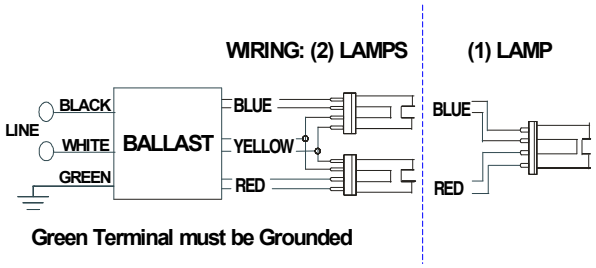
Electrical Specifications at 120V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFQ13W/G24Q	1	13	0/-18	0.13	16	1.00	10	0.96	1.5	6.25
* CFQ13W/G24q	2	13	0/-18	0.25	29	1.00	10	0.99	1.5	3.45
CFS10W/GR10Q	1	10	0/-18	0.11	13	1.05	15	0.96	1.5	8.08
CFS10W/GR10Q	2	10	0/-18	0.19	23	0.95	15	0.97	1.5	4.13
CFS16W/GR10q	1	16	0/-18	0.14	17	1.00	12	0.96	1.5	5.88
CFTR13W/GX24Q	1	13	0/-18	0.13	16	1.00	10	0.96	1.5	6.25
CFTR13W/GX24Q	2	13	0/-18	0.25	29	1.00	10	0.99	1.5	3.45

Wiring Diagram



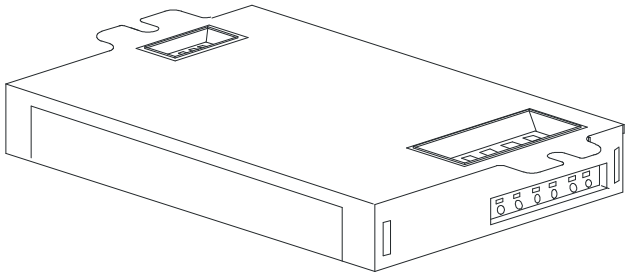
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	0.0	
White	0.0	
Blue	0.0	
Red	0.0	
Yellow	0	
Gray		
Violet		

	in.	cm.
Yellow/Blue		
Blue/White		
Brown		
Orange		
Orange/Black		
Black/White		
Red/White		

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 08/15/06

Smartmate ICF2S13H1LD

ICF-2S13-H1-LD@120	
Brand Name	**SMARTMATE**
Ballast Type	**Electronic**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 120V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be available in a plastic/metal can or all metal can construction to meet plenum requirements.

1.3 Ballast shall be provided with poke-in wire trap connectors color coded per ANSI C82.11.

Section II - Performance

2.1 Ballast shall be Programmed Start except for ballasts with -QS suffix, which shall be Rapid Start.

2.2 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.

2.3 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).

2.4 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.

2.5 Ballast shall have a Power Factor greater than 0.98 for primary lamp.

2.6 Ballast shall have a minimum ballast factor of 1.0 for primary lamp application.

2.7 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.

2.8 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.

2.9 Ballast shall have a Class A sound rating.

2.10 Ballast shall have a minimum starting temperature of -18C (0F) for primary lamp. Ballasts for PL-H lamps shall have a minimum starting temperature of -30C (-20F) for primary lamp.

2.11 Ballast shall provide Lamp EOL Protection Circuit.

2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions.

Section III - Regulatory

3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).

3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.

3.3 Ballast shall be rated for use in air-handling spaces.

3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.5 Ballast shall comply with ANSI C82.11 where applicable.

3.6 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.

3.7 Ballast shall comply with NEMA 410 for in-rush current limits.

3.8 Ballast shall meet RoHS Compliance Standards

Section IV - Other

4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.

4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 75C and three-years for a maximum case temperature of 85C (90C three-year warranty for ICF-1H120-M4-XX, ICF-2S42-90C-M2-XX and ICF-2S70-M4-XX models).

4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market.

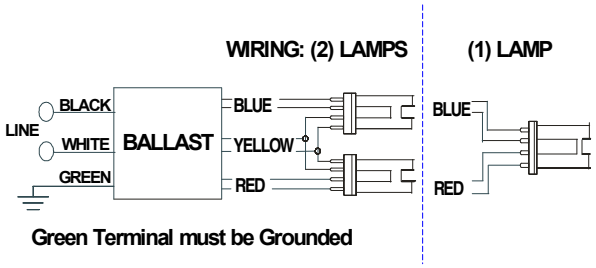
Revised 08/15/06

Smartmate ICF2S13H1LD

Electrical Specifications at 277V

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (℉/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFQ13W/G24Q	1	13	0/-18	0.06	16	1.00	10	0.96	1.5	6.25
* CFQ13W/G24q	2	13	0/-18	0.11	29	1.00	10	0.99	1.5	3.45
CFS10W/GR10Q	1	10	0/-18	0.05	13	1.05	15	0.96	1.5	8.08
CFS10W/GR10Q	2	10	0/-18	0.09	23	0.95	10	0.97	1.5	4.13
CFS16W/GR10q	1	16	0/-18	0.06	17	1.00	12	0.96	1.5	5.88

Wiring Diagram



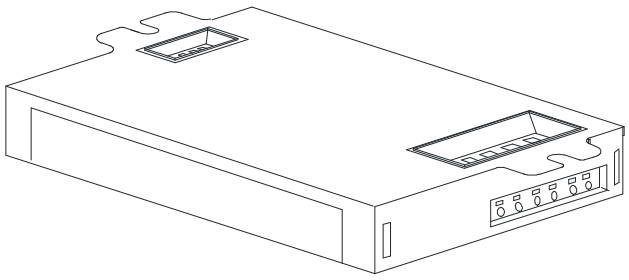
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.
Black	0.0	
White	0.0	
Blue	0.0	
Red	0.0	
Yellow	0	
Gray		
Violet		

	in.	cm.
Yellow/Blue		
Blue/White		
Brown		
Orange		
Orange/Black		
Black/White		
Red/White		

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 08/15/06

Smartmate ICF-2S13-H1-LD

ICF-2S13-H1-LD@277	
Brand Name	**SMARTMATE**
Ballast Type	**Electronic**
Starting Method	**Programmed Start**
Lamp Connection	**Series**
Input Voltage	**120-277**
Input Frequency	**50/60 HZ**
Status	**Active**

Electrical Specifications at 277V

Notes:

Section I - Physical Characteristics

1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.

1.2 Ballast shall be available in a plastic/metal can or all metal can construction to meet plenum requirements.

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3.4 Ballast shall comply with ANSI C62.41 Category A for Transient protection.

3.5 Ballast shall comply with ANSI C82.11 where applicable.

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3.8 Ballast shall meet RoHS Compliance Standards

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4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market.

Revised 08/15/06

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