

# GMA 100 / GMA 300 Fixed Controller

April  
2011



GMA 300 Series



GMA 100 Series

## Features

- Fully customizable rack mounted controller system
- Single channel or one to four channel controller cards available
- Intuitive push-button operation
- Digital readout
- 3 user-adjustable alarm points
- 4 LED Alarm indicators: 1, 2, 3 and fault
- Factory configured alarm functions include:
  - Latching/non-latching
  - Resettable/non-resettable
  - Time delay
  - Rapid rise alarm for combustible setups
- User-adjustable alarm hysteresis
- 4-20 mA input standard
- 4-20 mA or 0-10V output (GMA 101/GMA 301)
- 4 on board relays available, for 3 programmable alarm settings and 1 fault
- Common relay modules and optional key activated silencer available
- Modular power supplies
- Backup power supplies
- GMA 300 Features:
  - LED Array
  - Available with datalogging
  - Digital output on single channel versions



GfG Instrumentation

# GMA 100

# Controller Pricing

GMA 100 Series		4-20mA Output	Relays <sup>†</sup>	Multiplexer	Power Supply <sup>**</sup>	Price
Part No.	Description					
<b>GMA 101</b>	<b>Single Channel Rack Mounted Controller Cards All Transmitter Types</b>					
2121011	GMA 101-R. Includes features checked	✓	✓			\$ 645.00
<b>GMA 104</b>	<b>Four Channel Rack Mounted Controller Cards For Electro-Chemical (EC) Transmitters</b>					
2122011	GMA 104-R. Includes features checked		✓			\$ 945.00
<b>GMA 104</b>	<b>Four Channel Rack Mounted Controller Card Sets For Electro-Chemical (EC) Transmitters</b>					
2122011S1	GMA 104-R. Includes features checked		✓	✓		\$ 1025.00
<b>GMA 104</b>	<b>Four Channel Rack Mounted Controller Card Sets For CC, CI, CS, IR and ZD Transmitters</b>					
2122011S2	GMA 104-R. Includes features checked		✓	✓	✓	\$ 1,575.00
<b>GMA 101E</b>	<b>Replacement Cards (Older Versions)</b>					
2121020	GMA 101-E. For MAK style racks.		✓			\$ 895.00

Dimensions: All GMA 100 Controller and power supply cards are 3HE\* x 7TE\*.

\* HE is the card height; 1HE = 1.75". TE is the card width; 84TE = 19". Each GfG Slot = 3HE x 7TE.

† Includes 4 relays: Alarm 1, 2, 3 and fault.

\*\* External, one additional card slot required for power supply. If not checked, power supply is internal, with no additional card slot necessary.



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## GMA 300 Series

Part No.	Description	4-20mA Output	Relays†	Datalog	Clock‡	Multiplexer	Power Supply**	Price
<b>GMA 301</b>	<b>Single Channel Rack Mounted Controller Cards All Transmitter Types</b>							
2131011	GMA 301. Includes features checked	✓						\$ 995.00
2131002	GMA 301-R. Includes features checked	✓	✓					\$ 1,095.00
2131005	GMA 301-RD. Includes features checked	✓	✓	✓				\$ 1,545.00
2131008	GMA 301-RDC. Includes features checked	✓	✓	✓	✓			\$ 1,645.00
<b>GMA 304</b>	<b>Four Channel Rack Mounted Controller Card Sets For Electro-Chemical (EC) Transmitters.</b>							
2131011S1	GMA 304. Includes features checked					✓		\$ 1,170.00
2131002S1	GMA 304-R. Includes features checked		✓			✓		\$ 1,570.00
2131005S1	GMA 304-RD. Includes features checked		✓	✓		✓		\$ 1,890.00
2131008S1	GMA 304-RDC. Includes features checked		✓	✓	✓	✓		\$ 2,040.00
<b>GMA 304</b>	<b>Four Channel Rack Mounted Controller Card Sets For CC, CI, CS, IR and ZD Transmitters</b>							
2131011S2	GMA 304. Includes features checked					✓	✓	\$ 1,940.00
2131002S2	GMA 304-R. Includes features checked		✓			✓	✓	\$ 2,040.00
2131005S2	GMA 304-RD. Includes features checked		✓	✓		✓	✓	\$ 2,340.00
2131008S2	GMA 304-RDC. Includes features checked		✓	✓	✓	✓	✓	\$ 2,470.00

Dimensions: All GMA 100 Controller and power supply cards are 3HE\* x 7TE\*.

\* HE is the card height; 1HE = 1.75". TE is the card width; 84TE = 19". Each GfG Slot = 3HE x 7TE.

† Includes 4 relays. Alarm 1, 2, 3 and fault.

‡ One real-time clock is required per rack with datalogging cards.

\*\* One additional card slot required for power supply.



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## GMA 100/300 Racks

Part No.	Description	Height <sup>†</sup>	Width <sup>†</sup>	Slots <sup>‡</sup>	Price
<b>Rack Mounted Enclosures</b>					
Complete with Motherboard for Specified Number of Slots					
2130222	GMA – R2	3HE	14TE	2	\$ 395.00
2130223	GMA – R4	3HE	28TE	4	\$ 625.00
2130224	GMA – R7	3HE	49TE	7	\$ 845.00
2130228	GMA – R12	3HE	84TE	12	\$ 1,445.00
<b>Wall Mount Enclosures</b>					
Complete with Motherboard for Specified Number of Sensors and NEMA 2 Enclosure					
2130225	GMA – G2	3HE	14TE	2	\$ 625.00
2130226	GMA – G3	3HE	28TE	4	\$ 840.00
2130227	GMA – G7	3HE	49TE	7	\$ 1,125.00
2130229	GMA – G12	3HE	84TE	12	\$ 2,750.00
2130230	GMA – GR24	6HE	84TE	24	\$ 4,770.00
2130231	GMA – GR48	12HE	84TE	48	\$ 6,995.00
2130247	GMA – GR60	15HE	84TE	60	\$ 8,995.00
<b>Cabinet Enclosure</b>					
Up to 10 Each 19" GMA – R12 (2130228) Rack Mounted Enclosures					
2106020	GMA CAB 19" lacquered steel cabinet with swivel frame, transparent door, socket, axial fan, mounting plate, cable hose, profile bars. Dimensions: 82½ x31½ x23½ inches (HxWxD), IP 54.				Please Inquire

<sup>†</sup> HE is the max card height; 1HE = 1.75". TE is the max card width; 84TE = 19". Each GfG Slot = 3HE x 7TE.

<sup>‡</sup> Number of available slots. When configuring, note that power supplies and some peripherals require the use of a slot.

GMA G7



Wall mount casing for seven GMA controllers

GMA R12



19" rack for 12 GMA Controllers

GMA CAB



Cabinet for installation of racks



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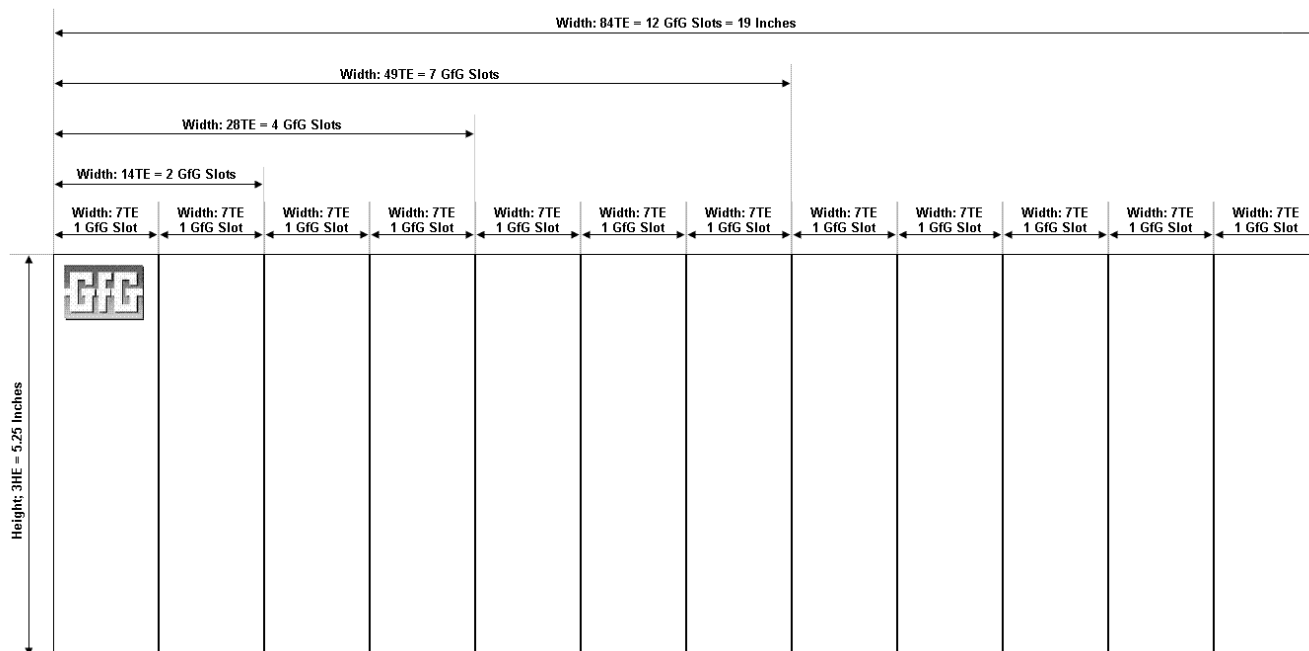
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# GMA 100/300 Accessory Pricing

## Rack Mount Accessories

Part Number	Description	Price
2130201	GMA-RB – Common Alarm Module. Includes 4 relays for Alarm 1, 2, 3 and fault. Each alarm relay activates when any of the respective alarms for any card on the same bus (motherboard) is active. <b>This module requires two adjacent slots that do not host any 4-channel controllers and one of which must be populated with any other style card.</b>	\$ 195.00
2105005	GMA-SW - Key-operated Switch Module / Relay Alarm Card. Includes key switch to disable common alarms, 4 relays for Alarm 1, 2, fault and silence activated. Each alarm or fault relay activates when any of the respective alarms for any card on the same bus (motherboard) is active. This card requires a dedicated card slot (3HE x 7TE)*.	\$ 495.00
2107001	GMA – BP. Cover plate for non-used card slots (3HE x 21TE)*	\$ 35.00
2000270	GMA – NAV. Rack Mount Battery Back-up. The item requires three card slots (3HE x 21TE)*	\$ 895.00
2130205	GMA - SPG. Rack Mount Power Supply. This item requires 1 card slot (3HE x 21TE)*	\$ 550.00
2132212	Multiplexer card for GMA 104 and GMA 304 (4 - 20 mA)	\$ 85.00
2132211	Multiplexer card for GMA 104 and GMA 304 (.2 - 1 mA)	\$ 85.00

\* HE is the card height; 1HE = 1.75". TE is the card width; 84TE = 19". Each GfG Slot = 3HE x 7TE.



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## Basic Design Guide

1. Select the transmitters required for your installation.  
If you plan on using GMA 104 or GMA 304 (4-channel) controllers, add the number of transmitters for each sensor configuration. One controller card can only accommodate one sensor configuration. Note that more than one sensor of the same type, but with different range, alarm setting, etc. is more than one configuration.
2. If you are using GMA 101 or GMA 301 (single channel) controllers, simply purchase one controller card per transmitter.  
If you are using a GMA 104 or GMA 304 you may connect up to 4 sensors of the same configuration to one controller card.  
For example, if you have 7 EC NH<sub>3</sub>, 2 CC LEL and 4 CI NH<sub>3</sub> transmitters you will need at least four 4-channel controller cards: 2 for EC NH<sub>3</sub>, 1 for the CC LEL and 1 for the CI NH<sub>3</sub> transmitters.  
You may mix GMA 101 with GMA 104 controllers and GMA 301 with GMA 304 controllers in the same installation; however, the 100 series and 300 series should not be combined in the same installation.
3. For each 4-channel controller for EC (Electrochemical Oxygen and Toxic) transmitter selected you should select a GMA “Controller Set” for EC transmitters as the set includes a required multiplexer module.  
For each 4-channel controller for other transmitters you should select a GMA “Controller Set” for “CC, CI, CS, IR and ZD” transmitters as the set includes a required multiplexer module and a required power supply.
4. Select other accessories such as common relay cards or modules, backup power, etc.
5. Add up all the cards you selected. Make sure that you count any and all power supplies included in the “Controller Set” for “CC, CI, CS, IR and ZD” transmitters as well as accessories populating a slot. Also, note the space limitation using the GMA-RB – Common Alarm Module (2130201). This module requires two adjacent slots that do not host any 4-channel controllers and one of which must be populated with any other style card.
6. Select the rack(s), making sure that the maximum number of slots available is at least as many as the total number of cards. If you included one or more GMA-RB – Common Alarm Modules (2130201), please note that this module requires two adjacent slots that do not host any 4-channel controllers and one of which must be populated with any other style card.  
Using the same example as above (7 EC NH<sub>3</sub>, 2 CC LEL and 4 CI NH<sub>3</sub> transmitters) and a key operated switch card, four 4-channel controllers are required. Two of the controller cards are for the LEL and CI transmitters and will both require a power supply (included in the proper sets); that increases the requirements by 2 slots. Finally, the key operated switch card also requires a slot. The total number of slots required in this example is 7.  
The GMA – R7 (2130224) rack mounted and the GMA – G7 (2130227) wall mount enclosure would both be appropriate.

Before placing orders for rack configurations, please consult GfG Instrumentation to verify the design.