

Digital Gateway[®]

Installation & Owners Manual

Model DG1200

TABLE OF CONTENTS

	PAGE
HOW TO USE MANUAL	1
INTRODUCTION	2
EXPLANATION OF DIGITAL GATEWAY CONTROLS	
TERMINAL STRIP	3
INPUT STATUS LEDS	3
PUSHBUTTONS	
Open Jog/Reset	3
Close Jog	3
UP Arrow/DOWN Arrow	3
Other Pushbuttons	3
DISPLAY/COUNTER	3
DISPLAY MESSAGE EXPLANATION	3
INPUTS TO THE DIGITAL GATEWAY	
AC INPUTS	4
Limit Switches—Terminals 8 and 9	4
OPEN (LSO)	4
CLOSE (LSC)	4
PB1 (Pushbutton)—Terminal 11	4
Alternate Action Inputs (A/A Momentary Contact Activators)— Terminal 12	4
Auto Inputs (Maintained Contact Activators)— Terminal 14	4
Reversing Edge—Terminal 17	4
OLR (Overload Relay)—Terminal 18	5
Open—Terminal 20	5
Close—Terminal 21	5
Stop/Reset—Terminal 23	5
Program 2—Terminal 24	5
Program 3—Terminal 26	5
LSB (Breakaway Kill Switch)—Terminal 27	5

	PAGE
DC INPUTS	6
Photoeye—Terminal 15	6
Loop—Terminal 29, Three Terminal Plug.....	6
PRIORITY OF INPUTS	6
TIMERS	7
OPEN BACKUP TIMER	7
CLOSE BACKUP TIMER	7
ALTERNATE ACTION (A/A) CLOSE DELAY TIMER.....	7
AUTO CLOSE DELAY TIMER	8
SETTING THE TIMERS	8
START-UP PROCEDURES	8
ALARM CONDITIONS	
COnnECt, MISSING CONNECTIONS	9
OP = 0, OPEN TIME EXCEEDED	9
CL = 0, CLOSE TIME EXCEEDED	10
AJAr, BREAKAWAY KILL SWITCH	10
OLr, OVERLOAD RELAY	10
EdGE, REVERSING EDGE.....	10
NON-ALARM CONDITIONS	
HELLO, SAFE START-UP	11
EdGE, REVERSING EDGE TRIPPED	11
LOC, IDLE STATE	12
POWER	12
OUTPUTS	12
REPLACEMENT	13
TROUBLESHOOTING	13
OPTIONAL PROGRAMS	13
PROGRAM 1, OUTPUT 7	13
Door Not Closed	13
Door Open	13
Delay to Close	13

	PAGE
PROGRAM 2, INPUT 24	14
LOC Condition	14
MAN-AUTO Selector Switch	14
MAN-AUTO Selector Switch with Open and Close Inactive in AUTO	14
Passage Entry—Timed	14
Passage Entry—Position	14
PROGRAM 3, INPUT 26	14
Photoeye AC	14
Passage Limit Switch, LSP	14
PROGRAM 4, PROGRAMMABLE OPTIONS	15
Close Jog	15
Open Jog	15
Reverse Delay	15
Loop Call Delay	15
PROGRAM 5, REVERSE INPUT LOGIC	15
PROGRAM 6	15
SETTING THE PROGRAM OPTIONS	15
DEFAULT INPUT SETTING	17
FAST-SEAL DOOR	17
FAST-FOLD DOOR	17
PREDADOOR/TURBO-SEAL DOOR	17
WIRING SCHEMATICS	
FAST-SEAL—ONE-SPEED DIGITAL GATEWAY	18
FAST-FOLD—TWO-SPEED DIGITAL GATEWAY	19
PREDADOOR—TWO-SPEED DIGITAL GATEWAY	20

This page intentionally left blank.

HOW TO USE MANUAL

Throughout this manual, the following key words are used to alert the reader of potential hazardous situations, or situations where additional information for successfully performing the procedure is presented:

WARNING

WARNING is used to indicate the potential for personal injury, if the procedure is not performed as described.

CAUTION

CAUTION is used to indicate the potential for damage to the product or property damage, if the procedure is not followed as described.

IMPORTANT: *IMPORTANT* is also used to relay information **CRITICAL** to the successful completion of the procedure.

NOTE: *NOTE* is used to provide additional information to aid in the performance of the procedure, or operation of the door, but not necessarily safety related.

INTRODUCTION

INTRODUCTION

Your door control box is equipped with Rytec's Digital Gateway[®] which is a state of the art, solid state microprocessor-based high-speed door control.

It provides connections for multiple activators, close delay timers, backup timers, and status indicators. See Figure 1 for an overview of the Digital Gateway controls.

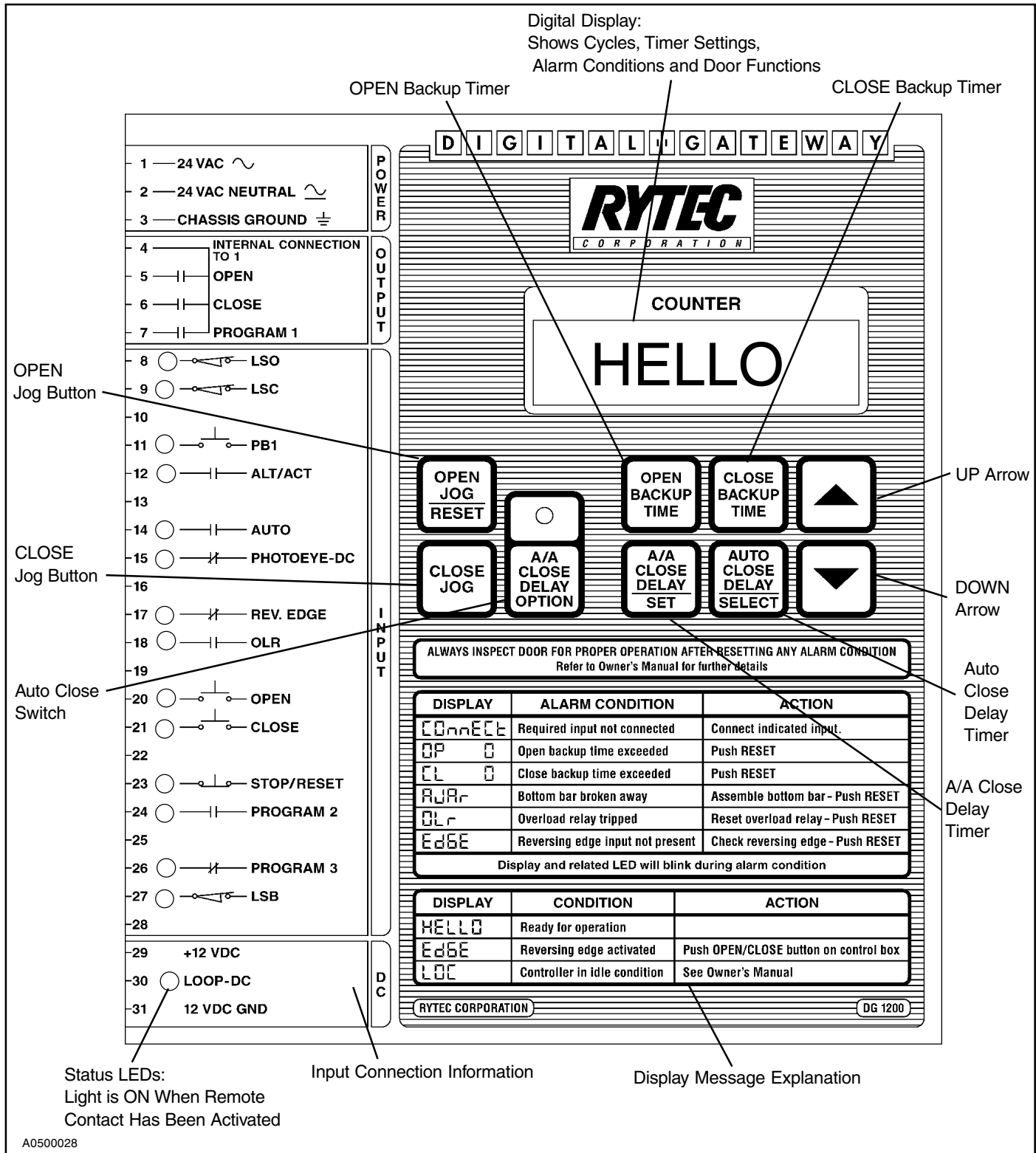


Figure 1

Digital Gateway[®] is a registered trademark of Control Associates & Mfg., Inc.

EXPLANATION OF DIGITAL GATEWAY CONTROLS

TERMINAL STRIP

The Digital Gateway has plug-in terminal strips along the left side of the unit. The power, output and input connections to the Digital Gateway are made through this terminal strip. The terminal strip is factory-wired to a larger terminal strip in the control box. The larger strip is used for external connections.

INPUT STATUS LEDS

These lights will show the status of the activator, safety device or other input connected to the controller. The light will be on if the input has been activated. (See Figure 2 for an example of an LED):

- If the input requires a normally-open (N.O.) contact, the LED will light when the contact closes.
- If the input requires a normally-closed (N.C.) contact, the LED will light when the contact opens.
- In the alarm condition, the LED connected to the input causing the problem will blink.

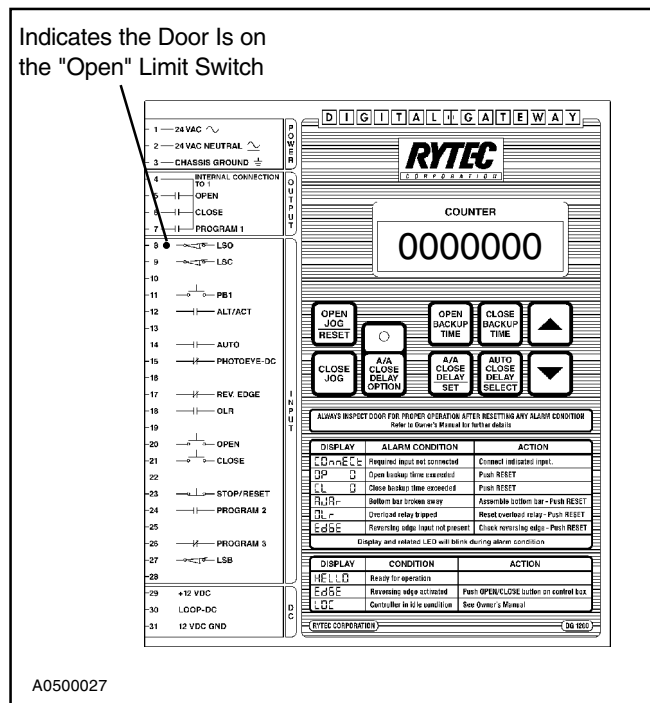


Figure 2

PUSHBUTTONS

OPEN JOG/RESET: This pushbutton jogs the door open. It is also the reset for alarm conditions once the fault causing the alarm has been corrected. It is not operational when the door is being controlled by an activator. The open jog/reset button will operate while the Digital Gateway is in the AJAr or EdGE alarm condition. (See Figure 1.)

CLOSE JOG: This pushbutton jogs the door closed. It is not operational when the door is being controlled by an activator. The close jog button will operate while the Digital Gateway is in the AJAr or EdGE alarm condition. (See Figure 1.)

UP ARROW/DOWN ARROW: In the normal operating mode these pushbuttons are used to set the timers. The UP arrow will increase the setting. The DOWN arrow will decrease the setting. In the program mode the arrows are used to set various program options. (See Figure 1.)

OTHER PUSHBUTTONS: The remaining buttons include:

- OPEN BACKUP TIME
- CLOSE BACKUP TIME
- A/A CLOSE DELAY OPTION
- A/A CLOSE DELAY/SET
- AUTO CLOSE DELAY/SELECT

These pushbuttons are used to turn on various timers and set various program options. (See TIMERS on page 7 and OPTIONAL PROGRAMS on page 13. (See Figure 1.)

DISPLAY/COUNTER

The seven digit display shows timer settings, alarm conditions, door functions, program settings and the number of door cycles. The count displayed on the counter is permanent, even with the loss of power. (See Figure 1.)

DISPLAY MESSAGE EXPLANATION

The front of the Digital Gateway gives an explanation of the various display messages. It also lists actions required to solve the problems indicated by the Digital Gateway display. (See Figure 1.)

INPUTS TO THE DIGITAL GATEWAY

AC INPUTS (Figure 3)

NOTE: All AC inputs should be contact closure or solid state connections only. RC networks, MOV's or noise suppression devices allowing leakage current may cause the inputs to become active and should be removed.

All inputs operate at 24 vac. The hot side of the 24 vac, provided at terminal 1 in the control box, is connected to one side of the input contact (limit switch, activator, etc.). The other side is connected to the proper input. Terminals 10, 13, 16, 19, 22, 25 and 28 are not used.

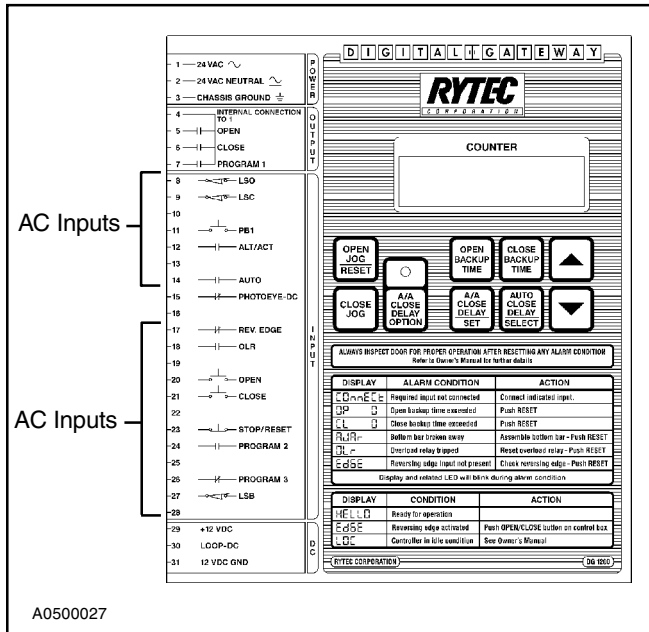


Figure 3

Limit Switches—Terminals 8 and 9 (N.C. Contact)

Once the door has started, it will move until it is shut off by one of the limit switches or a backup timer.

OPEN (LSO)

The LSO LED will be ON when the door has reached the full open position.

CLOSE (LSC)

The LSC LED will be ON when the door has reached the closed position.

PB1 (Pushbutton)—Terminal 11 (N.O. Contact)

The pushbutton on the control box is connected here. Pushing the button (momentary connection) while the door is closed, closing or stopped between limits will open the door. Pushing the button while the door is in the full open position will close the door.

The PB1 input can be converted to automatic closing. (See SETTING THE TIMERS on page 8.)

The PB1 input works the same as the A/A input as described below.

Alternate Action Inputs (A/A Momentary Contact Activators)—Terminal 12 (N.O. Contact)

A momentary connection while the door is closed, closing or stopped between limits will open the door. A momentary connection while the door is in the full open position will close the door.

The A/A input can be converted to automatic closing. (See SETTING THE TIMERS on page 8.)

Typical activators include pull cords, pushbuttons or radio controls.

The input works the same as PB1 input as described above.

Auto Inputs (Maintained Contact Activators)—Terminal 14 (N.O. Contact)

A maintained connection while the door is closed, closing or stopped between limits will open the door. The door will remain open as long as the connection is present. When the connection is removed, the Auto Close delay timer (dEL) will count down and close the door.

The Auto Close delay timer will reset if another maintained connection is made while the timer is timing out. If you require no closing delay, set the timer to 0.

Typical activators include floor loops and motion detectors.

Reversing Edge—Terminal 17 (N.C. Contact)

A momentary loss of this connection, such as the door making contact with something while it is closing, will immediately reverse the door to the open position. The door will remain open and the Digital Gateway display will read EdGE until the system is reset.

To reset the system and close the door: Activate an A/A activator, the pushbutton (PB1) on the enclosure, or the Close input. The system will reset and the door will close.

To reset the system and leave the door open:

Activate the Stop input or push the Open Jog/Reset button on the Digital Gateway. The system will reset and the door will remain open.

This input is inactive when the door is opening or when the door is closed (on the close limit switch).

A loss of this connection for two seconds while the door is open (LSO on) will keep the door from closing. This is an alarm condition. The EdGE message will be displayed and the reversing edge LED will blink.

To reset the system: Re-establish the connection, then push the Open Jog/Reset button, or the Stop input. (See ALARM CONDITIONS on page 9.)

OLR (Overload Relay)—Terminal 18 (N.O. Contact)

When the overload relay in the control box detects a motor malfunction it will trip and turn the motor contactors off. It will also send a signal to the Digital Gateway by closing the contact connected to terminal 18. The OLR message will be displayed and blink and the OLR LED will be on.

Once the malfunction has been corrected and the overload reset, the OLR LED will go out, but the Alarm Condition message OLR will continue to blink until the system is reset. Reset the system by pressing the Open Jog/Reset button or the Stop input.

Open—Terminal 20 (N.O. Contact)

A momentary connection while the door is closed, closing or stopped between limits will open the door. This input is ignored during the opening cycle.

Close—Terminal 21 (N.O. Contact)

A momentary connection while the door is opened or stopped between limits will close the door. This input is ignored when the door is closed or during the opening cycle.

Stop/Reset—Terminal 23 (N.C. Contact)

A momentary loss of this connection will stop the door while it is opening or closing when the door was activated by the Open or Close inputs.

This input can also be used as a remote reset for Alarm Conditions. It will reset the system the same as the Open Jog/Reset button.

Program 2—Terminal 24 (N.O. Contact)

This input has various functions that are explained in the Programming section of this manual. (See OPTIONAL PROGRAMS on page 13.)

The default function is the LOC command. When a connection is present and the door is closed (LSC on) the Digital Gateway will be idle. The LOC message will be displayed and no inputs will be active. Removing the connection will return the Digital Gateway to normal operation.

Program 3—Terminal 26 (N.C. Contact)

This input has various functions that are explained in the Programming section of this manual. (See OPTIONAL PROGRAMS on page 13.)

The default function is Photoeye AC. A loss of this connection while the door is closing will immediately reverse the door to the open position. The door will remain open as long as the object is in the path of the photoeye beam.

After the obstruction has been removed the door will remain open (if it was originally opened by a nonautomatic activator: A/A, PB1 or Open-Close) until it is closed by a nonautomatic activator. The door will close automatically if it was originally opened with an automatic activator (Auto or PB1-A/A with A/A Close Delay timer on).

If the photoeye is activated while either Close Delay timer is timing down, the timer will reset and resume timing down after the photoeye beam has been cleared.

The photoeye input is inactive while the door is closed or opening.

LSB (Breakaway Kill Switch)—Terminal 27 (N.C. Contact)

The breakaway kill switches are connected to this input. If the breakaway bottom bar is hit and comes apart the connection to terminal 27 is lost. The Digital Gateway will turn off the motor contactors and the door will stop and not operate until the system is reset. The AJAr message will be displayed and the LSB LED will blink.

To reset the system: Reassemble the breakaway bottom bar and press the Open Jog/Reset button on the Digital Gateway or the Stop input.

INPUTS TO THE DIGITAL GATEWAY—DC INPUTS

DC INPUTS (Figure 4)

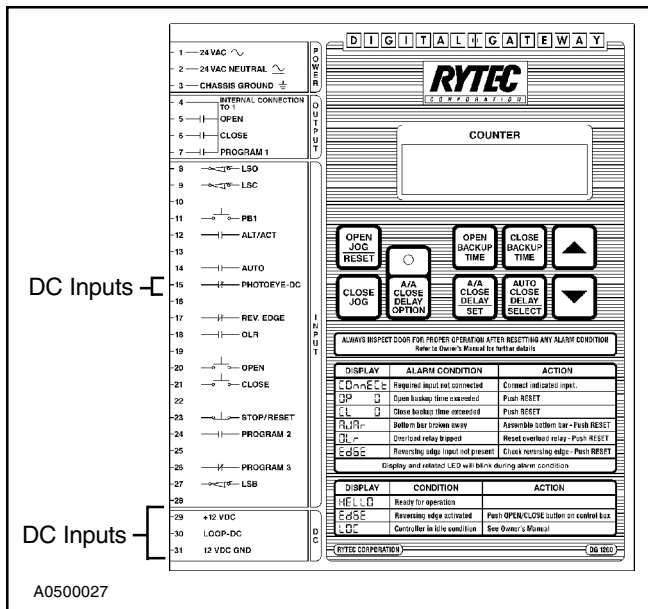


Figure 4

NOTE: All DC inputs should be contact closure or NPN open collector only. RC networks, MOV's or noise suppression devices allowing leakage current may cause the inputs to become active and should be removed.

All inputs operate at 12 vdc which is supplied internally. The ground side of the 12 vdc, provided at terminal 31 on the Digital Gateway, is connected to one side of the input contact (photoeye or loop). The other side is connected to the proper input.

Photoeye—Terminal 15 (N.C. Contact)

A loss of this connection while the door is closing will immediately reverse the door to the open position. The door will remain open as long as the obstruction is in the path of the photoeye beam.

After the obstruction has been removed, the door will remain open, if it was originally opened by a nonautomatic activator (A/A, PB1 or Open-Close) until it is closed by a nonautomatic activator. The door will close automatically if it was originally opened with an automatic activator (Auto or PB1-A/A with A/A Close Delay timer on.)

If the photoeye is activated while either Close Delay timer is timing down, the timer will reset and resume timing down after the photoeye beam is cleared. The photoeye input is inactive while the door is closed or opening.

Loop—Terminal 29, Three Terminal Plug (N.O. Contact)

This input is used if a 12 vdc loop detector is used as an activator. When something is present on the loop, a contact in the detector will close. This maintained connection will open the door if the door is closed, closing or stopped between limits. The door will remain open as long as the connection is present. When the connection is removed, the Auto Close delay timer will count down and close the door.

The Auto Close delay timer (dEL) will reset if another maintained contact is made while the timer is timing out. If you require no closing delay, set the timer to 0.

The input operates the same as the Auto input (terminal 14).

PRIORITY OF INPUTS

Various inputs to the Digital Gateway have priority over other inputs. The following paragraphs explain how some inputs affect others:

- If any other input is activated while the door is being opened by the Auto input, the new input will be ignored.
- If the Auto input is activated while the door is being opened by the A/A, PB1 or Open input, the Auto input will be ignored.
- If the RE, Close, Stop or Program 2 inputs are activated while the Auto Close delay timer is counting down, these inputs are ignored.
- If the A/A, PB1 or Open input is activated while the Auto Close delay timer is counting down, the new input will immediately take over.
- If the A/A Close Delay timer option is turned on and the A/A or PB1 input is activated while the Auto Close timer is counting down, the A/A Close Delay timer will immediately take over.
- If the Auto, Photoeye DC or Program 3 input is activated while the Auto Close delay timer is counting down, the timer will reset and start over when the activator is no longer activated.
- If the door is open in a normal condition and the Auto input is activated, the door will remain open when the Auto input is not present. If another activator tries to close the door while the Auto input is on, the door will remain open until the Auto input is not present.

TIMERS (Figure 5)

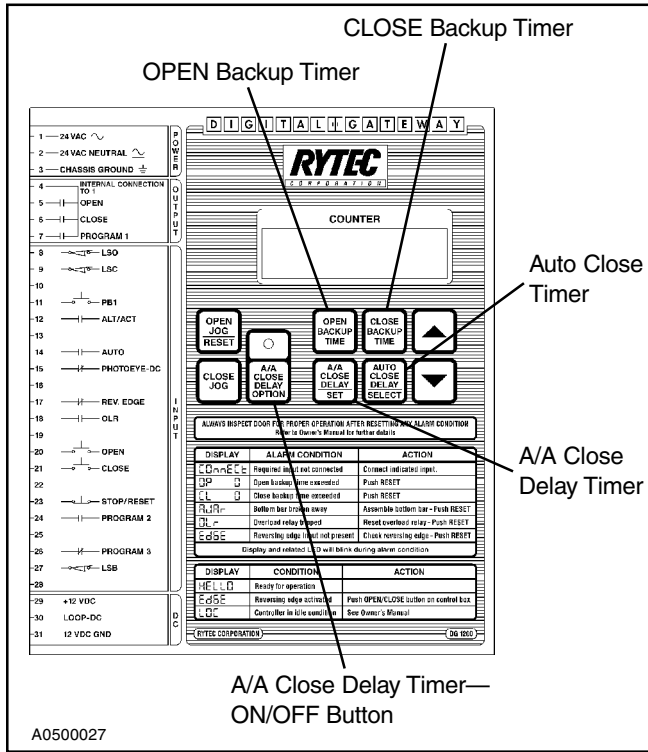


Figure 5

NOTE: The timers have a range of 0–99 seconds. They will count down from the set value to 0 in one second intervals. The factory default setting for each timer is one second.

OPEN BACKUP TIMER

This is the backup timer for the opening of the door. This timer will stop the door if it does not reach the open limit switch within the set time. When the time has been exceeded, the OP = 0 message will be displayed and the LSO LED will blink until the system has been reset.

To reset the system: Determine the reason for the door not reaching the limit switch and correct the problem. Then reset the Digital Gateway by pressing the Open Jog/Reset button or the Stop button.

This timer should be set for 1–2 seconds longer than it takes the door to open. It will count down as the door is opening. Setting and messages for this timer will be displayed as "OP =" plus time.

CLOSE BACKUP TIMER

This is the backup timer for the closing of the door. It functions the same as the open backup timer. When the time has been exceeded, the CL = 0 message will be displayed and the LSC LED will blink until the system has been reset. This timer should be set for 1–2 seconds longer than it takes the door to close. Setting and messages for this timer will be displayed as "CL =" plus time.

ALTERNATIVE ACTION (A/A) CLOSE DELAY TIMER

This timer delays the closing of the door when it is opened by an A/A activator or PB1 connection (terminals 11 or 12). After the A/A or PB1 connection is removed and the door has reached the open limit switch, the timer will time out and close the door.

For no closing delay, set the timer to 0. Settings and messages for this timer will be displayed as "ACL=" plus time.

The use of this timer is optional. It is turned on with the A/A Close Delay Option button. The LED above the button will be on when the timer is on. To operate the door manually with the A/A or PB1 connection, this timer should be OFF. (Figure 6.)

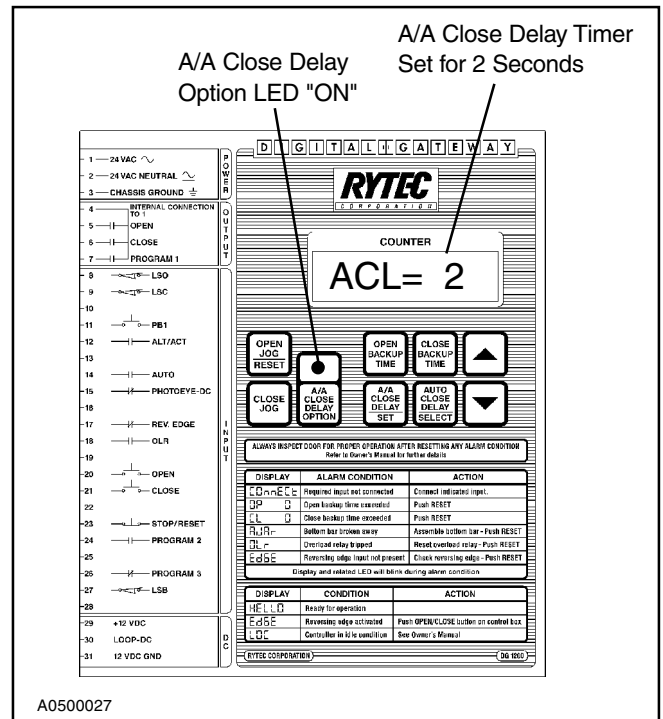


Figure 6

START-UP PROCEDURES

AUTO CLOSE DELAY TIMER

This timer delays the closing of the door when it is opened by an Auto input activator (terminal 14) or floor loop (terminal 30).

After the connection is removed and the door has reached the open limit switch, the timer will time out and close the door. For no closing delay, set the timer to 0. Setting and messages for this timer will be displayed as "dEL =" plus time.

SETTING THE TIMERS

The timers are set using the UP and DOWN arrow buttons as described in PUSHBUTTONS on page 3 and the individual buttons for each timer. The Digital Gateway should be in a normal state (display showing the cycle count and no activators activated) before setting the timers. The timers will count in one-second intervals.

To set the timers:

1. Push the button for the timer you want to set. The display will show the present setting of that timer.
2. Use the UP and/or DOWN arrow keys to raise or lower the setting. Releasing the arrow key will enter the new setting in the memory. The display will show that setting for four seconds, or until another button is pushed. Figure 7 shows the setting of the Close Delay backup timer.

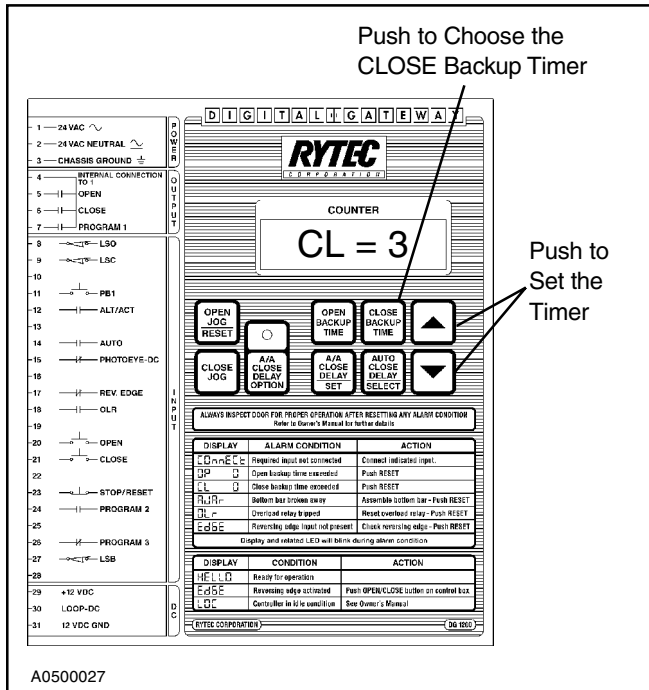


Figure 7

START-UP PROCEDURES

1. Install the door following the procedures outlined in the door installation manual.
2. Make all necessary electrical connections. Follow the electrical schematic shipped in the door control box. The schematics shown in this manual are for informational purposes only. (See INPUTS TO THE DIGITAL GATEWAY on page 4 for a description of the various inputs to the Digital Gateway.)
3. Turn on the power. If any of the N.C. connections are missing, the COnnECt message will be displayed and the missing input LED will blink. Once the connection is made, the LEDs will go off and the system will be ready for operation. (See ALARM CONDITIONS—COnnECt, MISSING CONNECTIONS on page 9 for more information on missing connections.)
4. Set the timers as required. The backup timers should be set for 1–2 seconds longer than it will take the door to open or close. The A/A Close Delay timer and Auto Close Delay timer should be set as required for proper closing of the door. (See SETTING THE TIMERS.)

NOTE: Use the OPEN and/or CLOSE jog buttons to check door operation. If a problem is noticed, the buttons can be released to stop the door.

5. Run the door. Check the door for proper operation. Check the motor rotation, limit switch operation, reversing edge, breakaway kill switch, timer settings, etc. Check all activators for proper activation.

ALARM CONDITIONS

COnnECT, MISSING CONNECTIONS

The Digital Gateway monitors the N.C. inputs upon power-up. The alarm indicates one or more missing required N.C. inputs. The LED(s) for the missing input(s) and the display message COnnECT will blink. Once the missing input(s) are connected the LED(s) will go off, the display will change to the cycle count and the system will be ready for operation. Figure 8 shows a missing photoeye connection.

At least one of the two N.C. limit switch connections must be present. If neither of the limit connections are present both the LSO and LSC LEDs will blink. If the limits are wired correctly and the Digital Gateway still shows a missing limit connection, check the limit settings. The limits may be set to trip at the same time. Adjust the limits as required.

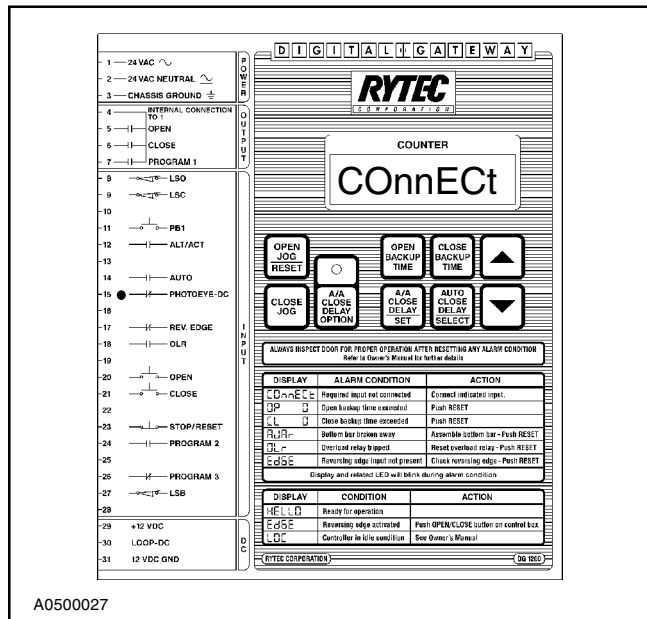


Figure 8

OP = 0, OPEN TIME EXCEEDED

This alarm indicates that the open backup timer has timed out before the door has fully opened and that the door has not operated in the time set on the backup timer. The display message OP = 0 and the LSO LED will blink. Check the door for proper operation and reset the Digital Gateway (Figure 9).

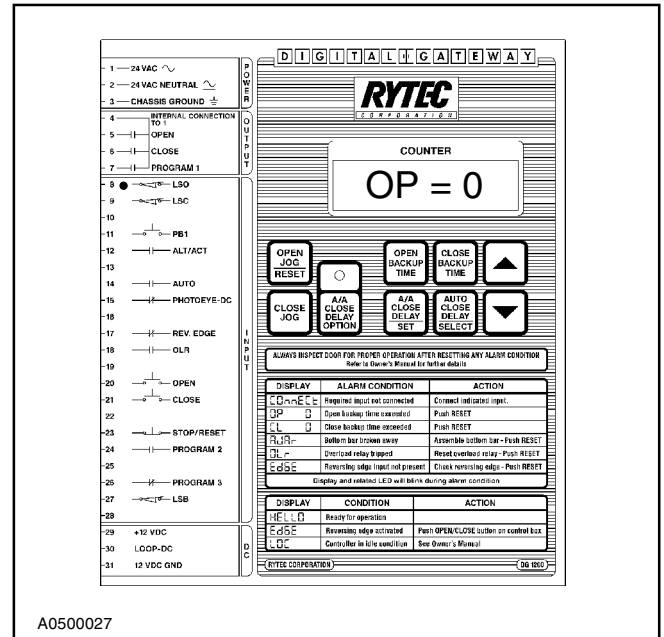


Figure 9

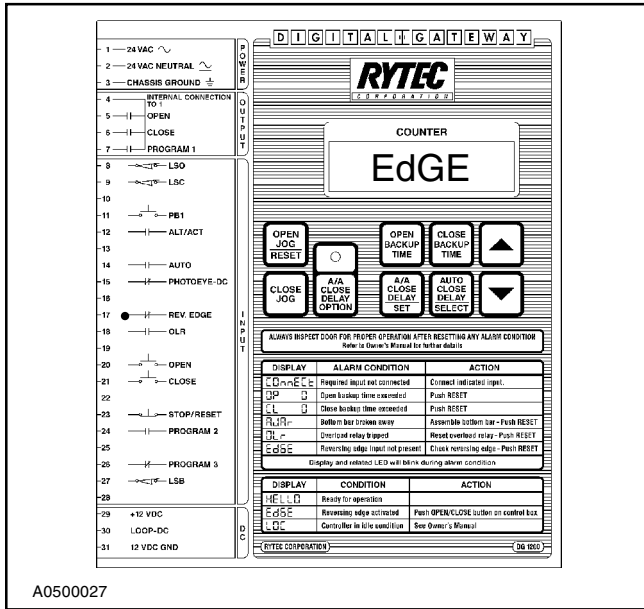


Figure 13

EdGE, REVERSING EDGE TRIPPED

The message EdGE will be displayed if the door comes down on something activating the reversing edge. The door will reverse to the open position. To reset the system and close the door use the PB1, A/A, or Close input. To reset the system and leave the door open use the Open Jog/Reset button or the Stop input. (See Figure 15.)

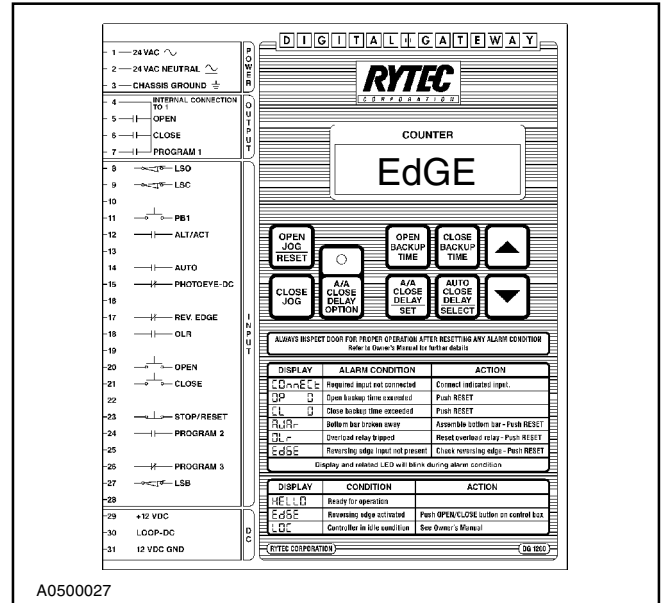


Figure 15

NON-ALARM CONDITIONS

HELLO, SAFE START-UP

When power is applied to the Digital Gateway the door will not move regardless of the status of any activator. The display will read HELLO. The system will reset and be operational with any activator change or if the Digital Gateway is reset with the Open Jog/Reset button or Stop input. (See Figure 14.)

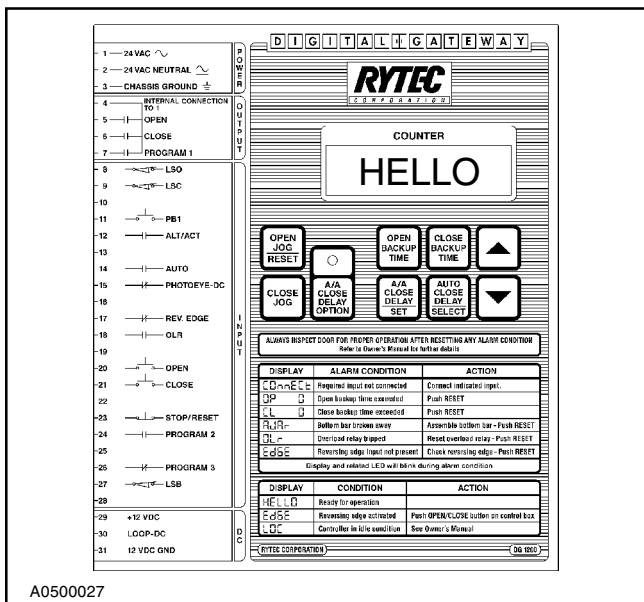


Figure 14

OUTPUTS

LOC, IDLE STATE

This message will be displayed when input 24 is activated, the door is fully closed (on the closed limit switch) and the Digital Gateway programmed for LOC. The Digital Gateway will be inactive and no inputs will operate the door. (See Figure 16.)

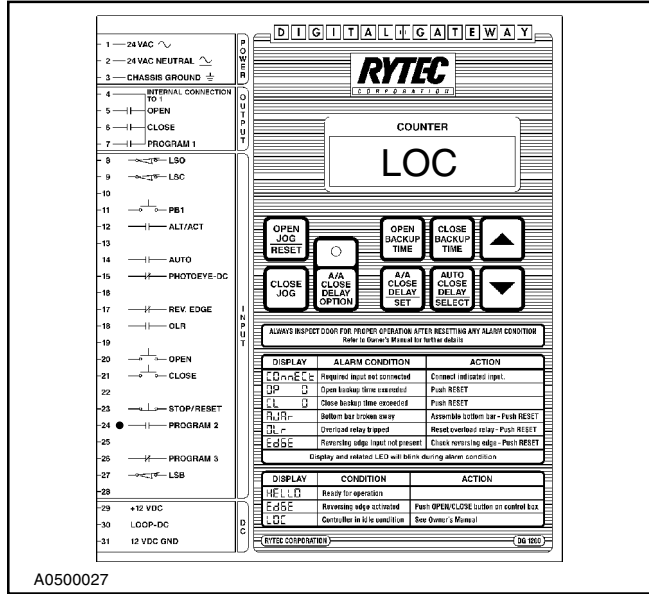


Figure 16

POWER

The Digital Gateway operates at 24 vac. Power is applied through terminals 1, 2 and 3. Terminal 1 is 24 vac high side, terminal 2 is 24 vac low side and terminal 3 is ground. (Figure 17.)

OUTPUTS

The 3 triac outputs of the Digital Gateway share a common power source which is terminal 4. Terminal 4 is internally connected to the 24 vac power source. Terminal 5 is the open output, supplying power to the open contactor. Terminal 6 is the close output, supplying power to the close contactor. Terminal 7 is the Program 1 output. It can be used to power a relay which can be used for a variety of things. (See OPTIONAL PROGRAMS on page 13.)

An RC network and MOV are connected across each output for noise suppression. An external MOV is recommended across any contactor coil or solenoid coil. The maximum rating for each output is 1-amp inductive continuous. (See Figure 17.)

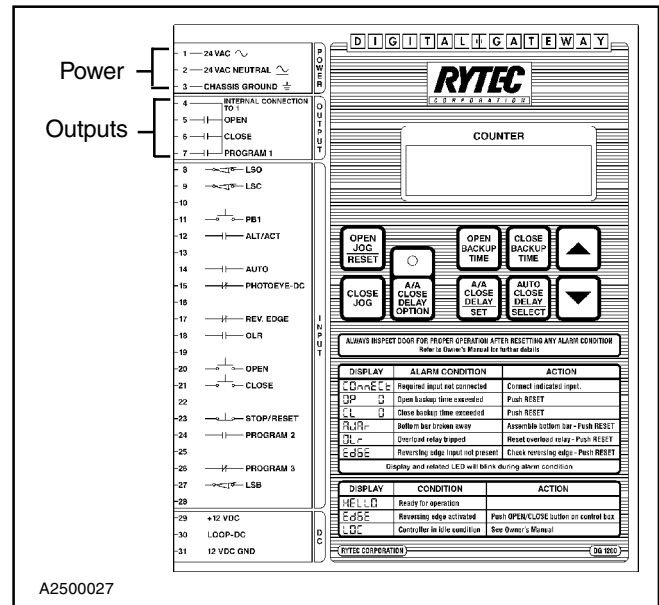


Figure 17

REPLACEMENT

⚠ WARNING

The fused disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

If the Digital Gateway ever requires replacement:

1. Turn off the power to the door.
2. Remove the plug-in terminal blocks, and remove the existing Digital Gateway from the control box. (See Figure 18.)

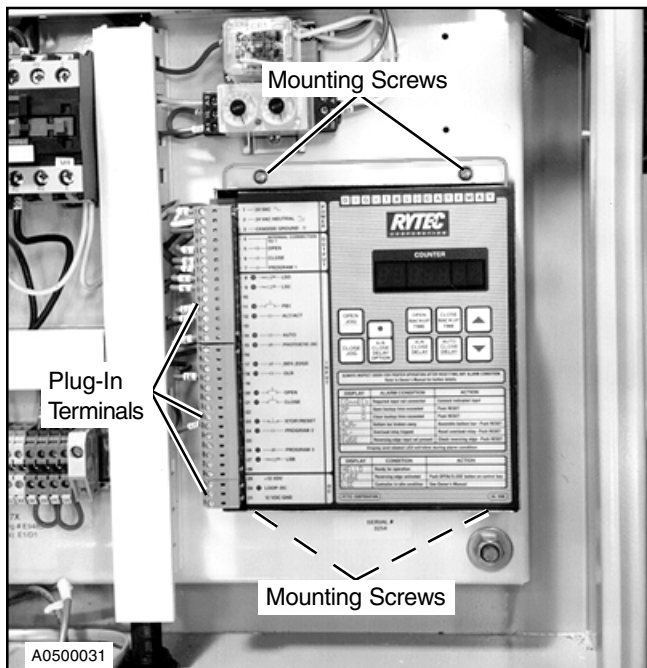


Figure 18

3. Install the replacement and reconnect the plug-in terminal blocks, making sure the numbers on the terminal blocks correspond with the terminal numbers on the Digital Gateway.
4. Turn on the power, and reset the default setting to match your door. (See DEFAULT INPUT SETTING on page 17.)
5. Reset all the timers and program options as required.

TROUBLESHOOTING

The Digital Gateway has diagnostic features that aid in troubleshooting door problems. There are status LEDs and alarm conditions that show you what the door is doing. The alarm condition explanations and descriptions of the LEDs will identify problems that may come up.

OPTIONAL PROGRAMS

NOTE: The Digital Gateway has one programmable output (output 7), two programmable inputs (inputs 24 and 26) and various other program options built in. A description of each available program follows. (See SETTING THE PROGRAM OPTIONS on page 15 for programming instructions.)

PROGRAM 1, OUTPUT 7

This output can tell you if the door is not closed, fully open or about to close. When output 7 is turned on 24 vac will be available at terminal 7. This power can be used to turn on a 24 vac relay which can indicate where the door is or what it is about to do. The relay can operate warning lights, horns or signal an energy management system. Only one of the three options available in Program 1 can be selected at a time.

Door Not Closed, P1 = LSC

Output 7 will be on when the door is not closed. (Not on the "Close" limit switch.) The output will be off when the door is fully closed. (On the "Close" limit switch.) This is the factory default setting. It tells you the door is not closed.

Door Open, P1 = LSO

Output 7 will be on when the door is fully open. (On the "Open" limit switch.) The output will be off when the door is below the open position. (Off of the "Open" limit switch). It tells you the door is fully open.

Delay to Close, P1 = dtC

When the door is signaled to close, output 7 will turn on, the Delay to Close timer (dtC) will start, but output 6, which closes the door, will not be on. When the Delay to Close timer times out, output 6 will activate and the door will close. Output 7 will remain on until the door is completely closed. Maximum time is 15 seconds. This option tells you the door is about to close.

OPTIONAL PROGRAMS

PROGRAM 2, INPUT 24

This input can be used to place the Digital Gateway into an inactive condition, operate the door manually or automatically or open the door to a height below fully open. Only one of the Program 2 options can be selected at a time.

LOC Condition, P2 = LOC

When input 24 is on and the door is fully closed the Digital Gateway will go into an inactive condition. No inputs will be able to activate the door. The message LOC will be on the display. Once the connection is removed from the input, the system will be ready for normal operation. This is the factory default Program 2 setting and can be used to "lock out" the door.

MAN-AUTO Selector Switch, P2 = SSA

If this option is selected, a manual-automatic two-position selector switch can be connected to input 24. When the switch is in the MAN position (there is no connection at terminal 24) the A/A and Auto Close delay timers are disabled. The Auto and Loop inputs are inactive when the door is closed, but will reverse the door if it is closing, or hold it open when it is fully open.

When the switch is in the AUTO position (there is a connection at input 24) the A/A Close Delay timer will turn on and all inputs will operate normally.

This option allows you to operate the door manually or automatically.

MAN-AUTO Selector Switch with Open and Close Inactive in Auto, P2 = SSb

This option operates the same as the MAN-AUTO option described in MAN-AUTO Selector Switch, P2 = SSA except in the Auto position the Open and Close inputs are inactive.

Passage Entry—Timed, P2 = Pet

When this option is used and the door is activated to open with input 24, it will open for a predetermined time. This allows you to open the door part way with an activator connected to terminal 24 while other activators connected to other inputs will open the door completely. A 20 foot door could be opened 8–10 feet for small loads and 20 feet for large loads.

When input 24 is activated while the door is fully closed the door will open and the Passage timer (PEt) will begin counting down. When the Passage timer reaches zero the door will stop. Activating this input again will close the door. If the A/A Close Delay timer is on when the door is opened with input 24, the door will open until the Passage timer reaches zero. Then the A/A Close Delay timer will time out and close the door.

Passage Entry—Position, P2 = PEP

When this option is turned on PROGRAM 3, INPUT 26—Passage Limit Switch, LSP will also be turned on. These two options allow you to open the door partially using an activator connected into input 24 and another limit switch (Passage Limit LSP) connected to input 26. A 20 foot door could be opened 8 feet for small loads and 20 feet for large loads. The Passage Limit would be set at 8 feet. Using the activator connected to input 24 would open the door to the Passage Limit. Using the other activators would open the door completely.

When input 24 is activated while the door is fully closed it will open until it reaches the Passage limit switch which will activate input 26. When input 24 is activated again the door will close. If the A/A Close Delay timer is used the door will open until it reaches the Passage limit switch, then the A/A Close Delay timer will time out and close the door. If the input is activated while the door is closing the door will open until it reaches the OPEN or Passage limit switch, depending on which limit switch is hit first.

PROGRAM 3, INPUT 26

This program option will not appear in the Program Menu. These options are set through factory defaults or by other program options.

Photoeye AC

This input will operate the same as the photoeye input described in DC INPUTS—Photoeye—Terminal 15 (N.C. Contact) on page 6, except it would be used for AC photoeyes. This is the factory default setting.

Passage Limit Switch, LSP

This option is turned on when the Passage Entry—Position option is turned on. The Passage Limit switch is connected to this input. When the door reaches the Passage position after it is opened by input 24, this input will be activated and the door will stop.

PROGRAM 4, PROGRAMMABLE OPTIONS

This program section allows you to change the Open and Close inputs to constant pressure/jog, set a reverse delay timer and/or a loop call delay. More than one of these options can be on at the same time.

Close Jog, CLJ = On/CLJ = OFF

This option converts the Close Input (input 21) to constant pressure/jog operation. The door will only close while the input is activated.

Open Jog, OPJ = On/OPJ = OFF

This option converts the Open Input (input 20) to constant pressure/jog operation. The door will only open while the input is activated.

Reverse Delay, rdt = 00

The Digital Gateway is programmed to immediately reverse the door if an activator or safety input is operated while the door is closing. This option can be used to delay the reversal of the door. If the A/A, Auto or Open input is activated while the door is closing the reversal will be delayed by the time set on the Reverse Delay timer. The door will stop, the Reverse Delay timer (rdt) will time out and the door will then open. Reversals due to the photoeye or reversing edge inputs will not be delayed.

The maximum setting is 15 seconds. The factory default setting is 0 which disables the timer.

Loop Call Delay, LPt = 00

This option will delay the opening of the door when it is opened by the Loop input. This can be used for cross traffic situations. Traffic crossing in front of the door will not remain on the loop long enough to open the door but traffic approaching the door will activate the door.

When the Loop input is activated while the door is fully closed the Loop timer will count down and then open the door. If the Loop input returns to the normal inactivated state while the timer is counting down the door will not open and the system will return to the normal state.

If the Loop input is activated while the door is closing the door will immediately reverse to the fully open position.

The maximum setting is 15 seconds. The factory default setting is 0 seconds which disables the timer.

PROGRAM 5, REVERSE INPUT LOGIC

This option can be used to reverse the required logic for some of the inputs. The required contact arrangement can be changed from normally closed (N.C.) to normally open (N.O.). The inputs that can be changed are Open Limit (LSO - #8), Close Limit (LSC - #9), Photoeye—DC (Pdc - #15), Reversing Edge (rE- #17), Stop (StP - #23), Program 3 (PG3 - #26) and Break-away Limit (LSb - #27).

PROGRAM 6

This program option is set for factory use. It requires an additional three digit security code. If you find yourself in Program 6, press the Set button to return to the main menu.

SETTING THE PROGRAM OPTIONS

As described in the OPTIONAL PROGRAMS section, there are 6 program menus and their submenus available. You will use the UP and DOWN arrows, the Set button (A/A Close Delay) and the Select button (Auto Close Delay) to select and set the program options which will be shown on the display. (See Figure 19.)

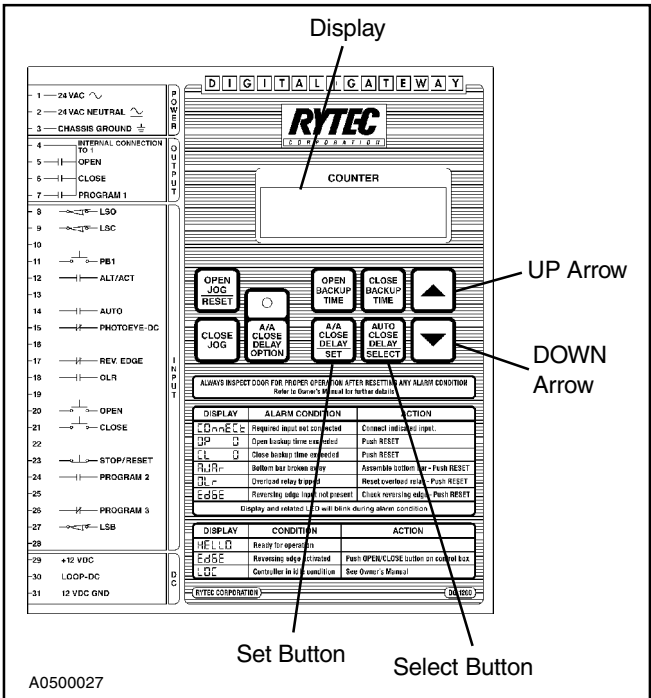


Figure 19

SETTING THE PROGRAM OPTIONS

1. To enter into the programming mode press and hold both the Open and Close Backup Time buttons for three seconds. The display will change to three 0's as shown in Figure 20. To continue the programming mode, you will have to enter the three digit security code. Contact the Rytec Customer Support Department at (414) 677-9046 for the code.

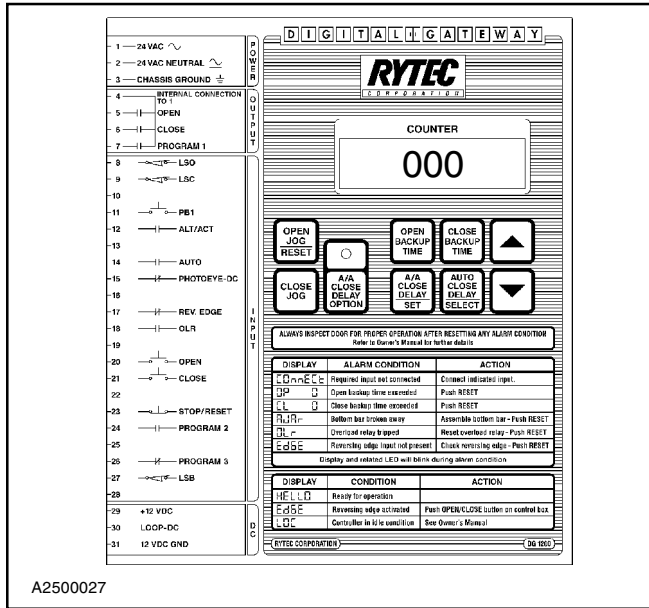


Figure 20

2. The first (left) digit will blink. Press the up or down arrow key to raise or lower the value of the first digit. After the first digit is set, press the Select button to move to the next digit. Repeat the process for all three digits of the security code, then press the Set button to enter the Program Mode.
3. Once you have entered the program mode the display will show the various program menus. (See Figure 21.) Press the Select button to scroll through the programs.

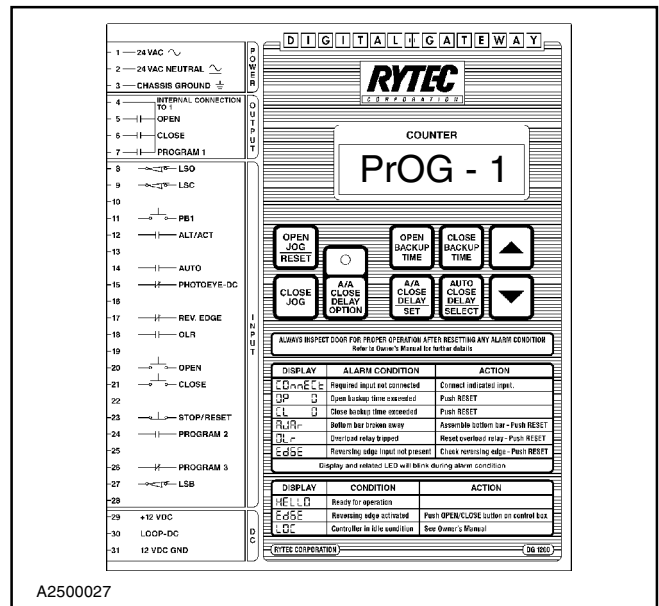


Figure 21

4. After you find the program you wish to change, press the Set button to enter the sub-menu for that particular program. Each sub-menu will be identified by the program number and an option code. Figure 22 shows the default setting (Door Not Closed) for Program 1.

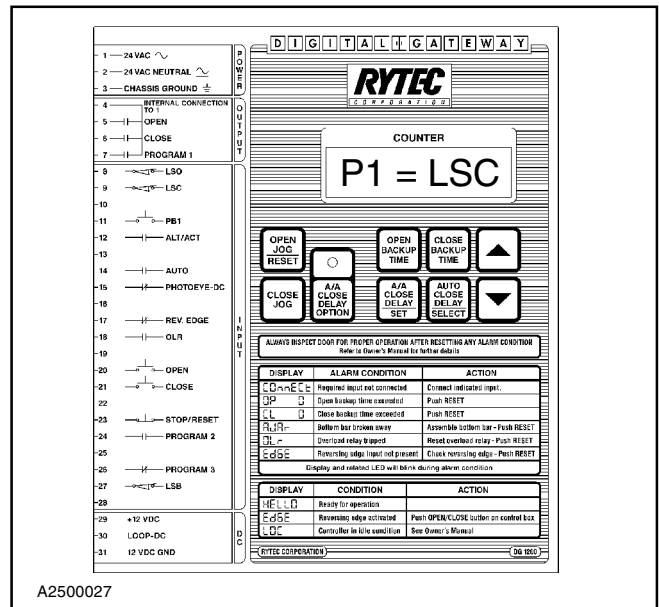


Figure 22

5. For Programs 1 and 2 only one option can be selected. Scroll through the options using the Select button. Press the Set button to select the option displayed. This will return you to the main Program menu.

6. For the remaining programs use the Select button to scroll through the options. Use the UP and DOWN arrow keys to set the time or option and the Set button to return to the Main Program menu after all the selections are made.
7. When a timer is associated with an option, the display will show the code for the option and the timer setting. Use the UP and DOWN arrow keys to set the timers. Figure 23 shows the Delay To Close timer set to 0 seconds. Use the Set button to return to the Main Program menu.

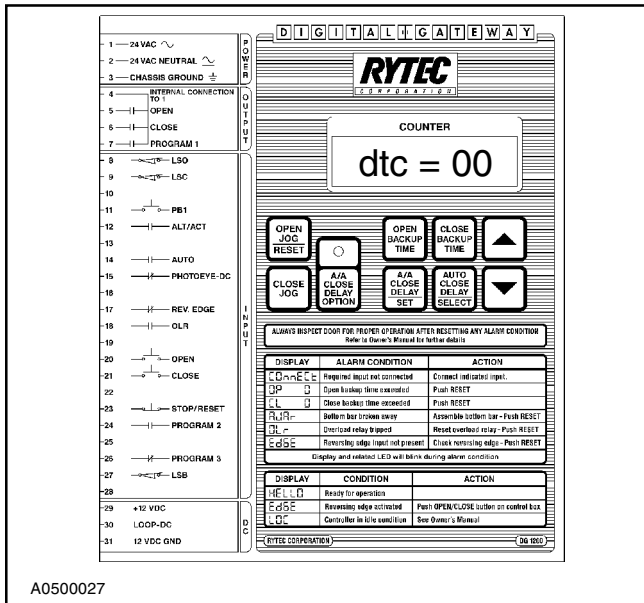


Figure 23

8. When all options have been selected, press the Open and Close Backup Timer buttons to leave the program mode. The Digital Gateway is then ready for operation.

DEFAULT INPUT SETTING

A number of the inputs on the Digital Gateway can be set to operate with a normally open (N.O.) or a normally closed (N.C.) contact connected to them. (See PROGRAM 5, REVERSE INPUT LOGIC on page 15.) The various models of Rytec doors require slightly different combinations of N.O. and N.C. contacts. The following defaults can be used to set up the Digital Gateway inputs for standard doors:

FAST-SEAL DOOR

To set this default, press and hold the A/A Close Delay/Set button, turn the power off and on. Release the button.

This default will set LSO (N.C.), LSC (N.C.), PdC (N.C.), rE (N.C.), StP (N.C.), PG3 (N.O.) and LsB (N.C.).

FAST-FOLD DOOR

To set this default, press and hold the Auto Close Delay/Select button, turn the power off and on. Release the button.

This default will set LSO (N.C.), LSC (N.C.), PdC (N.O.), rE (N.O.), StP (N.C.), PG3 (N.O.) and LsB (N.O.).

PREDADOOR/TURBO-SEAL DOOR

To set this default, press and hold the Open Backup Timer button, turn the power off and on. Release the button.

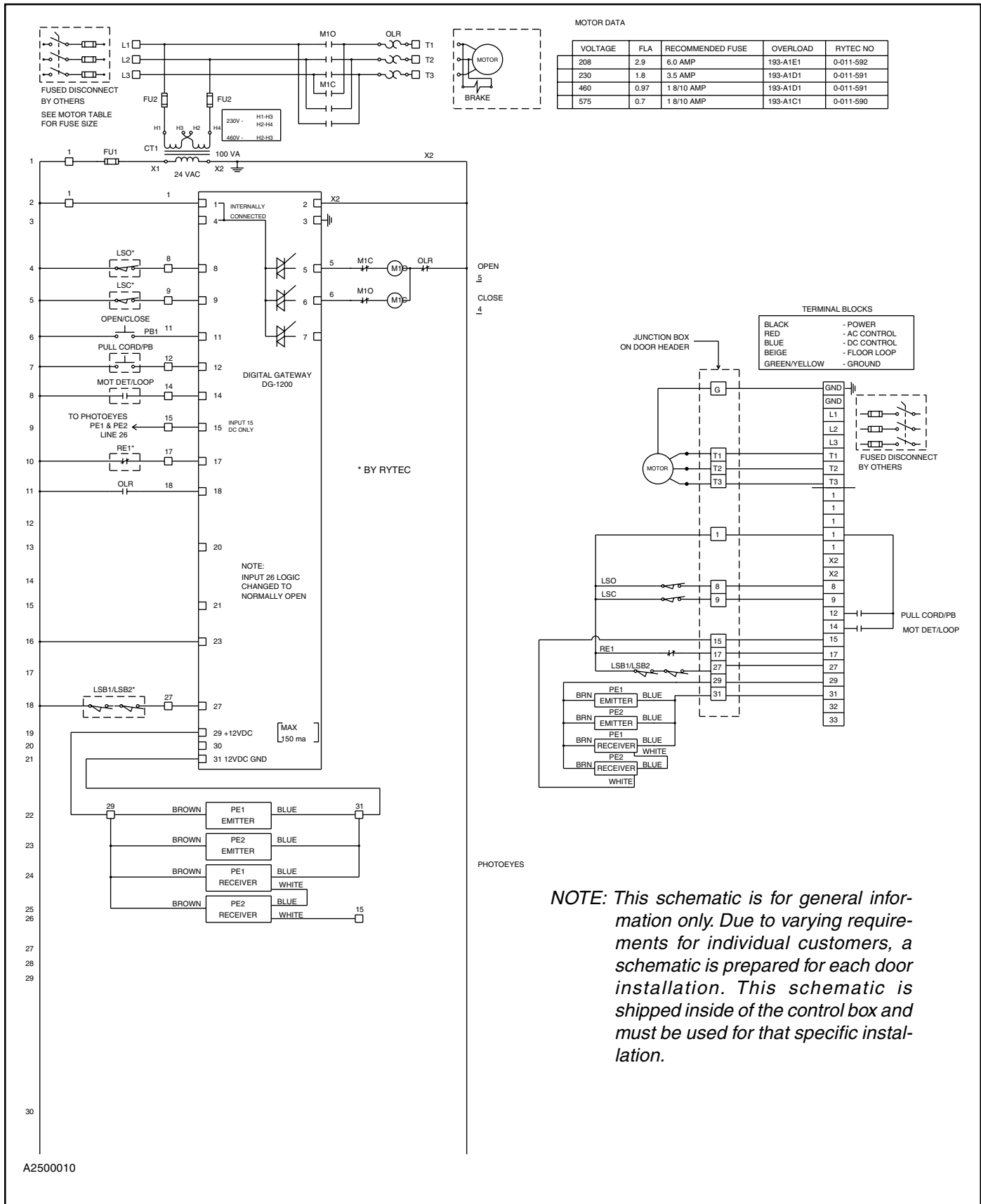
This default will set LSO (N.C.), LSC (N.C.), PdC (N.O.), rE (N.C.), StP (N.C.), PG3 (N.C.) and LsB (N.C.).

Set the timers and other program options as required.

WIRING SCHEMATICS—FAST-SEAL—ONE-SPEED DIGITAL GATEWAY (E4200)

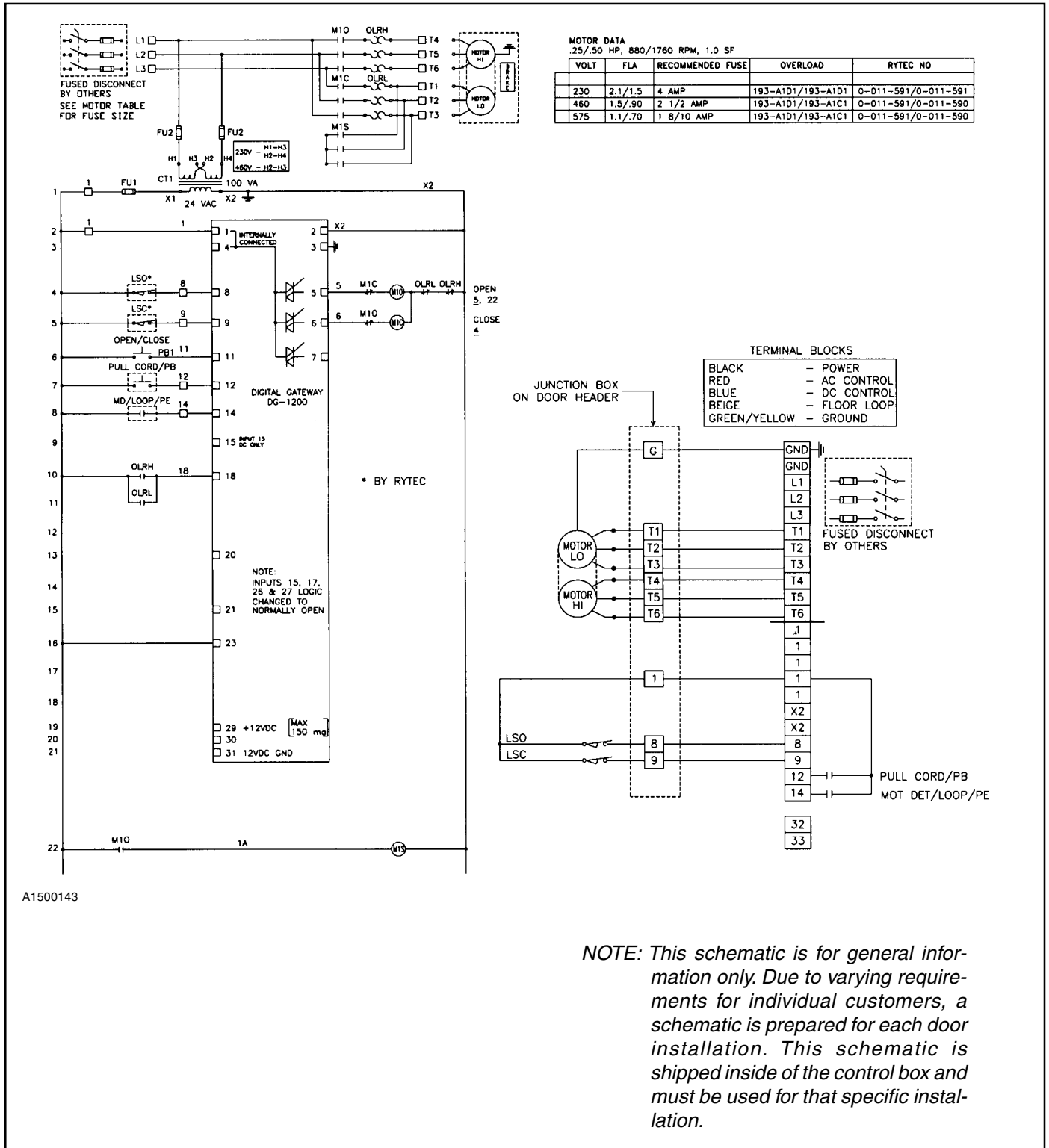
WIRING SCHEMATICS

FAST-SEAL—ONE-SPEED DIGITAL GATEWAY (E4200)



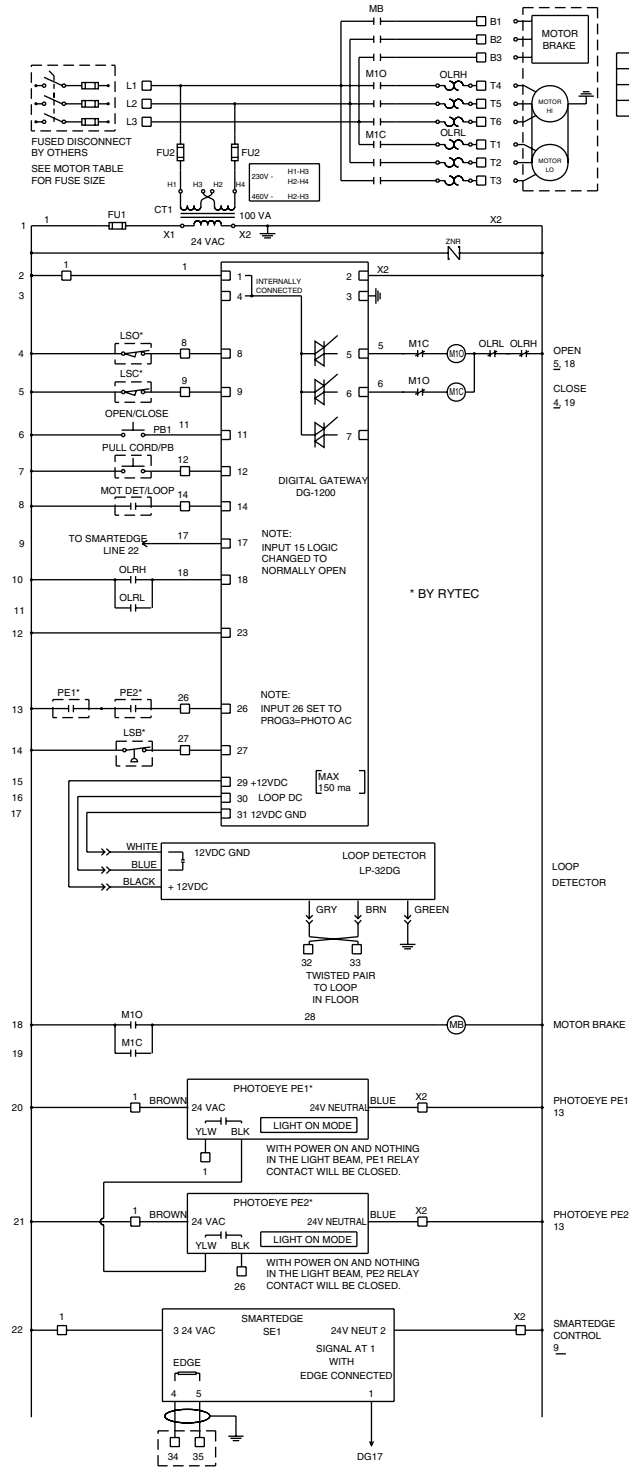
WIRING SCHEMATICS—FAST-FOLD—TWO-SPEED DIGITAL GATEWAY (E4100)

FAST-FOLD—TWO-SPEED DIGITAL GATEWAY (E4100)



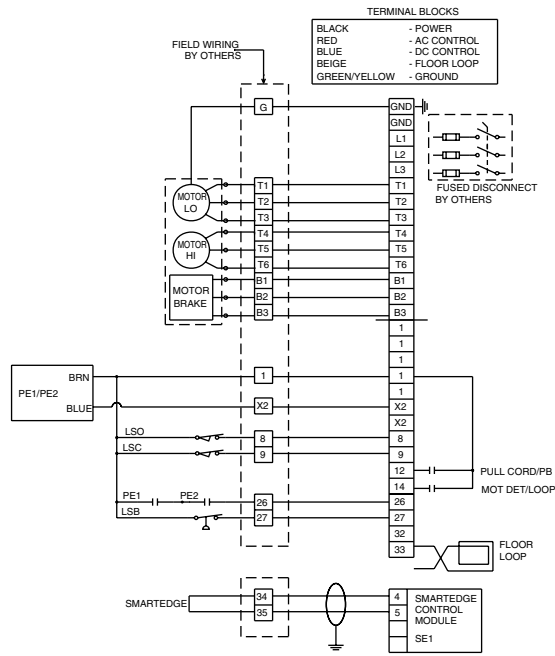
WIRING SCHEMATICS—PREDADOOR—TWO-SPEED DIGITAL GATEWAY (E4900)

PREDADOOR—TWO-SPEED DIGITAL GATEWAY (E4900)



MOTOR DATA
0.5/1.0 HP, 850/1750 RPM, 1.15 SF

VOLTAGE	FLA	RECOMMENDED FUSE	OVERLOAD	RYTEC NO
208	3.6/3.8	6 AMP	193-A1E1/193-A1E1	0-011-592/0-011-592
230	3.2/3.4	6 AMP	193-A1E1/193-A1E1	0-011-592/0-011-592
460	1.6/1.7	3 AMP	193-A1D1/193-A1D1	0-011-591/0-011-591
575	1.3/1.4	2.5 AMP	193-A1D1/193-A1D1	0-011-591/0-011-591



NOTE: This schematic is for general information only. Due to varying requirements for individual customers, a schematic is prepared for each door installation. This schematic is shipped inside of the control box and must be used for that specific installation.