

# Appendix C

# ES5000HT, ES5000GT

## APPLICATION and PERFORMANCE SPECIFICATION

**Description:** High frequency dimming electronic ballast for (1) 42W, 32W or 26W CFH or (1) 26W CFQ lamp ES-1-CFH-42/32/26-UNV-HT-DIM-D and ES-1-CFH-42/32/26-UNV-GT-DIM-D

- Line voltage: 120vac to 277vac,  $\pm 10\%$ , 50-60Hz
- Super LampGard™ lamp end-of-life protection
- Programmed rapid start
- Active power factor correction

Ballast Voltage	Lamp		Input Watts		Input Amps		Power Factor	BF	BEF	THD
	Type	#	Max.	Min.	Max.	Min.				
120	CFH42W	1	42	9	0.34	0.07	> .99	1.00	2.41	<10%
120	CFH32W	1	35	8	0.30	0.07	> .99	1.00	2.87	<10%
120	CFQ/H26W	1	28	8	0.23	0.06	> .99	1.00	3.58	<10%
277	CFH42W	1	46	10	0.15	0.05	> .95	1.00	2.20	<10%
277	CFH32W	1	33	9	0.12	0.05	> .95	1.00	3.07	<10%
277	CFQ/H26W	1	28	9	0.11	0.04	> .94	1.00	3.56	<10%

Data taken at 100% Light Level unless otherwise noted.

Application and operation performance specification information subject to change without notification.

### Performance:

- Meets ANSI Standard C82.11-1993
- Meets ANSI Standard C62.41-1991
- Meets FCC Part 18 for EMI and RFI Non-Consumer Limits

### Safety:

- No PCB's
- UL LISTED (Class P, Type 1 Outdoor)
- CSA Certified

### Application:

- Minimum starting temperature: 32° F, 0° C
- Maximum case temperature: 194° F, 90° C
- Sound rating: Class A
- May not be compatible with some "powerline carrier" and/or infrared systems; consult factories
- Dimming range: 100% to 3% light output
- Remote mounting: Not recommended
- Line voltage protection for control circuit

### Physical Parameters:

- Length (including brackets): 4.95"
- Length (mounting dimension): 4.63"
- Length (case only): 4.25"
- Width: 3.00"
- Height: 1.18"
- Weight: 0.59 lb.
- Carton quantity: 50
- Lead entry HT model: Bottom Feed
- Lead entry GT model: End Feed

### Warranty:

- Universal Lighting Technologies warrants to the purchaser that each electronic ballast will be free from defects in material or workmanship for a period of (3) years from date of manufacture when properly installed and under normal conditions of use. Call **1-800-BALLASTx800** for technical assistance.

### Dimming Control Specifications:

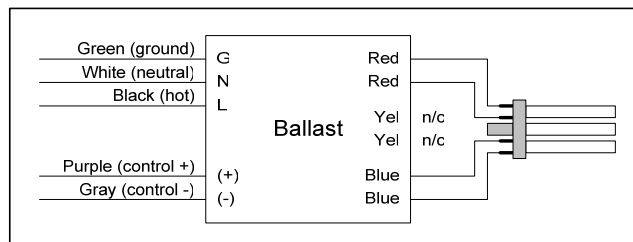
- Operates as an addressable dimming ballast with Universal Lighting Technologies' AddressPro™ dimmer controls
- Built-in line voltage protection circuit: Deep-dimming condition when line voltage is applied to control leads
- Can be wired as Class 1 or Class 2 Circuit
- Ballast will source a maximum of 200uA for control needs

### Manufactured in North America

**Ballast must be grounded in accordance with national and local electrical codes**

### Control Wiring

- Use Purple (+) & Gray (-) for connection to one or more dimmer controls identified as AddressPro™
- Ballast protected if line voltage is applied.
- Wiring Purple & Gray together provides 3% light output.
- Capping Purple & Gray separately provides 100% light output.



# ES5840K

## APPLICATION and PERFORMANCE SPECIFICATION

**Description:** High frequency dimming electronic ballast for (1) 54W T5HO lamp  
ES-1-T5-54-UNV-K-DIM-D

- Line voltage: 120vac to 277vac, ±10%, 50-60Hz
- Super LampGard™ lamp end-of-life protection
- Programmed rapid start
- Active power factor correction

Ballast Voltage	Lamp		Input Watts		Input Amps		Power Factor	BF	BEF	THD	Crest Factor
	Type	#	Max.	Min.	Max.	Min.					
120	F54T5HO	1	63	12	0.53	0.10	> .99	1.00	1.58	<10%	< 1.7
277	F54T5HO	1	63	14	0.23	0.06	> .98	1.00	1.58	<10%	< 1.7

Data taken at 100% Light Level unless otherwise noted.

Application and operation performance specification information subject to change without notification.

### Performance:

- Meets ANSI Standard C82.11-1993
- Meets ANSI Standard C62.41-1991
- Meets FCC Part 18 for EMI and RFI Non-Consumer Limits

### Safety:

- No PCB's
- UL LISTED (Class P, Type 1 Outdoor)
- CSA Certified

### Application:

- Minimum starting temperature: 32° F, 0° C
- Maximum case temperature: 194° F, 90° C
- Sound rating: Class A
- May not be compatible with some "powerline carrier" and/or infrared systems; consult factories
- Dimming range: 100% to 1% light output
- Remote mounting: Not recommended
- Line voltage protection for control circuit

### Physical Parameters:

- Length (including brackets): 16.65"
- Length (mounting dimension): 16.30"
- Length (case only): 15.77"
- Width: 1.24"
- Height: 1.00"
- Weight: 0.73 lb.
- Carton quantity: 50
- Lead entry: End Feed

### Warranty:

- Universal Lighting Technologies warrants to the purchaser that each electronic ballast will be free from defects in material or workmanship for a period of (3) years from date of manufacture when properly installed and under normal conditions of use. Call **1-800-BALLASTx800** for technical assistance.

### Dimming Control Specifications:

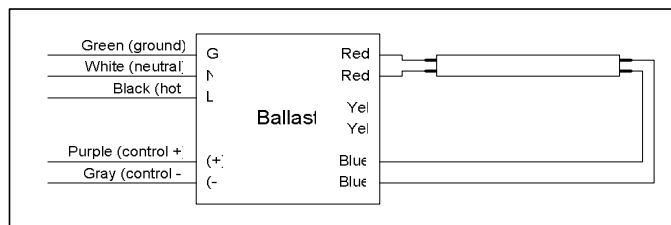
- Operates as an addressable dimming ballast with Universal Lighting Technologies' AddressPro<sup>®</sup> dimmer controls
- Can be wired as Class 1 or Class 2 Circuit
- Ballast will source a maximum of 200uA for control needs
- Built-in line voltage protection circuit: Deep-dimming condition when line voltage is applied to control leads

### Manufactured in North America

**Ballast must be grounded in accordance with national and local electrical codes**

### Control Wiring

- Use Purple (+) & Gray (-) for connection to one or more dimmer controls identified as AddressPro<sup>®</sup>
- Ballast protected if line voltage is applied.
- Wiring Purple & Gray together provides 1% light output.
- Capping Purple & Gray separately provides 100% light output.



# ES5842K

## APPLICATION and PERFORMANCE SPECIFICATION

ES-1-T5-28-UNV-K-DIM-D

**Description:** High frequency dimming electronic ballast for (1) 28W T5 lamp

- Line voltage: 120vac to 277vac,  $\pm 10\%$ , 50-60Hz
- Super LampGard™ lamp end-of-life protection
- Programmed rapid start
- Active power factor correction

Ballast Voltage	Lamp		Input Watts		Input Amps		Power Factor	BF	BEF	THD	Crest Factor
	Type	#	Max.	Min.	Max.	Min.					
120	F28T5	1	37	8	0.30	0.07	> .99	1.00	2.67	<10%	< 1.7
277	F28T5	1	37	9	0.14	0.04	> .97	1.00	2.71	<10%	< 1.7

Data taken at 100% Light Level unless otherwise noted.

Application and operation performance specification information subject to change without notification.

### Performance:

- Meets ANSI Standard C82.11-1993
- Meets ANSI Standard C62.41-1991
- Meets FCC Part 18 for EMI and RFI Non-Consumer Limits

### Safety:

- No PCB's
- UL LISTED (Class P, Type 1 Outdoor)
- CSA Certified

### Application:

- Minimum starting temperature: 32° F, 0° C
- Maximum case temperature: 194° F, 90° C
- Sound rating: Class A
- May not be compatible with some "powerline carrier" and/or infrared systems; consult factories
- Dimming range: 100% to 1% light output
- Remote mounting: Not recommended
- Line voltage protection for control circuit

### Physical Parameters:

- Length (including brackets): 16.65"
- Length (mounting dimension): 16.30"
- Length (case only): 15.77"
- Width: 1.24"
- Height: 1.00"
- Weight: 0.73 lb.
- Carton quantity: 50
- Lead entry: End Feed

### Warranty:

- Universal Lighting Technologies warrants to the purchaser that each electronic ballast will be free from defects in material or workmanship for a period of (3) years from date of manufacture when properly installed and under normal conditions of use. Call **1-800-BALLASTx800** for technical assistance.

### Dimming Control Specifications:

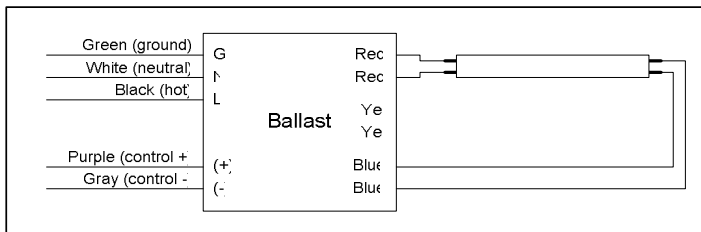
- Operates as an addressable dimming ballast with Universal Lighting Technologies' AddressPro® dimmer controls
- Can be wired as Class 1 or Class 2 Circuit
- Ballast will source a maximum of 200uA for control needs
- Built-in line voltage protection circuit: Deep-dimming condition when line voltage is applied to control leads

### Manufactured in North America

**Ballast must be grounded in accordance with national and local electrical codes**

### Control Wiring

- Use Purple (+) & Gray (-) for connection to one or more dimmer controls identified as AddressPro®
- Ballast protected if line voltage is applied.
- Wiring Purple & Gray together provides 1% light output.
- Capping Purple & Gray separately provides 100% light output.



# ES5850K

## APPLICATION and PERFORMANCE SPECIFICATION ES-2-T5-14-UNV-K-DIM-D

**Description:** High frequency dimming electronic ballast for (2) 14W T5 lamps

- Line voltage: 120vac to 277vac,  $\pm 10\%$ , 50-60Hz
- Super LampGard™ lamp end-of-life protection
- Programmed rapid start
- Active power factor correction

Ballast Voltage	Lamp		Input Watts		Input Amps		Power Factor	BF	BEF	THD	Crest Factor
	Type	#	Max.	Min.	Max.	Min.					
120	F14T5	2	34	9	0.28	.07	> .99	1.00	2.94	<10%	< 1.7
277	F14T5	2	34	10	0.13	.04	> .95	1.00	2.94	<10%	< 1.7

Data taken at 100% Light Level unless otherwise noted.

Application and operation performance specification information subject to change without notification.

### Performance:

- Meets ANSI Standard C82.11-1993
- Meets ANSI Standard C62.41-1991
- Meets FCC Part 18 for EMI and RFI Non-Consumer Limits

### Safety:

- No PCB's
- UL LISTED (Class P, Type 1 Outdoor)
- CSA Certified

### Application:

- Minimum starting temperature: 32° F, 0° C
- Maximum case temperature: 194° F, 90° C
- Sound rating: Class A
- May not be compatible with some "powerline carrier" and/or infrared systems; consult factories
- Dimming range: 100% to 1% light output
- Remote mounting: Not recommended
- Line voltage protection for control circuit

### Physical Parameters:

- Length (including brackets): 16.65"
- Length (mounting dimension): 16.30"
- Length (case only): 15.77"
- Width: 1.24"
- Height: 1.00"
- Weight: 0.73 lb.
- Carton quantity: 50
- Lead entry: End Feed

### Warranty:

- Universal Lighting Technologies warrants to the purchaser that each electronic ballast will be free from defects in material or workmanship for a period of (3) years from date of manufacture when properly installed and under normal conditions of use. Call **1-800-BALLASTx800** for technical assistance.

### Dimming Control Specifications:

- Operates as an addressable dimming ballast with Universal Lighting Technologies' AddressPro® dimmer controls
- Can be wired as Class 1 or Class 2 Circuit
- Ballast will source a maximum of 200uA for control needs
- Built-in line voltage protection circuit: Deep-dimming condition when line voltage is applied to control leads

### Manufactured in North America

**Ballast must be grounded in accordance with national and local electrical codes**

### Control Wiring

- Use Purple (+) & Gray (-) for connection to one or more dimmer controls identified as AddressPro®
- Ballast protected if line voltage is applied.
- Wiring Purple & Gray together provides 1% light output.
- Capping Purple & Gray separately provides 100% light output.

