Stanley Access Technologies

Quick-Reference Guide

Delayed Egress System, Model DE-MC521

and Model MC521 Pro

Installation Instructions

Quick-Reference Guide

204038

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Stanley Access Technologies

Quick-Reference Guide

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1. PURPOSE

1.1 **Discussion**

This manual provides installation instructions for the Stanley Delayed Egress system for Model DE-MC521 and Model MC521 Pro. The delayed egress system provides a controlled egress for openings which require panic or fire hardware. This solution assists in loss prevention at retail locations by denying egress for a set time period of 15 or 30 seconds.

Setting the key function switch to the "CLOSED LOCKED" or "ONEWAY" or "REDUCED ONE WAY" position energizes the shear magnets and secures the door in the locked mode. Activation of the delayed egress system occurs when the panic bar is pushed and held for more than one second.

NOTE:

Accidentally pushing the panic bar or touching it for less than the nuisance delay time of one second will not sound the alarm. This nuisance delay time helps avoid inadvertent activation.

If the panic bar is HELD LONGER than one second, an audible alarm sounds and the IRREVERSIBLE delayed egress sequence begins. After the delayed egress time of 15 or 30 seconds, the lock releases and the alarm continues to sound until it is reset with setting the key function switch to HOLD OPEN, AUTOMATIC, or REDUCED OPEN.

1.2 **Applicability**

This manual is applicable to the Stanley DE-MC521 and MC521 Pro. Either a standard MC521 OR MC521 Pro installation manual is a prerequisite for this installation manual. Installation instructions for transoms, optional accessories such as access control locks, access control consoles, key switches, door alarm contacts, push plates, and door position switches are provided in separate installation manuals.

1.2.1 The delayed egress system includes the following components and functions:

- The DE-MC521 or MC521 Pro controller mounted in the header provides the logic for the egress, nuisance, and reset cycles
- The two UL FWAX2 Listed shear magnet locks provide locking for up to 1200 lbs of shear force. Each two-piece lock assembly includes a magnet mounted to the underside of the hanger and an armature mounted to the top of the panel rail.
- The UL Recognized audible alarm mounted in the header connects to the DE-MC521 or MC521 Pro controller.
- The four-contact plate assembly mounted in the center of the header transfers power from the header to the hanger. The four-contact assembly is wired to a terminal block assembly OR to the PC Board I/O assembly (depending on controller choice) for shear lock control and push bar switch monitoring.
- The two-contact assembly mounted to each hanger transfers signal from the push bar switch to the hanger when the doors are closed.
- The recessed panic bar mounted to each door panel activates the egress cycle when pushed.

2. INSTALLATION INSTRUCTIONS

2.1 Door Panel Components

NOTE:

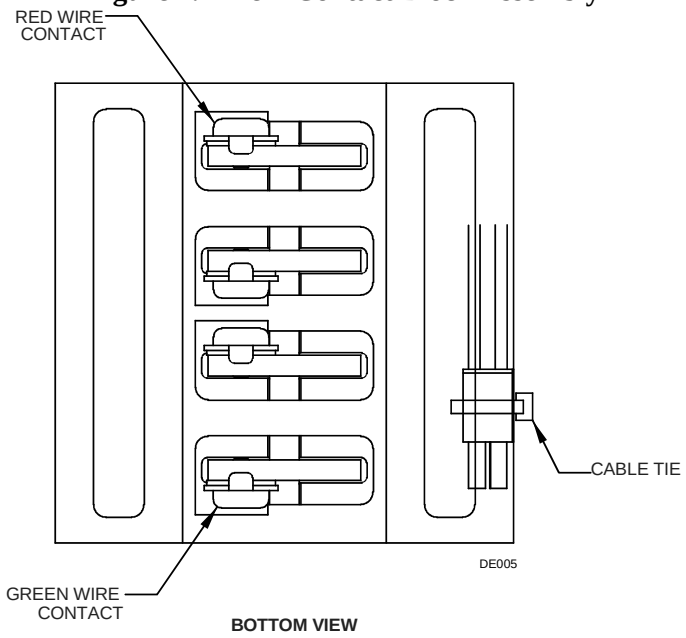
For new installations, the door panel components shown in Table 2-1 are pre-assembled and wired in the factory.

Table 2-1. Door Panel Components

Part Name
2-Contact Block Assembly
2-Contact Plate Assembly
4-Contact Block Assembly
Recessed Panic Pushbar with Switch
Detent Block for Delayed Egress
Shear Magnet Locks

2.1.1 Figure 1 illustrates the 4-Contact Block Assembly.

Figure 1. The 4-Contact Block Assembly



2.2 Header Components

NOTE:

Table 2-2 shows the list of header components for both the DE-MC521 and MC521 Pro controllers.

Table 2-2. Header Components for DE-MC521 and MC521 Pro

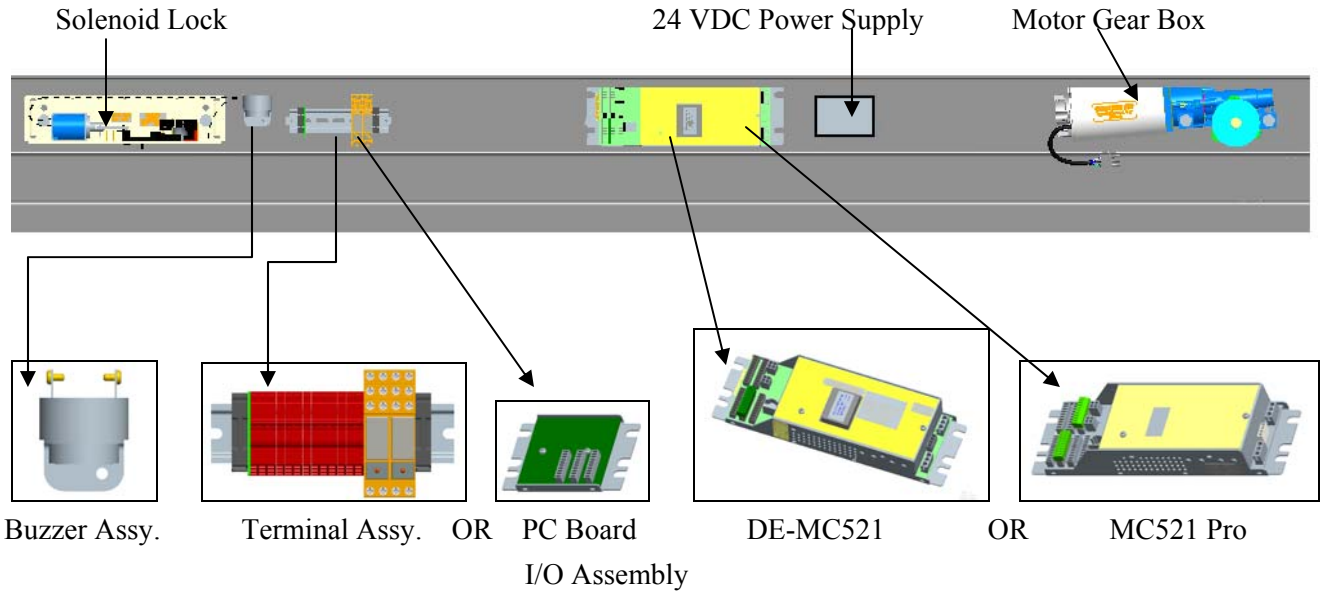
Part Name
(EITHER) Terminal Block Assembly
(OR) PC Board I/O Assembly
Buzzer and Bracket Assembly
4-Contact Plate Assembly
(EITHER) DE-MC521 Controller
(OR) MC521 Pro Controller; single or dual motor

2.2.1 Figure 2 illustrates the (typical) components on the track inside the header:

a. DE-MC521 Controller OR MC521 Pro Controller
b. Terminal Block Assembly **OR** PC Board I/O Assembly
c. Buzzer and Bracket assembly

2.2.2 SECURE all wire harnesses with cable ties.

Figure 2. DE-MC521 AND MC521 Pro Typical Layout for Components in the Header



2.3 **Installing the Components on the Header Cover or Jamb (if necessary)**

2.3.1 INSTALL power key switch assembly as follows:

- If installation is a Dura-Glide 3000, Refer to 203926, "Rotary/Key Switch Instruction Manual," for machining template and MOUNT power key switch assembly to header cover.
- If installation is a Dura-Glide 2000, Refer to 203926,"Rotary/Key Switch Instruction Manual," for machining template and MOUNT power key switch assembly to header or jamb inside of building.

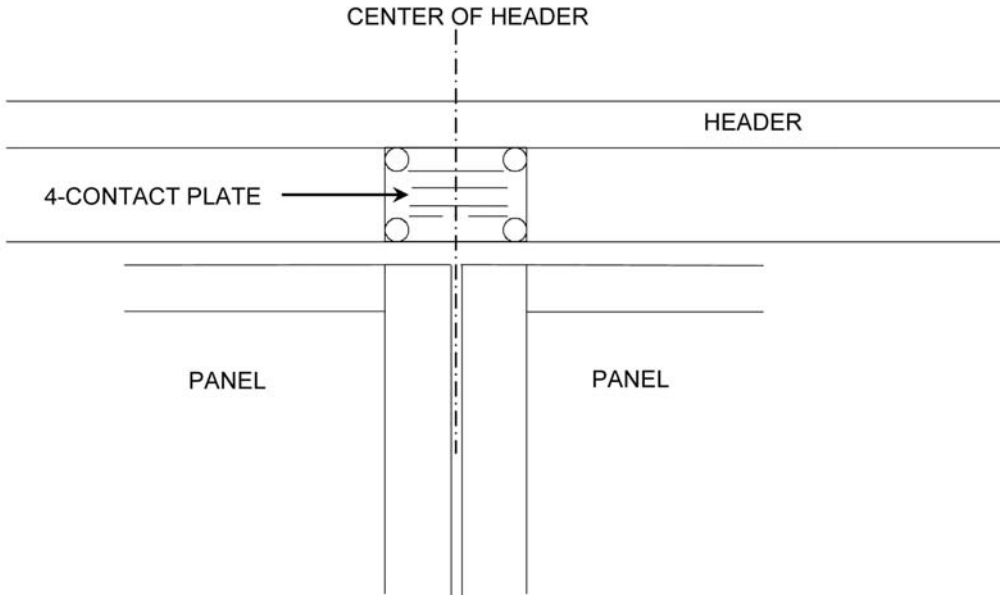
2.3.2 INSTALL rotary key switch assembly as follows:

- If installation is a Dura-Glide 3000, Refer to 203926, "Rotary/Key Switch Instruction Manual," for machining template and MOUNT rotary function key switch assembly to header cover.
- If installation is a Dura-Glide 2000, Refer to 203926,"Rotary/Key Switch Instruction Manual," for machining template and MOUNT rotary key switch assembly to header or jamb inside of building.

2.4 **The 4-Contact Plate Assembly for Bi-parting Doors**

2.4.1 Figure 3 illustrates the 4-contact plate assembly for Bi-parting Doors

Figure 3. The 4-Contact Plate Assembly for Bi-parting Doors



NOTE:

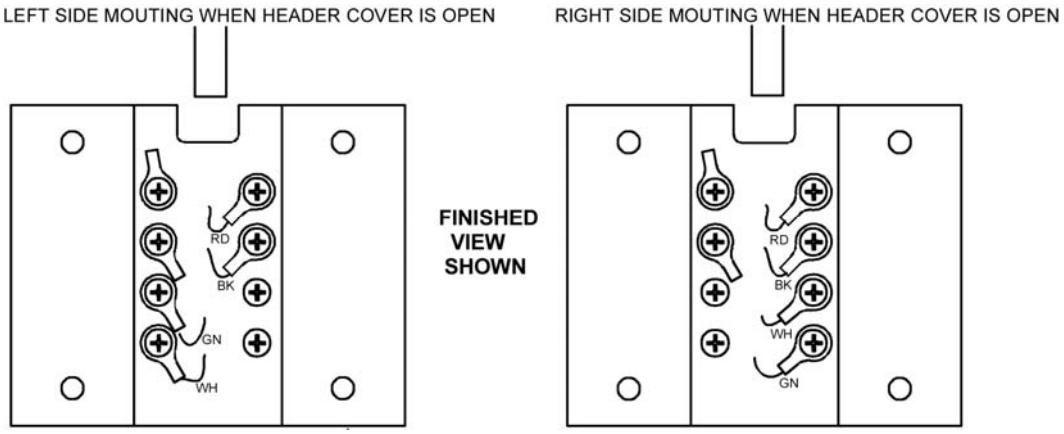
The 4-contact plate assembly must align properly with the two 4-contact switch block assemblies on the hangers to ensure the transfer of electrical connections to the door panels. The position of the four-contact switch block assemblies can be adjusted for vertical alignment.

2.4.2 CYCLE the door several times, and ENSURE the 4-contact switch block assemblies on the hanger leading edges mate properly with the center contact plate as the doors come together.

2.5 The 4-Contact Plate Assembly for Single-Slide Doors

2.5.1 Figure 4 illustrates the configuration for the left side or right side mounting.

Figure 4. Configuration for Left and Right Side 4-Contact Plate Assembly Mounting

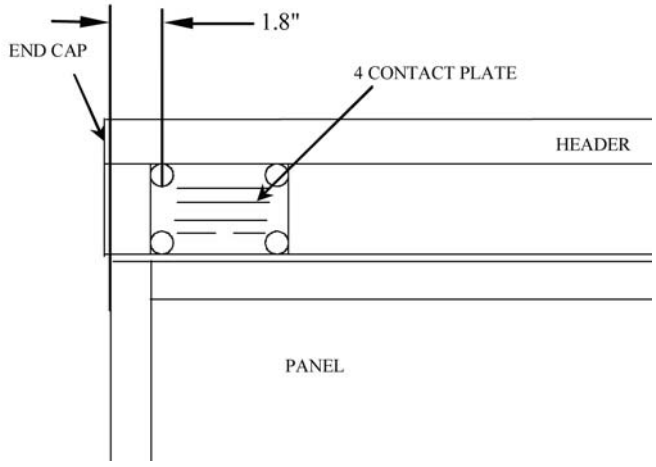


2.5.2 Figure 5 illustrates the 4-contact plate assembly installation for Single Side Doors.

NOTE:

The 4-contact plate must align properly with the four-contact switch block assembly on the hanger to ensure the electrical connection to the door panel. The position of the four-contact switch block assembly can be adjusted for vertical alignment.

Figure 5. The 4-Contact Plate Assembly for Single-Slide Doors (Left Side Mounting Shown)



2.5.3 CYCLE the door several times, and ENSURE the 4-contact switch block assembly on the hanger leading edge mates properly with the center contact plate as the door closes.

2.6 **Installing the Label**

2.6.1 INSTALL the Delayed Egress label "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 SECONDS" in the center of the push bar. (If a 30-second egress is required and approved by fire marshal, ATTACH the "**30**" sticker on top of the number "**15**" in the label.)

2.7 **The Delayed Egress Assembly Wiring**

WARNING

The I/O & Buzzer connections to the DE-MC521 controller and MC521 Pro controller as indicated on the Attachment 3 must be made by grounded, shielded cable.

NOTE

For DE-MC521: The input power electrical rating for this assembly is 120-VAC, 60-Hz, and 5A. The output power electrical rating is 14.7 ~ 20.2 VDC.

For MC521 Pro: The input power electrical rating for this assembly is 120-VAC, 60-Hz, and 5A. The output power electrical rating is 17.9 ~24 VDC.

2.7.1 Refer to Attachments 2 and 3 for the appropriate delayed egress schematic and system wiring.

2.8 **Operational Checkout of the Delayed Egress System**

2.8.1 Refer to appropriate controller installation manual and perform FIS.

a. **For DE-MC521 only:** Refer to P/N 204003, "MC521 Installation and Operation Manual."

b. **For MC521 Pro only:** Refer to P/N 20466, "MC521 Pro Installation and Operation Manual."

2.8.2 SET the door for delayed egress as follows:

NOTE

The door can be set for delayed egress using either the pushbuttons or a handheld device. The following steps describe setting delayed egress using the pushbuttons.

- INDEX 18. Value 00 is OFF (not evaluated by UL).
- INDEX 18. Value 01 is 15 sec.
- INDEX 18. Value 02 is 30 sec.

2.8.3 CYCLE the doors several times and ENSURE the following features function properly:

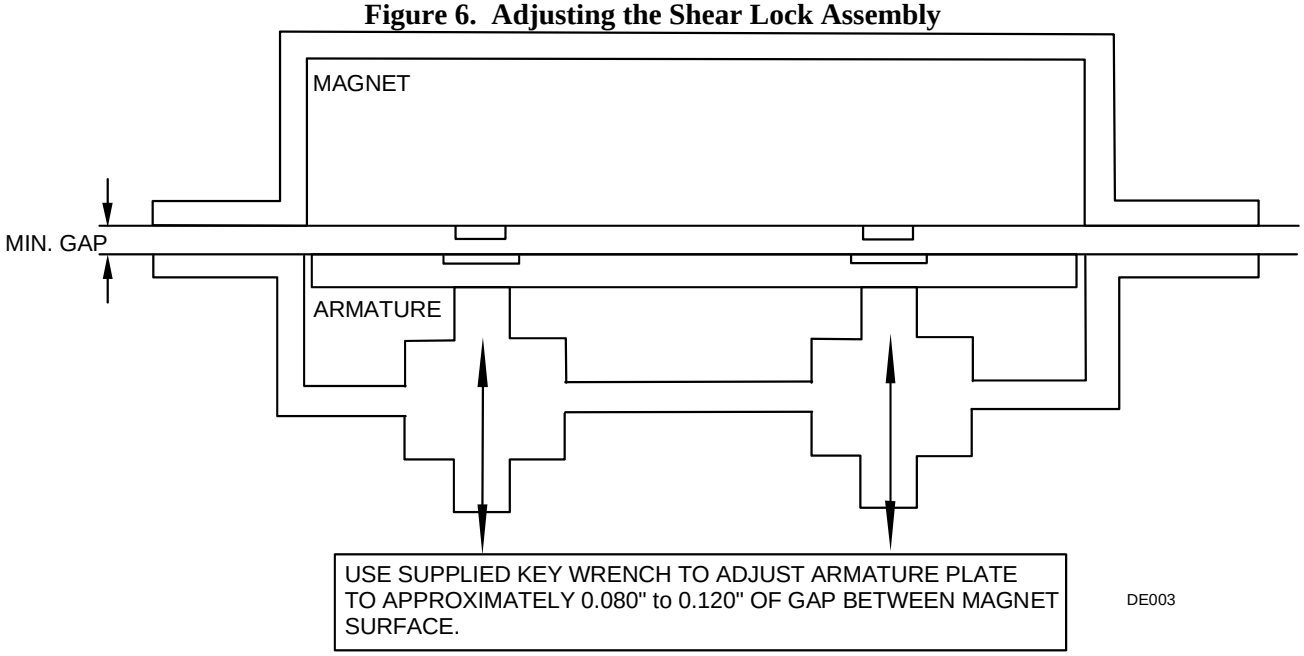
- The 1-second nuisance delay functions properly.
- The buzzer alarm sounds.
- The 15- or 30-second delay-of-egress period functions properly.

NOTE:
The typical gap required between the magnet and the armature is 0.120″.

2.8.4 If shear locks do not engage, refer to Figure 6 and, using the key wrench supplied with the lock kit, ADJUST the shear lock assembly. After adjusting the armature, remove the armature and tighten nuts at the bottom. Reassemble.

2.8.5 If necessary, ADJUST the 4-contact switch block assemblies and ENSURE proper alignment with the center contact plate.

Figure 6. Adjusting the Shear Lock Assembly



2.9 Troubleshooting the Delayed Egress System

2.9.1 Refer to Table 2-3 for a listing of symptoms and remedies.

NOTE
The following two conditions describe proper system operation:

1. Door is in CLOSED/LOCKED. The buzzer is OFF. The shear locks are energized. K1 LED is OFF. K2 LED is ON.
2. Door is in AUTOMATIC. The buzzer is OFF. The shear locks are de-energized. K1 LED is ON. K2 LED is OFF.

Table 2-3. Symptoms and Remedy

Symptom	Remedy
Door set for CLOSED/LOCKED and door gets to closed position. Delayed egress starts without pressing push bar. The dE indication is displayed on MC521 OR MC521 Pro. The buzzer turns ON. K2 LED is OFF. K1 LED is ON. And shear locks de-energize after 15/30 seconds.	Check connections from push bar switches to two- contact transfer contacts to quad transfer contacts to K2 coil.
Door set for CLOSED/LOCKED in closed position. Shear locks energize, but door panel can break out.	Adjustment is required on armature. Set gap to between 0.080″ and 0.120″.

2.9.2 CHECK for correct DC voltage measurements on terminal block OR PC Board assembly as follows:

a. SET the door to CLOSED/LOCKED.

b. CONNECT the negative (-) lead of the multimeter to TB2-10 of the controller.

c. Refer to Table 3-4, and CHECK each terminal number of the terminal block and relay assembly for the voltage shown.

Table 2-4. TB2-10 Voltage Checks for DE-MC521 and MC521 Pro with Terminal Block OR PC Board

DE-MC521 TB2	PC Board Terminal No.	Terminal Block and Relay Assy	Correct Voltage	Possible Fault if Voltage is Incorrect
TB2-10	DE-TB1-1	1	24 - 28 VDC	The bridge on terminal block (**not** PC Board) 1-2 is loose. The 24 VDC power supply disconnected.
TB2-10	DE-TB1-2	2	24-28 VDC	The 24 VDC power supply disconnected.
TB2-10	DE-TB1-3	3	24-28 VDC	The bridge on terminal block (**not** PC Board) 2-3 is loose. The 24 VDC power supply is disconnected.
TB2-10	DE-TB1-4	4	24-28 VDC	The 24 VDC power supply is disconnected. Fire alarm input is open or missing.
TB2-10	DE-TB1-5	5	24-28 VDC	The bridge on terminal block (**not** PC Board) 4-5 is loose.
TB2-10	DE-TB1-6	6	24-28 VDC	MC521 was selected for fail safe, it should be fail secure.
TB2-10	DE-TB1-7	7	24-28 VDC	K1 is defective.
TB2-10	DE-TB1-8	8	NA	Wire connection open from TB5-10. Check if MC521 is configured for delayed egress.
TB2-10	DE-TB1-9	9	>20 VDC	Push bar switch is open. Dual transfer contact is not making connection. Quad Contact is not making connection.
TB2-10	DE-TB1-10	10	0VDC	K2 is off.
TB2-10	DE-TB2-1	11	0VDC	Wire disconnected from TB5-4.
TB2-10	DE-TB2-2	12	0VDC	Wire disconnected from TB5-10.
	DE-TB2-3	13	NA	NOTE: this is a shield wire connection

2.10 **Replacement Parts**

2.10.1 Refer to Attachment 1 for a listing of replacement parts.

Attachment 1
Replacement Parts
(Sheet 1 of 1)

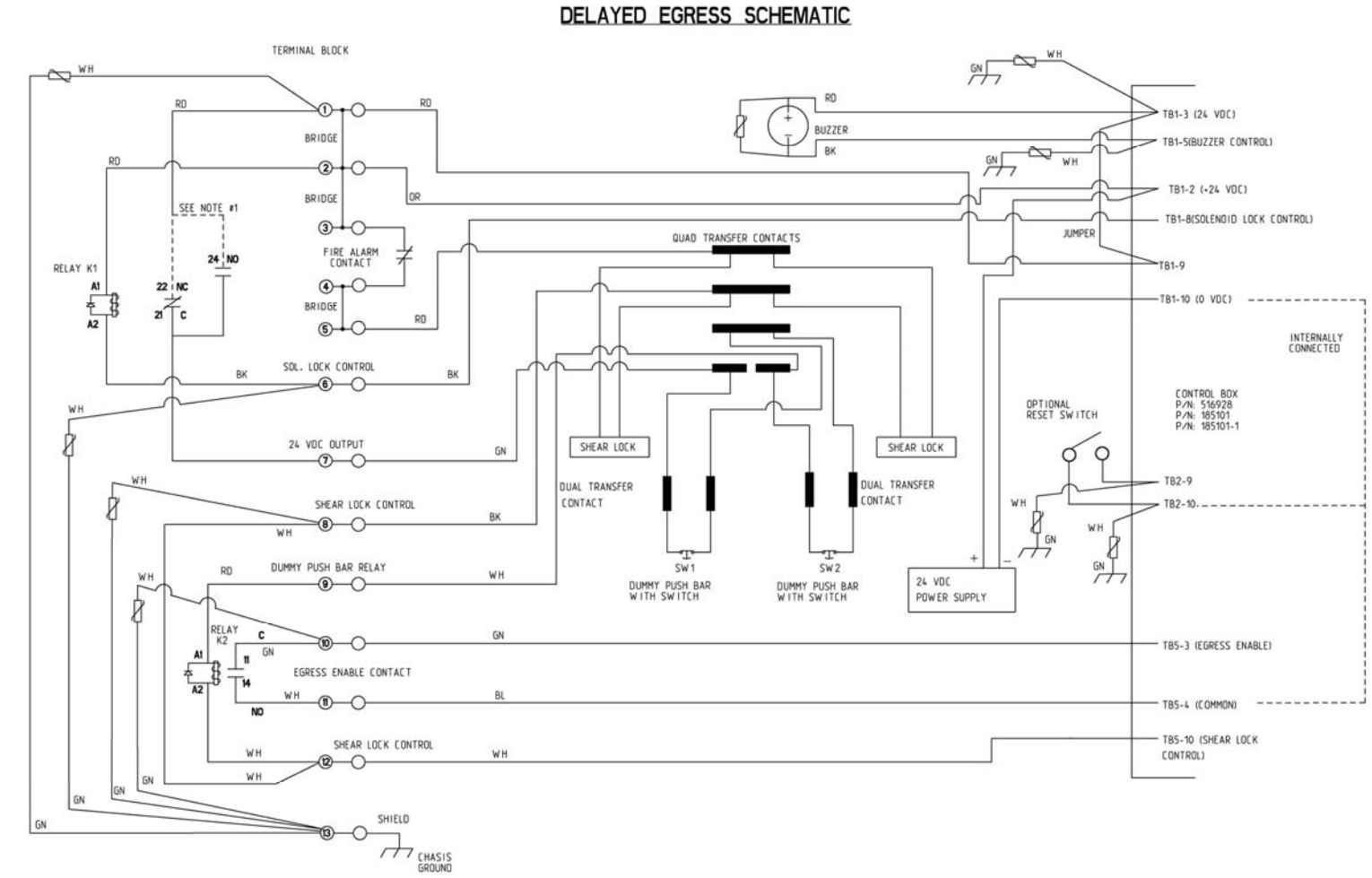
Description	Part Number
Terminal Block and Relay Assembly	517217
PC Board IO Assembly	193648
Buzzer and Bracket Assembly	415109
Power Key Switch Assembly	415119
Power Supply Assembly	417236
4-Contact Block Assembly	516907
4-Contact Plate Assembly	516908
2-Contact Block Assembly	516909
2-Contact Plate Assembly	516910
Shear Magnet Locks	714082
Reset Switch	413584
Push Bar Cartridge with Switch, 27”	185060-1
Push Bar Cartridge with Switch, 16”	185060-2
DE-MC521 Controller Replacement Kit	314063
MC521 Pro Controller Replacement Kit; dual motor only	314117

Attachment 2

Delayed Egress Schematic Diagram

For Terminal Block with EITHER DE-MC521 OR MC521 Pro Controllers

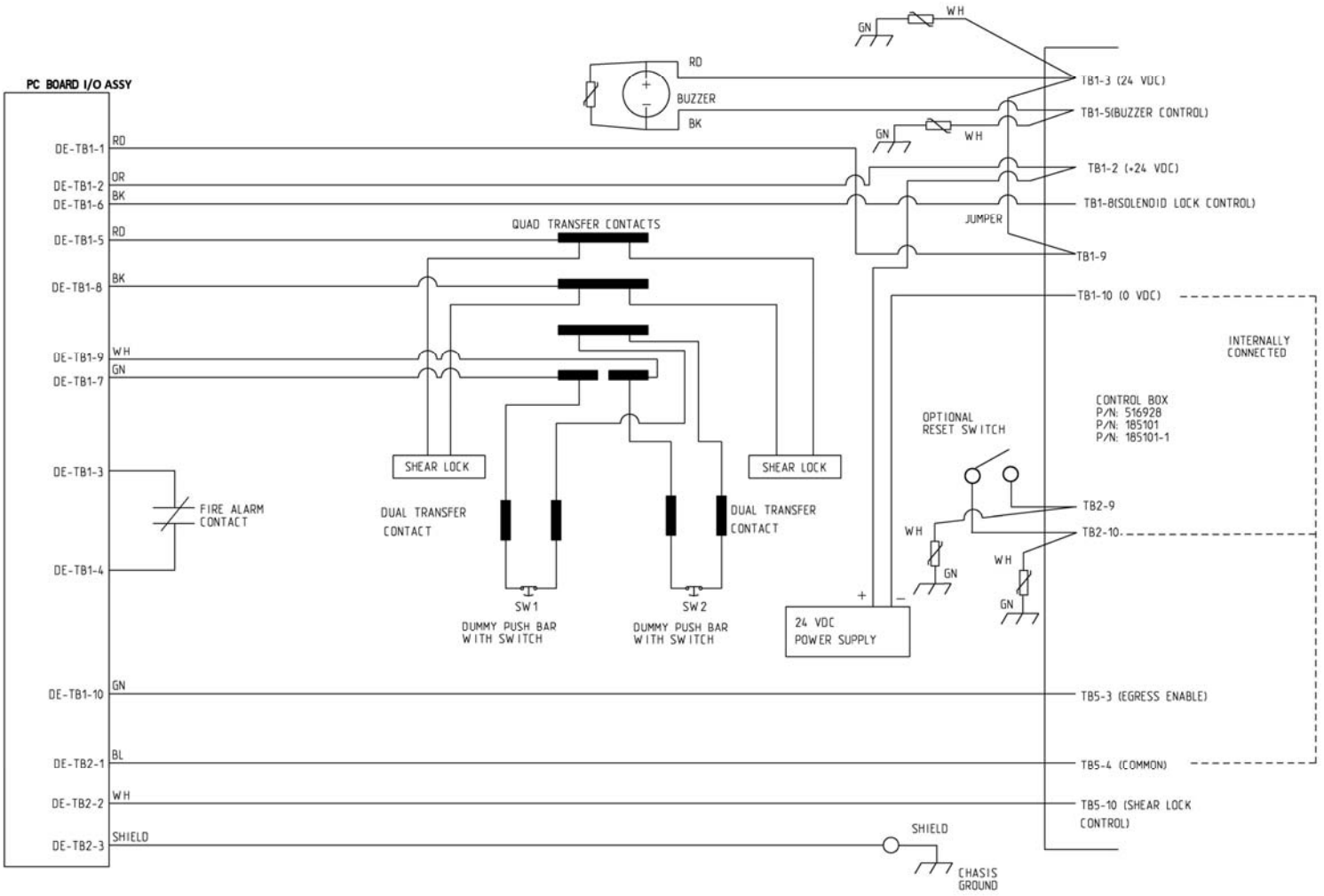
(Sheet 1 of 2)



NOTE:

1. K1 NC FOR FAIL SECURE SOLENOID LOCK. K1 NO FOR FAIL SAFE SOLENOID LOCK.

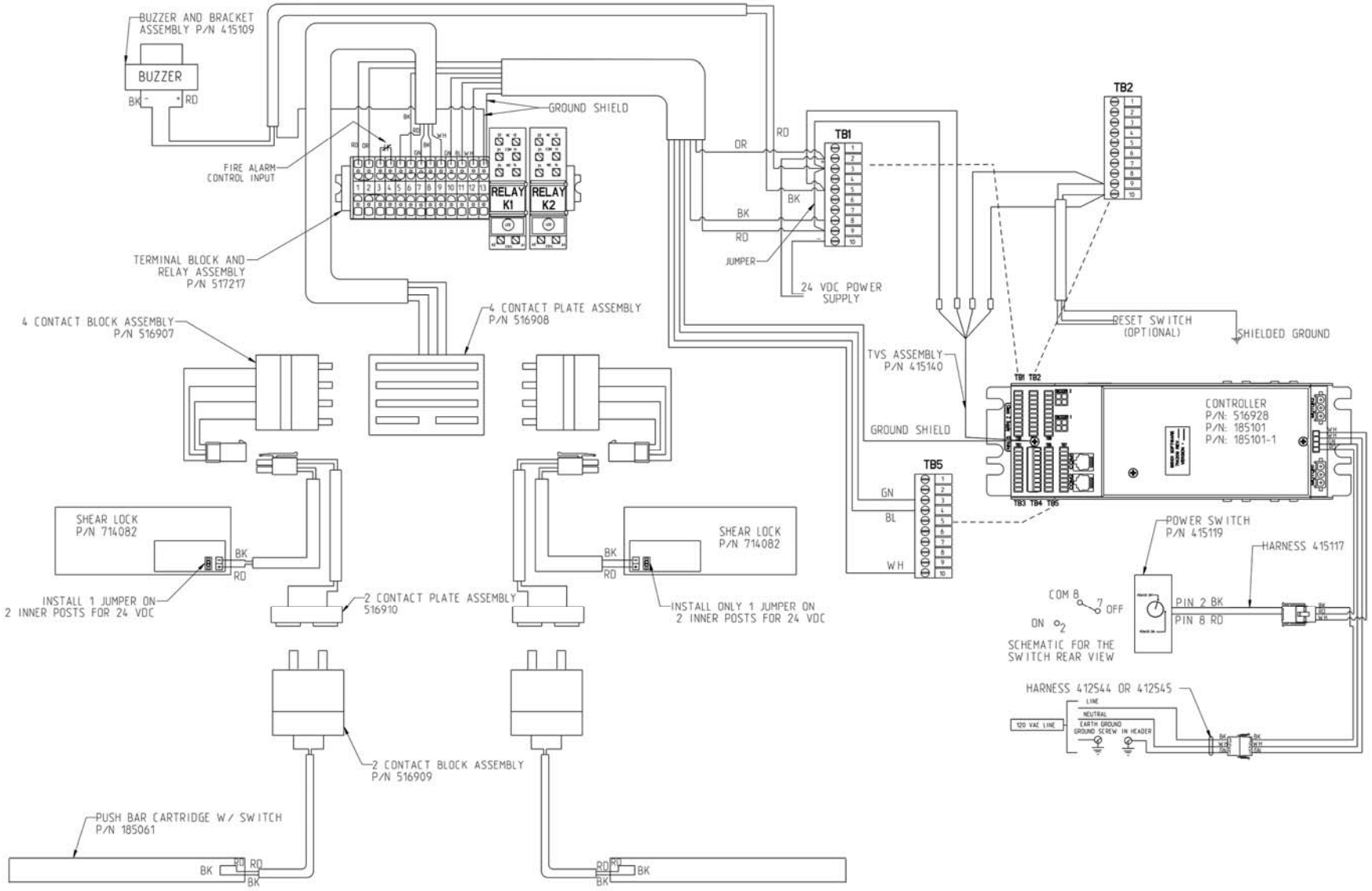
Attachment 2
Delayed Egress Schematic Diagram
For PC Board with EITHER DE-MC521 OR MC521 Pro Controllers
(Sheet 2 of 2)



Attachment 3

Delayed Egress Wiring Diagram – Terminal Block and Relay Ass'y for DE-MC521 and MC521 Pro Controllers

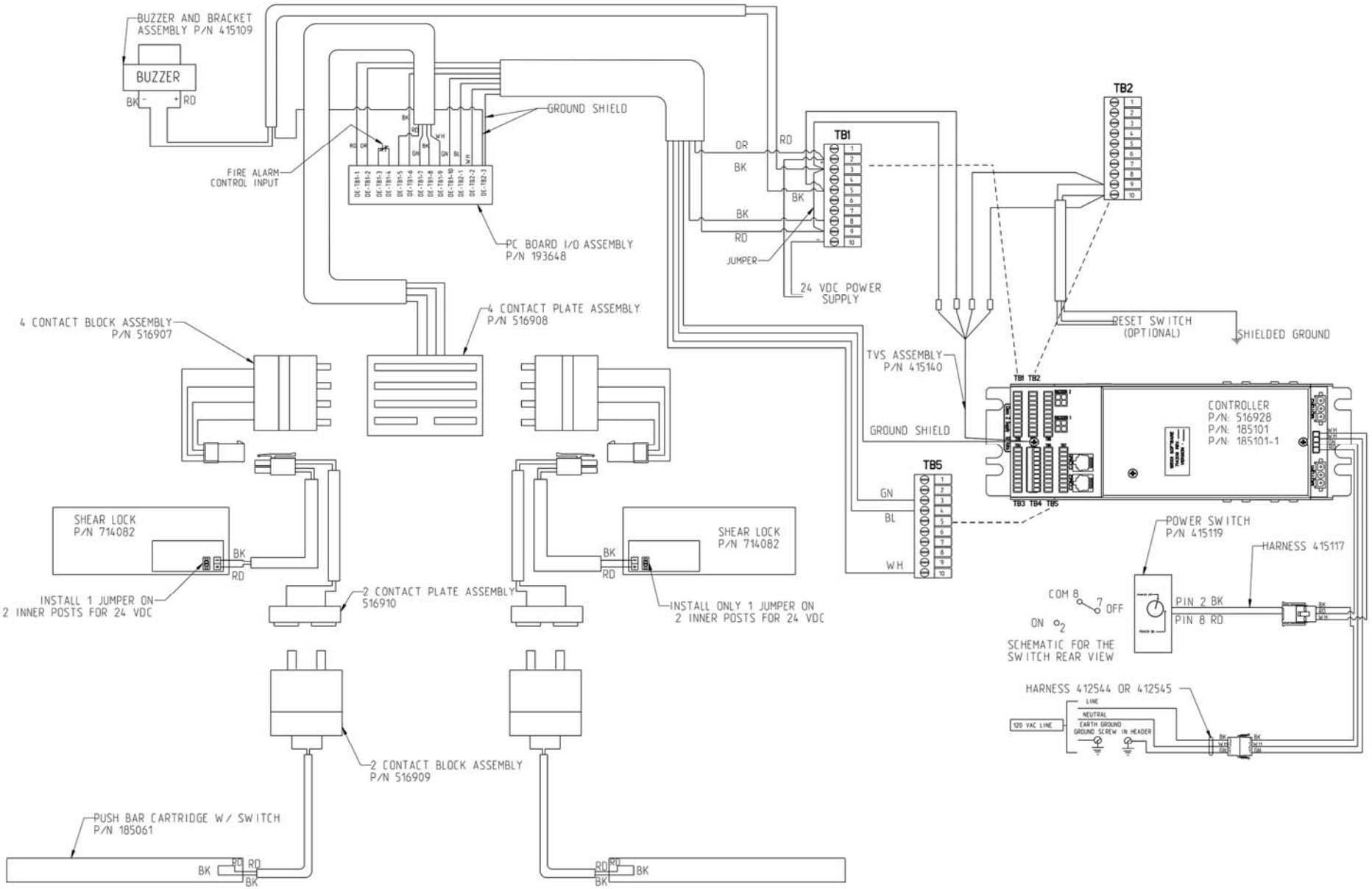
(Sheet 1 of 6)



Attachment 3

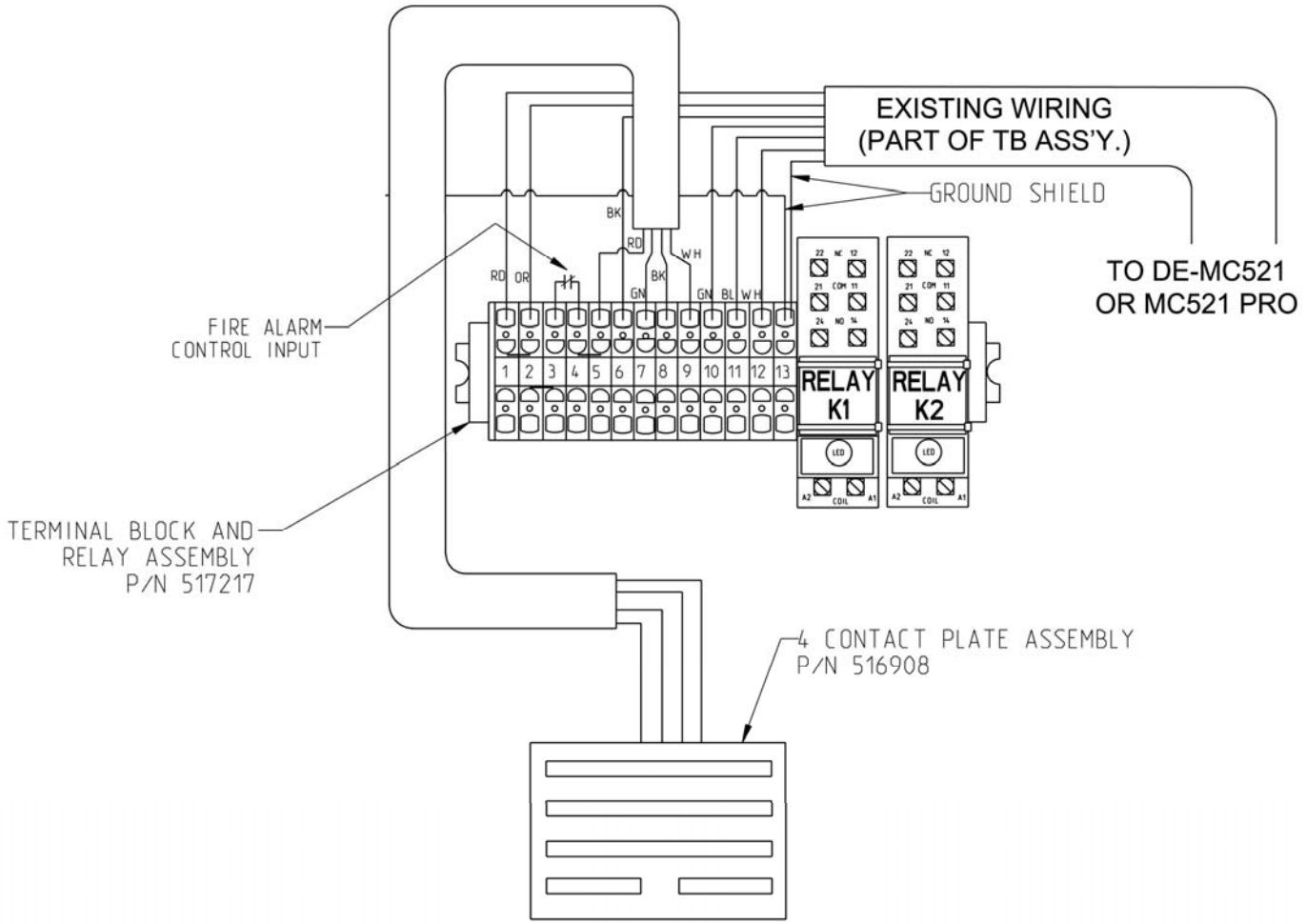
Delayed Egress Wiring Diagram – PC Board for DE-MC521 and MC521 Pro

(Sheet 2 of 6)



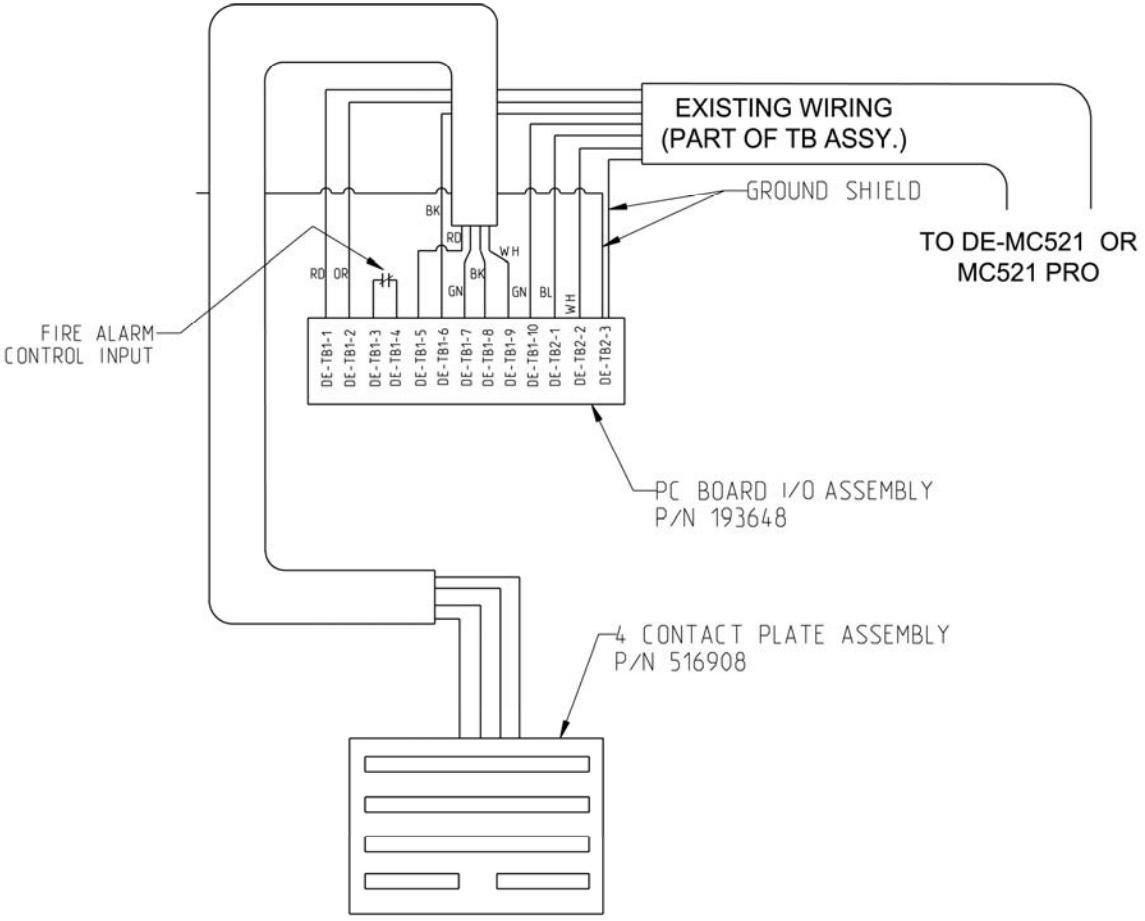
Attachment 3
Delayed Egress Wiring Diagram
(Sheet 3 of 6)

FIELD TERMINAL BLOCK WIRING



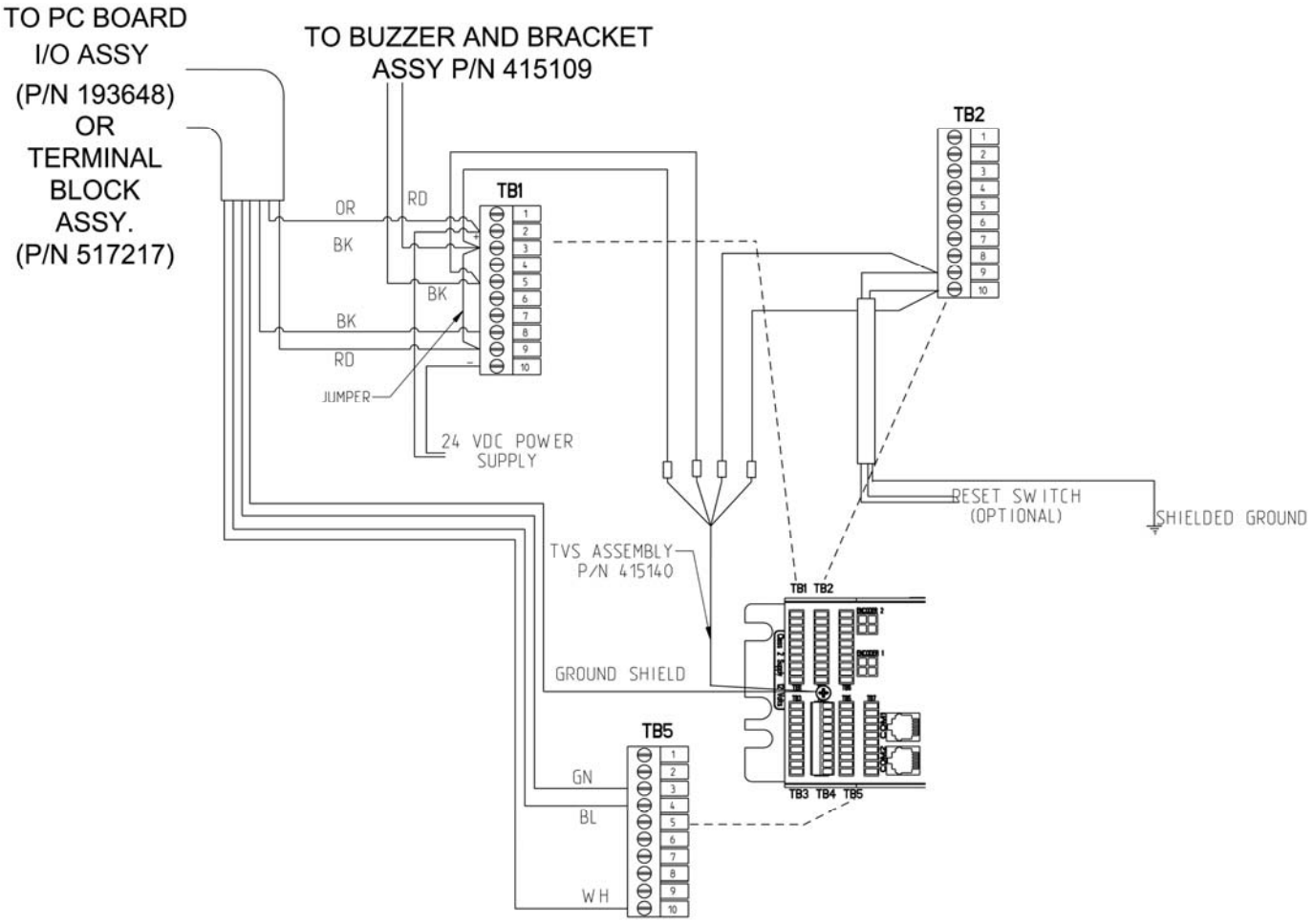
Attachment 3
Delayed Egress Wiring Diagram
(Sheet 4 of 6)

FIELD PC BOARD WIRING



Attachment 3
Delayed Egress Wiring Diagram
(Sheet 5 of 6)

FIELD CONTROLLER WIRING



Attachment 3
Delayed Egress Wiring Diagram
(Sheet 6 of 6)

FIELD POWER SWITCH WIRING