

**Noise suppressed starter for 4~22W on 100~130VAC mains in single lamp circuit or 200~250VAC mains in single lamp or series connection for 2 lamp circuit, -20~+80°C, Class II, >10,000 switches**

**[1] Features**

- (1) safe, sure, fast and every time lamp start even in the case of voltage fluctuations.
- (2) high precision made top quality starters with consistent performance more than 10,000 switches and satisfactory operation over a wide temperature range.
- (3) well controlled preheating of the lamp cathodes and adequate striking pulse voltage extend lamp life.
- (4) ultra-violet(UV) stabilised and flame-retardant(UL94V-0) polycarbonate(Makrolon) case:
  - ① protects the gradual erosion of the plastic, which may occur with normal plastic case, especially when exposed to bright light,
  - ② avoid burning.
- (5) the 2 dents on the top indicate the positions of the 2 pins for easy and fast installation and changeover, even in darkness.
- (6) suitable for protection class II, provides perfect electrical insulation.
- (7) most environmental friendly starter.
- (8) in dual lamp circuits, lights both lamps quickly and uniformly.

**[2] Applications**

4~22W, single lamp on 100~130VAC mains or  
single lamp or series connection for 2 lamps on 200~250VAC mains.

**[3] Specifications**

(1) General data

<b>Applicable standard</b>	IEC60155, JIS C7603
<b>Voltage</b>	100~130VAC Single lamp or 200~250V Single lamp or Series connection for 2 lamp
<b>Rated lamp wattage</b>	4~22W
<b>Operating mode</b>	Single or Series
<b>Circuit</b>	Lead/Lag
<b>Life time</b>	≥10,000 switches
<b>Operating ambient temperature range</b>	-20~+80°C
<b>Base</b>	2 pin

(2) Performance data (at 24°C, RH 64%)

<b>Required time for lighting</b>	<b>bright place (≥5 lx)</b>	1~2sec. at 94V
	<b>dark place</b>	3~4sec. at 100V
<b>Preheating time</b>		1~2sec.
<b>Lamp starting voltage</b>		94V
<b>Non-reclosure voltage</b>		70V
<b>Pulse voltage</b>		800V min.
<b>High temperature characteristics</b> (the lamp is operated, while the ambient temperature of the starter is maintained at 60~65°C for 2 hours.)		The contacts of stater shall not be closed.
<b>Insulation resistance</b> (between the both pins of base and external metallic parts at 500VDC)		≥100MΩ
<b>Dielectric withstand voltage</b> (between the both pins of base and external metallic parts)		1,500Vrms 50/60Hz for 1 min.
<b>Turn-on and turn-off operation durability</b> (10,000 cycles each consists of 25sec. on and 35sec. off)		The starter shall be capable of operating the lamp within 10 sec..
<b>Continuous operation durability</b> (the starter is operated for 8 hours)		The contacts of the stater shall not cause permanent welding.
<b>Adhesive strength of base</b>		0.6N.m
<b>Mechanical strength</b>		no fracture
<b>Capacitor</b>	<b>Moisture and voltage proof</b> (After having been kept for 48 hours at 20~27°C, RH 91~95%, then 1,000VDC is applied and gradually raised.)	The capacitor shall withstand the 2,000VDC.
	<b>Smoking and igniting</b> (AC voltage is gradually raised to cause dielectric breakdown.)	The capacitor shall not cause smoking or igniting within 5 min..

**[4] Ordering/part number information**

<b>FS</b>	<b>2</b>	<b>PC</b>	<b>BR</b>	<b>FR</b>	<b>2</b>
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(1) (2) (3) (4) (5) (6)

- (1) Symbol expressing fluorescent lamp starter
- (2) Symbol expressing class of fluorescent lamp starter
- (3) Symbol expressing type of case:  
**PC**: Polycarbonate(Makrolon) case, UV stabilised with UL94V-0
- (4) Symbol expressing type of pin:  
**BR**: Brass pin.

(5) Symbol expressing flammability rating of base

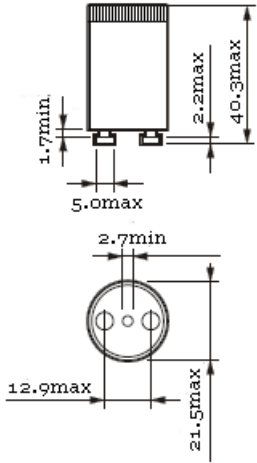
**FR**:ANSI NEMA Grade FR-1:Flame resistance(UL flammability 94V-0)

(6) Symbol expressing type of base

**2**:for plastic case with dia.19.6mm

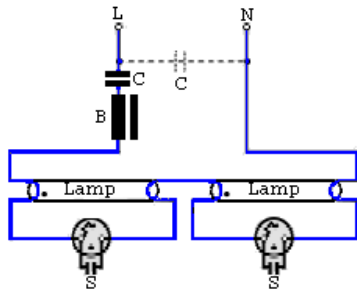
\*For further details,refer to (5)Ordering/part number information in [General technical information of fluorescent lamp starters.](#)

**[5] Dimensions in mm**

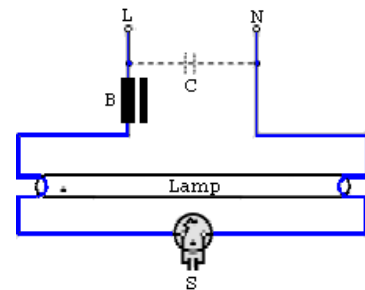


**[6] Circuit**

**[Lead:Series connection for 2 lamps]**



**[Lag:Single lamp]**



L,N:AC mains  
 B:Ballast  
 C:Compensation capacitor  
 (if required)  
 S:Starter  
 C:Series capacitor

Prolonged start times,especially at low voltage,can be shortened by rotating 1 of starters through 180° ,in Series connection for 2 lamps.

\*For further details,refer to [General technical information of fluorescent lamp starters.](#)