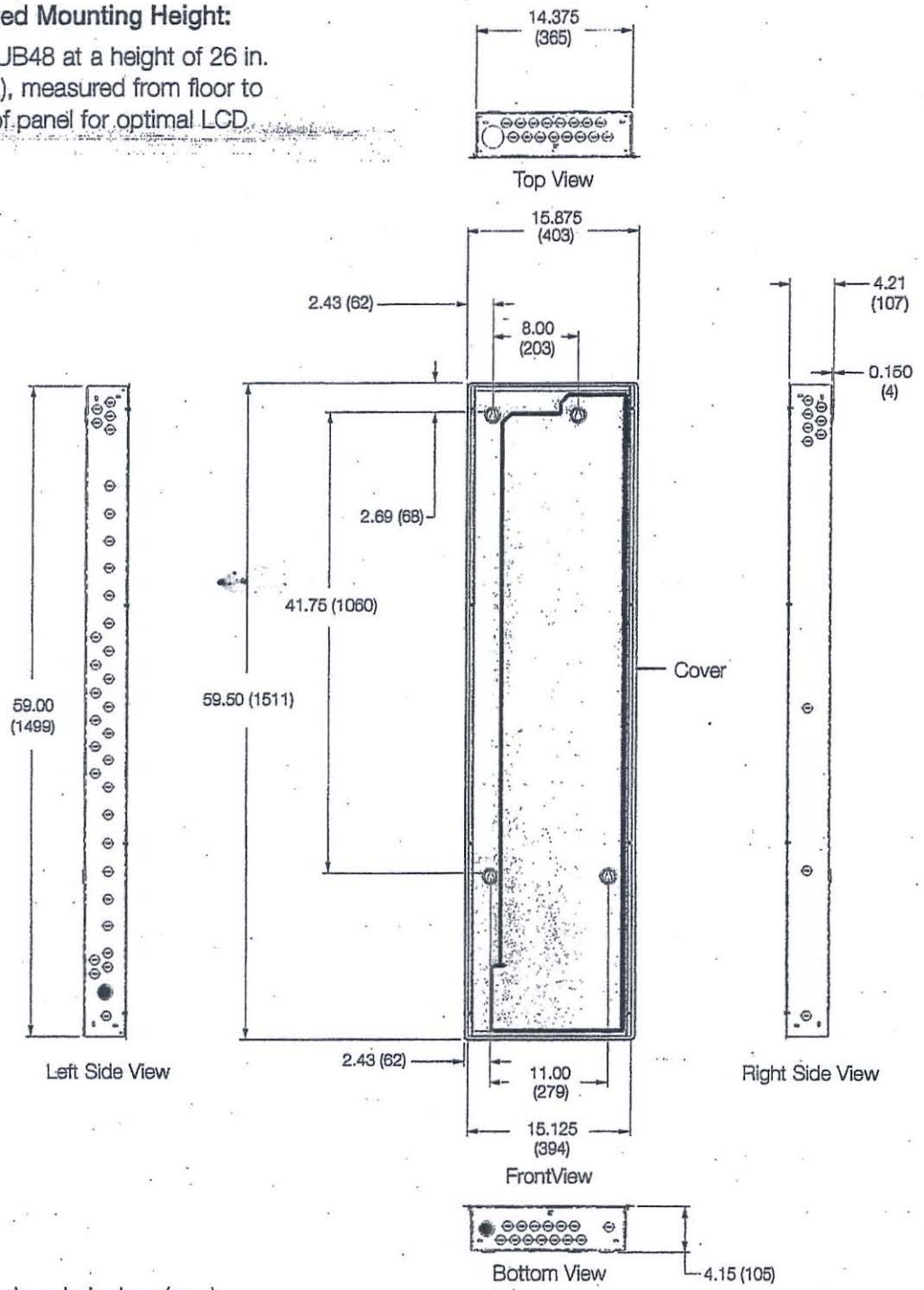


All dimensions in inches (mm).

TUB48 Dimensions

Suggested Mounting Height:

Mount TUB48 at a height of 26 in. (660 mm), measured from floor to bottom of panel for optimal LCD viewing.



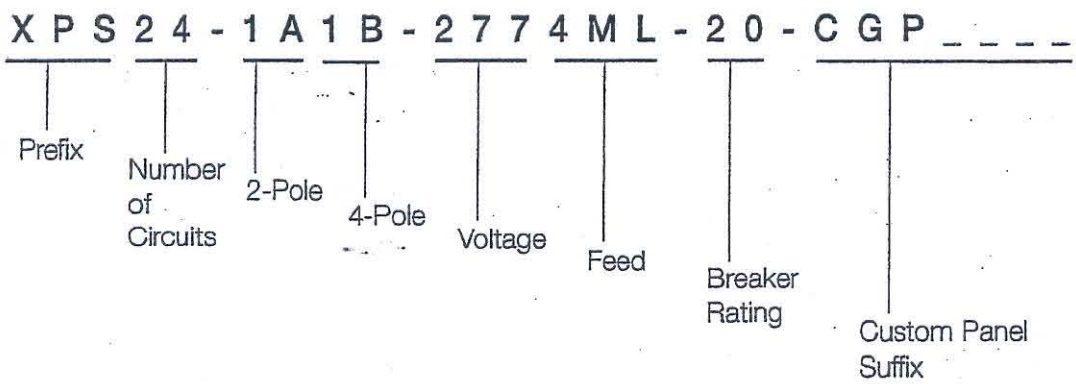
All dimensions in inches (mm).

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Softswitch128 Panels with 480 V Contactors

- Available in large enclosure size only.
- Branch circuit breaker and feed through models are available.
- Contactors provided in 2 pole and 4 pole, 30 A maximum.

How to Build a Model Number with 480V Contactors



Prefix

XPS for Softswitch128 panels.

Number of Circuits

Total number of circuits (switch legs) in the panel not including 480 V.

2-Pole (A)

Total number of 2-pole 30 A contactors in the panel.

4-Pole (B)

Total number of 4-pole 30 A contactors in the panel.

Voltage

277 for 277 V.

Omit for feed through panels.

Feed

FT for feed through panels.
4ML for 3 phase 4 wire feeders.

Breaker Rating

Omit for feed through panels.
20 for 20 A branch circuit breakers; 20 A branch circuit breakers have a 16 A continuous load rating.

Custom Panel Suffix

Indicates panel with special options.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

Feed-Through Softswitch128 Panels with 480 V Contactors

(without branch circuit breakers)

Large Softswitch128 Feed-Through Models for 277 V and 480 V Contactors[1]

Model Prefix	Switch Legs	2-Pole	4-Pole	Feed Type	Maximum Feed
XPS8	8				
XPS12	12	8 Contactors		Feed	277 V: 20 A
XPS16	16	Maximum		Through	
XPS20	20				
XPS24	24				
XPS28	28				
XPS32	32				
XPS36	36				
XPS40	40				
XPS44	44				
XPS48	48				

Wire Sizes

- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Hot/Live) and Switched Hot/Live connect directly to Terminal Block for Switch Legs.

[1] Contact Lutron for lead time.

Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH-
Job Number:		

Branch Circuit Breaker Softswitch128 Panels with 480 V Contactors

Large Softswitch128 Panels with Circuit Breakers for 277 V (max. feed is 250 A) and 480 V Contactors[1]

Model Prefix	Switch Legs	2-Pole 4-Pole	Feed Type
XPS8	8	5 Contactor Maximum.	3Ø 4W Main Lug Accepts #4 AWG to 250 KCMIL (MCM)
XPS12	12	5 Contactor Maximum.	
XPS16	16	5 Contactor Maximum.	
XPS20	20	5 Contactor Maximum.	
XPS24	24	1 Contactor Maximum.	
XPS28	28	1 Contactor Maximum.	

Large Softswitch128 Panels with Circuit Breakers for 277 V (max. feed is 250 A) and 480 V Contactors with 2-Pole Breakers[2] to Power the 480 V load[1]

Model Prefix	Switch Legs	2-Pole 4-Pole	Feed Type
XPS8	8	5 Contactor Maximum. (20 Pole Maximum)	3Ø 4W Main Lug Accepts #4 AWG to 250 KCMIL (MCM)
XPS12	12	5 Contactor Maximum. (8 Pole Maximum)	
XPS16	16	5 Contactor Maximum. (6 Pole Maximum)	
XPS20	20	5 Contactor Maximum. (4 Pole Maximum)	
XPS24	24	1 Contactor Maximum. (2 Pole Maximum)	
XPS28	28	1 Contactor Maximum. (1 Pole Maximum)	

Wire Sizes

- #14 AWG (2.0 mm²) to #10 AWG (4.0 mm²)

1 Contact Lutron for lead time.

2 Each 480 V pole requires a 2 pole breaker. The Softswitch panel has a 30 position load center.

480 V Contactor Softswitch128 Panels, Feed-Through Wiring Overview

(without branch circuit breakers)

Wire the Softswitch128 panel as shown. Use a trough when the Softswitch128 Panel is not adjacent to a distribution panel. Splice Neutrals in trough

480 V Contactor Load Wiring:

Each contactor circuit requires a dedicated 2-pole 277 V, 30 A max circuit breaker.

480 V Control Wiring:

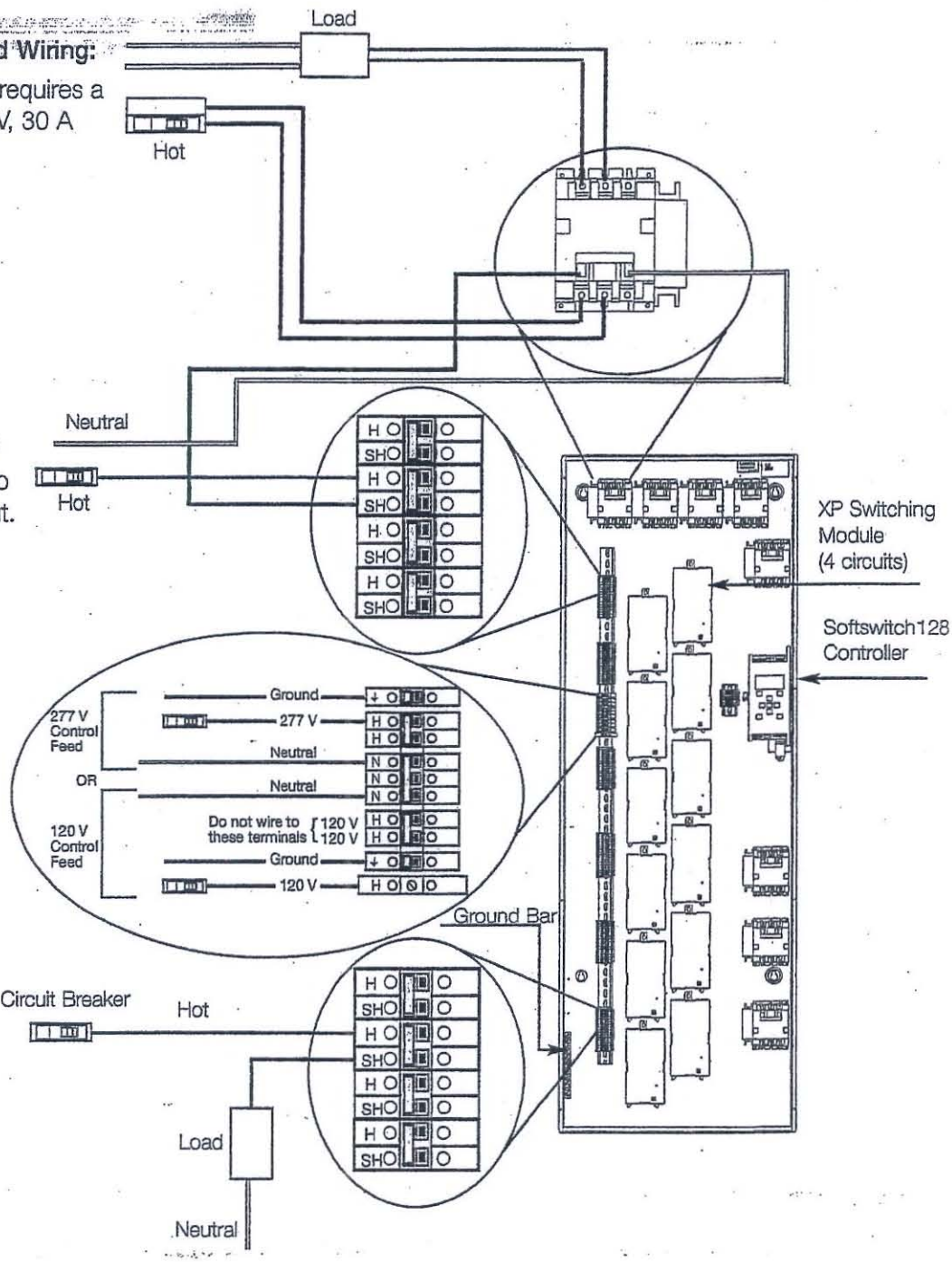
The Contactors need to be wired to a XP output.

Control Wiring:

Control wiring requires a dedicated feed and circuit breaker.

Switched Load Wiring:

Each switched circuit requires a dedicated 20 A max. circuit breaker and feed wiring to/from a distribution panel.



Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

480 V Contactor Softswitch128 Panels with Branch Circuit Breakers Load Wiring Overview

Wire the Softswitch128 panel as shown.

480 V Contactor Load Wiring:

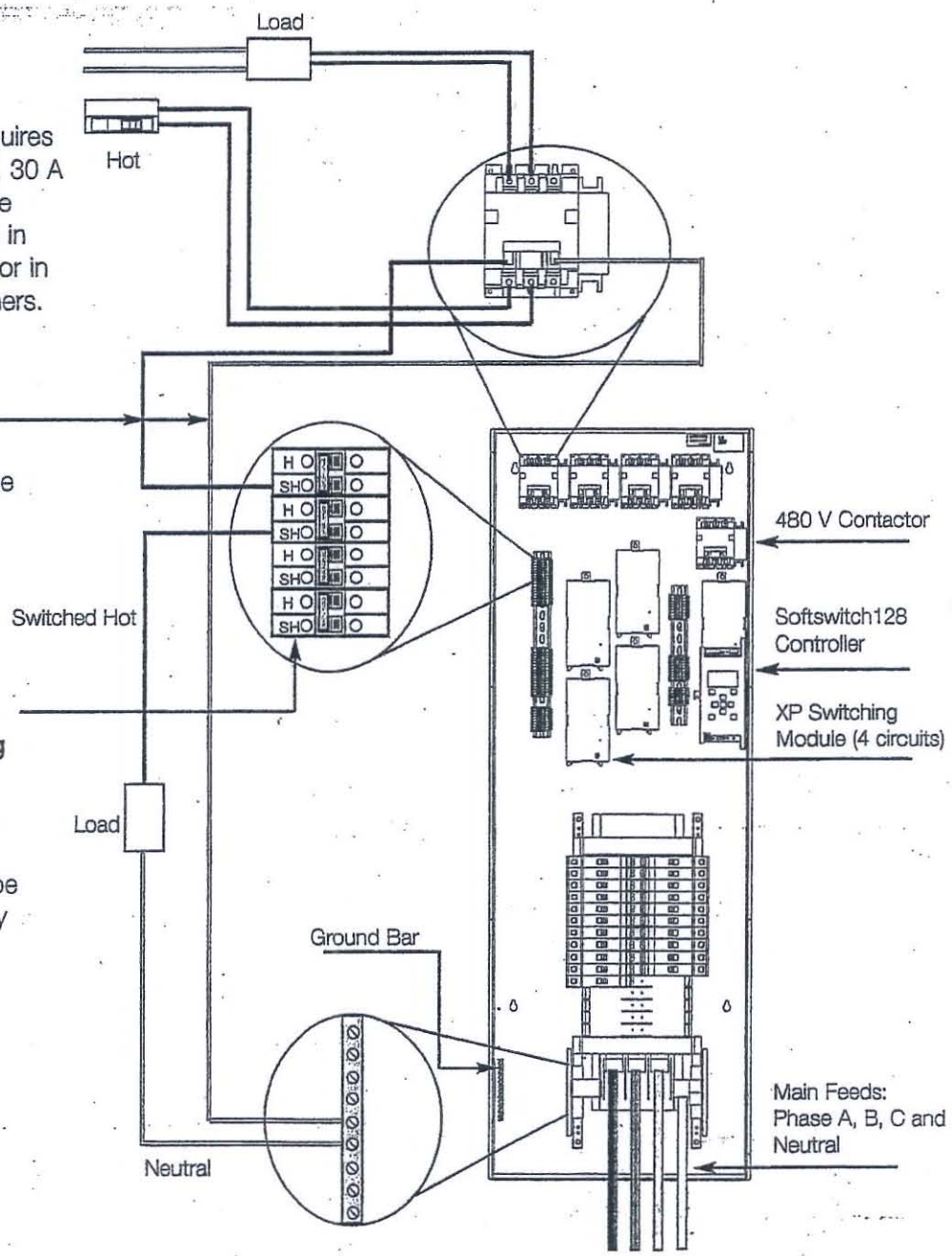
Each contactor circuit requires a dedicated 2-pole 277 V, 30 A circuit breaker. The 2-pole breaker could be installed in the Softswitch 128 panel or in a distribution panel by others.

480 V Control Wiring:

The Contactors need to be wired to a XP output.

Do Not Remove bypass jumpers until load wiring is verified.

Leaving bypass jumpers installed allows Softswitch128 panels to be used to provide temporary lighting until load wiring is verified.



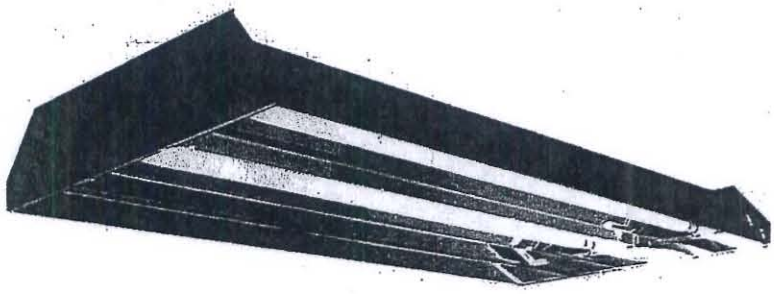
Job Name:	Model Numbers:	
TYSON MOTORS	XPS48-FT	FOMX-1B-SL-WH
Job Number:		

SPECLIGHT

Catalog Number:

Type:

FPP
T8, CF



Specular Parabolic Body Troffer

Specifications

Reflectors - Precision formed, high performance, 95% total reflectance, segmented optics utilizing Alanod MIRO® 4 specular aluminum warranted for 25 years. Reflector optics are available in a wide variety of photometric distributions and spacing criteria.

- Custom designed reflectors for any specific application, which can increase efficiency or provide desired cutoff for comfort or lighting effect.

Construction - Channel and ends are manufactured from 0.026" MIRO® 4 specular aluminum. Riveted and screwed assembly. Top-access ballast channel is manufactured from 22-gauge galvanized steel. Access plate provided for easy wiring access.

Finish - Fixture interior is high performance MIRO® 4 to maximize efficiency and control. Specular interior lowers ceiling brightness and increases vertical and horizontal illumination.

Ballasts - All standard ballasts are electronic, energy saving, thermally protected, Class-P, HPF, non-PCB, Sound Rated A, UL/CSA certified where applicable and comply with Ⓔ Federal Ballast Law (Public Law 100-357, 1988). Default ballast configuration is for two-lamp ballasts except for 1-lamp fixture.

Electrical - UL listed wire, rated for required temperatures, used throughout. Lamps are secured with rotary locking lamp sockets for ease of relamping and to reduce lamps disconnecting due to vibration or incidental contact. Luminaire is bi-national listed (UL 1598 and CSA C22.2 No. 250.0-00) and is suitable for damp locations.

Mounting - The luminaire is designed for mounting in a standard NEMA G grid ceiling.

- Custom mounting options are available.
- Accessories are available.

Lamps - Factory installed lamps are available in various CRI ratings, temperature colors and rated life.

Warranty - Standard 1-year warranty for the fixture. Ballasts carry manufacturer warranties of 3-5 years, depending on the application.

Custom Requirements - Consult with your SpecLight Agent to develop custom solutions for any application.

Fixture Series	
FPP14	1' x 4'
FPP22	2' x 2'
FPP24	2' x 4'

Lamp Configuration	
2	2-lamp profile
3	3-lamp profile
4	4-lamp profile
6	6-lamp profile

Lamp Type/Wattage	
17	*F17T8
32	**F32T8
CF40	*FT40
CF55	*FT55

Photometric Distribution	
T1	Task Beam
B1	Broad Beam

Reflector	
X26	MIRO® 4, 0.026"

Voltage	
120	120V, 60 Hz
277	277V, 60 Hz
MVOLT	120V - 277V, 60 Hz
347	347V, 60 Hz

Ballast Configuration	
(blank)	all 2-lamp ballast
2/1	(2) 1-lamp ballast
1/3	(1) 3-lamp ballast
1/4	(1) 4-lamp ballast
2/3	(2) 3-lamp ballast
1/41/2	(1) 4-lamp & (1) 2-lamp ballast

Ballast Type	
GEB	Normal BF, ≤20% THD, IS
GEBH	High BF, ≤20% THD, IS
GEBL	Low BF, ≤20% THD, IS

Lamps	
(blank)	No Lamps
LP841	std life, 4100°K, 85 CRI
LPM841	low Hg, std life, 4100°K, 85 CRI
LP841XS	ext life, 4100°K, 85 CRI
LPM841XS	low Hg, ext life, 4100°K, 85 CRI

Options	
WRP	Plastic Wrapped

* Available with 2' fixture only.
** Available with 4' fixture only.

SPECLIGHT™
An AcuityBrands Company

2011 W. Rundberg Lane • Austin, TX 78758 • 512.832.0025 • FAX 512.873.0797
www.speclightsolutions.com • info@speclightsolutions.com

Applications

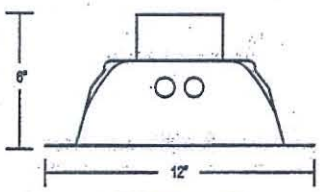
SpecLight's FPP series specular parabolic luminaire delivers maximum efficiency and lighting control. Different photometric distributions are available to balance vertical and horizontal illuminance.

Features

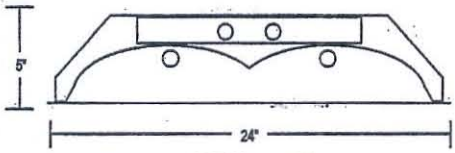
The FPP series of luminaires delivers high fixture efficiency and balance between vertical and horizontal illuminance for maximum impact in spaces that contain vertical storage or display shelving. Low ceiling brightness keeps the light focused on the task.

- Fully specular luminaire interior minimizes luminaire brightness
- Open design maximizes luminaire efficiency
- Precision formed reflector systems produce distributions appropriate for various mounting heights and aisle arrangements
- Top-access ballast simplifies maintenance
- Fixtures are available pre-lamped and wired with Reloc for fast installation
- Protective film guards MIRO®4 finish during construction

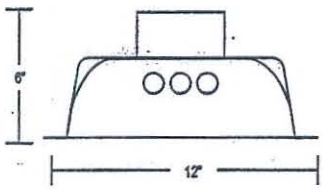
Dimensions



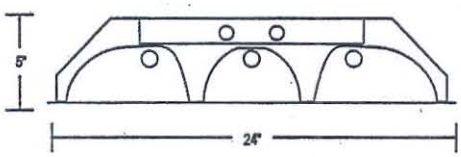
FPP14 (2-Lamp profile)



FPP2 (2-Lamp profile)



FPP14 (3-Lamp profile)



FPP2 (3-Lamp profile)

Additional Options (installed on fixture)

- Battery Pack
- Reloc
- Fusing
- Whips

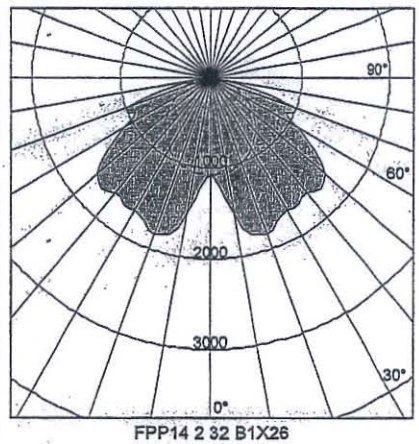
Accessories (order separately)

• Drywall Grid Adapter	DGA14, DGA22, DGA24

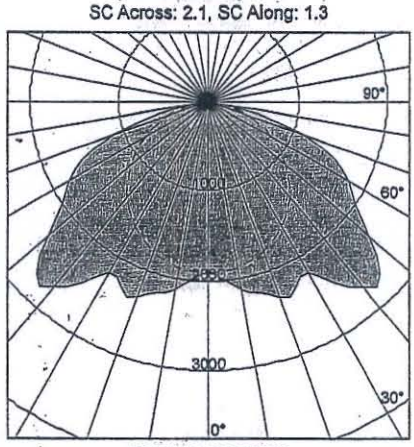
Photometrics

SC Across Definitions:

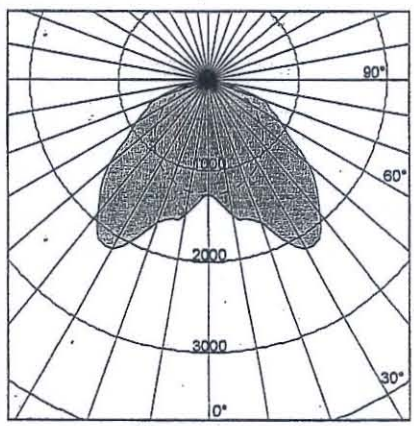
Focus (SC < 0.9), i.e. F1X12
Task (0.9 ≤ SC < 1.2), i.e. T1X12
Normal (1.2 ≤ SC ≤ 1.4), i.e. N1X12, N1D20
Spread (1.4 < SC ≤ 1.8), i.e. S1X12
Broad (1.8 < SC), i.e. B1X12



FPP14 2 32 B1X26
Test #11762
Fixture Efficiency: 92.7%
SC Across: 2.1, SC Along: 1.3



FPP14 3 32 B1X26
Test #11763
Fixture Efficiency: 88.9%
SC Across: 2.0, SC Along: 1.3



FPP24 2 32 B1X26
Test #14743
Fixture Efficiency: 93.9%
SC Across: 2.0, SC Along: 1.3

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c UL us

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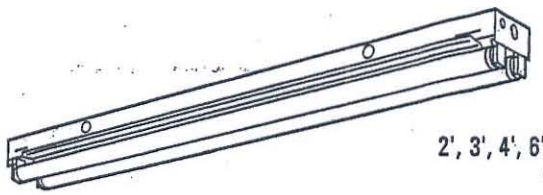
LITHONIA LIGHTING®

Catalog Number	
Notes	Type

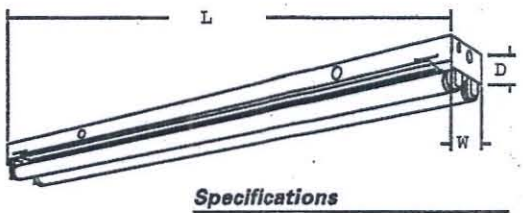
FEATURES & SPECIFICATIONS

General-Purpose Strip

C



2', 3', 4', 6' or 8' length
1 or 2 lamps



All dimensions are inches (millimeters).

Specifications

Length:	24" (610)
	36" (914)
	48" (1219)
	72" (1829)
	96" (2438)
Width:	4-3/8" (111)
Fixture Depth:	2-1/16" (52)

INTENDED USE

Ideal where high brightness and good illumination levels are required such as retail, light industrial and warehouses.

ATTRIBUTES

Fixture can be assembled with snap together components and requires no tools. Available in one lamp or two lamp configuration.

CONSTRUCTION

Heavy-duty channel, die-formed from code-gauge steel.

Sturdy channel cover secured by captive quarter-turn latch for easy access to wireway.

Combination endplate/channel connector furnished with each fixture.

FINISH

Five-stage iron phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

ELECTRICAL SYSTEM

Thermally protected, resetting, Class P, UL Listed and CSA Certified ballast is standard. Sound rating depends on lamp/ballast combination.

AWM, TFN, THHN wire throughout, rated for required temperatures.

INSTALLATION

For unit or row installations, surface or suspended mounting.

LISTING

UL listed to US and Canadian safety standards. Optional: Mexico NOM.

WARRANTY

Guaranteed for one year against mechanical defects in manufacture.

Specifications subject to change without notice.

ORDERING INFORMATION

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

Example: C 2 32 MVOLT GEB10IS

C

Series

C General-purpose strip

For tandem double-length unit, add prefix T. Example: TC

Number of lamps

1
2

Not included.

Lamp type

T8
17 17W T8 (24")
25 25W T8 (36")
32 32W T8 (48")
96T8 59W T8 slimline (96")

T12 Slimline
36 30W slimline (36")
48 38W slimline (48")
72 55W slimline (72")
96 75W slimline (96")

Voltage

MVOLT[1,2]
120
277
347
Others available.

Options

GEB	**Electronic ballasts, ≤20% THD**[3]
GEB10IS	**Electronic ballasts, ≤10% THD instant start**[1,2]
GEB10RS	T8 electronic ballast, ≤ 10% THD, rapid start
BILP	High-efficiency ballast, .78bf (low), instant start
BINP	T8 high-performance ballast, .88 bf (normal), instant start
BIHP	T8 high-performance ballast, 1.20 bf (high), instant start[4]
1/4	One four-lamp ballast[5]
EL	**Emergency battery pack (nominal 300 lumens)**
GLR	Internal fast-blow fuse (add X for external)[6]
GMF	Internal slow-blow fuse (add X for external)[6]
PLR_	Plug-in wiring; specify 1, 2 or 3 branch circuits and hot wires (A = Black, B = Red, C = Blue, AB or AC)
TILW	Tandem in-line wiring
CW	Cold-weather ballast; 0°F starting temp
CSA	CSA Certified (only required for 347V)
NOM	NOM Certified

Accessories

Order as separate catalog numbers.

SQ_	Swivel-stem hanger (specify length in 2" increments).
1B	Ceiling spacer (adjusts from 1-1/2" to 2-1/2" from ceiling).
CONLGC	12" screw-on channel connector.
WGCUN	Wireguard, 4' white.[5]
HC36	Chain hangers (1 pair, 36" long).
HRC	Hooker® T-bar hanger (flush to ceiling).
HRC1	Hooker® T-bar hanger (1-1/2" from ceiling).
WGCSMR	Wireguard, 4' white for symmetric reflector.[5]
WGCASR	Wireguard, 4' white for asymmetric reflector.[5]
CSMR48	Symmetric reflector, 4' white, 7" aperture.[5]
CASR48	Asymmetric reflector, 4' white, 5-3/4" wide.[5]

NOTES:
1 MVOLT standard for 120-277V applications, 50-60 mhz operation. Some options require voltage specified.
2 T8 lamps only.
3 Slimline lamps only.
4 Not available in 347V.
5 Not available in slimline.
6 Specify voltage.
7 Order two for 8' fixtures.

MOUNTING DATA

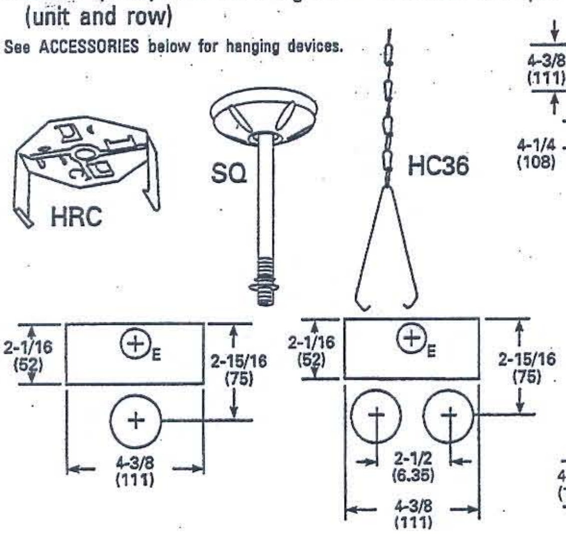
For unit or row installation, surface or suspended mounting.

Unit installation — Minimum of two hangers required.

Row installation — Two hangers per channel required. One per fixture plus one per row if CONLGC installed.

Hooker® (HRC) and HC Hangers — Minimum two per channel (unit and row)

See ACCESSORIES below for hanging devices.

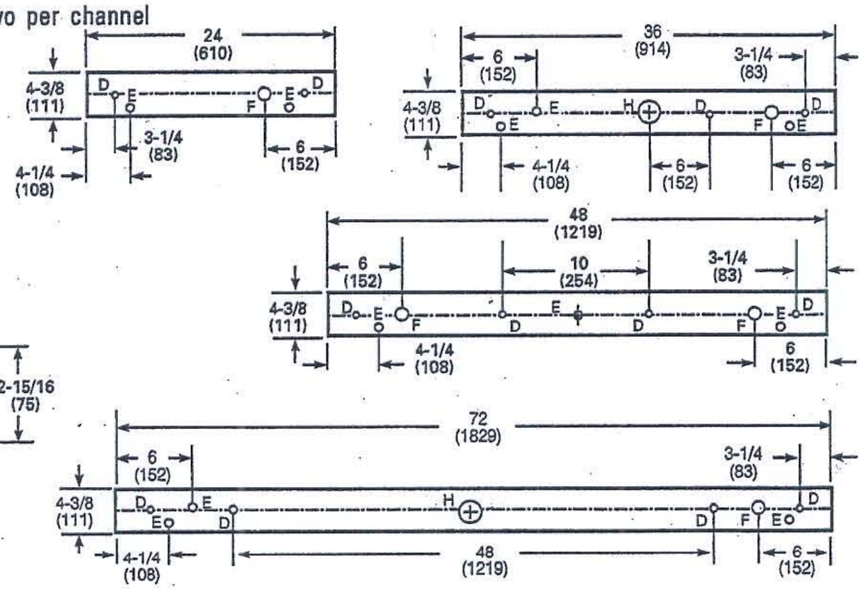


DIMENSIONS

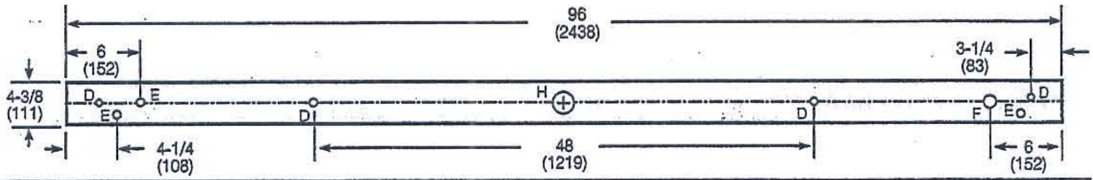
Inches (millimeters). Subject to change without notice.

48", 72" and 96" have only two 7/8" K.O.'s 6" from each end

24" and 36" have only two 7/8" K.O.'s 3-1/4" from each end



D = 11/16 (17) Dia.K.O.
E = 7/8 (22) Dia.K.O.
F = 1-1/4 (32) Dia.K.O.
H = 2 (51) Dia.K.O.



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

C 2 96
TEST NO: LTL 18310
LUMENS PER LAMP: 6300

Coefficients of Utilization

pf	20%								
pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
RCR 0	103	103	103	98	98	98	90	90	90
1	86	82	78	82	78	74	75	72	69
2	74	67	61	70	64	59	64	59	55
3	64	56	49	61	54	48	56	49	44
4	56	47	41	53	46	40	49	42	37
5	49	41	35	47	39	34	43	37	31
6	44	36	30	42	34	29	39	32	27
7	40	32	26	38	30	25	35	28	24
8	36	28	23	35	27	22	32	25	21
9	33	25	20	32	25	20	29	23	19
10	30	23	18	29	22	18	27	21	17

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1785.8	14.2	15.7
0° - 40°	3042.4	24.1	26.8
0° - 60°	5944.0	47.2	52.3
0° - 90°	9027.5	71.6	79.4
90° - 180°	2341.8	18.6	20.6
0° - 180°	11369.4	90.2	100.0

C 2 32
TEST NO: LTL 5181
LUMENS PER LAMP: 2900

Coefficients of Utilization

pf	20%								
pc	80%			70%			50%		
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%
RCR 0	106	106	106	102	102	102	93	93	93
1	89	84	79	85	80	76	78	74	71
2	76	68	62	72	66	60	66	61	56
3	65	57	50	62	55	49	57	51	45
4	57	48	42	55	47	40	50	43	38
5	51	42	35	48	40	34	44	37	32
6	45	36	30	43	35	29	40	33	28
7	41	32	26	39	31	25	36	29	24
8	37	29	23	35	28	22	33	26	21
9	34	26	20	32	25	20	30	23	19
10	31	23	18	30	23	18	28	21	17

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	842.1	14.5	15.6
0° - 40°	1435.8	24.8	26.7
0° - 60°	2810.1	48.4	52.2
0° - 90°	4362.5	75.2	81.0
90° - 180°	1021.0	17.6	19.0
0° - 180°	5383.6	92.8	100.0

Energy (Calculated in accordance with NEMA standard LE-5)

LER.FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
86.2	$2.79	(2)T8 F32	2900	.88	55

* Comparative yearly lighting energy cost per 1000 lumens

Energy (Calculated in accordance with NEMA standard LE-5)

ORDERING INFORMATION	LER.FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
C 2 32 MVOLT GEB10IS	77.6	$3.09	F32T8/735	2800	.88	59
C 2 32 MVOLT BILP	93.6	$2.56	F32T8/835/HT8	3100	.78	48

* Comparative yearly lighting energy cost per 1000 lumens

LITHONIA LIGHTING®

An Acuity Brands Company

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 770-922-9000, 800-315-4963, Fax: 770-602-1531
www.lithonia.com

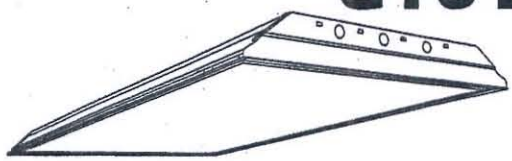
LITHONIA LIGHTING®

Catalog Number	
Notes	Type

FEATURES & SPECIFICATIONS

General Purpose T8 Troffer

GT8 2'x4'



2, 3 or 4 Lamps

INTENDED USE

Low-profile static luminaire provides general illumination for recessed applications; ideal for restricted plenum spaces.

ATTRIBUTES

Designed exclusively for use with T8 lamps, electronic ballasts and sockets.

CONSTRUCTION

Smooth hemmed sides and smooth, inward formed end flanges for safe handling. Lighter weight fixture allows for safe, easy installation.

Standard steel door frame has superior structural integrity with premium extruded appearance and precision flush mitered corners. Steel door allows easy lens replacement without frame disassembly (for lenses up to .156" think). Powder painted, steel latches provide easy, secure door closure.

Superior mechanical light seal requires no foam gasketing. Integral T-bar clips secure fixture to T-bar system. Housing formed from cold-rolled steel. Acrylic shielding material 100% UV stabilized. No asbestos is used in this product.

FINISH

Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss, baked white enamel.

ELECTRICAL SYSTEM

Standard ballast is electronic, thermally protected, resetting, Class P, HPF, non-PCB, UL Listed, CSA certified ballast, universal voltage and sound rated A.

Luminaire is suitable for damp locations. AWM, TFN or THHN wire used throughout, rated for required temperatures.

LISTING

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

WARRANTY

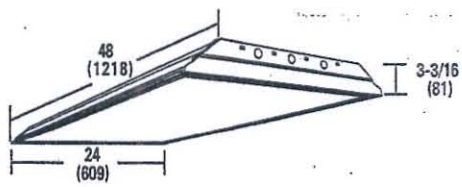
Guaranteed for one year against mechanical defects in manufacture.

US patents: 6,210,025; 6,231,213; 2,288,471.

Specifications subject to change without notice.

Specifications

Length: 48 (1218)
Width: 24 (609)
Depth: 3-3/16 (81)
Weight: 22 lbs (9.9 kg)



All dimensions are inches (millimeters).

ORDERING INFORMATION

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

Example: 2GT8 4 32 A12 MVOLT 1/4 GEB10IS

2GT8

Series
2GT8 2' wide

Number of lamps
2
3
4
Not included.

Trim type
(blank) **Grid**
F Overlapping flanged

Lamp type
32 32W T8 (48")

Door frame
(blank) **Flush steel, white**
FN Flush aluminum, natural
FM Flush aluminum, matte black
FW Flush aluminum, white
RN Regressed aluminum, natural
RM Regressed aluminum, matte black
RW Regressed aluminum, white

Diffuser type
A12 #12 pattern acrylic
A12125 #12 pattern acrylic, .125" thick
A19 #19 pattern acrylic, .156" thick
A15 #15 pattern acrylic, .2" thick
PC1S 1/2" x 1/2" x 1/2" plastic cube louver, silver
PC2S 1-1/2" x 1-1/2" x 1" plastic cube louver, silver w/ flange[1]
PC3S 3/4" x 3/4" x 1/2" plastic cube louver, silver

Voltage
120
277
347
MVOLT
Others available.

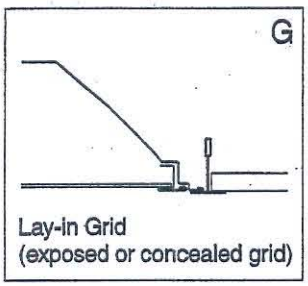
Options[2]
1/4 One 4-lamp ballast
1/3 One 3-lamp ballast
GEB10IS Electronic ballast, ≤10% THD, instant start
GEB10RS Electronic ballast, ≤10% THD, rapid start
EL Emergency battery pack (nominal 300 lumens
EL14 Emergency battery pack (nominal 1400 lumens)
GLR Internal fast-blow fuse
GMF Internal slow-blow fuse
LST Tandem-wired fixture pairs (shared ballasts)
PWS1836 6' prewire, 3/8" dia., 18-gauge, 1 circuit
LP_ Lamped, specify lamp type and color
LP735 Lamped; 700-series, 3500K
LP741 Lamped; 700-series, 4100K
JP Palletized and stretch-wrapped without individual cartons; grid trim
CSA CSA Certified
NOM NOM Certified

NOTES:
1 Available with flush door frames only.
2 MVOLT standard for 120-277V applications, 50-60 hz operation. Some options require voltage specified.

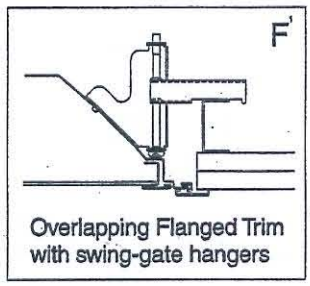
GT8 2'x4' Static T8 Troffer

MOUNTING DATA

Continuous row mounting of flanged units requires CRE and CRM trim options (see Options).



Lay-in Grid
(exposed or concealed grid)

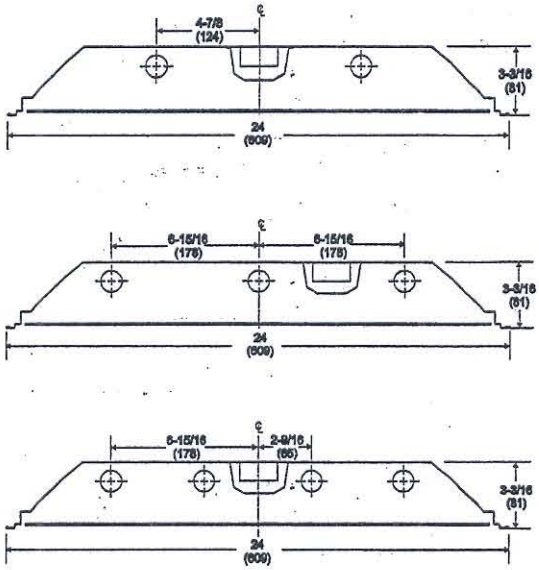


Overlapping Flanged Trim
with swing-gate hangers

NOTE:

1 Recommended rough-in dimensions for F-trim fixtures 24"x48" (Tolerance is +1/4"-0"). Swing-gate range 1-3/16" to 3-15/16". Swing-gate span 23-3/8" to 26-11/16". Fixture swing-gate points require additional 1-1/16" over nominal fixture height.

DIMENSIONS



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. Full photometric data on these and other configurations available upon request.

2GT8 2 32 A12
Report LTL 7424
Lumens per lamp - 2850 – Lum. eff. - 81.7%
S/MH (along) 1.2 (across) 1.4
Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
0	97	97	97	95	95	95	91	91	91
1	89	86	82	87	84	81	80	78	76
2	82	75	70	80	74	69	71	67	63
3	75	67	60	73	65	59	63	58	54
4	69	59	52	67	58	52	56	51	46
5	63	53	46	62	52	46	51	45	40
6	59	48	41	47	47	40	46	40	35
7	54	44	37	53	43	36	42	36	31
8	51	40	33	49	39	33	38	32	28
9	47	37	30	46	36	30	35	29	25
10	44	34	27	43	33	27	32	27	23

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	1372	24.1	29.4
0-40	2277	39.9	48.9
0-60	3907	68.5	83.9
0-90	4658	81.7	100.0
90-180	0	0	0
0-180	4658	81.7	100.0

2GT8 3 32 A12 1/3
Report LTL 7421
Lumens per lamp - 2850 – Lum. eff. - 80.1%
S/MH (along) 1.2 (across) 1.4
Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
0	95	95	95	93	93	93	89	89	89
1	88	84	81	85	82	79	79	76	74
2	80	74	69	78	72	68	70	66	62
3	74	66	59	72	64	58	62	57	53
4	68	58	52	66	57	51	55	50	46
5	62	52	45	61	52	45	50	44	40
6	58	47	40	56	47	40	45	39	35
7	54	43	36	52	42	36	41	35	31
8	50	39	33	49	39	32	38	32	28
9	47	36	30	45	36	29	35	29	25
10	44	33	27	43	33	27	32	27	23

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	2066	24.2	30.2
0-40	3412	39.9	49.8
0-60	5768	67.5	84.2
0-90	6851	80.1	100.0
90-180	0	0	0
0-180	6851	80.1	100.0

2GT8 4 32 A12 1/4
Report LTL 7425
Lumens per lamp - 2850 – Lum. eff. - 78.6%
S/MH (along) 1.2 (across) 1.4
Coefficient of Utilization

Ceiling	80%			70%			50%		
Wall	70%	50%	30%	70%	50%	30%	50%	30%	10%
0	94	94	94	91	91	91	87	87	87
1	86	82	79	84	81	78	77	75	73
2	79	73	68	77	71	67	68	64	61
3	72	64	58	70	63	57	61	56	52
4	66	57	51	65	56	50	54	49	45
5	61	51	45	60	51	44	49	43	39
6	57	47	40	55	46	39	44	39	34
7	53	42	36	51	42	35	40	35	31
8	49	39	32	48	38	32	37	31	27
9	46	35	29	45	35	29	34	29	25
10	43	33	27	42	32	27	32	26	22

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixture
0-30	2718	23.8	30.3
0-40	4481	39.3	50.0
0-60	7553	66.3	84.2
0-90	8965	78.6	100.0
90-180	0	0	0
0-180	8965	78.6	100.0

Energy (Calculated in accordance with NEMA standard LE-5)

LER.FL	ANNUAL ENERGY COST*	LAMP DESCRIPTION	LAMP LUMENS	BALLAST FACTOR	WATTS
73	$3.29	(2) 32WT8	2850	.90	58
70	$3.43	(3) 32WT8	2850	.87	85
73	$3.29	(4) 32WT8	2850	.88	109

* Comparative yearly lighting energy cost per 1000 lumens

LITHONIA LIGHTING®
An AcuityBrands Company

Sheet #: GT8-2x4

Lithonia Lighting
Fluorescent
One Lithonia Way, Conyers, GA 30012
Phone: 800-858-7763 Fax: 770-929-8789
www.lithonia.com

LITHONIA LIGHTING®

Catalog Number	
Notes	Type

FEATURES & SPECIFICATIONS

INTENDED USE — The I-BEAM fluorescent high bay is an ideal one-for-one replacement of common metal halide high bay systems. Applications include manufacturing, warehousing, commercial facilities and retail. The fluorescent I-BEAM fixture best performs at mounting heights from 15' – 40'. **Certain airborne contaminants can diminish integrity of acrylic. Click here for Acrylic Environmental Compatibility table for suitable uses.**

ATTRIBUTES — Designed for optimum performance using T8 fluorescent lamps. The I-BEAM fixture provides the best option for applications requiring a rugged fixture construction coupled with excellent fixture performance. Optical designs for your choice of narrow distribution in aisle or wide distribution for general lighting. Typical arrangement provides over 90% luminaire efficiency.

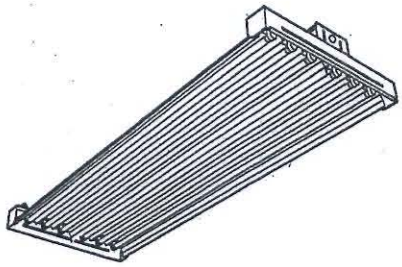
Available with four- or six-lamp cross-section with your choice of full direct component or with uplight. Easy two-point mounting with either tong hangers or convenient aircraft cable provides reliable installation. Eliminates fixture sag and provides sturdy installation. Single-point mounting available. Available in MVOLT (120-277V) or 347V.

CONSTRUCTION — Channel is formed of heavy-duty code-guage steel to stand up to the most demanding elements in installation or applications. Lamp holder assembly protects from incidental damage to reflectors during installation. Sockets include secure positioning rotating collars with enclosed contacts. Access plate on the back of the channel housing allows quick and easy wiring.

FINISH — Channel is high-gloss white baked enamel; five-stage iron phosphate pretreatment ensures superior paint adhesion and rust resistance.

OPTICAL SYSTEM — Two optical systems are available. Narrow distribution (ND) is ideal for narrow or aisle lighting applications and features precision-formed segmented optics utilizing Alanod Miro® 4 specular aluminum reflector. Provides 95% reflectivity and warranted for 25 years. Wide distribution (WD) includes high-reflectance white finish for general lighting or open areas.

ELECTRICAL SYSTEM — Thermally protected, resetting, Class P, HPF, A+ sound-rated electronic ballast. AWM TFM or THHN wire used throughout rated for required temperatures. Ballast disconnect (BDP) is standard unless EL14 or cordset is requested.



I-BEAM® FLUORESCENT HIGH BAY LIGHTING

IB

Fluorescent High Bay
4- or 6-lamp T8

Specifications

Length: 48 3/8 (1227)
Width: 17 5/8 (448)
Depth: 4 3/8 (111)
Weight: 17 lbs. (7.71 kg)

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

INSTALLATION — Suitable for suspension by chain, cable, hook monopoint or pendant monopoint. Fixture should be mounted at a minimum plenum height of 18 inches.

LISTING — UL/C-UL listed to US and Canadian safety standards. Suitable for damp locations. NOM Certified (see Options).

WARRANTY — Guaranteed for one year against mechanical defect in manufacturing.

ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold).**
Example: IB 432L

IB

Series	Number of lamps/ wattage	Distribution	Voltage	Ballast	Lamps installed
IB I-BEAM	Lamps installed[1]	(blank) **Narrow distribution with uplight**	(blank) **MVOLT**[2]	(blank) **Instant start, 1.15-1.20 BF**	(blank) **F32T8/741**
	432L 4-Lamp, 32W, T8	**NDS Narrow distribution, no uplight <3%**	347 347V[3]	**GEB10IS Instant start, 0.88BF**	LP735 F32T8/735
	632L 6-Lamp, 32W, T8	**WD Wide distribution with uplight**	480 480V[3]		LP730 F32T8/730
	Unlamped	**WDS Wide distribution, no uplight <3%**			
	432 4-Lamp, 32W, T8				
	632 6-Lamp, 32W, T8				

Ballast configuration	
(blank)	**Standard configuration**[4]
2/3	Two, three-lamp ballasts
2/2	Two, two-lamp ballasts

Options	
EL14	Emergency battery pack (900 lumens)
MSI	Occupancy sensor pre-wired[5,6]
MSI360	360° occupancy sensor pre-wired[5,6]
OCS	RELOC® OnePass® 5' installed[5]
FSP	Integral side panels
NOM	NOM Certified
PMP	Pendant monopoint[7]

Cords: See reverse.

NOTES:
1 Lamps installed are F32T8/741.
2 120-277 volt.
3 Consult factory for available configurations.
4 Ballast included:
  1.2bf: 6-lamp— two 3-lamp ballasts
  4-lamp— two 2-lamp ballasts
  .88bf: 6-lamp— single 4 + 2-lamp ballast
  4-lamp— single 4-lamp ballast
5 Specify voltage.
6 Use of programmed rapid start ballast recommended to avoid shortened lamp life.
7 Fixture must be ordered with PMP for channel modification. Splice box ships separately. Requires two ballasts.

Accessories

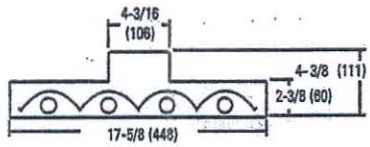
Order as a separate catalog number.

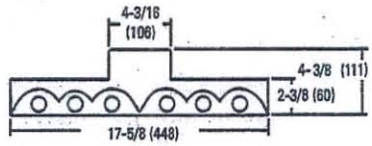
IBAC120	Aircraft cable 10' straight (one pair)
IBAC240	Aircraft cable 20' straight (one pair)
WGIBZ	Wireguard, zinc-coated
HC36	Chain hanger, 36"
IBHMP	Hook monopoint[7]
IBPMP	Pendant monopoint

I-BEAM Fluorescent High Bay, T8

DIMENSIONS

Inches (millimeters). Subject to change without notice.

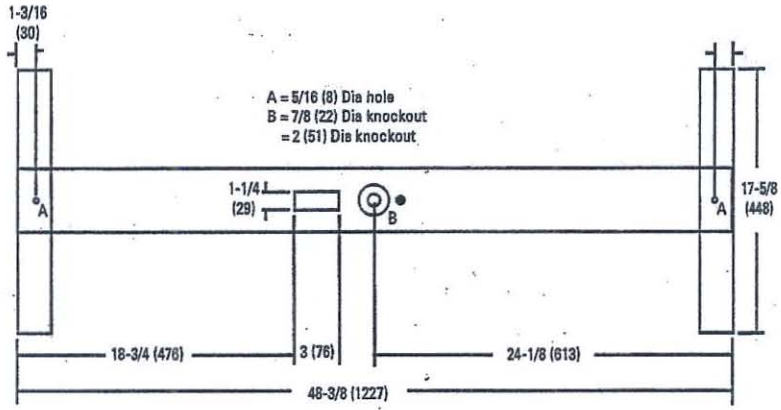




Cord Set Option:

Add suffix to end of catalog number, specify voltage.
All cord sets are 6', black unless otherwise noted.
Other configurations available, consult factory.

Suffix	Description
CS1	Straight plug, 120V
CS3	Twist lock, 120V
CS7	Straight plug, 277V
CS11	Twist-lock, 277V
CS25	Twist-lock, 347V
CS97	Twist-lock, 480V
CS93	600V SO white cord, no plug



PHOTOMETRICS

Calculated using the zonal cavity method in accordance with IESNA LM41 procedure. Floor reflectances are 20%. Lamp configurations shown are typical. All data based on 25°C. Full photometric data on these and other configurations available upon request.

IB 632 NDS

Report: **LTL14071**
LUMENS PER LAMP**2950**

Coefficients of Utilization

	pf			20%					
	pc	80%		50%			30%		
	pw	70%	50% 30%	50%	30%	10%	50%	30%	10%
RCR	0	110	110 110	103	103	103	98	98	98
	1	100	96 92	90	87	84	86	84	82
	2	91	84 77	79	74	70	76	72	68
	3	83	74 66	69	63	59	67	62	57
	4	76	65 57	62	55	50	60	54	49
	5	70	59 50	56	49	44	54	48	43
	6	65	53 45	50	43	38	49	43	38
	7	60	48 40	46	39	34	45	38	34
	8	56	44 36	42	35	31	41	35	30
	9	53	40 33	39	32	28	38	32	27
	10	50	37 30	36	30	25	35	29	25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	4784	27.0	29.3
0° - 40°	7632	43.1	46.7
0° - 60°	12831	72.5	78.5
0° - 90°	16343	92.3	100.0
90° - 180°	0	0.0	0.0
0° - 180°	16343	92.3	100.0

IB 632

Report: **LTL14068**
LUMENS PER LAMP**2950**

Coefficients of Utilization

	pf			20%					
	pc	80%		50%			30%		
	pw	70%	50% 30%	50%	30%	10%	50%	30%	10%
RCR	0	109	109 109	100	100	100	95	95	95
	1	100	95 91	88	85	82	83	81	79
	2	91	83 77	77	72	68	73	69	66
	3	83	73 66	68	62	57	64	60	55
	4	76	65 57	60	54	49	58	52	48
	5	70	58 50	54	48	42	52	46	41
	6	65	52 44	49	42	37	47	41	37
	7	60	48 40	45	38	33	43	37	33
	8	56	44 36	41	34	30	39	34	29
	9	52	40 33	38	31	27	36	31	26
	10	49	37 30	35	29	24	34	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	4533	25.6	27.6
0° - 40°	7226	40.8	44.0
0° - 60°	12174	68.8	74.2
0° - 90°	15480	87.5	94.3
90° - 180°	928	5.2	5.7
0° - 180°	16409	92.7	100.0

IB 632 WDS

Report: **LTL14070**
LUMENS PER LAMP**2950**

Coefficients of Utilization

	pf			20%					
	pc	80%		50%			30%		
	pw	70%	50% 30%	50%	30%	10%	50%	30%	10%
RCR	0	105	105 105	98	98	98	93	93	93
	1	95	90 86	85	81	79	81	79	76
	2	86	78 72	73	68	64	70	66	62
	3	78	68 60	64	58	53	61	56	52
	4	71	60 52	56	50	45	54	49	44
	5	65	53 45	50	43	38	48	42	38
	6	60	48 40	45	38	33	44	38	33
	7	55	43 35	41	34	29	40	34	29
	8	52	39 32	37	31	26	36	30	26
	9	48	36 29	34	28	23	33	27	23
	10	45	33 26	32	25	21	31	25	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	3802	21.5	24.5
0° - 40°	6320	35.7	40.7
0° - 60°	11620	65.7	74.7
0° - 90°	15546	87.8	100.0
90° - 180°	0	0.0	0.0
0° - 180°	15546	87.8	100.0

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