

The Robertshaw logo is written in a red, cursive script font. The word "Robertshaw" is followed by a registered trademark symbol (®).

Robertshaw®

Heating – Silicon Nitride Ignitors

UNI-LINE® PRODUCT KNOWLEDGE

A thick, lime-green graphic element consisting of a horizontal line that steps up three times from left to right, ending in a small circle on the far right.

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The Invensys logo features the word "i n v e n s y s" in a lowercase, sans-serif font with wide letter spacing. Below it, the word "Controls" is written in a smaller, lowercase, sans-serif font.

i n v e n s y s
Controls

Subjects We Will Cover In This Session

- Technical Knowledge
- Product Line & Features
- Manufacturer Analysis
- Contact Information
- Q & A

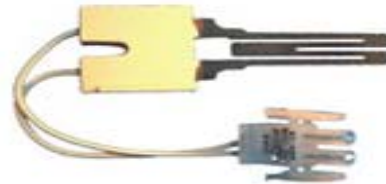
Hot Surface Igniters

Igniter Types:

- Silicon Nitride
- Silicon Carbide (fragile)

41-400 Series

- Silicon Carbide
- Uni-Line® Catalog Page 121



41-400N Series

- Silicon Nitride
- Add an "N" to parts



Hot Surface Igniters – Silicon Nitride

What is Silicon Nitride?

- A light, hard material with low thermal expansion coefficient

Typical characteristics of Silicon Nitride (SiN) include:

- High Mechanical Strength
- Fracture resistance – stronger than Silicon Carbide
- Good thermal shock resistance
- Good chemical resistance
- Resistant to deformation at room and elevated temperatures

Hot Surface Igniters – Silicon Nitride

Longer Usable Life

- Unlike Silicon Carbide which has a porous construction, Silicon Nitride is non porous and does not oxidize with age.
- Silicon Nitride igniter elements can be cleaned with tough cleaners and can withstand strong alkali's and acids.
- Due to its outstanding performance, Silicon Nitride offers a piece of mind to the home owner when the temperatures dip into the low teens during the winter months.

Quiz Question

What allows silicon nitride igniters to work in HVAC Heating applications?

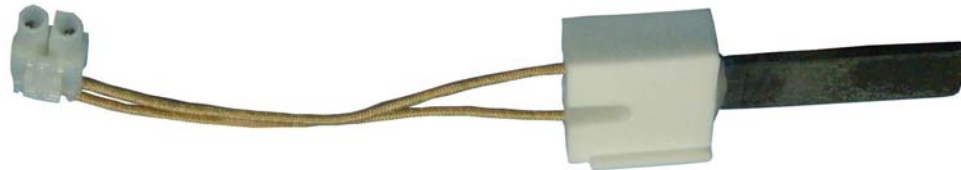
- Low thermal expansion coefficient
- High Mechanical Strength
- Fracture resistance
- All of the above

Silicon Carbide has a porous construction, Silicon Nitride is non porous and does not oxidize with age.

- True
- False

New Product in Ignition Controls

- The new SiN Ignitor Provides Exceptional Improvement
 - Durability
 - Surface Resistant to Dirt and Condensation
 - Less Breakage During Installation and Servicing
- 12 SKU's available
- Sell Sheets with Cross Reference Charts
- Branded Robertshaw®



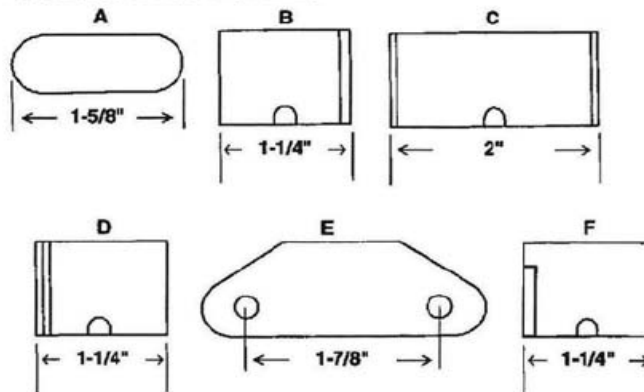
Silicon Nitride Ignitor Features

- 2 Year Warranty
- 17 Seconds or Less to Operating Temperature – 1800°F
- All Ignitors are 120 VAC
- Ignitors are Boxed with Mounting Hardware and OEM Termination or Ceramic Wire Nuts
- Durable, Robust and Resistant to Dirt and Oil
- High Temperature Leads for Wire Protection
- Flame Sensor Required for all Silicon Nitride Ignitors

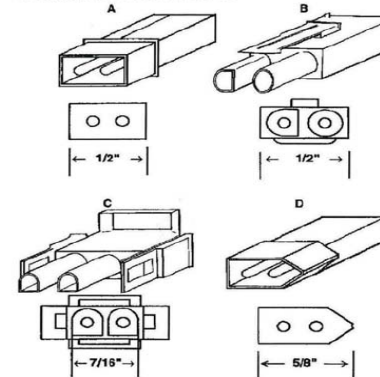
Termination and Block Styles

Uni-Line® Part Number	Ceramic Block Style	Terminal Block Style	Lead Wire Length	Comments
41-401N	A	A	5-1/4"	Includes a gasket
41-402N	B	None	24"	
41-403N	C	None	5-1/4"	
41-404N	C	D	5-3/4"	Includes special mounting
41-405N	D	None	9"	
41-406N	E	None	9"	Includes a gasket
41-407N	C	B	5-3/4"	
41-408N	B	C	5-3/4"	
41-409N	C	D	5-3/4"	
41-410N	B	B	5-3/4"	
41-411N	B	C	5-3/4"	Includes special mounting
41-412N	F	None	24"	

CERAMIC BLOCK STYLES



TERMINAL BLOCK STYLES



Add an "N" to Existing Part Numbers

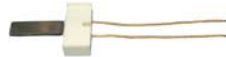
41-401N



41-402N



41-403N



41-404N



41-405N



41-406N



41-407N



41-408N



41-409N



41-410N



41-411N



41-412N



Manufacturers and Distributors of SiN

- Crystal Technica (Ignitersdirect.com)
- Kyocera (White Rogers)
- Surfaceigniter
- MARS®
- Supco
- Robertshaw®

Manufacturer Comparison

Feature	Robertshaw®	Crystal Technica	MARS®	Supco
Series or SKU	41-400N	Glo-Stix 120-400	67900	SSN2000
Replacement OEM Hardware	✓	✗	✗	✗
OEM Termination	✓	✗	✓	✗
17 Seconds or Less Heat Time	✓	✓	✓	✓
Pass 2 Meter Drop Test	✓	✗	✓	NA

Pros and Cons

Pros and Cons	Robertshaw®	Competition
Replacement OEM Hardware	Easier installation ensuring that the igniters is placed in position Correctly	Hardware with multiple holes making it less durable with variation in the placement of the hot zone
OEM Termination	Quick tool free installation	Longer install time
Pass 2 Meter Drop Test	Durability for easier installation and handling	Fragility defeats one of the purposes of SiN

Website Tools: www.Uni-Line.com

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- Product Cross Reference
- Distributor Locator
- Publication Zone
- Contractor ID

Click here for more information

Cross reference

When You Have Uni-Line® Questions

Telephone:

Technical Service 1-800-445-8299

Technical Service Fax 1-630-260-7294

Customer Service 1-800-304-6563

Customer Service Fax 1-800-426-0804

Website:

Uni-Line® Catalog Website: www.Uni-Line.com

Cross Reference Website: www.uni-line.com/templates/xrefsearch.aspx

General Information Websites for:

Robertshaw®, Paragon®, Eliwell™, Ranco®, and Publication Zone®

www.InvensysControls.com

www.RobertshawTstats.com

www.ToolBox.InvensysControls.com



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