

NABCO ENTRANCES TECHNICAL BULLETIN

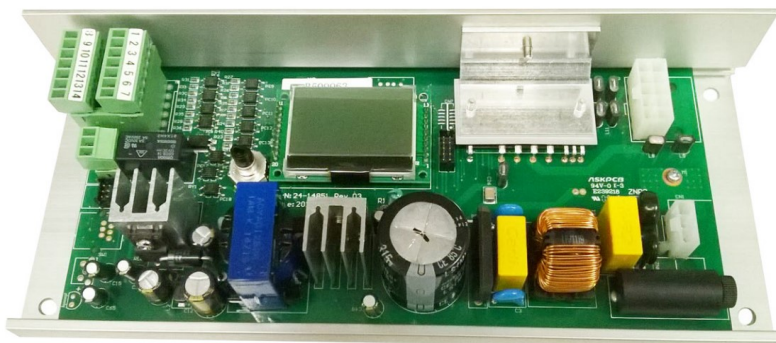
S82 W18717 Gemini Drive
Muskego, WI, 53150
Phone: (877) 622-2694, Fax: (888) 679-3319
www.NabcoEntrances.com

March 14th, 2016

Who is the technical contact?
Technical Support Dept.

INTRODUCING THE NEW OPUS CONTROL

Effective April 4, 2016, the Magnum IV Control will be replaced by the new Opus control on all new Automatic Swing Door Operators and the GT1400 Folding Door with the new Opus control.



Key features

- Multiple programmable inputs and outputs for easy integration with fire alarm, security or building management systems
- Relay output can operate a lock without the need for an external sequencer
- Equipped with power close, hold closed functionality
- Recycle feature active during opening or closing
- Adjustable back-check and latch-check positions
- Ability to ignore door mounted sensors at programmable positions
- Built in lock out for header mounted swing side safety sensor
- Full communication with other Opus controls for door sequencing
- Easy programming using a push-button/rotary dial with an LCD screen
- Digital parameter settings for easy repeatability
- Can be retrofitted into any Gyro Tech swing or fold door using an Analog or Magnum control
- Can be used to replace U01 through U19 controls in swing, slide, and folding doors

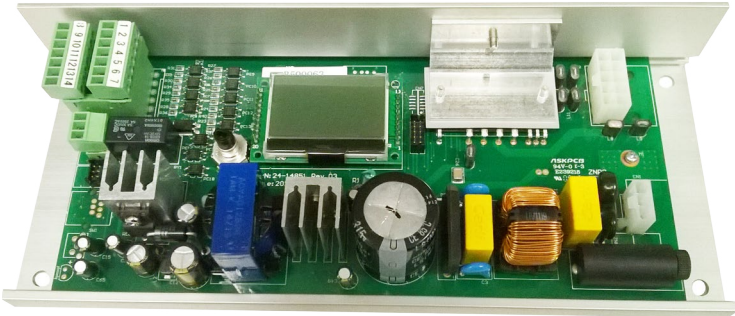
Refer the following article titled “Introducing the Opus Control” for a complete description of the features, functions and compatibility of this new control

Bulletin Number: **68**



INTRODUCING THE OPUS CONTROL

a publication of the Nabco Technical Support Department



WHAT IS THE OPUS CONTROL?

The Opus control is a next generation multi-functional control developed and produced by Nabco Entrances.

WHAT WILL THE OPUS CONTROL BE USED FOR?

The Opus control will replace the Magnum control in all new Gyro Tech swing and folding door products except GT20. It will also be sold as a replacement control for legacy GT swing, folding and sliding door products

TABLE OF CONTENTS

- WHAT IS THE OPUS CONTROL? 1
- WHAT WILL THE OPUS CONTROL BE USED FOR?..... 1
- WHAT NEW GYRO TECH PRODUCTS WILL GET THE OPUS CONTROL?..... 2
- WHAT SPECIAL FEATURES DOES THE OPUS CONTROL HAVE? 2
- WHAT NEW FEATURES DOES THE OPUS OFFER THAT THE MAGNUM DID NOT?..... 3
- CAN THE OPUS CONTROL BE USED AS A SERVICE PART ON EXISTING DOORS?..... 3
- OPUS RETROFIT KITS..... 4
- OPUS CONTROL APPLICATION CHARTS..... 5
- GT20 FULL AUTOMATIC SWING OPERATOR..... 5
- GT300/8300/400/8400 FULL AUTOMATIC SWING OPERATORS 6
- GT500/8500 LOW ENERGY SWING OPERATOR..... 7
- GT600/8600 FIRE DOOR SWING OPERATOR 8
- GT710 LOW ENERGY SWING OPERATOR 9
- GT1175 AUTOMATIC SLIDING DOORS..... 10
- LEGACY GT100, GT200 AND GT1100 AUTOMATIC SLIDING DOORS..... 11
- GT1400 FOLDING DOOR..... 12
- MISCELLANEOUS TIDBITS 13

WHAT NEW GYRO TECH PRODUCTS WILL GET THE OPUS CONTROL?

The Opus control will replace the Magnum control in the following new products:

GT300/8300 OHC Full Automatic Swing Door Operator

GT400/8400 CU Full Automatic Swing Door Operator

GT500/8500 CU Low Energy Swing Door Operator

GT600/8600 CU Fire Door Swing Operator

GT710/8710 Low Energy Swing Door Operator

GT1400 Folding Door

All new swing and folding doors built with the Opus control will now utilize a reduced opening force (ROF) clutchless operator equipped with an encoder motor. Since the Opus has Power Close capability, it is now possible to offer an operator with a closing force range from approximately 15lbs to 30 lbs to cover the range of low energy or full automatic swing door operators. The encoder motor allows the control to monitor the door's position and maintain precise control. This also eliminates the need for door-position switches and simplifies installation by eliminating arm pre-loading associated with Magnum and analog controlled swing or folding products.

WHAT SPECIAL FEATURES DOES THE OPUS CONTROL HAVE?

The Opus control has significantly more dedicated and programmable inputs and outputs. This enhances the ability of the Opus to interface with a variety of sensors, activation devices, locks, fire and security systems without the need for additional lockouts or add-ons. Note: due to the wide variety of electric strikes on the market, a separate power supply must be used for electric strikes.

WHAT NEW FEATURES DOES THE OPUS OFFER THAT THE MAGNUM DID NOT?

On new Gyro Tech swinger and folding door systems, the key features of the Opus Control which were previously not available with the Magnum control are:

- Multiple programmable inputs and outputs including a Form C relay output ideal for locks
- The ability to operate a lock
- The ability to adjust back-check and latch-check locations
- The ability to lock out swing door mounted sensors with adjustable lock out positions
- The ability to communicate with a second control (for sim-pair, astragal, door sequencing)
- Digital programming with an LCD screen for visual feedback
- Digital parameter settings enable easy repeatability
- 12VDC 750mA available for auxiliary devices
- The installer only needs to adjust one control in a pair. This control becomes the “master” and allows you to copy the program to the other control.
- The ability to intelligently sequence opposite doors in a vestibule
- Safety recycle feature stops and reverses direction of the door panel in the opening and the closing cycles
- Programmable power close & hold close capability. Hold Close can be turned off or on with an optional switch.

CAN THE OPUS CONTROL BE USED AS A SERVICE PART ON EXISTING DOORS?

Absolutely! The Opus can be used to replace existing controls on previous Gyro Tech swinging, sliding and folding automatic door systems that use Magnum, Analog, or U01-U19 series controls. The Opus control will work with or without an encoder motor, making it ideal for retrofitting into existing doors. Retro-fit kits for various Gyro Tech legacy products will be available that the customer can purchase to revitalize existing door systems.

A list of the retro-fit kits for legacy products is provided on the next page and on following pages you will find what features and functions are available with the Opus control when used on any given legacy product.

OPUS RETROFIT KITS

Product	Header Models	Original Control	Configuration	Kit P/N
GT710 Low Energy Swing Operator	Standard & Sideload (8710 & 8310)	Magnum --> Opus	Single	A-01101
			Sim Pair	A-01102
	Bottom Load (7510 & 7310)	Magnum --> Opus	Single	A-01105
			Sim Pair	A-01106
All other Swing Operators (except GT20)	Sideload (CU & OHC)	Magnum --> Opus	Single	A-01103
			Sim Pair	A-01104
		U19 --> Opus	Single	A-01103
			Sim Pair	A-01104
		Analog --> Opus	Single	A-01103
			Sim Pair	A-01104
	Bottom Load (CU & OHC)	Magnum --> Opus	Single	A-01105
			Sim Pair	A-01106
		U19 --> Opus	Single	A-01105
			Sim Pair	A-01106
		Analog --> Opus	Single	A-01105
			Sim Pair	A-01106
GT1175 Slider	Single and Bipart	U19 --> Opus	Single or Bipart	A-01109
GT1400 Folding Door	Single and Bifold	Magnum --> Opus	Single Fold	A-01107
			Bi-Fold	A-01108
		U19 --> Opus	Single Fold	A-01107
			Bi-Fold	A-01108

Note:

1. There are nine (9) different Opus retrofit kits available. These kits have been designed to convert almost all of the legacy Gyro Tech products that have been sold. Due to seriously dwindling numbers, kits for the older products such as the GT100, 200 or 1100 Sliders or GT700 Swingers have not been included. However, due to the versatile nature of the Opus control it may be entirely possible to purchase the control and an encoder motor as separate items, rather than part of a kit, and adapt them to these products as required.
2. As shown above, each model of retrofit kit accommodates a variety of product configurations. Therefore, there might be additional parts in each kit that are not required for your specific door installation.

Nabco Entrances - Opus Control Application Chart

Use these charts to assist you in determining what functions are available with your new Opus control

Choose the product model at right to determine if the Opus control can be used on that product and what functions are available:

GT20	Swing Door Operator
GT300/400	Swing Door Operator
GT500	Swing Door Operator
GT600	Swing Door Operator
GT710	Swing Door Operator
GT1175	Automatic Sliding door
GT100, GT200 or GT1100	Automatic Sliding door
GT1400	Automatic Folding Door

Nabco Entrances - Opus Control Application Chart

GT20

Category	Sub category	
General		Not Compatible

Nabco Entrances - Opus Control Application Chart

GT300/400

Available Functions	GT300/400 Opus Control Clutchless Operator w/encoder motor	GT300/400 Magnum Control Clutched Operator w/cam & switches	GT300/400 U19 or earlier Clutchless Operator w/encoder motor	GT300/400 Analog Control Clutched Operator w/cam & switches
---------------------	---	--	---	--

Functionality	Full	Limited	Full	Limited
Push n Go?	x	x ⁴	x	x ⁴
Recycle on Opening?	x	x	x	x
Recycle on Closing?	x		x	
Power Close?	x		x	
Hold Close?	x		x	
Electric Lock Relay Output?	x	x	x	x
12VDC 750mA for external devices	x	x	x	x
LCD display.	x	x	x	x
Power Assist?	x	x	x	x
Astragal function?	x	x	x	x
Two programmable inputs?	x	x	x	x
Two programmable outputs?	x	x	x	x ^{1,3}
Simultaneous Pair?	x ^{1,3}	x ^{1,3}	x ^{1,3}	x ^{1,3}
Adjust only one master control in a pair?	x	x	x	x
Door Status Signalling Capability?	x	x	x	x
Sensor Error Monitoring?	x ²	x ²	x ²	x ²
Software ignores swing side door sensor at BC?	x	x	x	x
Software adjustable check positions?	x		x	
Optional jamb switch to turn off Hold Close?	x	x	x	x
Internal lockout for header mounted safety sensor?	x	x	x	x
Lockout for push side door mounted sensor?	x	x	x	x

Notes:

1. Both controls must be Opus
2. Sensors must also be equipped with this capability
3. Requires two controls per sim pair
4. Push n Go only available when door is pushed out of latch

Nabco Entrances - Opus Control Application Chart

GT500

Available Functions	GT500 Opus Control Clutchless Reduced Opening Force (ROF) Operator w/encoder motor	GT500 Magnum Control Clutched Operator w/cam & switches	GT500 Analog Control Clutched Operator w/cam & switches
---------------------	---	--	--

Functionality	Full	Limited	Limited
Push n Go?	x	x ⁴	x ⁴
Recycle on Opening?	x	x	x
Recycle on Closing?	x		
Power Close?	x		
Hold Close?	x		
Electric Lock Relay Output?	x	x	x
12VDC 750mA for external devices	x	x	x
LCD display.	x	x	x
Power Assist?	x	x	x
Astragal function?	x	x	x
Two programmable inputs?	x	x	x
Two programmable outputs?	x	x	x
Simultaneous Pair?	x ^{1,3}	x ^{1,3}	x ^{1,3}
Adjust only one master control in a pair?	x	x	x
Door Status Signalling Capability?	x	x	x
Sensor Error Monitoring?	x ²	x ²	x ²
Software ignores swing side door sensor at BC?	x	x	x
Software adjustable check positions?	x		
Optional jamb switch to turn off Hold Close?	x	x	x
Internal lockout for header mounted safety sensor?	x	x	x
Lockout for push side door mounted sensor?	x	x	x

Notes:

1. Both controls must be Opus
2. Sensors must also be equipped with this capability
3. Requires two controls per sim pair
4. Push n Go only available when door is pushed out of latch

Nabco Entrances - Opus Control Application Chart

GT600

Available Functions	GT600 Opus Control Clutchless Operator w/encoder motor	GT600 Magnum Control Clutched Operator w/cam & switches	GT600 U19 or earlier Clutchless Operator w/encoder motor	GT600 Analog Control Clutched Operator w/cam & switches
---------------------	---	--	---	--

Functionality	Full	Limited	Full	Limited
Push n Go?	x	x ⁴	x	x ⁴
Recycle on Opening?	x	x	x	x
Recycle on Closing?	x		x	
Power Close?	x		x	
Hold Close?	x		x	
Electric Lock Relay Output?	x	x	x	x
12VDC 750mA for external devices	x	x	x	x
LCD display.	x	x	x	x
Power Assist?	x	x	x	x
Astragal function?	x	x	x	x
Two programmable inputs?	x	x	x	x
Two programmable outputs?	x	x	x	x
Simultaneous Pair?	x ^{1,3}	x ^{1,3}	x ^{1,3}	x ^{1,3}
Adjust only one master control in a pair?	x	x	x	x
Door Status Signalling Capability?	x	x	x	x
Sensor Error Monitoring?	x ²	x ²	x ²	x ²
Software ignores swing side door sensor at BC?	x	x	x	x
Software adjustable check positions?	x		x	
Optional jamb switch to turn off Hold Close?	x	x	x	x
Internal lockout for header mounted safety sensor?	x	x	x	x
Lockout for push side door mounted sensor?	x	x	x	x

Notes:

1. Both controls must be Opus
2. Sensors must also be equipped with this capability
3. Requires two controls per sim pair
4. Push n Go only available when door is pushed out of latch

Nabco Entrances - Opus Control Application Chart

GT710

Available Functions	GT710 Opus Control w/encoder motor	GT710 Magnum 2,3,4 Control no encoder motor magnetic check switches	GT710 Magnum 1 Control no encoder motor magnetic check switches	GT700 Gemini Control no encoder motor no check switches
---------------------	--	--	---	--

Functionality	Full	Limited	Limited	Limited
---------------	------	---------	---------	---------

Push n Go?	x	x ⁴	x ⁴	<i>Not Compatible</i>
Recycle on Opening?	x	x	x	
Recycle on Closing?	x			
Power Close?	x	x	x	
Hold Close?	x	x	x	
Electric Lock Relay Output?	x	x	x	
12VDC 750mA for external devices	x	x	x	
LCD display.	x	x	x	
Power Assist?	x	x	x	
Astragal function?	x	x	x	
Two programmable inputs?	x	x	x	
Two programmable outputs?	x	x	x	
Simultaneous Pair?	x ^{1,3}	x ^{1,3}	x ^{1,3}	
Adjust only one master control in a pair?	x	x	x	
Door Status Signalling Capability?	x	x	x	
Sensor Error Monitoring?	x ²	x ²	x ²	
Software ignores swing side door sensor at BC?	x	x	x	
Software adjustable check positions?	x			
Internal lockout for header mounted safety sensor?	x	x	x	
Optional jamb switch to turn off Hold Close?	x	x	x	
Lockout for push side door mounted sensor?	x	x	x	

Notes:

1. Both controls must be Opus
2. Sensors must also be equipped with this capability
3. Requires two controls per sim pair
4. Push n Go only available when door is pushed out of latch

Nabco Entrances - Opus Control Application Chart

GT1175

Available Functions	GT1175 U30 Control with DS150 Operator	GT1175 U19 or earlier Control with encoder motor
---------------------	--	--

Functionality		Full
Recycle on Closing?	<i>Not Compatible</i>	x
Hold Close?		x
Electric Lock Relay Output?		x
12VDC 750mA for external devices		x
LCD display.		x
Two programmable inputs?		x
Two programmable outputs?		x
Door Status Signalling Capability?		x
Sensor Error Monitoring?		x ¹
Software adjustable check positions?		x

Notes:

1. Sensors must also be equipped with this capability

Nabco Entrances - Opus Control Application Chart

GT100, GT200, GT1100

Available Functions

GT1100
Model 2600 Control

Functionality	
Recycle on Closing?	Not Compatible
Hold Close?	
Electric Lock Relay Output?	
12VDC 750mA for external devices	
LCD display.	
Two programmable inputs?	
Two programmable outputs?	
Door Status Signalling Capability?	
Sensor Error Monitoring?	
Software adjustable check positions?	
Optional jamb switch to turn off Hold Close?	

Notes:

1. Sensors must also be equipped with this capability

Nabco Entrances - Opus Control Application Chart

GT1400

Available Functions	GT1400 Opus Control Clutchless Operator w/encoder motor	GT1400 Magnum Control Clutchless Operator w/cam & switches	GT1400 U19 or earlier Clutchless Operator w/encoder motor
---------------------	--	---	--

Functionality	Full	Limited	Full
---------------	------	---------	------

Recycle on Closing?	X	X	X
Power Close?	X	X	X
Hold Close?	X	X	X
Electric Lock Relay Output?	X	X	X
12VDC 750mA for external devices	X	X	X
LCD display.	X	X	X
Two programmable inputs?	X	X	X
Two programmable outputs?	X	X	X
Bifold?	X ^{1,3}	X ^{1,3}	X ^{1,3}
Adjust only one master control in a pair?	X	X	X
Door Status Signalling Capability?	X	X	X
Sensor Error Monitoring?	X ²	X ²	X ²
Software adjustable check positions?	X		X
Optional jamb switch to turn off Hold Close?	X	X	X
Internal lockout for header mounted safety sensor?	X	X	X

Notes:

1. Both controls must be Opus
2. Sensors must also be equipped with this capability
3. Requires two controls per sim pair

MISCELLANEOUS TIDBITS

Some other things you should be aware of:

1. Size: The Opus control is 1-1/2" longer than the Magnum control therefore our minimum header widths will change. However, because only one control needs to be programmed in a pair, stacking of the controls is no longer a problem.
2. Programming is accomplished via the on board LCD screen and Rotary Switch. No Handy Terminal is required.
3. The Opus control does have an on board Operation Counter that indicates number of door openings. This counter is updated every 100 door cycles.
4. One of the major difference between the Opus and the Magnum control on new GT300/400 and 500's is that the Opus will use an encoder motor with a new Reduced Opening Force (ROF) clutchless operator for both low energy and full automatic operators. You will notice two differences when installing and using the Opus on GT swingers.
 - a. When preloading the arm on a GT500 low energy operator, the operator can now be only preloaded by **one tooth** on the spindle. This will yield the required 15lb closing force required for low energy operators per ANSI 156.19. If higher closing forces are required the arm can be preloaded more.
 - b. On GT300/400/500 units, when the door is pushed open manually, it will seem like the opening force is greater than previous models due the absence of the clutch in the operator. When in fact, using a force gauge will determine that the opening force has not changed, it simply takes slightly more energy to open the door compared to the clutched operator because all the gears and motor are spinning.