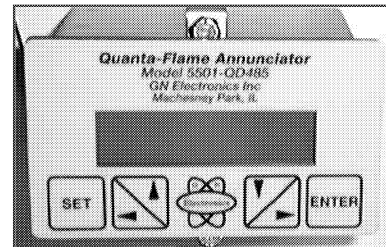
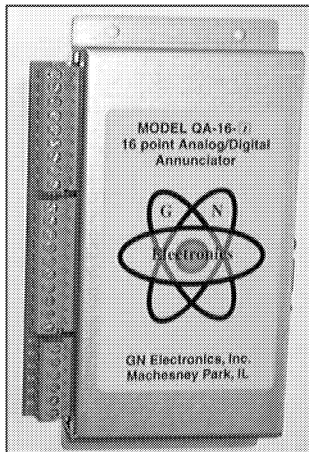


GN Electronics Inc.

Quanta-Flame Display and Annunciator 16 Digital 120VAC Input Model 5501- QD 485 and QA-16D



USER MANUAL

Revised: February 07, 2003

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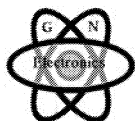
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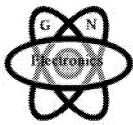
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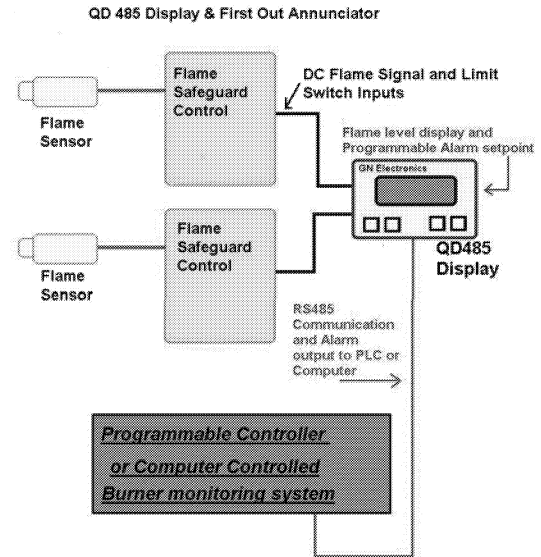
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DESCRIPTION

QD 485

This is a microcomputer-controlled display. It has provisions for two 0 to 12 VDC analog inputs, which it monitors, and displays and gives a first out alarm indication and contact. The operator can set the alarm trip level and configure the two inputs in "OR" logic or "AND" logic. The QD485 also has the optional ability for RS485 communication to any PLC or Computer.



QD485 FEATURES

- 2 X 16 segment back-lit display with NEMA 4 membrane front and sealing gasket
- Optional History logging of past alarm occurrences
- Optional RS 485 Communication Interface
- Non Volatile Memory (keeps settings for 10 years)
- Isolated 8Amp relay alarm contact
- Operator interface Key Pad on front of unit
- 1/8th DIN standard size for easy mounting in control panels
- Built-in 120 VAC 50/60 Hz supply
- User configurable logic trip relay

QA-16D

The QA-16D is the Microcomputer Annunciator expansion module for use with the QD 485. It comes with 16 digital inputs.

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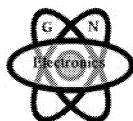
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Function Description

Non-Volatile Mode: Lockout remains when input is re-established or power is cycled to the display. Lockout is reset by pressing the “UP” and “DOWN” Buttons simultaneously

Volatile Mode: Lockout resets when input is re-established or power is cycled to the display.

Activate Inputs: Inputs that are activated are monitored by the display and will lead to a lockout when they fail. Inputs, which are de-activated, will still be displayed but are removed from the alarm circuit

Limit Inputs: Digital (on/off) inputs consisting of 120VAC signals into the optional QA-16. These usually originate from switch contacts

Trip Mode: The Logic mode governing the conditions, which determine when an alarm occurs. There are two possible choices:

Limit- AND Mode- All activated inputs must be present in order to prevent an alarm condition

Limit - OR Mode- Any activated input must be present in order to prevent an alarm condition

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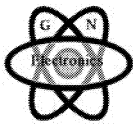
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Display Sequence

At power up the following message will be displayed

GN Electronics
Q-Flame Display

The display configuration will the be indicated (pressing the “up” or “down” buttons will skip this step)

CONFIGURATION
2 Analog Inputs

OR

Limits NNNYNNYN
NYYNNNNN

Volatile
Mode

OR

Non-Volatile
Mode

-AND-
TRIP MODE

OR

-OR-
TRIP MODE

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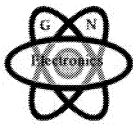
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Display Configuration

Press the  Button to display:

Volatile Mode
UP=yes ; DOWN= no

Press the UP  Button to select the Volatile Mode

**Volatile
Mode**

Press the Down  Button to Select the Non-Volatile Mode

**Non-Volatile
Mode**

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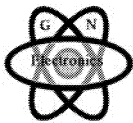
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Configuration for Optional QD-16D input expansion unit only
Does not apply to 2 analog input configuration of Display only

Press the Set  Button again to display:

Activate Inputs
UP=n/y ; DOWN=In

Press the Down  Button to Display

In.1T08 YYYYYYYY
In.9T16 YYYYYYYY

Use the Down  Button to move cursor and select input

Use the UP  Button to activate (Y) or deactivate the input (N)

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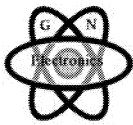
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Press the Set  Button again to display:

Trip Mode
UP=AND; DOWN=OR

Use the UP  Button to Display

- AND -
Trip Mode

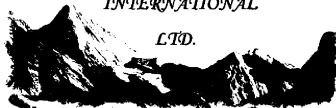
Use the Down  Button to Display

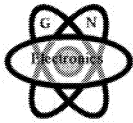
-OR-
Trip Mode

Press the Set  Button again to display Messages

Note: See attached message list for custom messages, otherwise the display will show LIMIT 1 through 16 and the status of OPEN or CLOSED for each.

Note: Press the Enter Button to display Configuration settings at any time





QD485 Specifications

MECHANICAL:

Enclosure: 1 $\frac{3}{4}$ " H by 3 $\frac{1}{2}$ " L by 3" D (1/8th DIN)

ELECTRICAL:

Supply: 120VAC 50/60 Hz

Power consumption: 2VA

Output: Configurable Relay contact (8 Amps), RS485

Environmental:

Class: NEMA type 4 Membrane Front

Temperature rating: -20⁰C to +60⁰C (0⁰F to 140⁰F).

QA-16D Specifications

MECHANICAL:

Enclosure: 5 $\frac{7}{8}$ " H by 4 $\frac{3}{8}$ " W by 1 $\frac{1}{8}$ " D

ELECTRICAL:

Supply: power supplied from QD485

Power consumption: 2VA

Input: (16) 120VAC digital (contact) inputs

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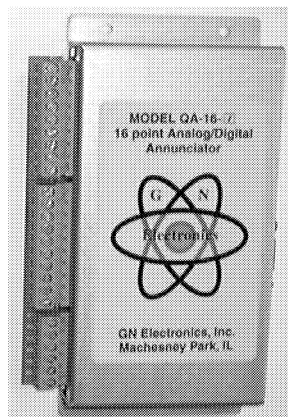
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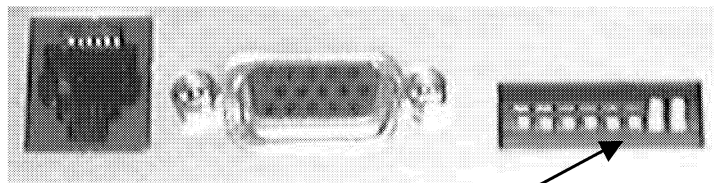
Installation Notes

- All installation, wiring, or service activities must only be performed by knowledgeable and qualified technicians.
- All system wiring should be run in accordance with the National Electrical Code and all local code requirements.
- Always remove all power to the system before wiring.



QA-16D

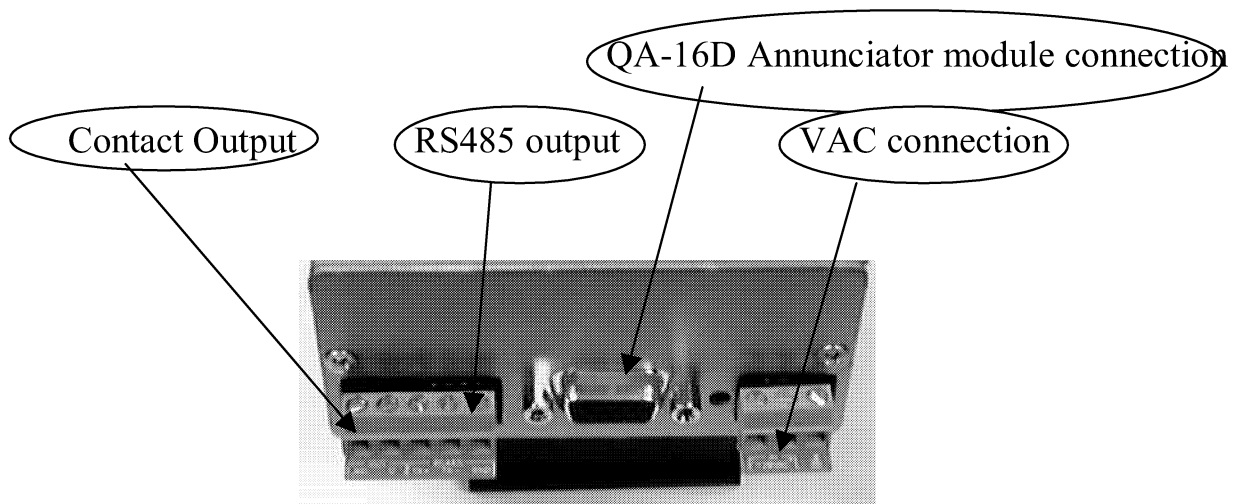
QA- 16 DIP switches are located on the side of the unit opposite of the terminal strip



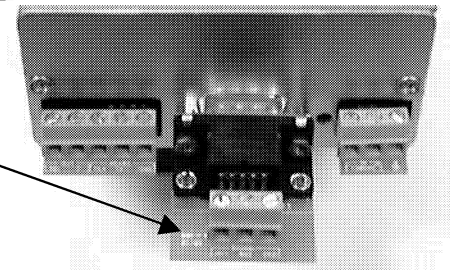
Switches 7 and 8 must be in the up position
Switches 1 through 6 should be in the OFF (down position)



WIRING and CONNECTIONS



Dual Analog input terminal (when QA-16D is not used)



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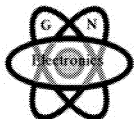
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**Wiring Diagram (OD 485)****Terminal J1**

<u>Alarm Contact Output</u>	01-OUT-NO
<u>Alarm Contact Output</u>	01-OUT-C
<u>RS 485</u>	03-RS485-TX+
<u>RS 485</u>	04-RS485-TX-
<u>Logic Ground</u>	05-GND

Terminal J2

<u>120VAC</u>	01-120VAC-IN-L
<u>Neutral</u>	02-120VAC-IN-N
<u>Earth Ground</u>	03-Ground

P1 plug connector

<u>0 –12VDC (input)</u>	AN 1
<u>0 –12VDC (input)</u>	AN 2
<u>Earth Ground</u>	GND

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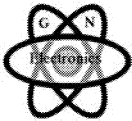
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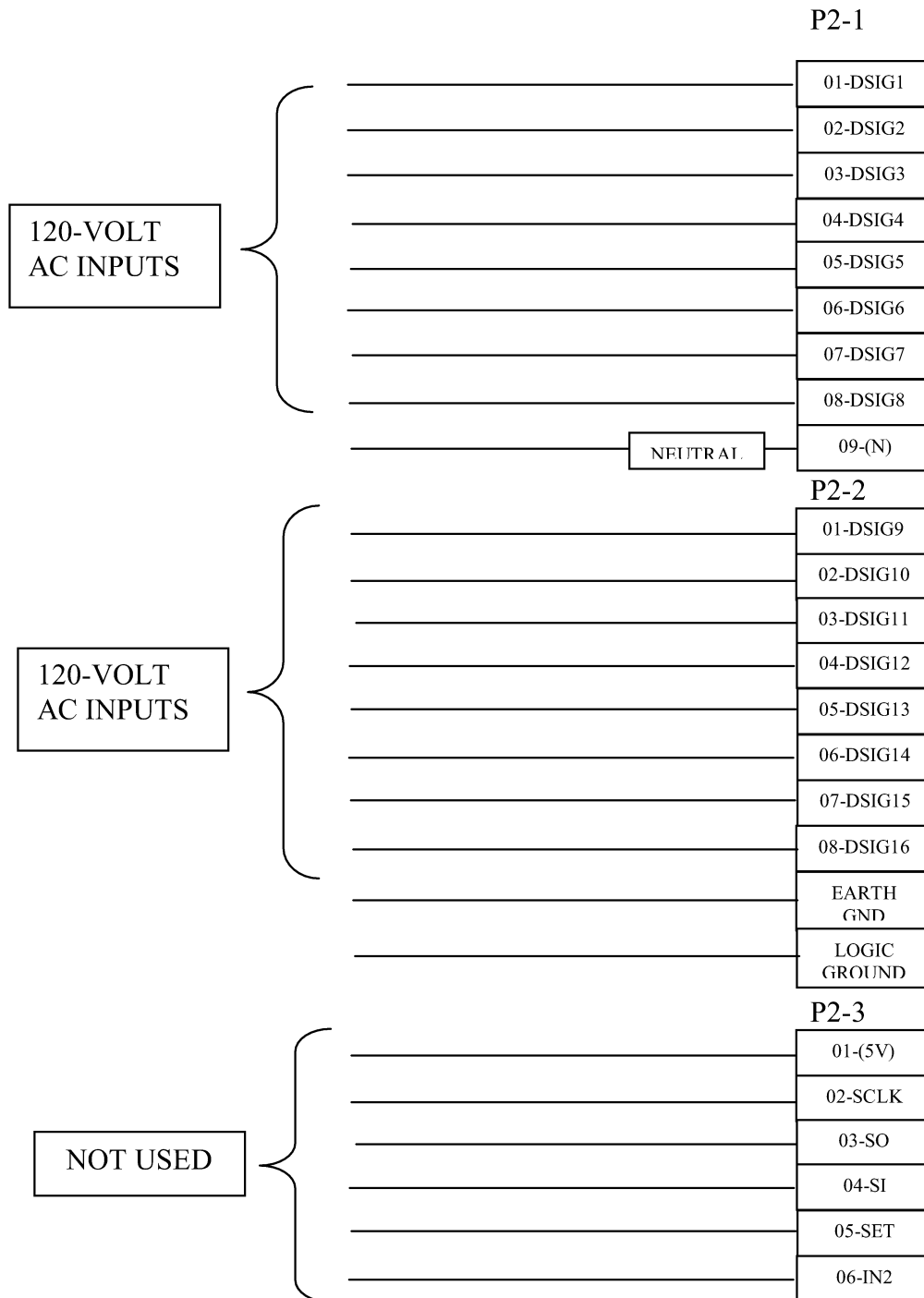
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Wiring Diagram (QA-16D)



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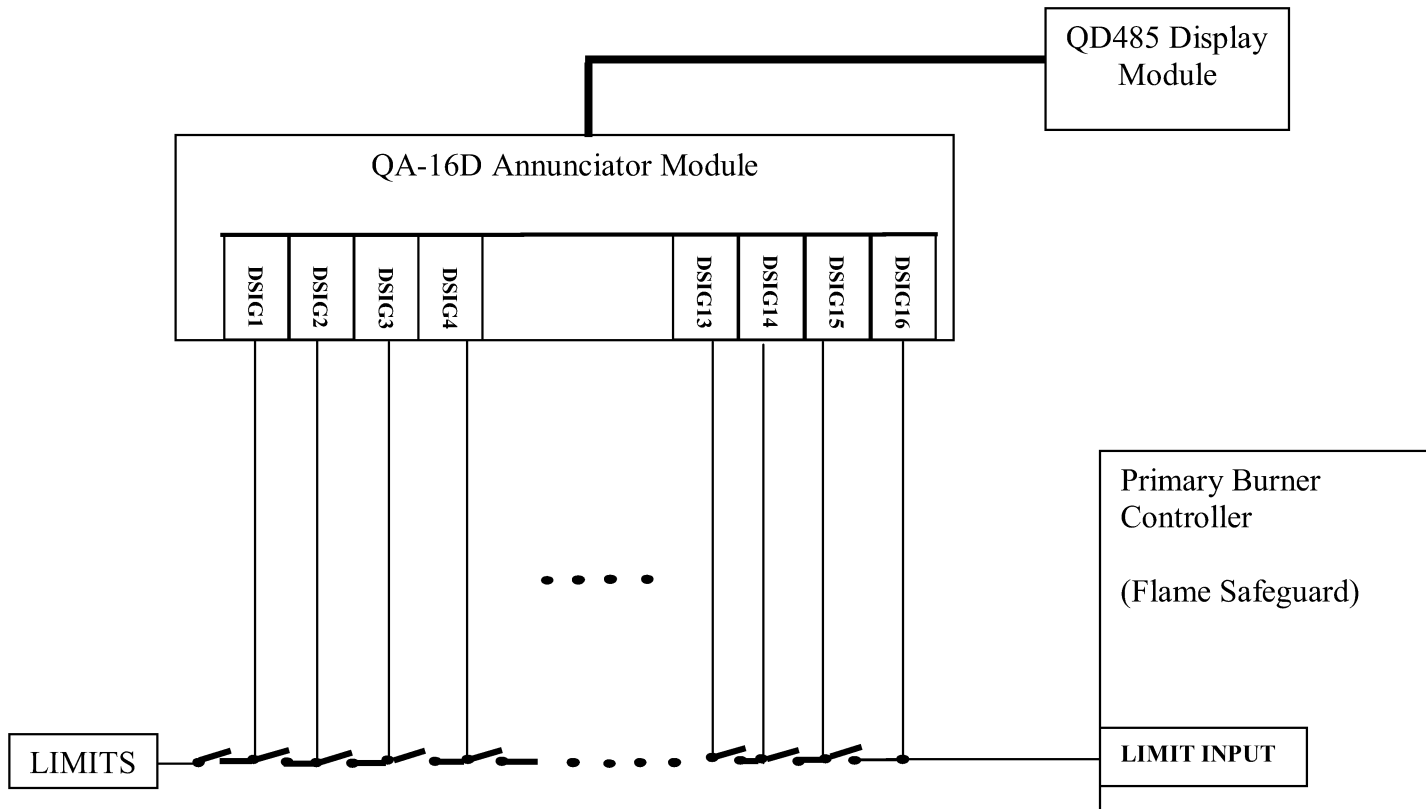
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Annunciator Layout Diagram



Note: The first limit in the series must be connected to the first input into the Annunciator in order to assure first out annunciation in the non-volatile alarm mode

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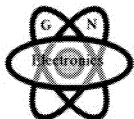
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Wiring Considerations

Depending on the output option used the wiring requirements will vary somewhat.

Output type	Suggested wire	Wiring run considerations
Contact	14 to 16 AWG	THHN or equivalent Nothing special- can be run with other wires in conduit
0 to 12VDC RS 485	14 to 16 AWG	THHN if wire is run in separate conduit
		Shielded cable if multiple wires are in one conduit
		Coax cable if long distance runs are required or if high level of electrical noise is present

Note

All wiring runs to the field on, or near, hot surfaces should be rated for 90°C (195°F) or at least 25°C (50°F) higher than the surface temperature.

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Maintenance

Repairs

Defective units should be returned to G N Electronics for repair. Controls should be well packed in a suitable container encased in appropriate stuffing.

All products should **be shipped prepaid to:**

**G N Electronics Inc
9958 N. Alpine Rd Suite #104
Machesney Park, IL 61115**

**Tel: (815)637-8624
Fax: (815)637-8626**

[www. gnelectronics . com](http://www.gnelectronics.com)

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Custom Message List

Message 1

P	R	O	C	E	S	S		A	I	R		F	L	O	W
S	W	I	T	C	H					C	L	O	S	E	D

Message 2

S	Y	S	T	E	M		L	I	M	I	T	S			
										C	L	O	S	E	D

Message 3

L	O	W		G	A	S		S	W	I	T	C	H		
										C	L	O	S	E	D

Message 4

H	I	G	H		G	A	S		S	W	I	T	C	H	
										C	L	O	S	E	D

Message 5

H	I	G	H		T	E	M	P		L	I	M	I	T	I
										C	L	O	S	E	D

Message 6

H	I	G	H		T	E	M	P		L	I	M	I	T	2
										C	L	O	S	E	D

Message 7

L	O	W		S	T	A	B		A	I	R				
										C	L	O	S	E	D

Message 8

L	O	W		P	I	L	O	T		A	I	R			
										C	L	O	S	E	D

Message 9

B	U	R	N	E	R		F	A	U	L	T				
										C	L	O	S	E	D

Message 10

L	O	W		I	N	S	T	R	U	M	E	N	T		
A	I	R								C	L	O	S	E	D

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Message 11

P	I	L	O	T		A	I	R							
S	T	A	R	T	E	R				C	L	O	S	E	D

Message 12

S	T	A	B		A	I	R								
S	T	A	R	T	E	R				C	L	O	S	E	D

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