



# Motor Controls and Accessories

Application Guide, Installation, and Parts Manual



Remote Basic VFD Controller



Remote Full Featured VFD Controller



Emergency Stop Kit



Jog Button Kit



Control Stop Kit



Photo Eye Kit



Photo Eye Bracket Kit

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# Table of Contents

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Introduction .....	3	Required Tools .....	25
Warnings – General Safety .....	4	Warnings .....	25
Controller Specifications .....	5	Reversing Conveyor .....	25
Accessories Specifications .....	5	Remote Basic VFD Motor Controller.....	25
Product Description .....	6	Remote Full Featured VFD Motor Controller .....	25
Remote Basic VFD Control.....	6	Conveyor Acceleration.....	26
Remote Full Featured VFD Control .....	6	Remote Basic VFD Motor Controller.....	26
Emergency Stop Kit.....	7	Remote Full Featured VFD Motor Controller .....	26
Control Stop Kit.....	7	Conveyor Deceleration.....	26
Jog Push Button Kit .....	7	Remote Basic VFD Motor Controller.....	26
Photo Eye Kit.....	7	Remote Full Featured VFD Motor Controller .....	26
Photo Eye Bracket Kit .....	8	Time Based Indexing Delay's .....	27
Linking Cable Kit .....	8	For "On Delay" (delay before conveyor starts).....	27
Controller Installation.....	9	For "Off Delay" (delay before conveyor stops).....	27
Required Tools.....	9	Service Parts.....	28
Conveyor Mounting.....	9	Remote Basic VFD Controllers.....	28
Stand Mounting.....	9	Remote Full Featured VFD Controllers .....	29
Wiring .....	10	Emergency Stop Kit .....	30
Motor Wiring.....	10	Control Stop Kit .....	31
Facility Wiring .....	10	Jog Push Button Kit.....	32
For 115V Controllers:.....	10	Photo Eye Kit .....	33
For 230V and 460V Controllers:.....	10	Photo Eye Bracket Kit - Through Beam .....	34
Accessories Installation.....	11	Linking Kit .....	35
Required Tools.....	11	Return Policy.....	36
Button Box Kits - Vertical Mounting to Conveyor .....	11		
Button Box Kits - Horizontal Mounting to Conveyor ...	11		
Button Box Kits - Stand Mount .....	12		
Photo Eye and Bracket Kits - Mounting to Conveyor ...	12		
Linking Cable Kit .....	12		
Applications and Electrical Connections.....	13		
Required Tools.....	14		
Warnings .....	14		
Emergency Stop - Power Cutoff.....	14		
Remote On/Off From Other Machine.....	14		
Remote Basic VFD Motor Controller .....	15		
Remote Full Featured VFD Motor Controller.....	15		
Remote On/Off via a Control Stop Kit .....	15		
Jog Conveyor via a Push Button.....	16		
Time Based Indexing via Push of a Button .....	17		
Remote On/Off with Jog Control.....	17		
Remote Start/Stop Enabled with Time Based Indexing via			
Push of a Button.....	18		
Conveyor End Stop with Photo Eye .....	18		
Conveyor End Stop with Photo Eye			
and Remote Start/Stop .....	19		
Conveyor Indexes with Photo Eye.....	20		
Conveyor Indexes with Photo Eye			
and Remote Start\Stop .....	21		
Add Bypass Jog Button to any Single Photo Eye or Single			
Photo Eye with Remote Start\Stop Applications .....	21		
For Remote Basic VFD Controllers .....	21		
For Remote Full Featured VFD Controllers .....	22		
Grocery Store Conveyor with Photo Eyes .....	22		
Motor Running Output Signal .....	23		
Create Your Own Application .....	24		
Common Controller Adjustments.....	25		

**⚠ CAUTION**

**Some illustrations may show guards removed. DO NOT operate equipment without guards.**

Upon receipt of shipment:

- Compare shipment with packing slip. Contact factory regarding discrepancies.
- Inspect packages for shipping damage. Contact carrier regarding damage.
- Accessories may be shipped loose. See accessory instructions for installation.

The Dorner Limited Warranty applies.

Dorner reserves the right to make changes at any time without notice or obligation.

Dorner has convenient, pre-configured kits of Key Service Parts for all conveyor products. These time saving kits are easy to order, designed for fast installation, and guarantee you will have what you need when you need it. Key Parts and Kits are marked in the Service Parts section of this manual with the Performance Parts Kits logo .

# Warnings – General Safety

## ⚠ WARNING

The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.

## ⚠ DANGER



### SEVERE HAZARD!

**KEEP OFF CONVEYORS.** Climbing, sitting, walking or riding on conveyor will cause severe injury.

## ⚠ DANGER



### EXPLOSION HAZARD!

- **DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.** The electric gearmotor generates heat and could ignite combustible vapors.
- Failure to comply will result in death or serious injury.

## ⚠ WARNING

Controller must be properly grounded. Failure to properly ground controller may cause injury to personnel.

## ⚠ DANGER



### SEVERE HAZARD!

Hazardous voltage will cause severe injury or death. **LOCKOUT POWER BEFORE WIRING.**

## ⚠ WARNING



### SEVERE HAZARD!

Exposed moving parts can cause severe injury. **DO NOT ATTEMPT ADJUSTMENTS WITH CONVEYOR RUNNING. LOCK OUT POWER** before removing guards or performing maintenance.

## ⚠ WARNING



### SEVERE HAZARD!

- **Dorner cannot control the physical installation and application of conveyors.** Taking protective measures is the responsibility of the user.
- When conveyors are used in conjunction with other equipment or as part of a multiple conveyor system, **CHECK FOR POTENTIAL PINCH POINTS** and other mechanical hazards before system start-up.
- Failure to comply could result in serious injury.

## Controller Specifications

Model Number	Fig.	Input Voltage & Phase	Output Voltage & Phase	Output Frequency	Maximum Hp (kW)	Maximum Amperes	Enclosure
75M-V1-3211-05	1	115 Volt, Single Phase	230 Volt, Three Phase	60 Hz	0.5 (0.37)	2.4	Nema 1
75M-V2-3211-05	2	115 Volt, Single Phase	230 Volt, Three Phase	60 Hz	1.0 (0.75)	4.0	Nema 12
75M-V2-3211-10	2	115 Volt, Single Phase	230 Volt, Three Phase	60 Hz	1.5 (1.12)	5.2	Nema 12
75M-V2-3232-10	2	230 Volt, Single / Three Phase	230 Volt, Three Phase	60 Hz	1.5 (1.12)	5.2	Nema 12
75M-V2-3232-20	2	230 Volt, Single / Three Phase	230 Volt, Three Phase	60 Hz	2.0 (1.50)	7.0	Nema 12
75M-V2-3434-10	2	460 Volt, Three Phase	460 Volt, Three Phase	60 Hz	1.5 (1.12)	2.8	Nema 12
75M-V2-3434-20	2	460 Volt, Three Phase	460 Volt, Three Phase	60 Hz	2.0 (1.50)	3.8	Nema 12

## Accessories Specifications

Model Number	Description
75M-ES-1	Emergency Stop Kit
75M-CS-1	Control Stop Kit
75M-JG-1	Jog Push Button Kit
75M-PE-1	Photo Eye Kit with 2" Height Adjustment
75M-PE-2	Photo Eye Kit with 5" Height Adjustment
75M-PM-1	Reflective Photo Eye Bracket Kit with 2" Height Adjustment
75M-PM-2	Reflective Photo Eye Bracket Kit with 5" Height Adjustment
75M-PM-3	Through Beam Photo Eye Bracket Kit with 2" Height Adjustment
75M-PM-4	Through Beam Photo Eye Bracket Kit with 5" Height Adjustment
75M-PM-5	Convergence Photo Eye Bracket Kit with 2" Height Adjustment
75M-PM-6	Convergence Photo Eye Bracket Kit with 5" Height Adjustment
75M-LC-1	Linking Cable Kit 6 ft. (1.83 m) long
75M-LC-2	Linking Cable Kit 15 ft. (4.57 m) long

# Product Description

## Remote Basic VFD Control

Dorner's Remote Basic VFD Controller (**Figure 1**) can be used with industrial VFD gearmotors up to 1/2 Hp. For applications, please reference the **Application and Electrical Installation** portion of this guide.

Typical Components	
1	Power Switch
2	Speed Control
3	Power Cord
4	Motor Cord
5	Sprint T-Nut (x2)
6	M6-1.00 x 16mm Socket Screws (x2)
7	Accessory Kit Interface Ports



Figure 1

### NOTE

*For additional information, refer to the individual drive manual shipped with your controller.*

## Remote Full Featured VFD Control

Dorner's Remote Full Featured VFD Controller (**Figure 2**) can be used with all industrial VFD gearmotors. For applications, please reference the **Application and Electrical Installation** portion of this guide.

Typical Components	
1	Operator Keypad
2	Lockable Disconnect Switch
3	Accessory Kit Interface Ports
4	Sprint T-Nut (x2)
5	M6-1.00 x 16mm Socket Screws (x2)
6	Power Cord (115 volt only)
7	Motor Cord

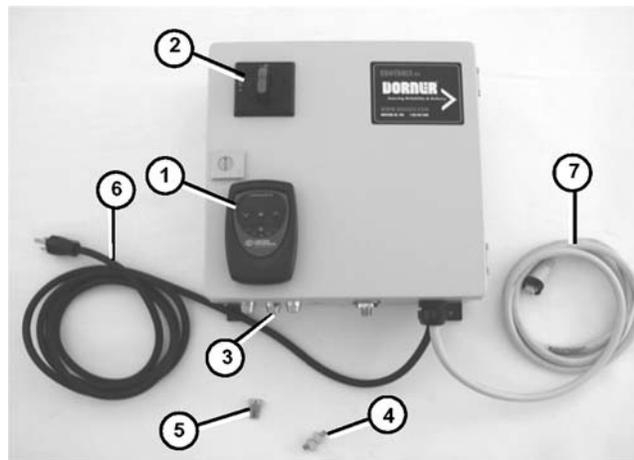


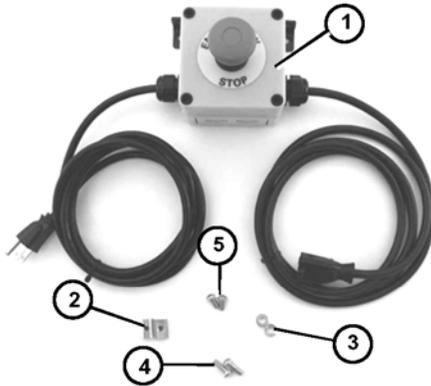
Figure 2

# Product Description

## Emergency Stop Kit

Refer to **(Figure 3)** for typical components.

Typical Components	
1	Emergency Stop Box
2	Drop in T-Bars (x2)
3	.50" Spacers (x2)
4	M6-1.00 x 20mm Low Head Cap Screws (x2)
5	M6-1.00 x 12mm Low Head Cap Screws (x2)



**Figure 3**

## Jog Push Button Kit

Refer to **(Figure 5)** for typical components.

Typical Components	
1	Jog Push Button Box
2	Drop in T-Bars (x2)
3	.50" Spacers (x2)
4	M6-1.00 x 20mm Low Head Cap Screws (x2)
5	M6-1.00 x 12mm Low Head Cap Screws (x2)



**Figure 5**

## Control Stop Kit

Refer to **(Figure 4)** for typical components.

Typical Components	
1	Control Stop Box
2	Drop in T-Bars (x2)
3	.50" Spacers (x2)
4	M6-1.00 x 20mm Low Head Cap Screws (x2)
5	M6-1.00 x 12mm Low Head Cap Screws (x2)

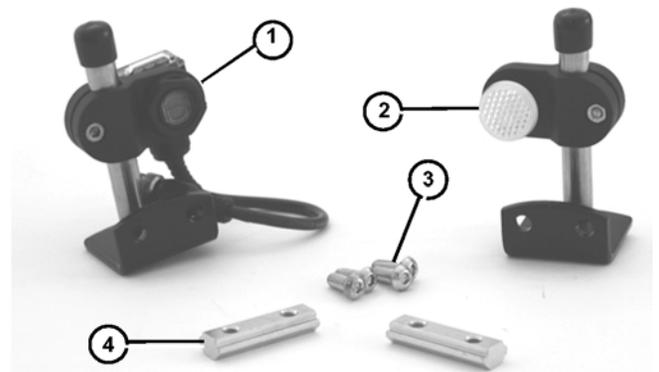


**Figure 4**

## Photo Eye Kit

Refer to **(Figure 6)** for typical components.

Typical Components	
1	Photo Eye Assembly
2	Reflector Assembly
3	M6-1.00 x 12mm Low Head Cap Screws (x4)
4	Drop in T-Bars (x2)



**Figure 6**

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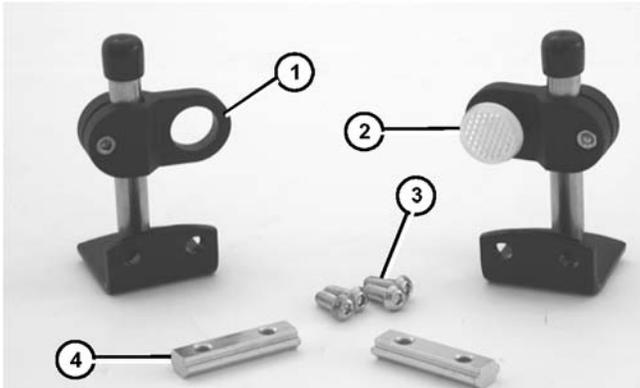
# Product Description

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## Photo Eye Bracket Kit

Refer to (Figure 7) for typical components.

Typical Components	
1	Photo Eye Bracket Assembly
2	Reflector Assembly
3	M6-1.00 x 12mm Low Head Cap Screws (x4)
4	Drop in T-Bars (x2)



*Figure 7*

## Linking Cable Kit

Refer to (Figure 8) for typical components.

Typical Components	
1	Cable - 4P Micro Connect
2	Wire Ties (x3)
3	Drop in T-Bars (x2)
4	M6-1.00 x 20mm Low Head Cap Screws (x3)
5	Mounting Cable Ties (x3)
6	T-Slot Strip Closures (x3)
7	Hex Key



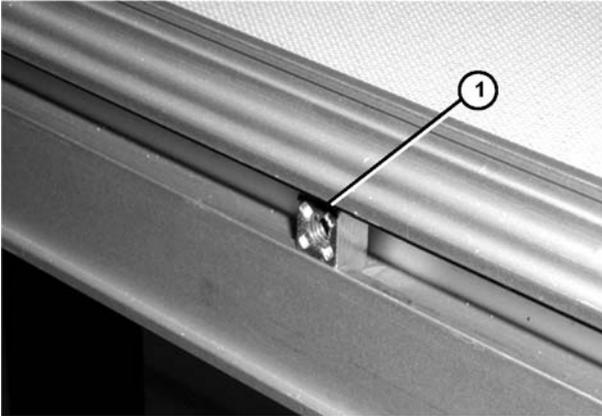
*Figure 8*

## Required Tools

- 6 mm hex head wrench

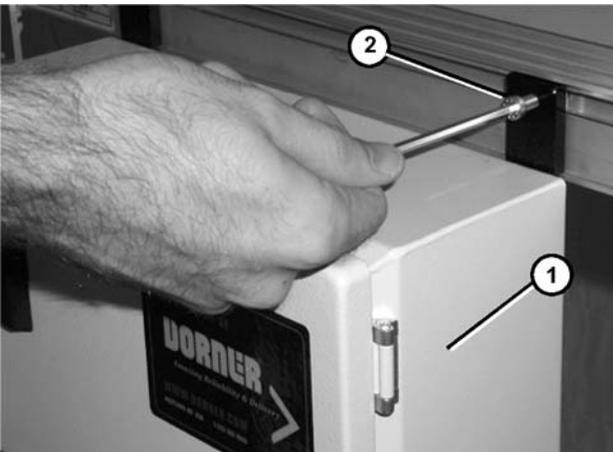
## Conveyor Mounting

1. Install spring t-nuts (**Figure 9, item 1**) into conveyor t-slot.



**Figure 9**

2. Attach controller (**Figure 10, item 1**) to conveyor with screws (**Figure 10, item 2**).

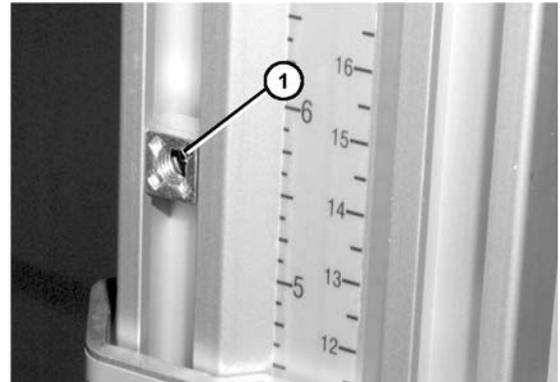


**Figure 10**

3. Slide controller to its desired mounting location along conveyor and tighten both screws.

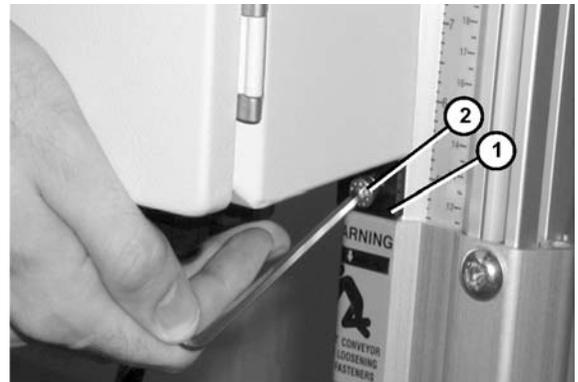
## Stand Mounting

1. Install spring t-nuts (**Figure 11, item 1**) into stand t-slot.



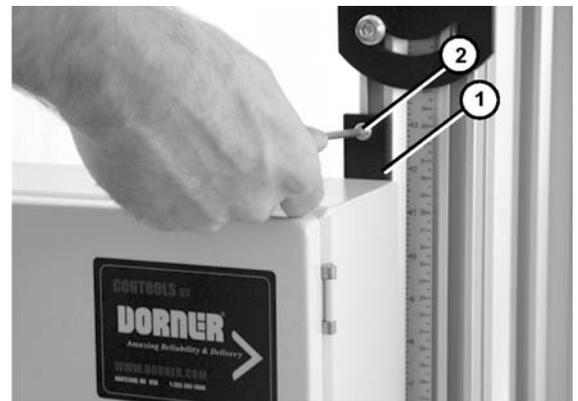
**Figure 11**

2. Partially thread controller mounting bar (**Figure 12, item 1**) to lower t-nut with screw (**Figure 12, item 2**).



**Figure 12**

3. Install second spring t-nut into stand t-slot.
4. Partially thread controller mounting bar (**Figure 13, item 1**) to top t-nut with screw (**Figure 13, item 2**).



**Figure 13**

5. Slide controller to its desired mounting location and tighten both screws.

# Controller Installation

## Wiring

**⚠ DANGER**



**SEVERE HAZARD!**  
KEEP OFF CONVEYORS. Climbing, sitting, walking or riding on conveyor will cause severe injury.

**⚠ WARNING**



**SEVERE HAZARD!**  
Exposed moving parts can cause severe injury. DO NOT ATTEMPT ADJUSTMENTS WITH CONVEYOR RUNNING. LOCK OUT POWER before removing guards or performing maintenance.

**⚠ WARNING**

Controller must be properly grounded. Failure to properly ground control box may cause injury to personnel.

## Motor Wiring

1. Connect motor cord (Figure 14, item 1) to motor (Figure 14, item 2).

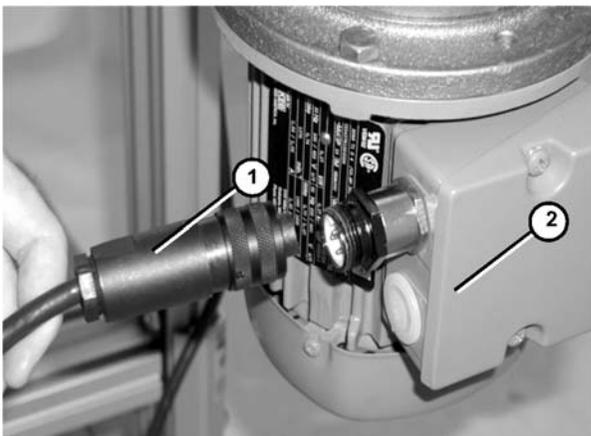


Figure 14

## Facility Wiring

### For 115V Controllers:

1. Plug your controller into a standard wall outlet.

### For 230V and 460V Controllers:

1. Make the input power connections through the line connection cord grip. Refer to (Figure 15) for terminations inside the VFD controller. L1 = item 1, L2 = item 2, L3 = item 3 and Ground = item 4.

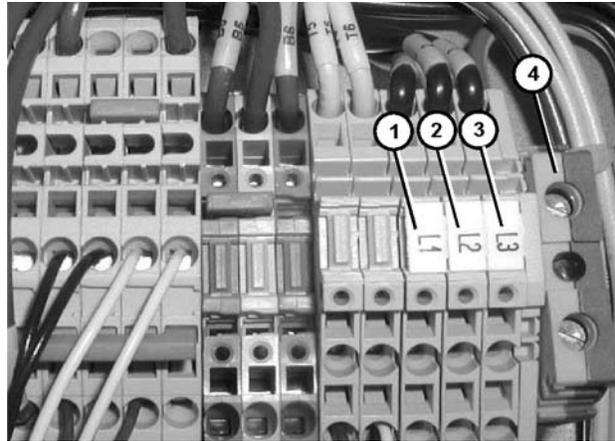


Figure 15

**⚠ CAUTION**

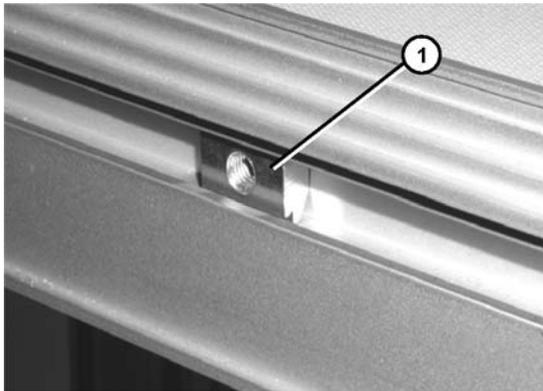
Do not disconnect motor power while motor is running. Damage to equipment could occur.

## Required Tools

- 6 mm hex head wrench

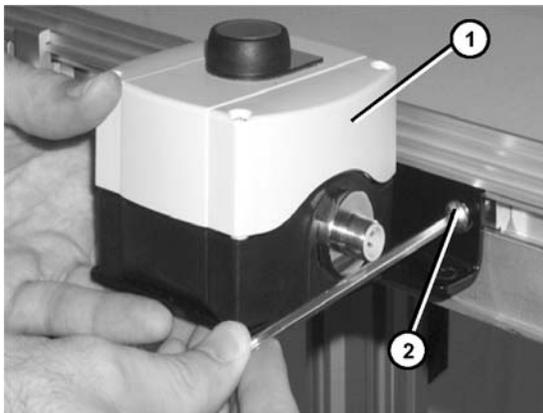
## Button Box Kits - Vertical Mounting to Conveyor

1. Install t-bars (**Figure 16, item 1**) into conveyor t-slot.



**Figure 16**

2. Attach button box kit (**Figure 17, item 1**) to conveyor with screws (**Figure 17, item 2**).

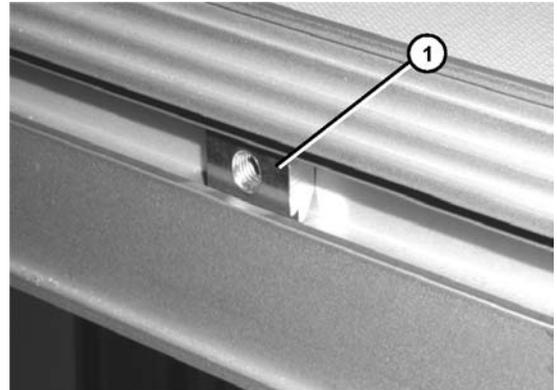


**Figure 17**

3. Slide button box kit to its desired mounting location along conveyor and tighten both screws.

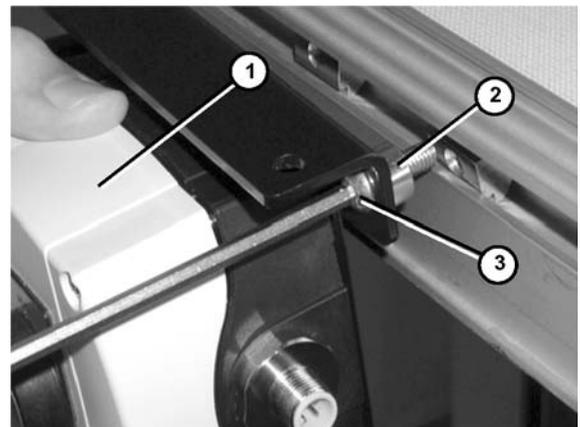
## Button Box Kits - Horizontal Mounting to Conveyor

1. Install t-bars (**Figure 18, item 1**) into conveyor t-slot.



**Figure 18**

2. Attach button box kit (**Figure 19, item 1**) to conveyor with spacers (**Figure 19, item 2**) and screws (**Figure 19, item 3**).



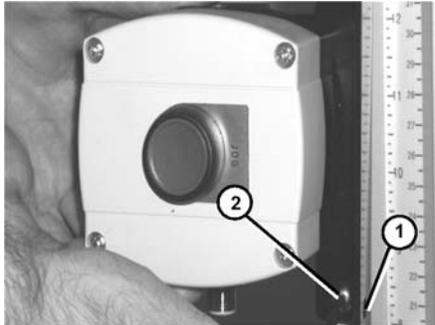
**Figure 19**

3. Slide button box kit to its desired mounting location along conveyor and tighten both screws.

# Accessories Installation

## Button Box Kits - Stand Mount

1. Install t-bar into t-slot.
2. Partially thread controller lower mounting bar (**Figure 20, item 1**) to t-bar with screw (**Figure 20, item 2**).

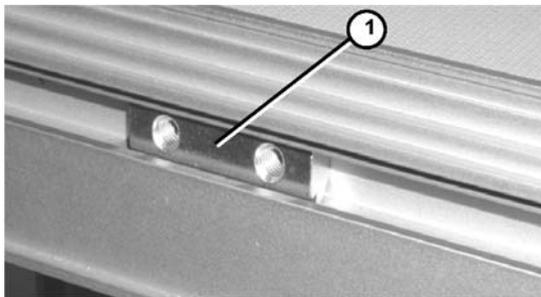


**Figure 20**

3. Install second t-bar into stand t-slot
4. Partially thread controller top mounting bar to t-bar with screw.
5. Slide controller to its desired mounting location and tighten both screws.

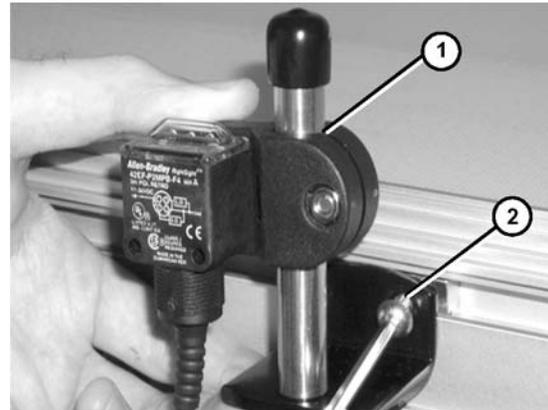
## Photo Eye and Bracket Kits - Mounting to Conveyor

1. Install t-bars (**Figure 21, item 1**) into conveyor t-slot.



**Figure 21**

2. Attach photo eye assembly (**Figure 22, item 1**) to conveyor with screws (**Figure 22, item 2**).

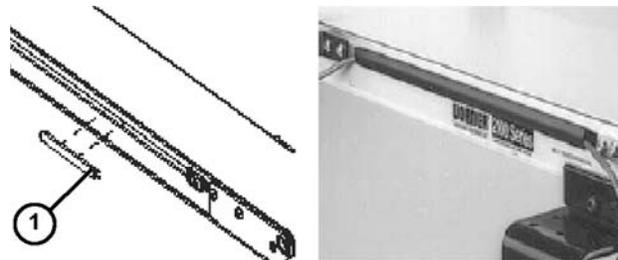


**Figure 22**

3. Slide photo eye to its desired mounting location along conveyor and tighten both screws.
4. Repeat steps 1-3 for the reflector assembly on opposite side on the conveyor.

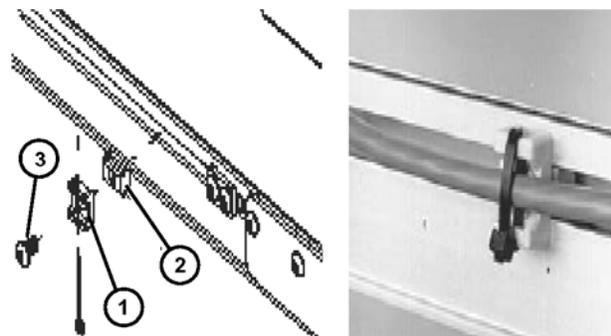
## Linking Cable Kit

1. To contain a long run of wiring cable in the conveyor t-slot, use several short lengths of t-slot strip closures (**Figure 23, item 1**).



**Figure 23**

2. To route cable over a previously mounted component or to anchor the cable, use the mounting cable ties (**Figure 24, item 1**) and single drop-in t-bars (**Figure 24, item 2**). Secure with screws (**Figure 24, item 3**).



**Figure 24**

# Applications and Electrical Connections

Name	Description	See Page
Remote On/Off From Other Machine	An external dry contact or contact closure can be used to run the conveyor in either the forward or reverse direction.	14
Remote On/Off via a Control Stop Kit	The conveyor will run when a remotely located Control Stop switch is in the up position, and will stop when the switch is pressed. Power will continue to be supplied to the controller regardless of Control Stop state.	15
Jog Conveyor via a Push Button	The conveyor will only run when the jog button is depressed.	16
Time Based Indexing via Push of a Button	The conveyor will index for a set period of time when the push button is pressed.	17
Remote On/Off with Jog Control	The conveyor will be enabled when the Control Stop switch is in the up position and run when the jog button is depressed. Conveyor will stop when the Control Stop switch is pressed in OR the jog button is released. Power will continue to be supplied to the controller regardless of Control Stop switch state.	17
Remote Start/Stop Enabled with Time Based Indexing via Push of a Button	The conveyor will be enabled when the Control Stop switch is in the up position and will index for a set period of time when the push button is pressed. Pressing the Control Stop switch will stop the conveyor.	18
Conveyor End Stop with Photo Eye	The conveyor will run until a photo eye is blocked.	18
Conveyor End Stop with Photo Eye and Remote Start/Stop	The conveyor is enabled when the Control Stop switch is in the up position and will run until a photo eye is blocked.	19
Conveyor Indexes with Photo Eye	The conveyor will run when photo eye is blocked. Time based start and stop delays are available with the Remote Full Featured VFD controllers.	20
Conveyor Indexes with Photo Eye and Remote Start/Stop	The conveyor is enabled when the Push\Pull switch is in the up position and will run when a Photo Eye is blocked. Time based start and stop delays are available with the Remote Full Featured VFD controllers.	20
Add Bypass Jog Button to any Single Photo Eye or Single Photo Eye with Remote Start/Stop Applications	The Bypass Jog Button option enables a conveyor to run regardless of whether the photo eye is blocked or not. The Bypass Jog Button can be added to any of the 4 single photo eye applications. If the conveyor has a Remote Start/Stop option, the Push\Pull switch must be in the up position to enable the conveyor.	21
Grocery Store Conveyor with Photo Eyes	The conveyor will run when the Index Photo Eye is blocked and the End Stop Photo Eye is clear. You can choose to bypass either photo eye with a Jog Button. Both photo eye's can't be bypassed at the same time.	22
Motor Running Output Signal	The Remote Full Featured VFD Controller can provide a contact closure to be monitored by a user's external PLC or other controls. You can also use this signal to control another Dorner Remote VFD or Dorner Full Featured Controllers.	22
Create Your Own Application	Use schematics provided to wire in your own sensor or create your own application.	23

# Applications and Electrical Connections

## Required Tools

- Flat-blade screwdriver
- Phillips screwdriver

## Warnings

<b>⚠ DANGER</b>

<b>SEVERE HAZARD!</b> Hazardous voltage will cause severe injury or death. LOCKOUT POWER BEFORE WIRING.

<b>⚠ WARNING</b>

<b>SEVERE HAZARD!</b> Exposed moving parts can cause severe injury. DO NOT ATTEMPT ADJUSTMENTS WITH CONVEYOR RUNNING. LOCK OUT POWER before removing guards or performing maintenance.

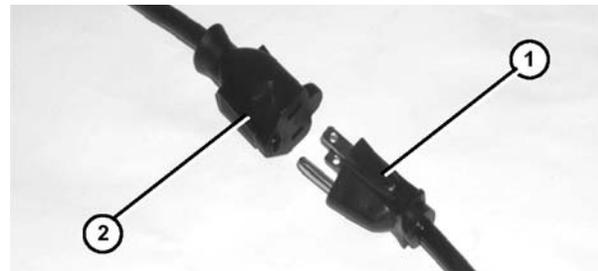
<b>NOTE</b>
<i>For additional information or desired settings other than listed, refer to information provided by controller manufacturer.</i>

## Emergency Stop - Power Cutoff

Power will be cutoff to output end when E-Stop is pressed. Power will be supplied when the switch is in the up position. You will need:

- Emergency Stop Kit
- Any 115 Volt up to 1/2 HP Motor or Controller load

1. Connect device, 115 Volt motor or controller power cord (**Figure 25, item 1**) into emergency stop receptacle cord (**Figure 25, item 2**).



**Figure 25**

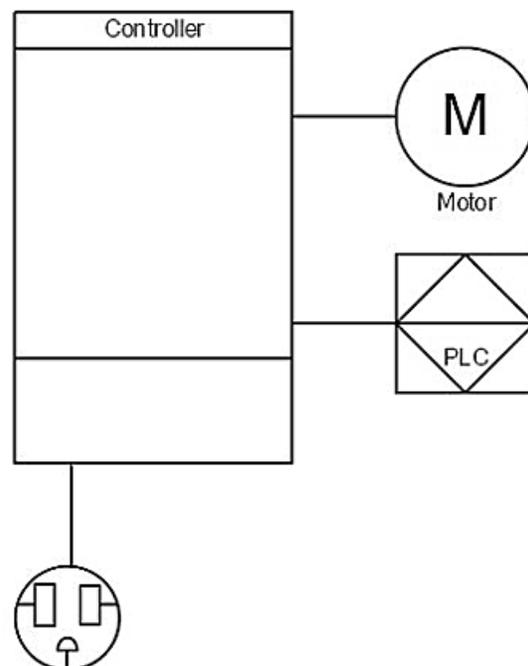
2. Connect emergency stop power cord to power source.

## Remote On/Off From Other Machine

An external dry contact or contact closure can be used to run the conveyor in either the forward or reverse direction.

You will need:

- Remote Basic VFD or Remote Full Featured VFD Controller
- User supplied contact signal, likely from a PLC



**Figure 26**

# Applications and Electrical Connections

## Remote Basic VFD Motor Controller

1. Remove the direction jumper J1 (Figure 27, item 1) from the pins. This jumper is not required.
2. Connect remote machine interface wires to the terminals labeled “External Contacts” (Figure 27, item 2).

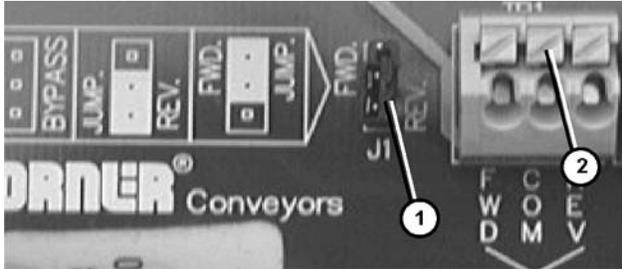


Figure 27

- Closing a contact between the FWD and COM terminals will cause the control to run the motor in the forward direction.
- Closing a contact between the COM and REV terminals will cause the control to run the motor in the reverse direction.

## Remote Full Featured VFD Motor Controller

1. Remove the direction jumper (Figure 28, item 1) from the terminals. This jumper is not required.
2. Ensure both terminal plugs are attached to the blue and green ports of the controller.
3. Connect remote machine interface wires to the terminals (Figure 28, item 2, 3 and 4).

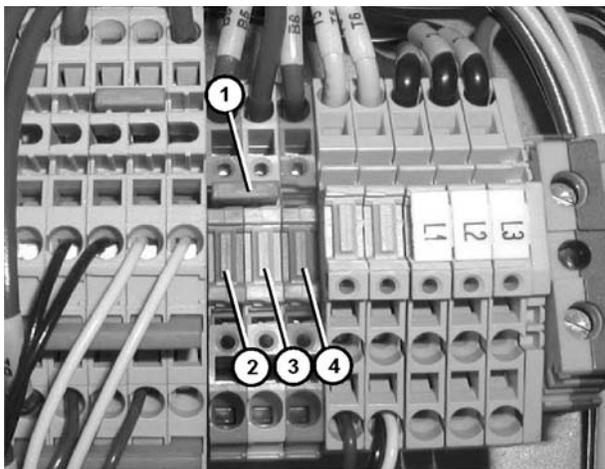


Figure 28

- Closing a contact between the blue terminal (Figure 28, item 2) and the white terminal (Figure 28, item 3) will cause the control to run the motor in the forward direction.
- Closing a contact between the white terminal (Figure 28, item 3) and the orange terminal (Figure 28, item 4) will cause the control to run the motor in the reverse direction.

## Remote On/Off via a Control Stop Kit

The conveyor will run when a remotely located Control Stop switch is in the up position, and will stop when the switch is pressed. Power will continue to be supplied to the controller regardless of Control Stop state.

You will need:

- Control Stop Kit
- Linking Cable Kit
- Remote Basic VFD or Remote Full Featured VFD Controller

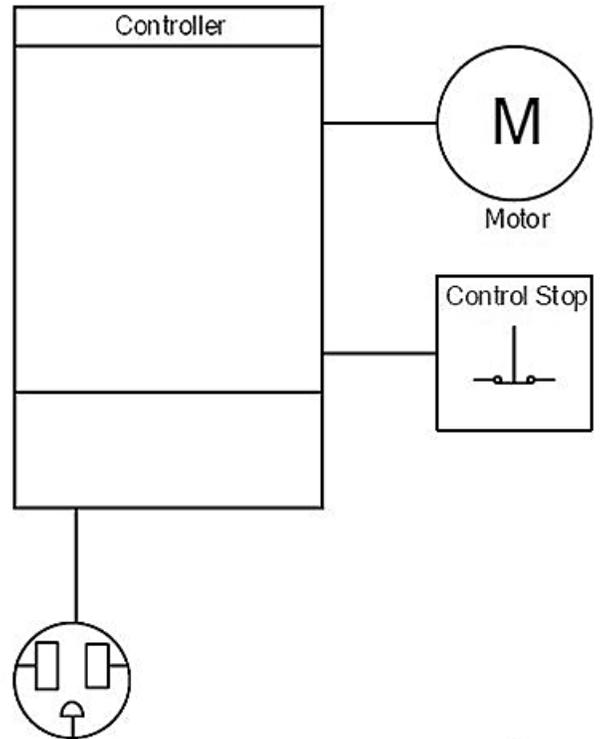


Figure 29

1. Plug linking cable kit (Figure 30, item 1) into button box kit (Figure 30, item 2).

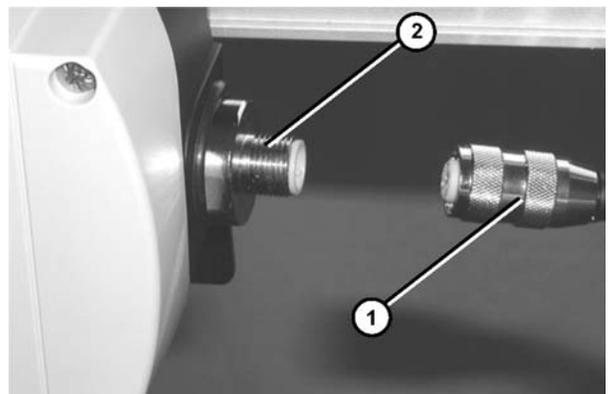
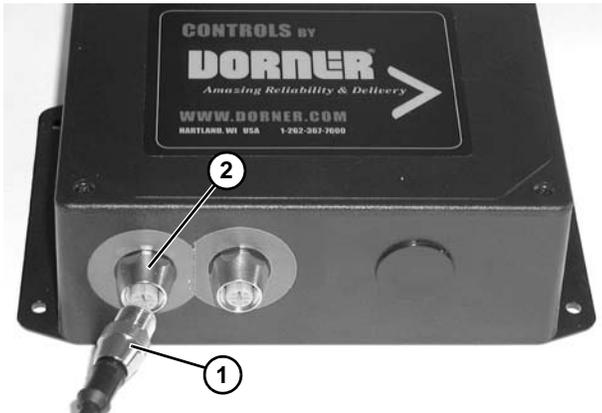


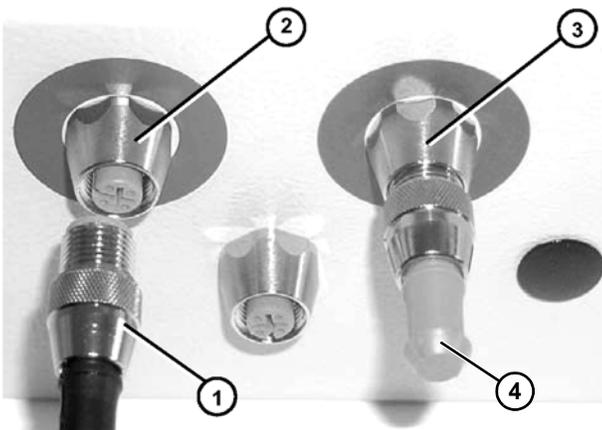
Figure 30

# Applications and Electrical Connections

2. Connect opposite end of linking cable kit (**Figure 31, item 1**) to the blue port (**Figure 31, item 2**) or (**Figure 32, item 2**) or (**Figure 32, item 3**).



**Figure 31**



**Figure 32**

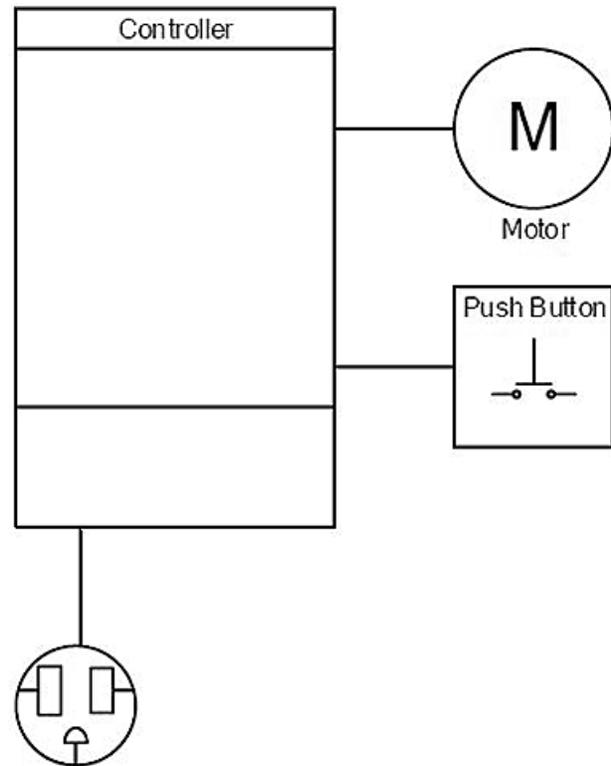
3. For Remote Full Featured VFD controllers, ensure the enclosed termination plug (**Figure 32, item 4**) is connected to green port (**Figure 32, item 3**).

## Jog Conveyor via a Push Button

The conveyor will only run when the jog button is depressed.

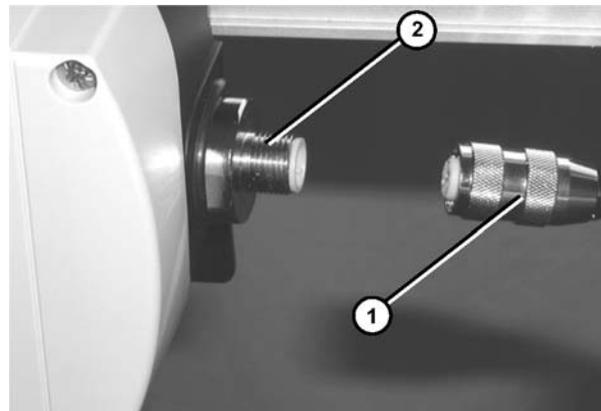
You will need:

- Jog Push Button Kit
- Linking Cable Kit
- Remote Basic VFD or Remote Full Featured VFD Controller



**Figure 33**

1. Plug linking cable kit (**Figure 34, item 1**) into button box kit (**Figure 34, item 2**).



**Figure 34**

# Applications and Electrical Connections

2. Connect opposite end of linking cable kit (Figure 35, item 1) or (Figure 36, item 1) to the green port (Figure 35, item 2) or (Figure 36, item 2).

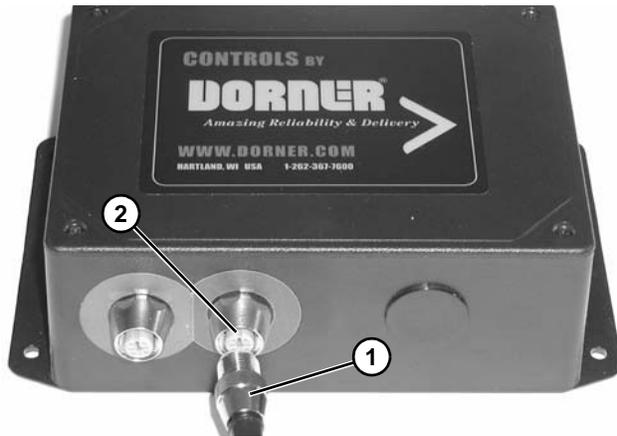


Figure 35

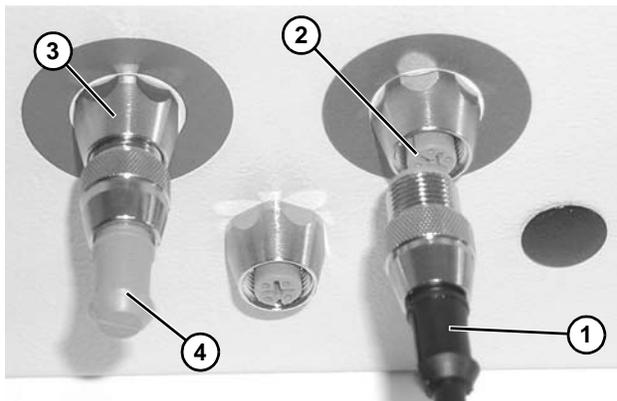


Figure 36

3. For Remote Full Featured VFD controllers, ensure the enclosed termination plug (Figure 36, item 4) is connected to green port (Figure 36, item 3).

## Time Based Indexing via Push of a Button

The conveyor will index for a set period of time when the push button is pressed.

You will need:

- Jog Push Button Kit
  - Linking Cable Kit
  - Remote Basic VFD or Remote Full Featured VFD Controller
1. Follow steps 1-3 in the **Jog Conveyor via a Push Button Application**.
  2. Change parameter 64 per “Off Delay” instructions on page 27 (**Time Based Indexing Delay’s**) of this document.

## Remote On/Off with Jog Control

The conveyor will be enabled when the Control Stop switch is in the up position and run when the jog button is depressed. Conveyor will stop when the Control Stop switch is pressed in OR the jog button is released. Power will continued to be supplied to the controller regardless of Control Stop switch state.

You will need:

- Control Stop Kit
- Jog Push Button Kit
- Linking Cable Kit (x2)
- Remote Full Featured VFD Controller

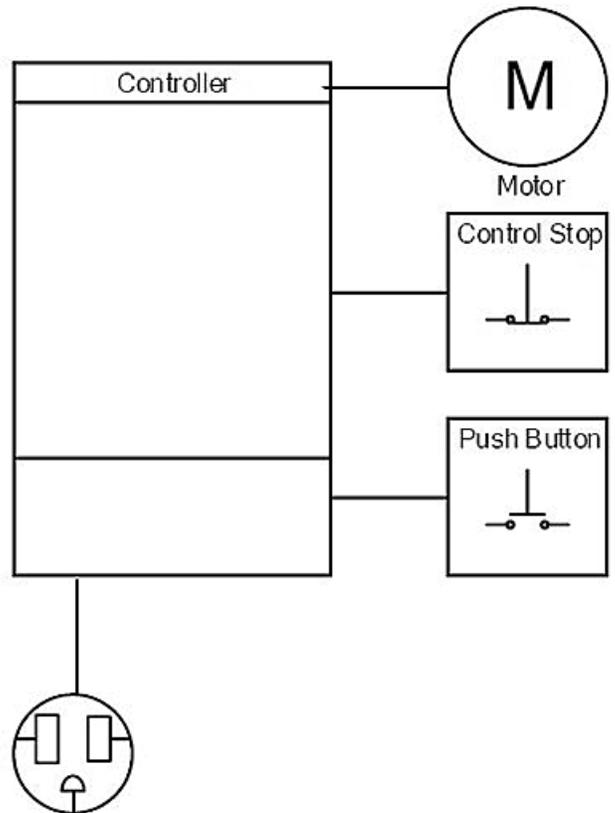


Figure 37

1. Plug each linking cable kit (Figure 38, item 1) into each switch/button box kit (Figure 38, item 2).

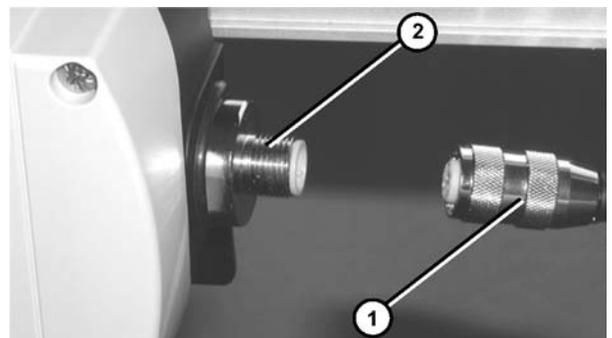
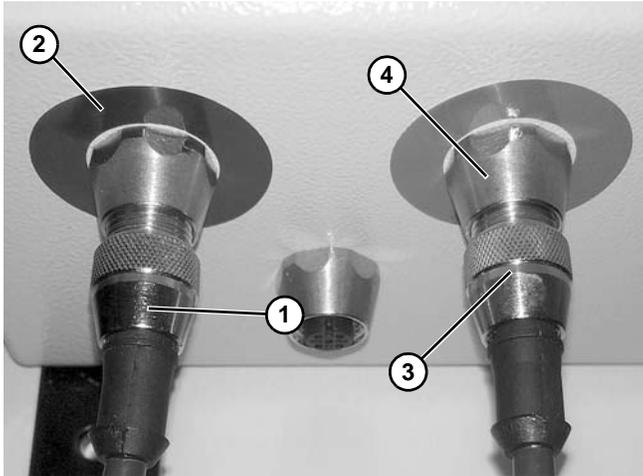


Figure 38

# Applications and Electrical Connections

2. Connect opposite end of the Control Stop linking cable kit (**Figure 39, item 1**) into the blue port (**Figure 39, item 2**) on the controller.



**Figure 39**

3. Connect opposite end of Jog Button linking cable kit (**Figure 39, item 3**) into the green port (**Figure 39, item 4**) on the controller.

## Remote Start/Stop Enabled with Time Based Indexing via Push of a Button

The conveyor will be enabled when the Control Stop switch is in the up position and will index for a set period of time when the push button is pressed. Pressing the Control Stop switch will stop the conveyor.

You will need:

- Control Stop Kit
- Jog Push Button Kit
- Linking Cable Kit (x2)
- Remote Full Featured VFD Controller

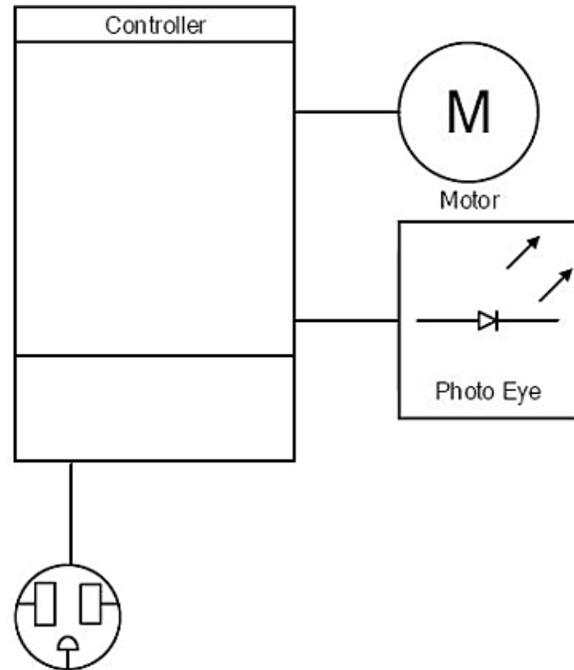
1. Follow steps 1-3 in the **Remote Start/Stop Enabled with Jog Control Application**.
2. Change parameter 64 per “Off Delay” instructions on page 27 (**Time Based Indexing Delay’s**) of this document.

## Conveyor End Stop with Photo Eye

The conveyor will run until a photo eye is blocked.

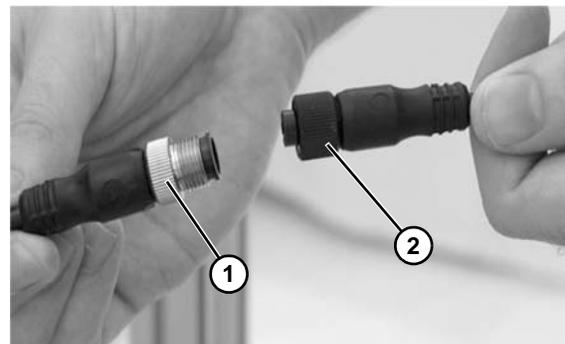
You will need:

- Photo Eye Kit
- Linking Cable Kit
- Remote Basic VFD or Full Featured VFD Controller



**Figure 40**

1. Connect linking cable (**Figure 41, item 1**) to Photo Eye Assembly (**Figure 41, item 2**).



**Figure 41**

# Applications and Electrical Connections

2. Connect opposite end of linking cable kit (**Figure 42, item 1**) or (**Figure 43, item 1**) to the blue port (**Figure 42, item 2**) or (**Figure 43, item 2**).

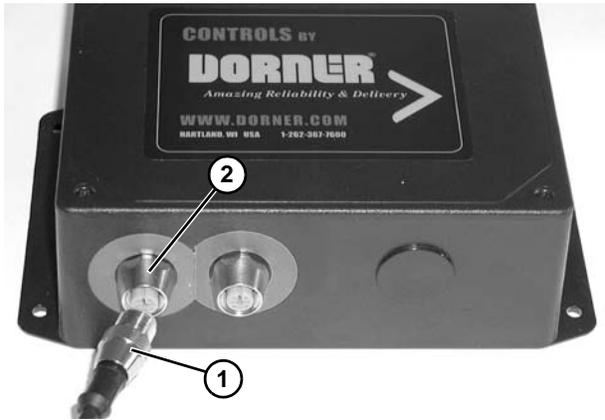


Figure 42

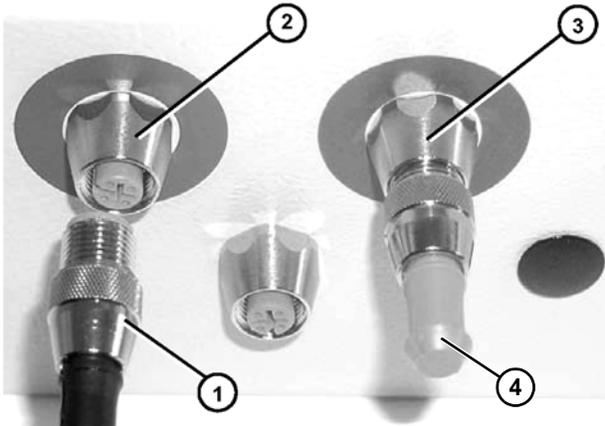


Figure 43

3. For Remote Full Featured VFD Controllers, ensure the enclosed termination plug (**Figure 43, item 4**) is connected to green port (**Figure 43, item 3**).

## Conveyor End Stop with Photo Eye and Remote Start/Stop

The conveyor is enabled when the Control Stop switch is in the up position and will run until a photo eye is blocked.

You will need:

- Control Stop Kit
- Photo Eye Kit
- Linking Cable Kit (x2)
- Remote Full Featured VFD Controller

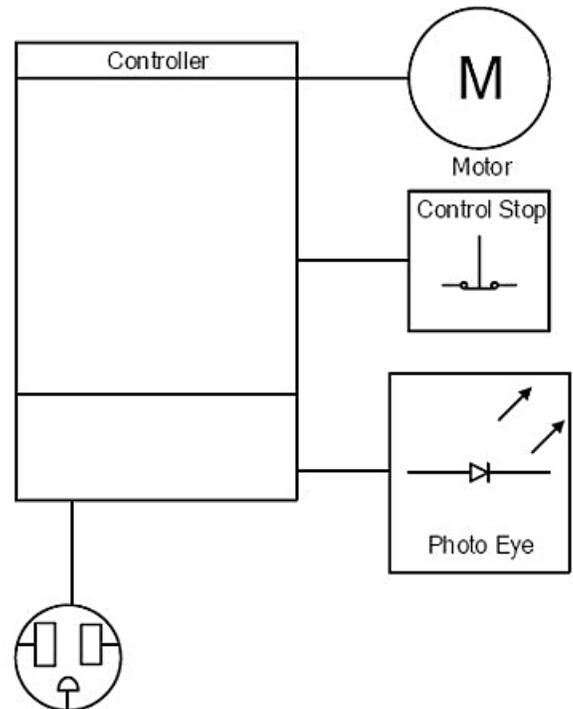


Figure 44

1. Follow steps 1-2 from the **Conveyor End Stop with Photo Eye Application**.
2. Connect the Control Stop linking kit to the green port of the Remote Full Featured VFD controller (**Figure 43, item 3**).

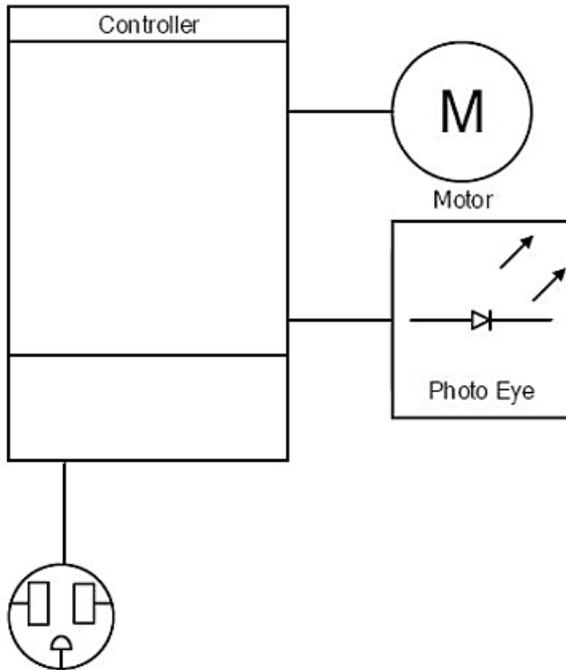
# Applications and Electrical Connections

## Conveyor Indexes with Photo Eye

The conveyor will run when photo eye is blocked. Time based start and stop delays are available with the Remote Full Featured VFD controllers.

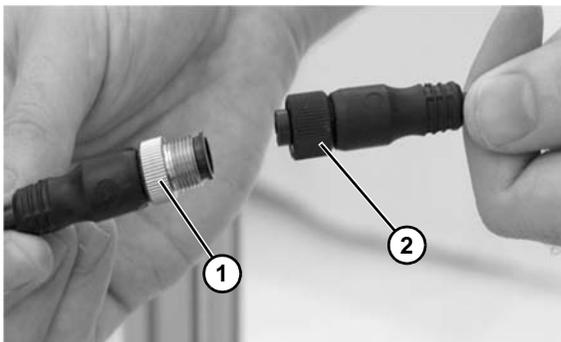
You will need:

- Photo Eye Kit
- Linking Cable Kit
- Remote Basic VFD or Remote Full Featured VFD Controller



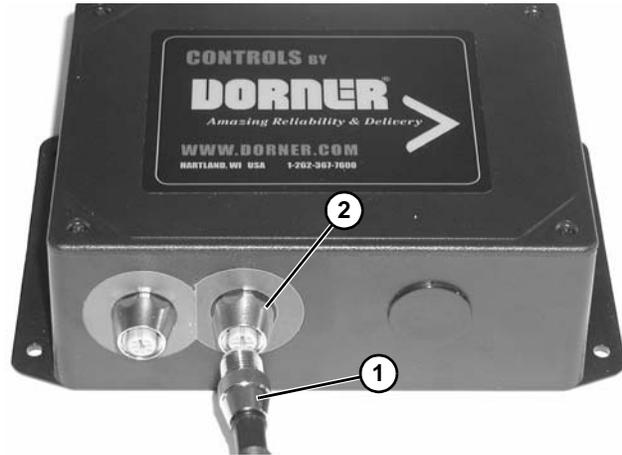
**Figure 45**

1. Connect linking cable (**Figure 46, item 1**) to Photo Eye Assembly (**Figure 46, item 2**).

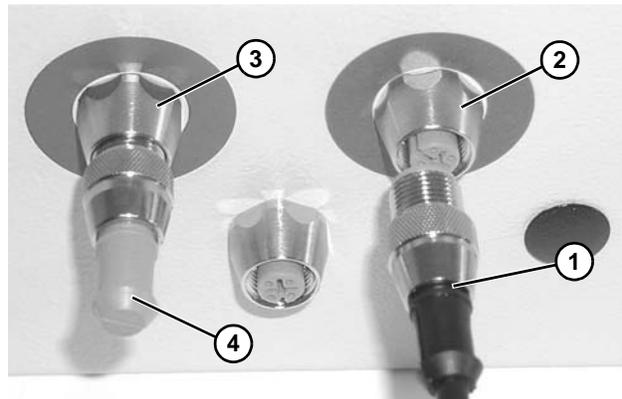


**Figure 46**

2. Connect opposite end of linking cable kit (**Figure 47, item 1**) or (**Figure 48, item 1**) to the green port (**Figure 47, item 2**) or (**Figure 48, item 2**).



**Figure 47**



**Figure 48**

3. For Remote Full Featured VFD controllers, ensure the enclosed termination plug (**Figure 48, item 4**) is connected to the blue port (**Figure 48, item 3**).
4. For time based indexing edit parameters 63 and/or 64 on the Remote Full Featured VFD controller per instruction on page 27 (**Time Based Indexing Delay's**) of this document.

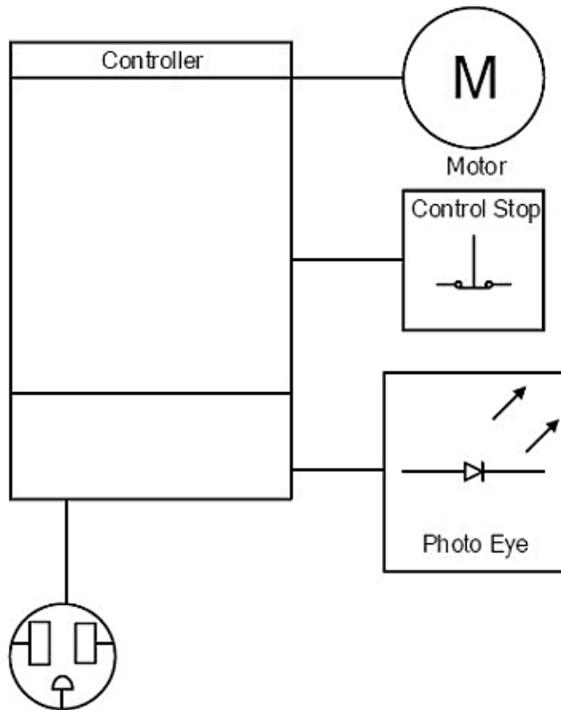
# Applications and Electrical Connections

## Conveyor Indexes with Photo Eye and Remote Start\Stop

The conveyor is enabled when the Push\Pull switch is in the up position and will run when a Photo Eye is blocked. Time based start and stop delays are available with the Remote Full Featured VFD controllers.

You will need:

- Control Stop Kit
- Photo Eye Kit
- Linking Cable Kit (x2)
- Remote Full Featured VFD Controller



**Figure 49**

1. Follow steps 1-2 from the **Conveyor Indexes with Photo Eye Application**.
2. Connect the Control Stop linking kit to the blue port of the Remote Full Featured VFD controller (**Figure 48, item 3**).
3. Perform step 4 of the **Conveyor Indexes with Photo Eye Application** if desired.

## Add Bypass Jog Button to any Single Photo Eye or Single Photo Eye with Remote Start\Stop Applications

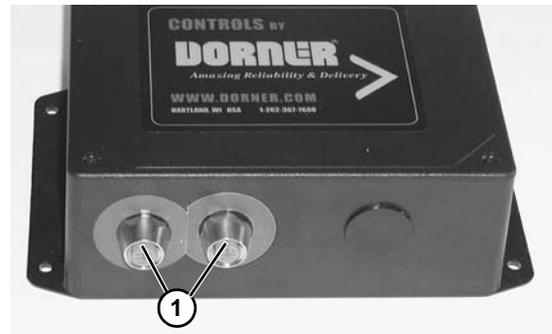
The Bypass Jog Button option enables a conveyor to run regardless of whether the photo eye is blocked or not. The Bypass Jog Button can be added to any of the 4 single photo eye applications. If the conveyor has a Remote Start\Stop option, the Push\Pull switch must be in the up position to enable the conveyor.

You will need:

- All components in previous application, plus
- Jog Push Button Kit
- Linking Cable Kit

### For Remote Basic VFD Controllers

1. Follow the instructions for the appropriate Single Photo Eye Application.
2. Connect push button unused accessory port (**Figure 50, item 1**).

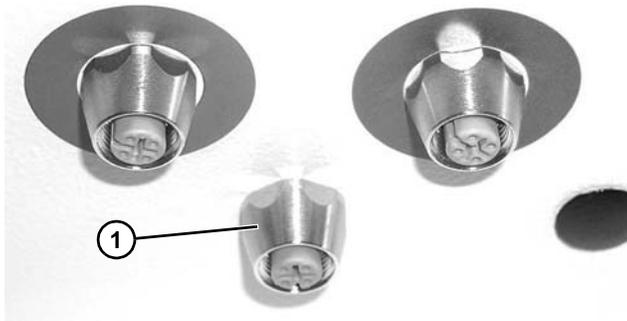


**Figure 50**

# Applications and Electrical Connections

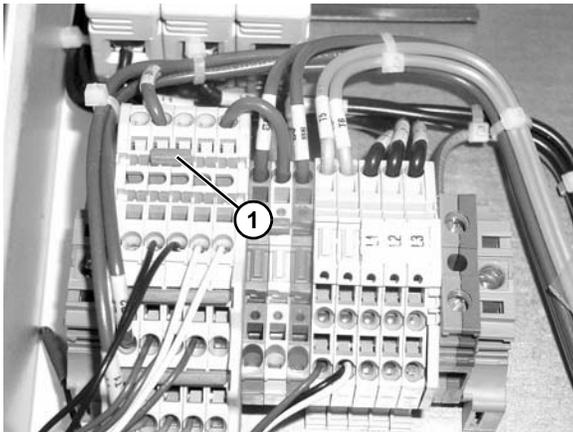
## For Remote Full Featured VFD Controllers

1. Follow the instructions for the appropriate Single Photo Eye or Single Photo Eye with Remote Start/Stop Application.
2. Connect push button to user selectable port (**Figure 51, item 1**).

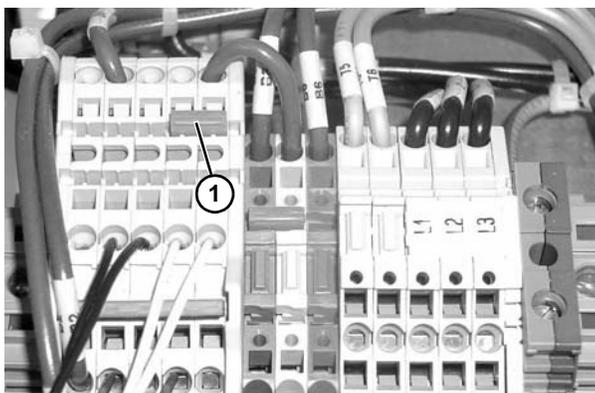


**Figure 51**

3. Move the internal jumper (**Figure 52, item 1**) to the left to bypass the photo eye in the blue port, or move the jumper (**Figure 53, item 1**) to the right to bypass the photo eye in the green port.



**Figure 52**



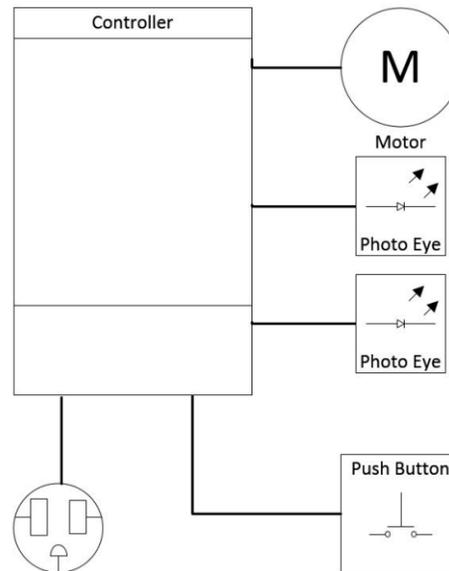
**Figure 53**

## Grocery Store Conveyor with Photo Eyes

The conveyor will run when the Index Photo Eye is blocked and the End Stop Photo Eye is clear. You can choose to bypass either photo eye with a Jog Button. Both photo eye's can't be bypassed at the same time.

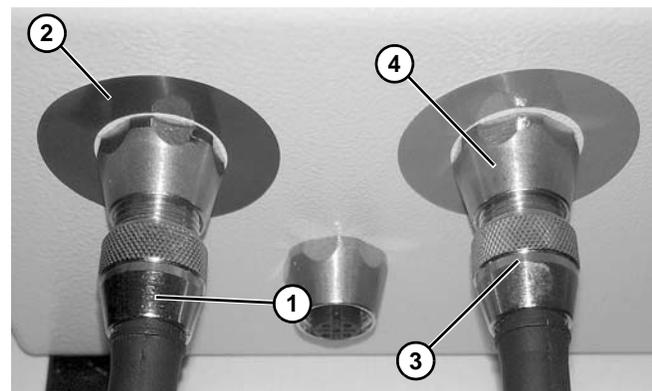
You will need:

- Remote Full Featured VFD Controller
- Photo Eye Kits (x2)
- Jog Push Button Kit
- Linking Cable Kit (x3)



**Figure 54**

1. Connect the End Stop Photo Eye (**Figure 55, item 1**) into the blue port (**Figure 55, item 2**) on the controller.



**Figure 55**

2. Connect the Index Photo Eye (**Figure 55, item 3**) into the green port (**Figure 55, item 4**) on the controller.
3. Follow the instructions to add Bypass Jog Button on page 21.

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# Applications and Electrical Connections

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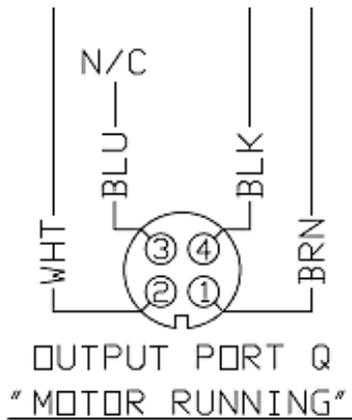
## Motor Running Output Signal

The Remote Full Featured VFD Controller can provide a contact closure to be monitored by a user's external PLC or other controls. You can also use this signal to control another Dorner Remote VFD or Dorner Full Featured Controllers.

You will need:

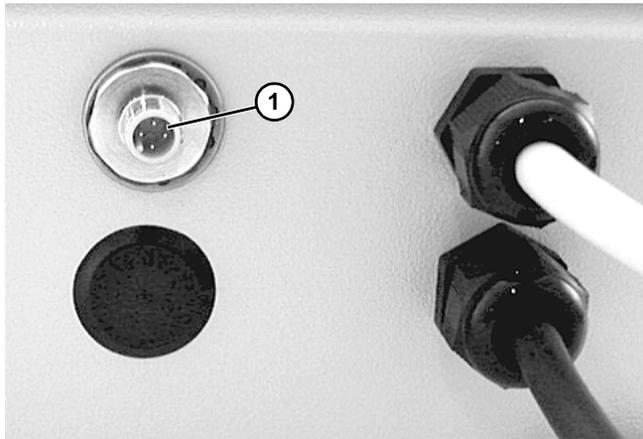
- Remote Full Featured VFD Controller
- A Female M12 Connector or Linking Cable Kit

1. Wire the M12 connector where the contact closure occurs between pins 1 and 2 or pins 1 and 4.



**Figure 56**

2. Plug the M12 connector into the motor running port (**Figure 57, item 1**).

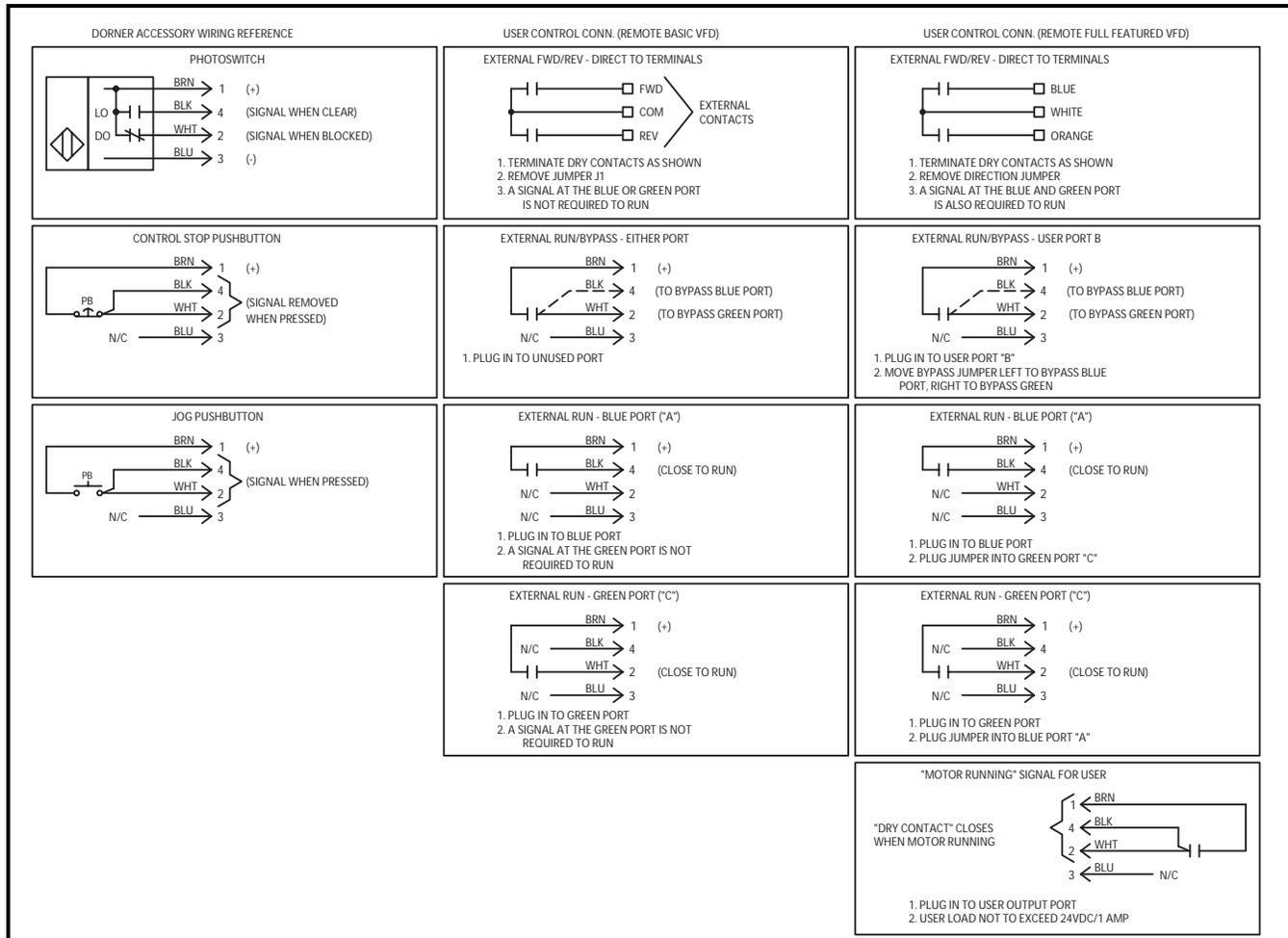


**Figure 57**

# Applications and Electrical Connections

## Create Your Own Application

The following blocks show the pinouts of Dorner accessories and Remote VFD Controllers. Use this information to wire in your own sensors or create a new application.



# Common Controller Adjustments

## Required Tools

- Flat-blade screwdriver
- Phillips screwdriver

## Warnings

<b>⚠ DANGER</b>

<b>SEVERE HAZARD!</b> Hazardous voltage will cause severe injury or death. <b>LOCKOUT POWER BEFORE WIRING.</b>

<b>⚠ WARNING</b>

<b>SEVERE HAZARD!</b> Exposed moving parts can cause severe injury. <b>DO NOT ATTEMPT ADJUSTMENTS WITH CONVEYOR RUNNING. LOCK OUT POWER</b> before removing guards or performing maintenance.

<b>NOTE</b>
<i>For additional information or desired settings other than listed, refer to information provided by controller manufacturer.</i>

## Reversing Conveyor

To change the direction of the conveyor belt without rewiring the motor or controller, use the directional jumper provided.

### Remote Basic VFD Motor Controller

For forward belt movement, install the jumper (**Figure 58, item 1**) between the FWD pin and center pin, the top two pins. For reverse belt movement, install the jumper between the REV pin and the center pin, the bottom two pins. (This jumper is removed when direction is controlled from the remote machine interface terminals.)

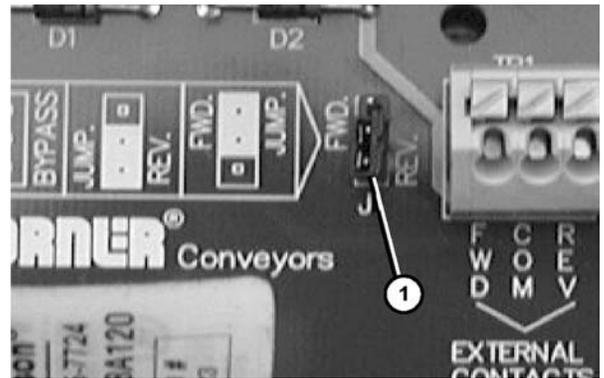


Figure 58

### Remote Full Featured VFD Motor Controller

For forward belt movement, install the orange jumper (**Figure 59, item 1**) between the blue terminal (**Figure 59, item 2**) and white terminal (**Figure 59, item 3**), the left two terminals. For reverse belt movement, install the orange jumper between the orange terminal (**Figure 59, item 4**) and the white terminal (**Figure 59, item 3**), the right two terminals. (This jumper is removed when direction is controlled from the remote machine interface terminals.)

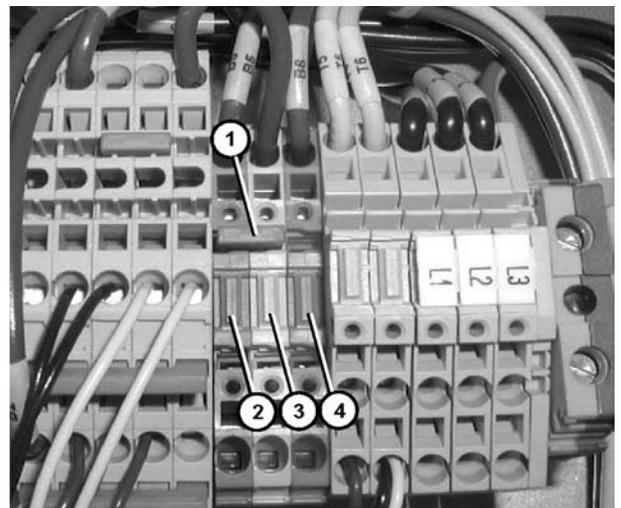


Figure 59

# Common Controller Adjustments

## Conveyor Acceleration

### Remote Basic VFD Motor Controller

1. Turn counter clockwise (**Figure 60, item 1**) to reduce the time it takes to ramp up to speed. For more details please refer to Bodine's Instructions for Installation and Operation Manual section Adjust Trim Pots.

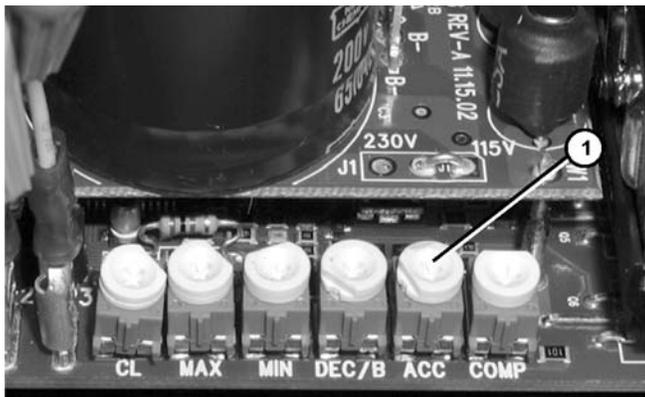


Figure 60

## Conveyor Deceleration

### Remote Basic VFD Motor Controller

1. Turn counter clockwise (**Figure 62, item 1**) to reduce the time it takes to ramp down to a stop. For more details please refer to Bodine's Instructions for Installation and Operation Manual section Adjust Trim Pots.

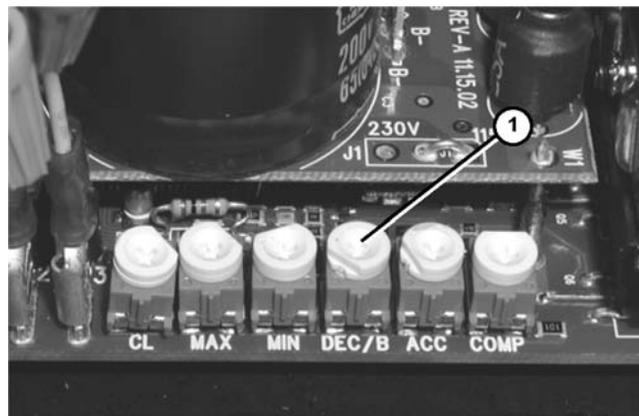


Figure 62

### Remote Full Featured VFD Motor Controller

1. Press the M, mode key, (**Figure 61, item 1**) on the keypad to enter the programming mode. A flashing 01 will be displayed.



Figure 61

### Remote Full Featured VFD Motor Controller

1. Press the M, mode key, (**Figure 61, item 1**) on the keypad to enter the programming mode. A flashing 01 will be displayed.
2. Press the up arrow key (**Figure 61, item 2**) until parameter 04, deceleration, is displayed.
3. Press the M key to change the deceleration value.
4. Use the up (**Figure 61, item 2**) and down (**Figure 61, item 3**) arrows to change the deceleration rate. Deceleration is displayed in seconds.
5. Press the M key to save changes.
6. Press the M key again to exit programming mode. RD (ready) will be displayed when in run mode.

2. Press the up arrow key, (**Figure 61, item 2**) until parameter 03, acceleration, is displayed.
3. Press the M key to change the acceleration value.
4. Use the up (**Figure 61, item 2**) and down (**Figure 61, item 3**) arrows to change the acceleration rate. Acceleration is displayed in seconds.
5. Press the M key to save changes.
6. Press the M key again to exit programming mode. RD (ready) will be displayed when in run mode.

## Time Based Indexing Delay's

Available on the Remote Full Featured VFD motor controller only.

### For “On Delay” (delay before conveyor starts)

1. Press the M, mode key, (**Figure 63, item 1**) on the keypad to enter the programming mode. A flashing 01 will be displayed.



**Figure 63**

2. Press the up arrow key (**Figure 63, item 2**) until parameter 63, on delay, is displayed.
3. Press the M key to change the delay value.
4. Use the up (**Figure 63, item 2**) and down (**Figure 63, item 3**) arrows to change the delay rate. On delay is displayed in 1/10th of a second. (A value of 10 = 1 second)
5. Press the M key to save changes.
6. Press the M key again to exit programming mode. RD (ready) will be displayed when in run mode.

### For “Off Delay” (delay before conveyor stops)

1. Press the M, mode key, (**Figure 63, item 1**) on the keypad to enter the programming mode. A flashing 01 will be displayed.
2. Press the up arrow key (**Figure 63, item 2**) until parameter 64, off delay, is displayed.
3. Press the M key to change the delay value.
4. Use the up (**Figure 63, item 2**) and down (**Figure 63, item 3**) arrows to change the delay rate. Off delay is displayed in 1/10th of a second. (A value of 10 = 1 second)
5. Press the M key to save changes.
6. Press the M key again to exit programming mode. RD (ready) will be displayed when in run mode.

# Service Parts

## NOTE

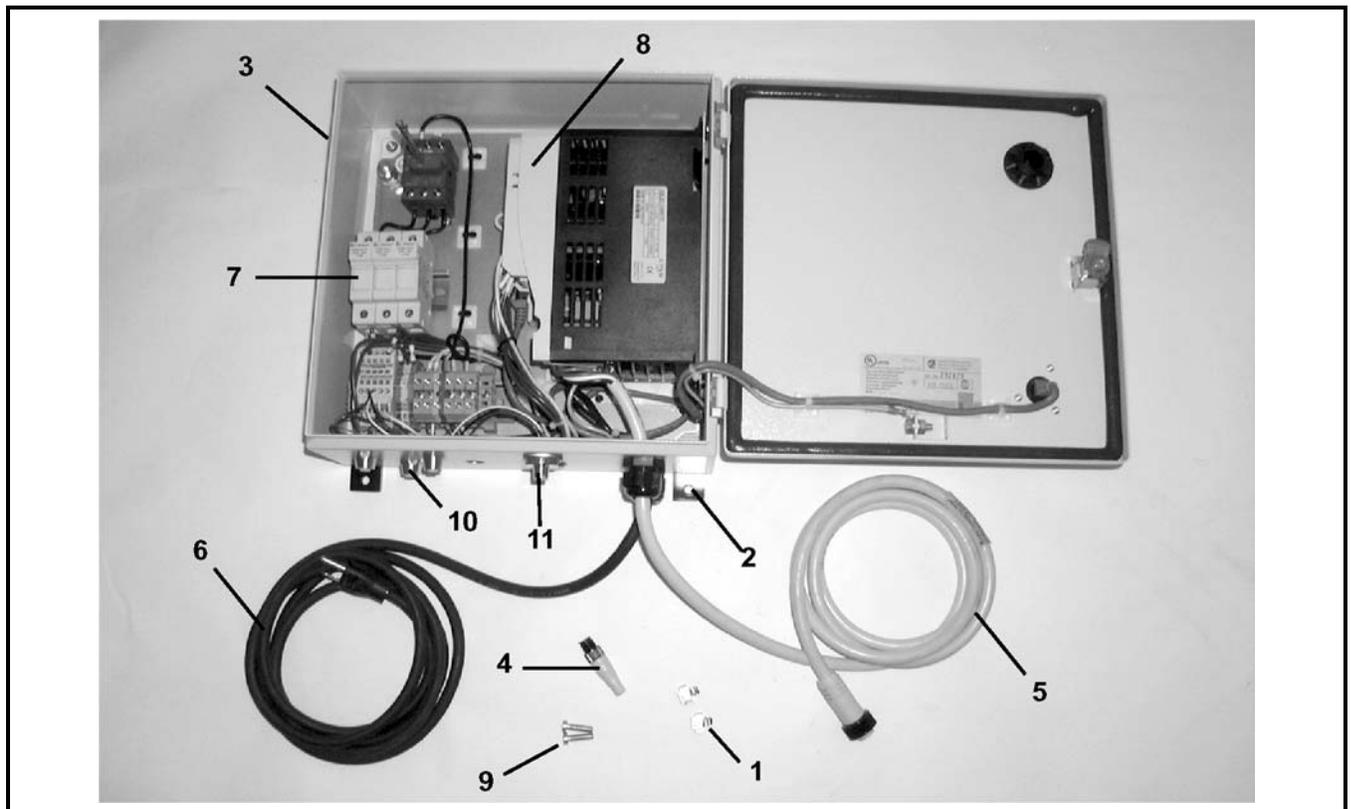
For replacement parts other than those shown in this section, contact an authorized Dorner Service Center or the factory. Key Service Parts and Kits are identified by the Performance Parts Kits logo . Dorner recommends keeping these parts on hand.

## Remote Basic VFD Controllers



Item	Part Number	Description
1	827-101	VFD Control
2	201101	Mounting Bracket
3	805-1167	Relay Interface/Power Supply
4	807-683	Plug
5	809-309	Accessory Kit Ports
6	809-310	Mini Power Connector
7	200124M	Spring T-Nut
8	920616M	Socket Head Screw, M6-1.00 x 16mm

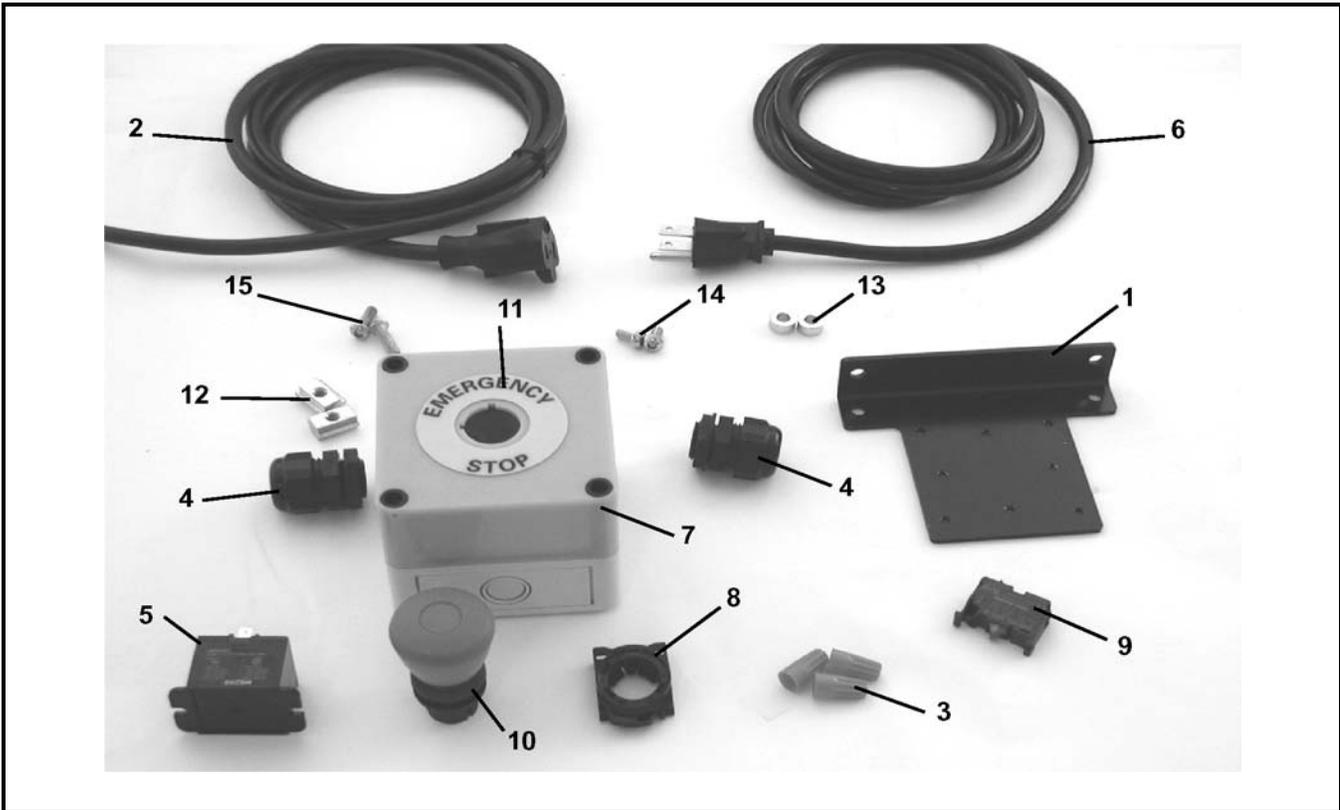
## Remote Full Featured VFD Controllers



Item	Part Number	Description
1	200124M	Spring T-Nut
2	201109	Mounting Bracket
3	201110	Controls Enclosure
4	809-323	Terminator Plug
5	809-324	Female Mini Cable for 115 Volt and 230 Volt Controllers
	809-327	Female Mini Cable for 460 Volt Controllers
6	818-125	Power Cord for 115 Volt Controllers only
7	819-103	15 Amp Fuse for 115 Volt and 230 Volt Controllers
	819-113	10 Amp Fuse for 460 Volt Controllers
8	826-511	115 Volt, 1 Hp VFD Controller
	826-512	115 Volt, 1.5 Hp VFD Controller
	826-513	230 Volt, 1.5 Hp VFD Controller
	826-514	230 Volt, 2 Hp VFD Controller
	826-515	460 Volt, 1.5 Hp VFD Controller
	826-516	460 Volt, 2 Hp VFD Controller
9	920616M	Socket Head Screw M6-1.00 x 16mm
10	809-309	Accessory Kit Ports
11	809-314	Motor Running Output Port

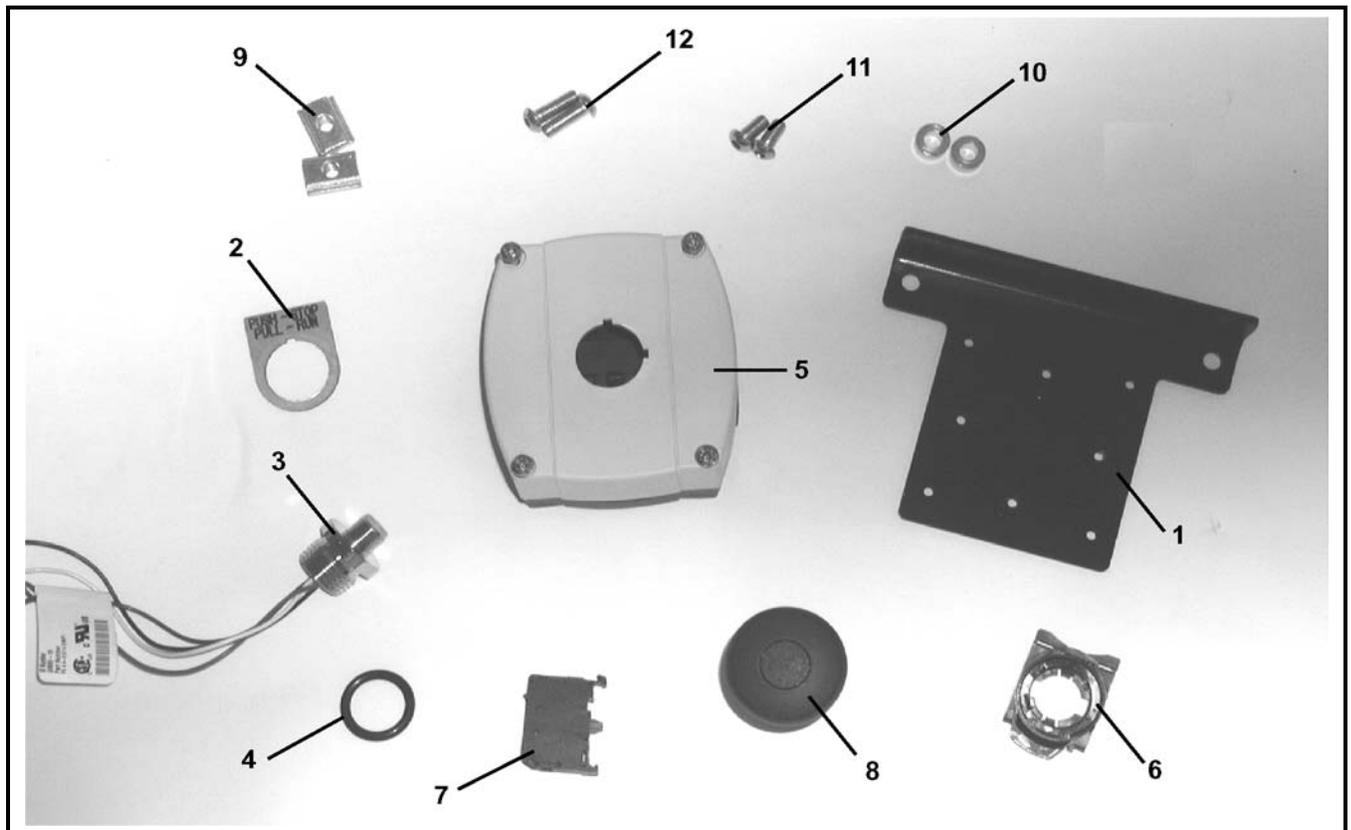
# Service Parts

## Emergency Stop Kit



Item	Part Number	Description
1	201103	Mounting Bracket
2	805-053	Receptacle Cord
3	805-057	Wire Nut
4	805-1005	Cord Grip
5	805-655	Surface Mounted Relay
6	805-805	Power Cord
7	817-243	Push Button Box
8	830-210	Button Latch
9	830-212	Contact Block Switch
10	830-216	Red Push Button
11	830-217	Push Button Nameplate
12	639971M	Single Drop-In T-bar
13	807-1572	Spacer
14	950612M	Low Head Cap Screw M6-1.00 x 12mm
15	950620M	Low Head Cap Screw M6-1.00 x 20mm

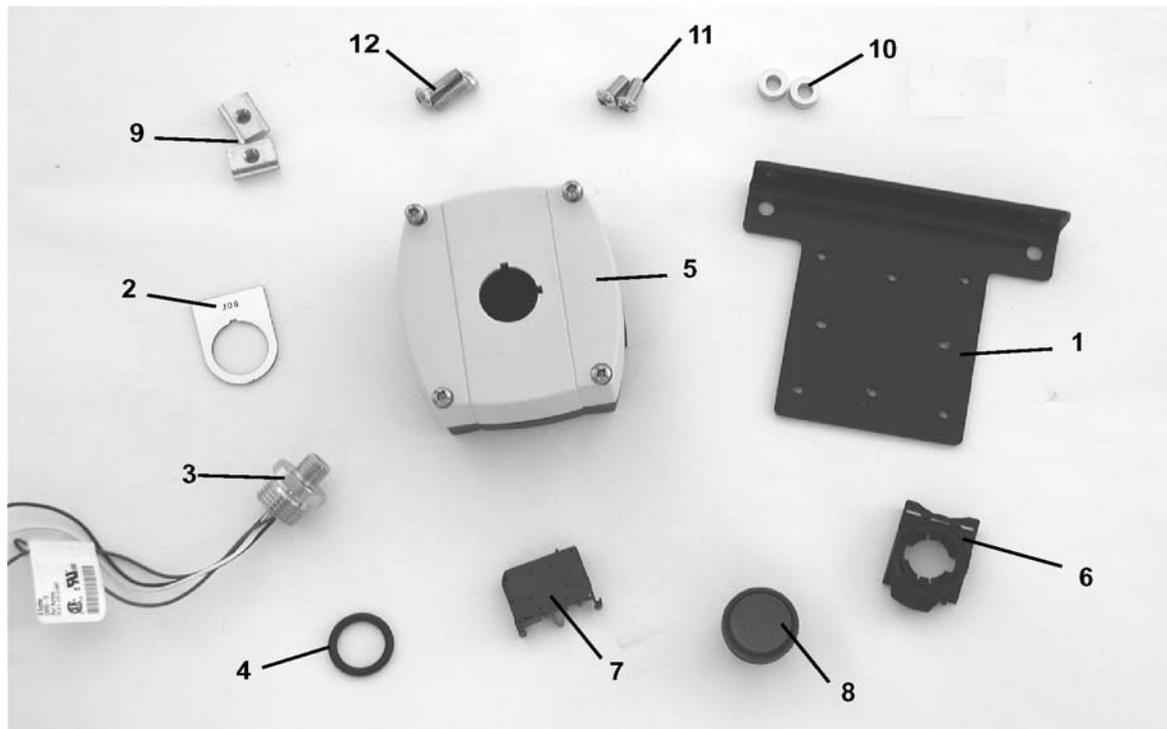
## Control Stop Kit



Item	Part Number	Description
1	201103	Mounting Bracket
2	201105	Legend Plate
3	809-314	Male Micro Connector
4	812-067	O-Ring
5	807-239	Push Button Box
6	830-210	Button Latch
7	830-212	Contact Block Switch-Normally Closed
8	830-214	Control Stop Button
9	639971M	Single Drop-In T-bar
10	807-1572	Spacer
11	950612M	Low Head Cap Screw M6-1.00 x 12mm
12	950620M	Low Head Cap Screw M6-1.00 x 20mm

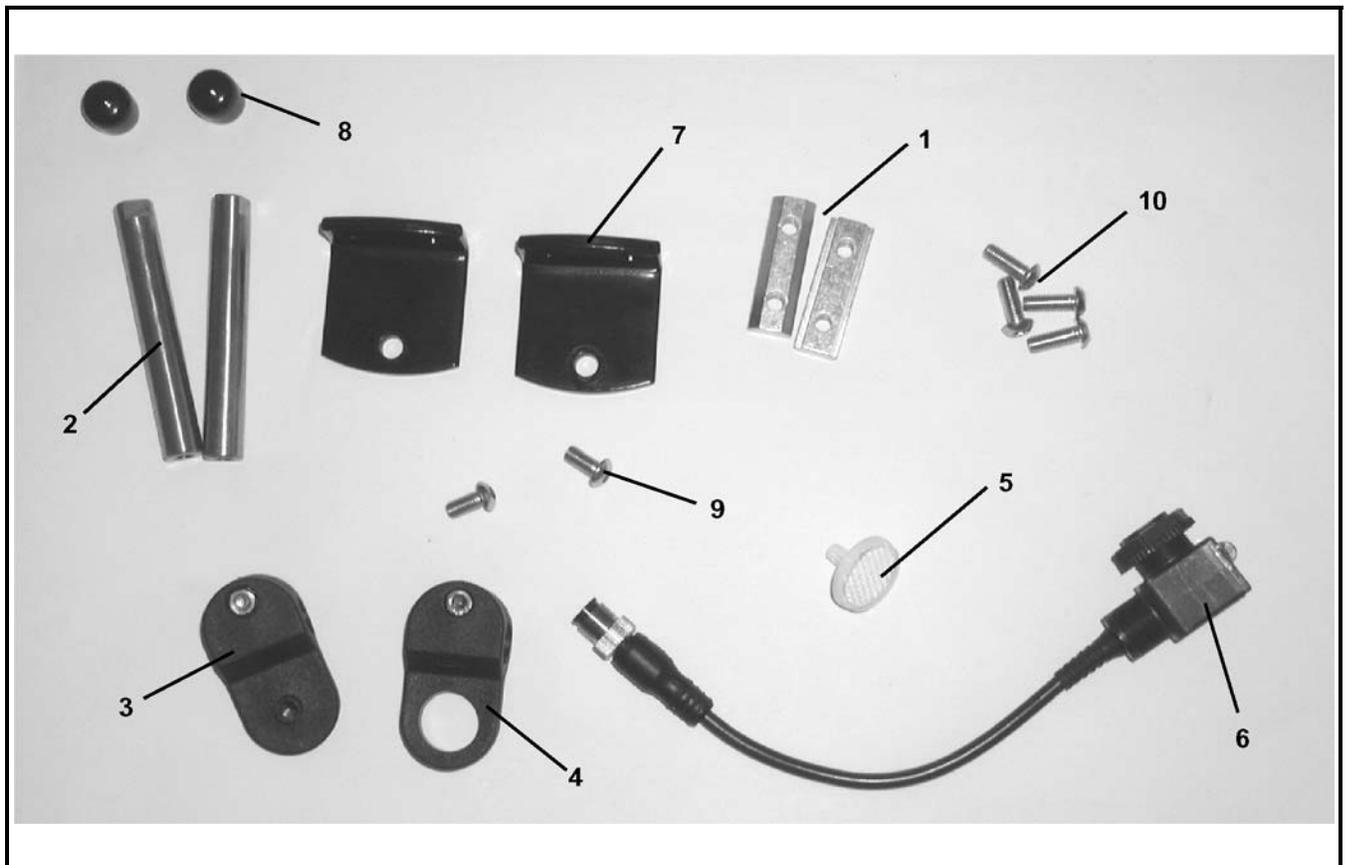
# Service Parts

## Jog Push Button Kit



Item	Part Number	Description
1	201103	Mounting Bracket
2	677785P	Legend Plate
3	809-314	Male Micro Connector
4	812-067	O-Ring
5	807-239	Push Button Box
6	830-210	Button Latch
7	830-211	Contact Block Switch-Normally Open
8	830-213	Push Button
9	639971M	Single Drop-In T-bar
10	807-1572	Spacer
11	950612M	Low Head Cap Screw M6-1.00 x 12mm
12	950620M	Low Head Cap Screw M6-1.00 x 20mm

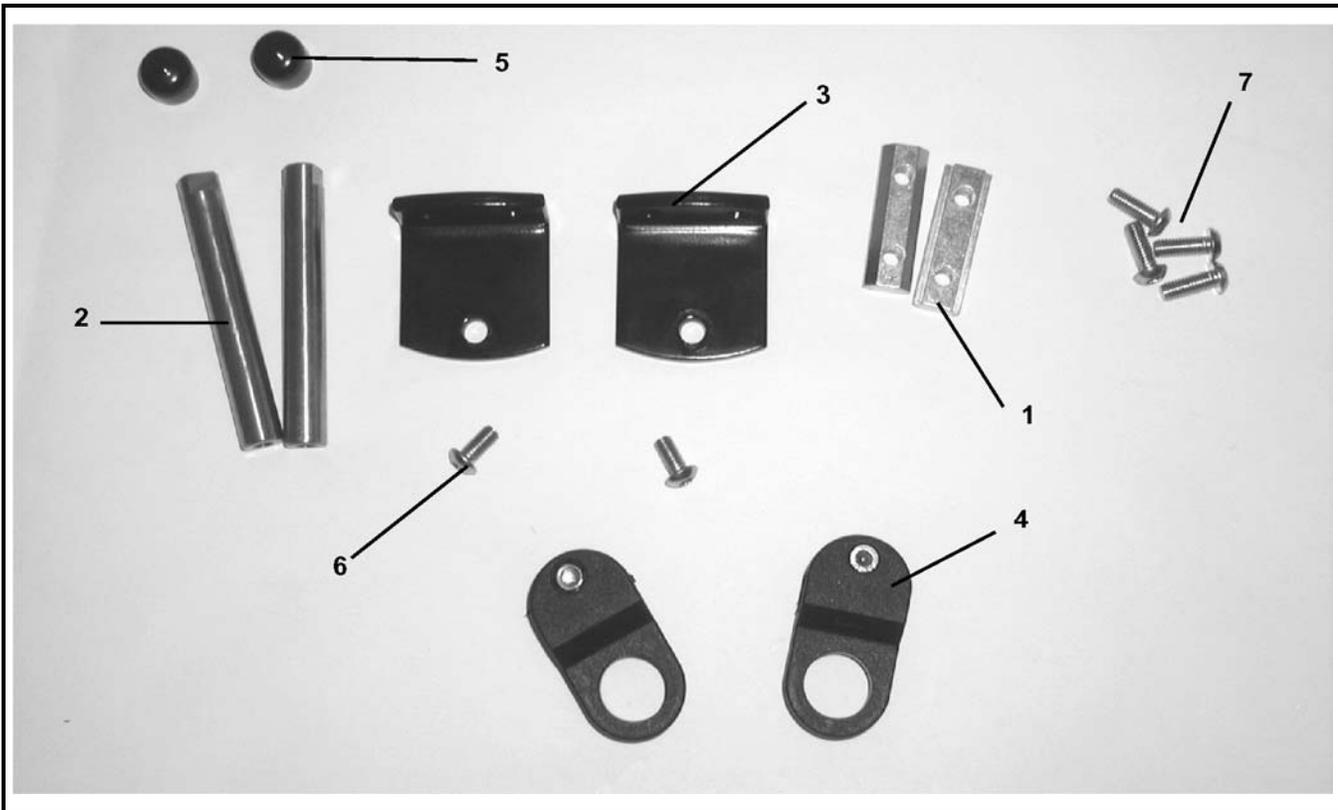
## Photo Eye Kit



Item	Part Number	Description
1	200830M	Drop-In T-bar
2	201104	2" Mounting Sensor Shaft
	202027M	5" Mounting Sensor Shaft
3	807-1390	Reflector Mount Clamp
4	807-1391	Photo Eye Mount Clamp
5	809-289	Reflector Sensor
6	809-315	Photo Eye Sensor
7	202004	Mounting Bracket
8	807-948	Shaft Cap
9	950612M	Low Head Cap Screw M6-1.00 x 12mm
10	950616M	Low Head Cap Screw M6-1.00 x 16mm

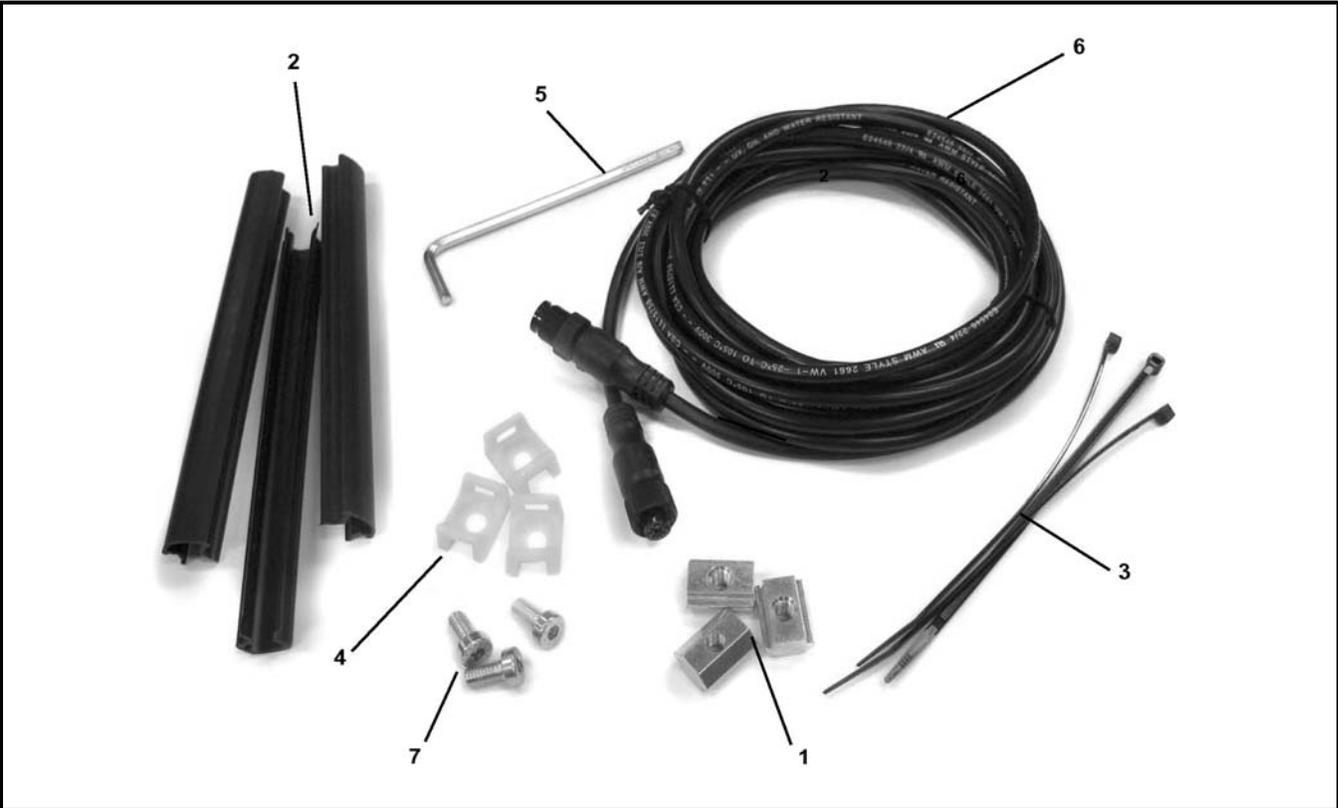
# Service Parts

## Photo Eye Bracket Kit - Through Beam



Item	Part Number	Description
1	200830M	Drop-In T-bar
2	201104	2" Mounting Sensor Shaft
	202027M	5" Mounting Sensor Shaft
3	202004	Mounting Bracket
4	807-1391	Photo Eye Mount Clamp
5	807-948	Shaft Cap
6	950612M	Low Head Cap Screw M6-1.00 x 12mm
7	950616M	Low Head Cap Screw M6-1.00 x 16mm

Linking Kit



Item	Part Number	Description
1	639971M	Single Drop-In T-bar
2	675232	T-Slot Strip Closure
3	805-063	Wire Tie
4	805-608	Mounting Cable Tie
5	807-565	Hex Key
6	809-312	2 ft. Meter Cable
	809-313	5 ft. Meter Cable
7	950612M	Low Head Cap Screw M6-1.00 x 12mm

# Return Policy

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. When calling for authorization, please have the following information ready for the Dorner factory representative or your local distributor:

1. Name and address of customer.
2. Dorner part number(s) of item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number (if available, part serial number).

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization (RMA) number for reference. RMA will automatically close 30 days after being issued. To get credit, items must be new and undamaged. There will be a return charge on all items returned for credit, where Dorner was not at fault. It is the customer's responsibility to prevent damage during return shipping. Damaged or modified items will not be accepted. The customer is responsible for return freight.

Product Type									
Standard Products									Engineered to order parts
Product Line	Conveyors	Gearmotors & Mounting Packages	Support Stands	Accessories	Spare Parts (non-belt)	Spare Belts - Standard Flat Fabric	Spare Belts - Cleated & Specialty Fabric	Spare Belts - Plastic Chain	All equipment and parts
1100	30% return fee for all products except: 50% return fee for conveyors with modular belt, cleated belt or specialty belts						non-returnable		case-by-case
2200									
2200 Modular Belt									
2200 Precision Move									
2300									
2300 Modular Belt									
3200									
3200 LPZ									
3200 Precision Move									
4100									
5200									
5300									
6200									
Controls									
7200 / 7300	50% return fee for all products								
7350	non-returnable								
7360									
7400									
7600									

Returns will not be accepted after 60 days from original invoice date. The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components to inventory. If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Contact Dorner for the name of your local representative. Our Customer Service Team will gladly help with your questions on Dorner products.

For a copy of Dorner's Warranty, contact factory, distributor, service center or visit our website at [www.dorner.com](http://www.dorner.com).

For replacement parts, contact an authorized Dorner Service Center or the factory.



Dorner Mfg. Corp. reserves the right to change or discontinue products without notice. All products and services are covered in accordance with our standard warranty. All rights reserved. © Dorner Mfg. Corp. 2014

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