



Industrial and Sanitary Variable Speed VFD Controllers

Setup, Operation & Maintenance Manual



DORNER MFG. CORP.
P.O. Box 20 • 975 Cottonwood Ave.
Hartland, WI 53029-0020 USA

INSIDE THE USA
TEL: 1-800-397-8664
FAX: 1-800-369-2440

OUTSIDE THE USA
TEL: 262-367-7600
FAX: 262-367-5827

For other service manuals visit our website at:
www.dorner.com/service_manuals.asp

Table of Contents

Introduction	2	Aluminum Stand Leg Mounting	7
Warnings – General Safety	3	Steel Stand Leg Mounting	8
Product Description	4	Wiring	9
Specifications	4	Preventive Maintenance and Adjustment	10
Installation	5	Required Tools	10
Required Tools	5	Controller Setup	10
Sanitary Controller Mounting	5	Service Parts	10
Industrial Controller Mounting	6	Notes	11
2100, 2200 & 3100 Conveyor Mounting	6	Return Policy	12
6100 Conveyor Mounting	7		

Introduction

IMPORTANT

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.

Dorner conveyors are covered by the following patent numbers: 5131529, 5156260, 5156261, 5174435, 5203447, 5265714, 5875883, and corresponding patents and patent applications in other countries.

Dorner's Limited Warranty applies.

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

Warnings – General Safety

WARNING

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

DANGER



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

DANGER



DO NOT OPERATE CONVEYORS IN AN EXPLOSIVE ENVIRONMENT.

WARNING

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

DANGER



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

WARNING



Exposed moving parts can cause severe injury.
DO NOT ATTEMPT ADJUSTMENTS WITH CONVEYOR RUNNING.

WARNING



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.

Product Description

Dorner Variable Speed VFD Controllers (Figure 1) are AC motor speed controllers for Standard and Heavy Load VFD gearmotors.

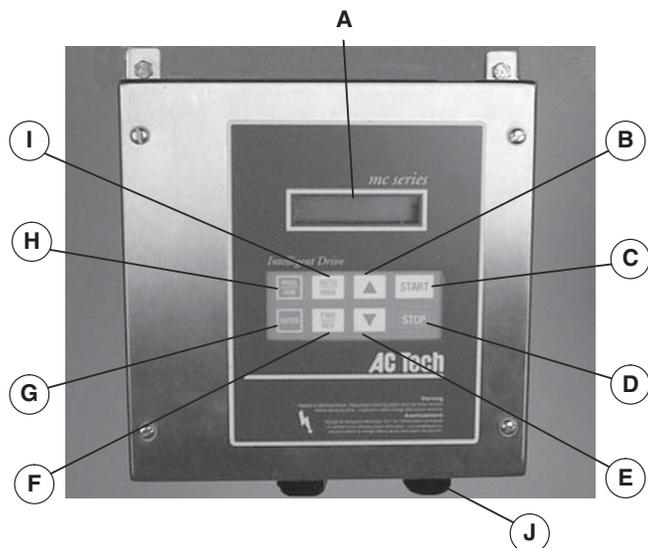


Figure 1

NOTE

For additional information, refer to the AC Tech MC1000 Series Installation and Operating Manual shipped with your controller. See Specifications table for models.

Illustration References:

A	Display
B	Increase Speed Button
C	Start Button
D	Stop Button
E	Decrease Speed Button
F	FWD/REV (Forward/Reverse) Button
G	Enter Button
H	PROG/RUN (Program/Run) Button
I	AUTO/MAN (Automatic/Manual) Button
J	Line Connection Cord Grip
K	M6 x 16 mm Stainless Steel Hex Head Cap Screws (2x)
L	Stainless Steel Mounting Clips (2x)

Specifications

Dorner Model Number	Input Voltage & Phase	Output Voltage & Phase	Output Frequency	Maximum Hp (kW)	Maximum Output in Amperes	Enclosures	Manufacturer's Model Number
62MV1122S	115/230 Single Phase	230 Volts-Three Phase	10 to 60 Hz	0.5 (0.37)	2.2	NEMA 4x (IP65)	M1105SE
62MV1124S	115 Single Phase			0.25 (0.19)	1.4		M1103SE
62MV2124S	230 Single Phase			0.5 (0.37)	2.2		M1205E
62MV2322S	230 Three Phase			0.5 (0.37)	2.2		M1205E
62MV1122	115 Single Phase	460 Volts Three Phase	6 to 60 HZ	0.5 (0.37)	2.2	NEMA 4 (IP65)	M1105SC
62MV2121	230 Single Phase			1.0 (0.75)	4.0		M1210SC
62MV2321	230 Three Phase			1.0 (.75)	4.0		M1210C
62MV2326	230 Three Phase			1.5 (1.1)	5.2		M1215C
62MV4341	460 Three Phase			1 (.75)	2.0		M1410C
62MV4346	460 Three Phase			2 (1.5)	3.4		M1420C

Required Tools

- Hex key wrenches:
4 mm, 5 mm
- Wrenches 8 mm, 10 mm
- Flat-blade screwdriver
- Torque wrench

Sanitary Controller Mounting

⚠ WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

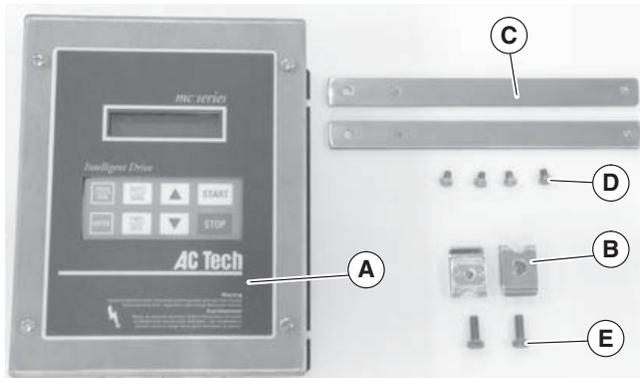


Figure 2

Installation Component List:

- | | |
|---|-----------------------------------------------------|
| A | Sanitary VFD Controller |
| B | 6100 Series Accessory Mounting Clips (2x) (450186M) |
| C | Controller Mounting Bar (2x) (450333MS) |
| D | Hex Head Screws, M5 x 8mm (4x) |
| E | Hex Head Screws, M6 x 16mm (2x) |

1. Install mounting clips (Figure 3, item B) on conveyor.

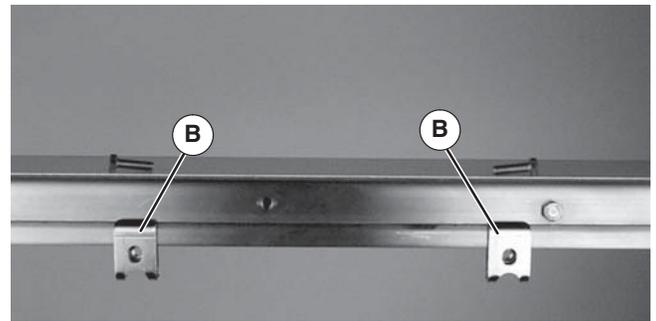


Figure 3

2. Attach mounting bars (Figure 4, item C) to controller (A) with screws (D).

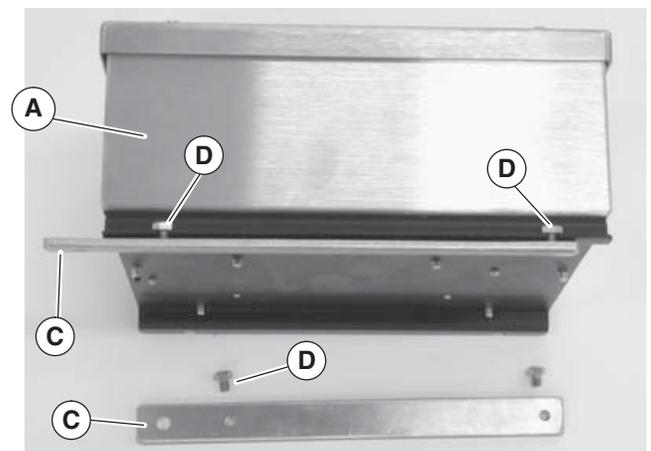


Figure 4

3. Attach controller (Figure 5, item A) to conveyor with screws (E).

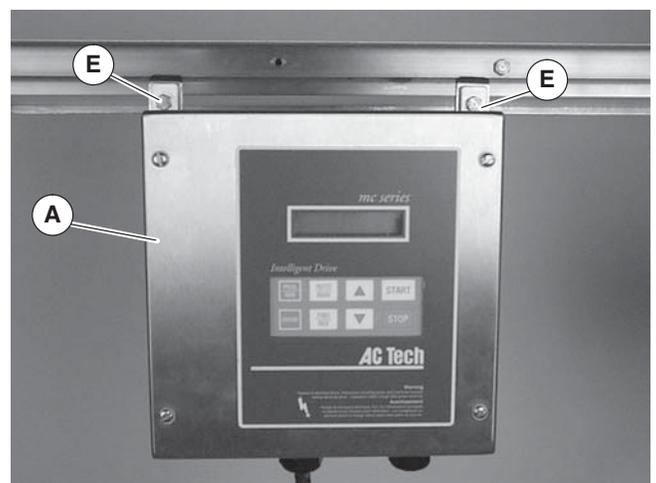


Figure 5

Installation

Industrial Controller Mounting

⚠ WARNING



Exposed moving parts can cause severe injury.

LOCK OUT POWER before removing guards or performing maintenance.

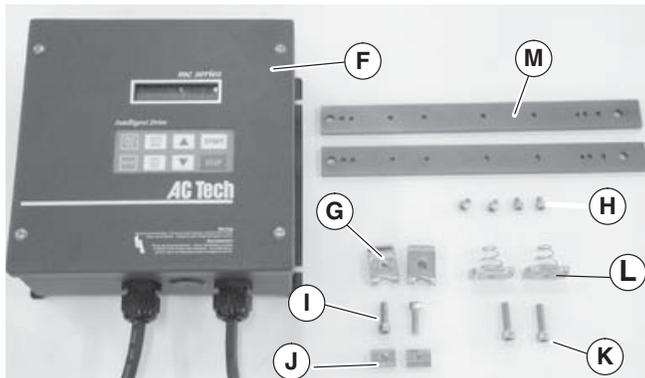


Figure 6

Installation Component List:

F	Industrial VFD Controller
G	6100 Series Accessory Mounting Clips (2x) (450186M)
H	Button Head Screws M5 x 8 mm (4x)
I	Socket Head Screws M6 x 16 mm (2x)
J	T-Bars (2x) (639971M)
K	Socket Head Screws M6 x 20 mm (2x)
L	Spring Nut, M6 (2x) (990605M)
M	Controller Mounting Bar (2x) (300459M)

2100, 2200 & 3100 Conveyor Mounting

1. Attach mounting bars (Figure 7, item M) to controller (F) with screws (H).

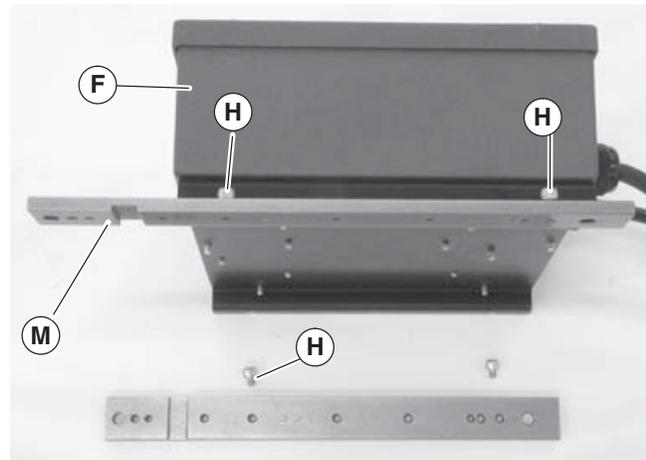


Figure 7

2. Install T-bars (Figure 8, item J) in 2100 Series, 2200 Series or 3100 Series conveyor T-slots.



Figure 8

3. Attach controller (Figure 9, item F) to conveyor with screws (I).

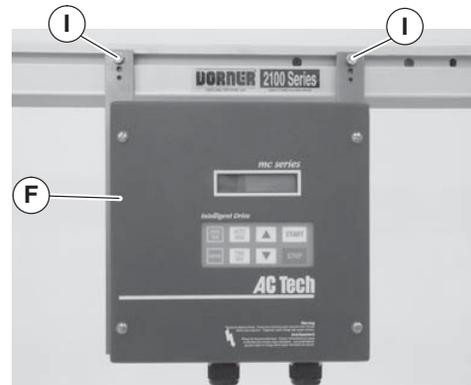


Figure 9

6100 Conveyor Mounting

1. Install mounting clips (Figure 10, item G) on conveyor.



Figure 10

2. Attach mounting bars (Figure 11, item M) to controller (F) with screws (H).

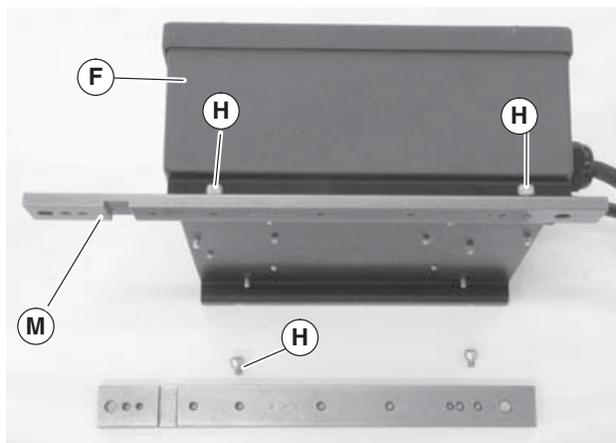


Figure 11

3. Attach controller (Figure 12, item F) to conveyor with screws (K).

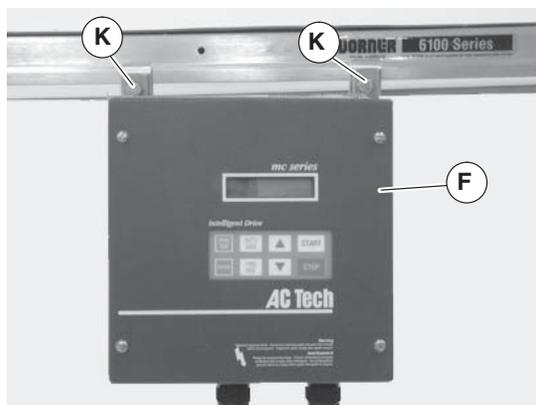


Figure 12

Aluminum Stand Leg Mounting

1. Attach mounting bars (Figure 13, item M) to controller (F) with screws (H).

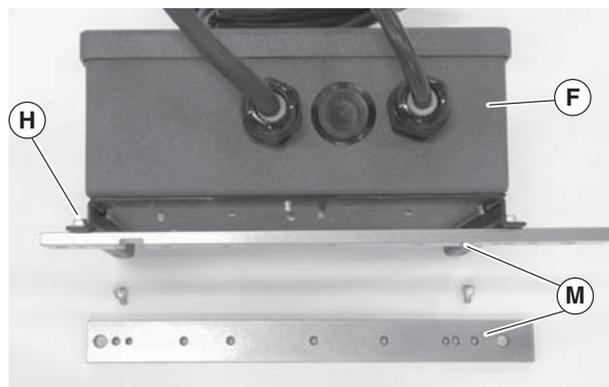


Figure 13

2. Install T-bar (Figure 14, item J) into stand leg T-slot. Attach controller lower mounting bar (N) with screw (I).

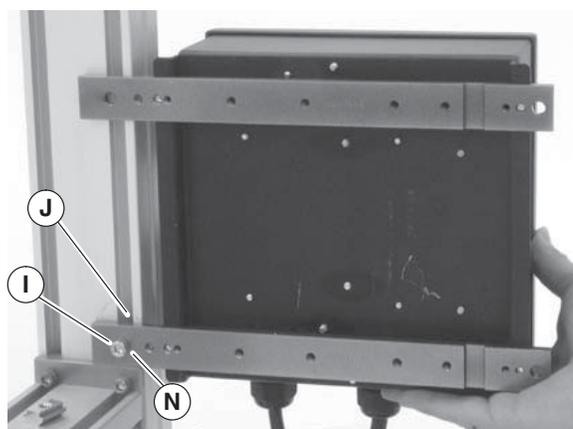


Figure 14

3. Temporarily tighten screw (I). Install second T-bar (Figure 15, item J) into T-slot.

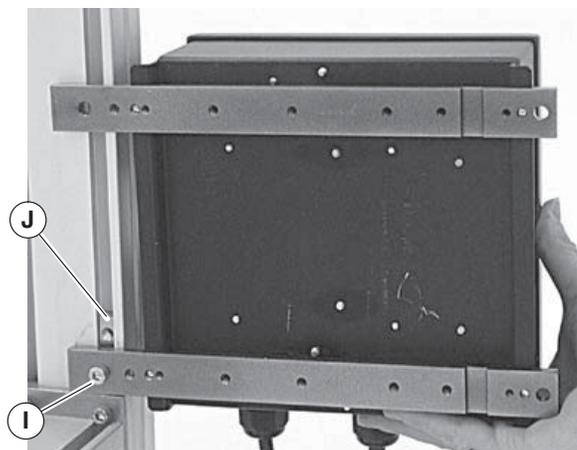


Figure 15

Installation

4. With screwdriver (Figure 16, item O), raise T-bar (J) to align it with hole in top mounting bar. Insert M6 screw (I) and partially thread into T-bar.

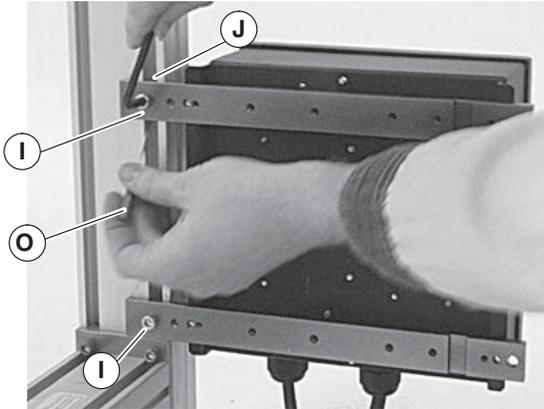


Figure 16

5. Slide controller to its desired mounting location (Figure 17) and tighten both screws (Figure 16, item I).



Figure 17

Steel Stand Leg Mounting

1. Attach mounting bars (Figure 13, item M) to controller (F) with screws (H).

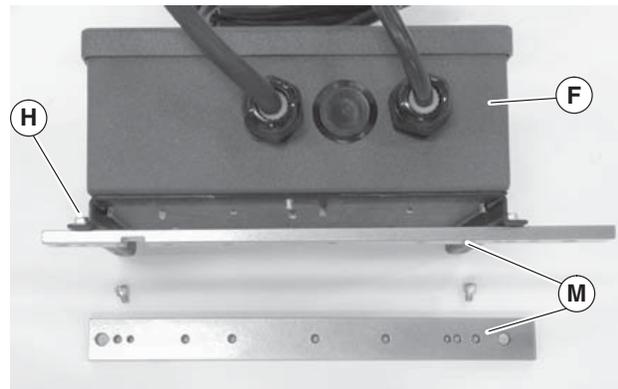


Figure 18

2. Install Spring Nuts (Figure 19, item L) in steel stand leg.



Figure 19

3. Attach controller (Figure 20, item F) to Spring Nuts (L) with screws (K).

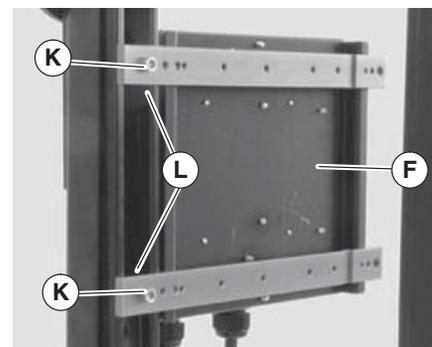


Figure 20

Wiring

DANGER



Hazardous voltage will cause severe injury or death.

LOCKOUT POWER BEFORE wiring.

WARNING



Exposed moving parts can cause severe injury.

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.

NOTE

A circuit breaker or a disconnect switch with fuses must be provided in accordance with the National Electrical Code (NEC) and all local codes.

Refer to the AC Tech MC1000 Series Installation and Operating Manual shipped with your controller. See the sections from "AC Requirements" through "MC1000 Power Wiring Diagram". See Table of Contents for page numbers.

NOTE

For electrical wiring or troubleshooting, refer to information provided by controller manufacturer.

1. Make the input power connections through the line connection cord grip. Refer to the manufacturer's manual for terminations inside the VFD controller.

Preventive Maintenance and Adjustment

Required Tools

- Flat-blade screwdriver

Controller Setup

⚠ DANGER

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

⚠ WARNING

Exposed moving parts can cause severe injury. LOCK OUT POWER before removing guards or performing maintenance.

NOTE
<i>For additional information or desired settings other than listed, refer to the AC Tech MC1000 Series Installation and Operating Manual shipped with your controller. See Specifications table for model.</i>

When purchased with a gearmotor, Dorner configures Variable Speed VFD Controllers as follows:

- 1 second acceleration time
- 1 second deceleration time
- Minimum frequency @ 10 Hz for Sanitary units, 6 Hz for Industrial units
- Maximum frequency @ 60 Hz
- Overloads set to motor Full Load Amperes (FLA)

Service Parts

NOTE
<i>For replacement parts, refer to the AC Tech MC1000 Series Installation and Operating Manual shipped with your controller.</i>

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.

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization number for reference.

There will be a return charge on all new undamaged items returned for credit where Dorner was not at fault. Dorner is not responsible for return freight on such items.

Conveyors and conveyor accessories	
Standard catalog conveyors	30%
MPB Series, cleated and specialty belt conveyors	50%
7400 & 7600 Series conveyors	non-returnable items
Engineered special products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

Parts	
Standard stock parts	30%
MPB, cleated and specialty belts	non-returnable items

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 Technical Sales, Catalog Sales and Service Teams 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.

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. 2006

DORNER MFG. CORP.

975 Cottonwood Ave., PO Box 20
Hartland, WI 53029-0020 USA
USA
TEL 1-800-397-8664 (USA)
FAX 1-800-369-2440 (USA)
Internet: www.dorner.com

Outside the USA:
TEL 1-262-367-7600
FAX 1-262-367-5827