

## Retrofit Solutions

energy smart® LED tubes compatible with electronic ballast



### BEFORE YOU BEGIN

Read these instructions completely and carefully

#### Save these instructions

These Instructions do not purport to cover all details or variations in components nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problem arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to General Electric Company. GE Lighting does not claim liability for any installation not performed according to this guide or not by a qualified electrician.

#### For Your Safety

Read and observe all CAUTIONS and WARNINGS shown throughout these instructions

- Installation to be performed by trained or qualified personnel. Ensure this manual is provided to the installers and users.
- Use this product only in the manner intended by the manufacturer. If there are any questions or concerns, contact the manufacturer.
- The product is designed for indoor application only, and should not be used in environment of high temperature and high humidity.
- The product is not intended for use with Emergency exits.
- Suitable for dry/damp locations.

#### Provided Components

The components have been properly packed to avoid damage during transit. Inspect the components to confirm there is no physical damage. Do not install damaged components.

The carton consists of:

1. LED tubes
2. Installation guide
3. Labels



#### WARNING

##### RISK OF FIRE OR ELECTRIC SHOCK

- Disconnect power before installation or maintenance. Contact a qualified electrician for installation if needed.
- Install this product only in the luminaires that have electronic ballast shown in the compatible ballast list



#### WARNING

##### RISK OF INJURY

- Tube may fall down if not installed properly, follow installation instructions.
- Wear safety glasses and proper aid during installation and maintenance.

##### RISK OF PRODUCT DAMAGE

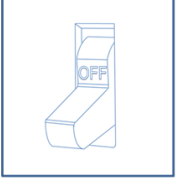
- The energy smart LED tube is designed to work with instant start and program start electronic ballast. Check out the ballast model information and make sure the ballast model is included in the compatible ballast list shown on page 3. Operating the tube by using non-listed ballast types may cause product damage
- Do not use the product for retrofitting luminaires with magnetic ballast or electronic ballast models not listed in the compatible ballast list.



# Installation procedure

## Step 1

Ensure that the power to the unit is turn off. Use proper Lock out and Tag out procedures.



## Step 2

Remove existing lamps and fixture cover plate from the luminaire



## Step 3

Insert the engery start® LED tube into the lamp holder



## Step 4

Restore the power supply and make sure lamps are operating correctly



## Maintenance/Lamp Replacement

Contact qualified electrician for the maintenance service. For any questions or concerns contact the manufacturer.



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# Product information

## Product information

Bulb shape	Base	Watt	PC	Description	Case Qty	MOL (in)	Initial Lumens	Color temp (K)	CRI	Rated life (L70)	UL
T8	Medium Bi-pin (G13)	18	93133	LED18ET8/4/835	25	48	2200	3500	80+	50000	Yes
T8	Medium Bi-pin (G13)	18	93135	LED18ET8/4/840	25	48	2200	4000	80+	50000	Yes
T8	Medium Bi-pin (G13)	18	93137	LED18ET8/4/840/UPC	25	48	2200	4000	80+	50000	Yes
T8	Medium Bi-pin (G13)	18	93140	LED18ET8/4/850	25	48	2200	5000	80+	50000	Yes

## Compatible ballast list

Manufacturer	Ballast Model	Volts	Ballast Factor	# of Lamp	Manufacturer	Ballast Model	Volts	Ballast factor	# of Lamp
GE	GE432-120RES-DIY	UNV	N	4	Universal	B432IUNVHP-A	UNV	N	4
GE	GE232MV-N	UNV	N	2	Universal	B132IUNVHP-B	UNV	N	1
GE	GE332MV-N	UNV	N	3	Universal	B232IUNVHE-A	UNV	N	2
GE	GE432MV-N	UNV	N	4	Universal	B432IUNVHE-A	UNV	N	4
GE	GE232MAX-N	UNV	N	2	Universal	B232IUNVHEH-A	UNV	H	2
GE	GE232-120RES-DIY	UNV	N	2	Universal	B332IUNVEL-A	UNV	L	3
GE	GE132MV-N	UNV	N	1	Universal	B432IUNVEL-A	UNV	L	4
GE	GE432MAX-N	UNV	N	4	OSRAM	QHE 2*32T8/UNV ISN-SC	UNV	N	2
GE	GE332MAX-N	UNV	N	3	OSRAM	QTP2X32T8/UNV ISN-SC	UNV	N	2
GE	GE232MAX-N	UNV	N	2	OSRAM	QTP4X32T8/UNV ISN-SC	UNV	N	4
GE	GE332MAX-H	UNV	H	3	OSRAM	QHE 1*32T8/UNV ISH-SC	UNV	H	1
GE	GE232MAX09-S60	UNV	H	2	OSRAM	QHE4*32T8/UNV ISH	UNV	H	4
GE	GE232MV-H	UNV	H	2	OSRAM	QTP2X32T8/UNV ISH-SC	UNV	H	2



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# Product information

GE	GE432MAX-H	UNV	H	4	OSRAM	QTP2X32T8/UNV ISL-SC	UNV	L	2
GE	GE132MAX-H	UNV	H	1	SUNPARK	120-2/32IS MPF	120V	N	2
GE	GE132MAX-L	UNV	L	1	SUNPARK	120-4/32IS MPF	120V	N	4
GE	GE232MAX-L	UNV	L	2	Halco	EP432IS/MV/HE	UNV	N	4
GE	GE232MV-L	UNV	L	2	Halco	EP132IS/MV/MC	UNV	N	1
Advance	IOPA-4P32-SC	UNV	N	4	Halco	EP432IS/L/MV/HE	UNV	L	4
Advance	VEL-4P32-SC	277V	N	4	ILT	EP332IS/H/MV/SL	UNV	H	3
Advance	REB-2P32 SC	120V	N	2	GE	GE132MV-PS-N	UNV	N	1
Advance	ICN-1P32-N	UNV	N	1	GE	GE232MV-PS-N	UNV	N	2
Advance	REL-1P32-SC	120V	N	1	GE	GE332MV-PS-N	UNV	N	3
PHILIPS	ICN-2P32-N	UNV	N	2	GE	GE232MV-PS-H V03	UNV	H	2
PHILIPS	IOPA-2P32-N	UNV	N	2	Philips	IZT2S32-SC	UNV	N	2
Philips	ICN-2P32-N	UNV	N	2	Philips	REZ2S32-SC	120V	N	2
Philips	IOP-4P32-N	UNV	N	4	Universal	B332SR120V5	UNV	N	3
Philips	IOPA2P32HL-SC	UNV	H	2					
Philips	IOP2P32HL-SC	UNV	H	2					

*Note: Contact GE sales representatives if the ballast to be used to operate the lamp is not listed in the table*



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