TORMAX

★★★★★

AUTOMATIC

T-957 US801353
4-2-10

Installation and Service Manual

TDA SWING DOOR OPERATOR

Contents

1   Introduction

These instructions are intended for AAADM Certified technicinas. Tormax
strongly recommends all adjsstments be made in accordance
with ANSI A156.10 and A 156.19 standards.

Symbols Used in
these Instructions

These two symbols mark all passages that concern your safety:

Warning of a health hazard of a general kind

Warning of electric voltage/current

Passages with text on grey background must be absolutely observed for reliable
performance of the system! Neglect can cause material damage.

2   Safety

General Safety Instruction

Before beginning the installation read the instructions in this manaul failure
to do so may cause serious injury to users or damage to the operator.
Make sure the door system is installed and serviced by an AAADM
certified technician to the latest ANSI A156.10 and or ANSI A156.19
standard.

These products are Underwriters Laboratories, Inc. (UL) listed and cUL certified
for the Canadian marketplace, and therefore comply with the requirements of the
National Electrical Code (NEC) and the Canadian Electrical Code (CEC). Installa
tions intended to meet UL and cUL requirements must be followed as described
in the instruction provided herein. These are minimum standard requirements.
Where local codes exceed these requirements, they must be followed as well.

The maximum leaf weight depends on the size of the door. Please proceed according
to the diagram below.

Maximum door weights

T1163/1e

Preventing General Hazards and Possible Damage to This Equipment

- Keep fingers away from all moving parts.
- Verify that the power selection switch is set to the correct voltage before start-up.
- The power supply cable (flexible cord) should be entered via the plastic end side knockout that is close to the input power supply terminals. It should not be routed through doorways, window openings, walls, ceilings, floors, etc. The power supply cable (flexible cord) should not be attached or otherwise secured to the building structure. It should not also be concealed behind walls, etc.
- Never allow the power supply cable (flexible cord) to become entrapped in moving parts of the operator, door, or system.

Warnings of Dangerous Electrical Voltages or Current

- Be sure the electrical power is disconnected and locked-out when working on the operator unit.
- Install the electrical cables and power only after the mechanical installation to the unit is done.
- Turn on the power to the operator unit only after all internal cables are connected. Do not connect cables while the unit is powered.
- Always use appropriate tools for installation and repair.

General Safety and Accident Prevention Instructions

Please read the operating instructions of the TORMAX operator and the following safety instructions carefully prior to commissioning or performing any work on the system—and adhere to them!

Pay particular attention to the specially marked notes in these instructions (for an explanation of the symbols please refer to chapter 1)!

Use for Intended Purpose

The TORMAX operator has been designed and constructed according to the current state of technology and the recognized safety related rules and is intended exclusively for the usual application in conjunction with automatic TORMAX doors. The enclosure operator corresponds to protective class IP22 . Without additional safety measures, the operator may only be installed inside of buildings.

Any other use is considered incorrect and may result in injuries to the user or third parties. Further, it may result in damages to the system or other associated equipment. The manufacturer will not be liable for damages resulting from incorrect application; the risk of such applications must be borne entirely by the user.

Requirements Relating to Installation Personnel

Tormax strongly recommends all service and installations be performed by an AAADM certified inspector to the latest ANSI A156.10 or A156.19 standards.

Basic Safety Measures – Appropriate Behavior

Use system only in a technically sound condition. Ensure that faults which could diminish safety are eliminated in at once.

Do not touch any moving parts. Extra caution is required in the areas of the drive lever, the linkage and the secondary closing edges of the hinge.

Electrical voltage / current: perform manipulation cleaning only when the power supply is switched off!
Connect mains supply only when all internal cables are connected.

Use only tools suited for the relevant work sequence, without exception. Make sure the tools are in a sound condition.
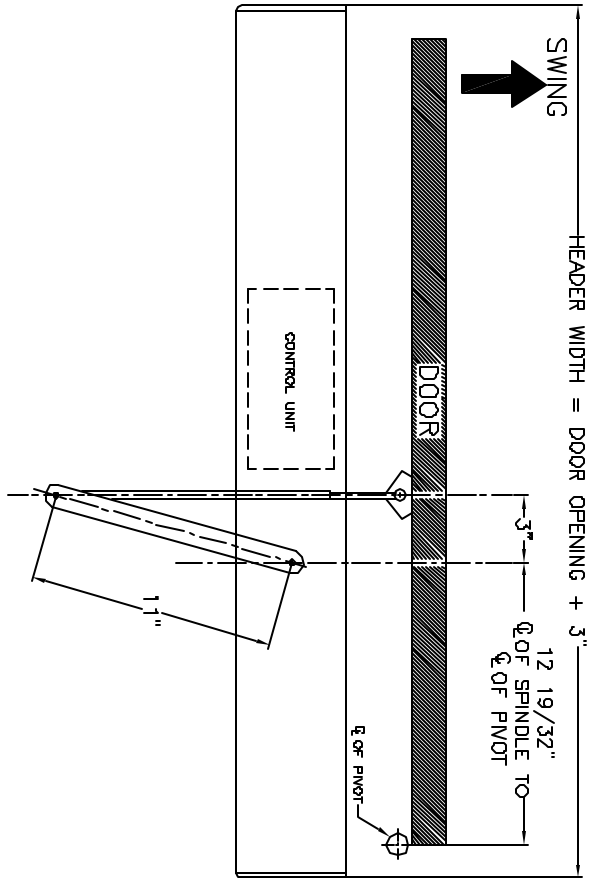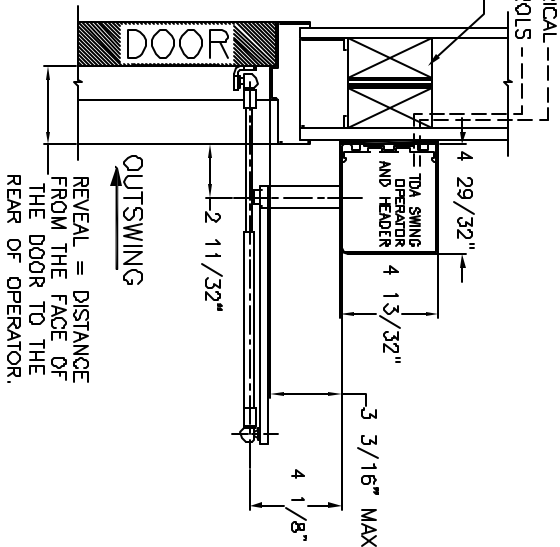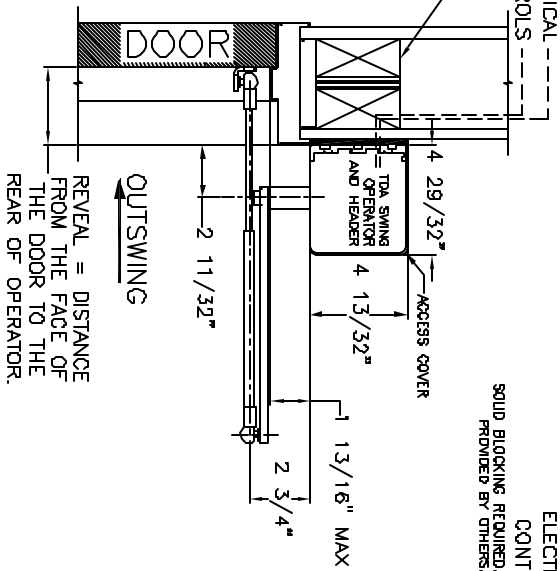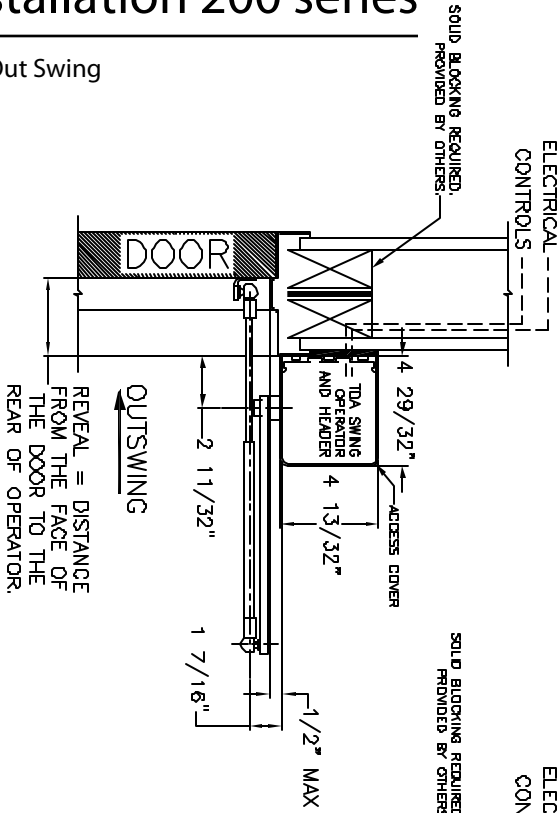
Relevant Regulations

The operating, service and maintenance instructions supplied by the manu–facturer must be observed. TORMAX door operators may only be maintained and repaired by AAADM certified technicians.

Out Swing

SWING

HEADER WIDTH = DOOR OPENING + 3"

DOOR

CONTROL UNIT

3"

12 19/32"

℄ OF SPINDLE TO ℄ OF PIVOT

℄ OF PIVOT

1"

SINGLE OUTSWING TB6-A TDA 04A DIMENSION SAME FOR SIMULTANEOUS PAIR.

MAIN LEVER (CLEARANCE REQ'D.)	REVEAL DISTANCE	KIT DESCRIPTION & PART NUMBER	
		DESCRIPTION	PART NUMBER
1/2" CLEARANCE	1 3/4" – 2 1/2"	OUTSWING ARM ASSEMBLY	STD.D1
	2" – 6"	OUTSWING ARM ASSEMBLY	STD.E1
	6" – 9 13/16"	OUTSWING ARM ASSEMBLY	STD.F1
1 13/16" CLEARANCE	1 3/4" – 2 1/2"	OUTSWING ARM ASSEMBLY	STD.DH1
	2" – 6"	OUTSWING ARM ASSEMBLY	STD.EH1
	6" – 9 13/16"	OUTSWING ARM ASSEMBLY	STD.FH1
3 7/8" CLEARANCE MAIN LEVER PN US800364	1 3/4" – 2 1/2"	OUTSWING ARM LINKAGE	STD.VGD
	2" – 6"	OUTSWING ARM LINKAGE	STD.VGE
	6" – 9 13/16"	OUTSWING ARM LINKAGE	STD.VGF

WHEN ORDERING: VERTICAL CLEARANCE & REVEAL MUST BE GIVEN TO DETERMINE CORRECT ARM KIT.

WHEN 3 7/8" CLEARANCE REQ'D. MAIN LEVER AND LINKAGE MUST BE SPEC'D. INDIVIDUALY.

Drawing 1:

DOOR

ELECTRICAL CONTROLS

SOLID BLOCKING REQUIRED PROVIDED BY OTHERS.

TDA SWING OPERATOR AND HEADER

ACCESS COVER

OUTSWING

REVEAL = DISTANCE FROM THE FACE OF THE DOOR TO THE REAR OF OPERATOR.

4 29/32"

4 13/32"

2 11/32"

1 7/16"

1/2" MAX

Drawing 2:

DOOR

ELECTRICAL CONTROLS

SOLID BLOCKING REQUIRED PROVIDED BY OTHERS.

TDA SWING OPERATOR AND HEADER

ACCESS COVER

OUTSWING

REVEAL = DISTANCE FROM THE FACE OF THE DOOR TO THE REAR OF OPERATOR.

4 29/32"

4 13/32"

2 11/32"

13/16"

2 3/4" MAX

Drawing 3:

DOOR

ELECTRICAL CONTROLS

SOLID BLOCKING REQUIRED PROVIDED BY OTHERS.

TDA SWING OPERATOR AND HEADER

OUTSWING

REVEAL = DISTANCE FROM THE FACE OF THE DOOR TO THE REAR OF OPERATOR.

4 29/32"

4 13/32"

2 11/32"

3 3/16"

4 1/8" MAX

HEADER WIDTH = DOOR OPENING + 3"

10 1/4"

SWING

6 5/16"

19 11/16"
SLIDE TRACK

DOOR

CONTROL UNIT

℄ OF PIVOT

13 7/8"

ELECTRICAL
CONTROLS

SOLID BLOCKING REQUIRED.
PROVIDED BY OTHERS.

TDA SWING
OPERATOR
AND HEADER

1 3/8"
TOP OF DOOR
TO BTM. OF HDR.

1 9/16"
TOP OF
SLIDE TRACK

A

2 11/32"

DOOR

INSWING

TB6—B TDA 03A
INSWING (0" REVEAL)
DIMENSIONS SAME FOR SIMULTANEOUS PAIR.

ITEM	DESCRIPTION	PART NUMBER
A	INSWING DR ARM & TRACK ASSY.	STD.GH1

0 "- 6" In Swing Arm (RH SHown)

19 11/16"
SLIDE TRACK

℄ OF PIVOT

DOOR

8"
MAX
REVEAL

8"

SWING

3 3/8"

CONTROL UNIT

HEADER WIDTH = DOOR OPENING + 3"

SOLID BLOCKING REQUIRED.
PROVIDED BY OTHERS.

1 3/8"
TOP OF DOOR
TO BTM. OF HDR.

TDA SWING
OPERATOR
AND HEADER

2 3/4"
TOP OF
SLIDE TRACK

B

A

DOOR

INSWING

REVEAL = DISTANCE
FROM THE FACE OF
THE DOOR TO THE
REAR OF OPERATOR.
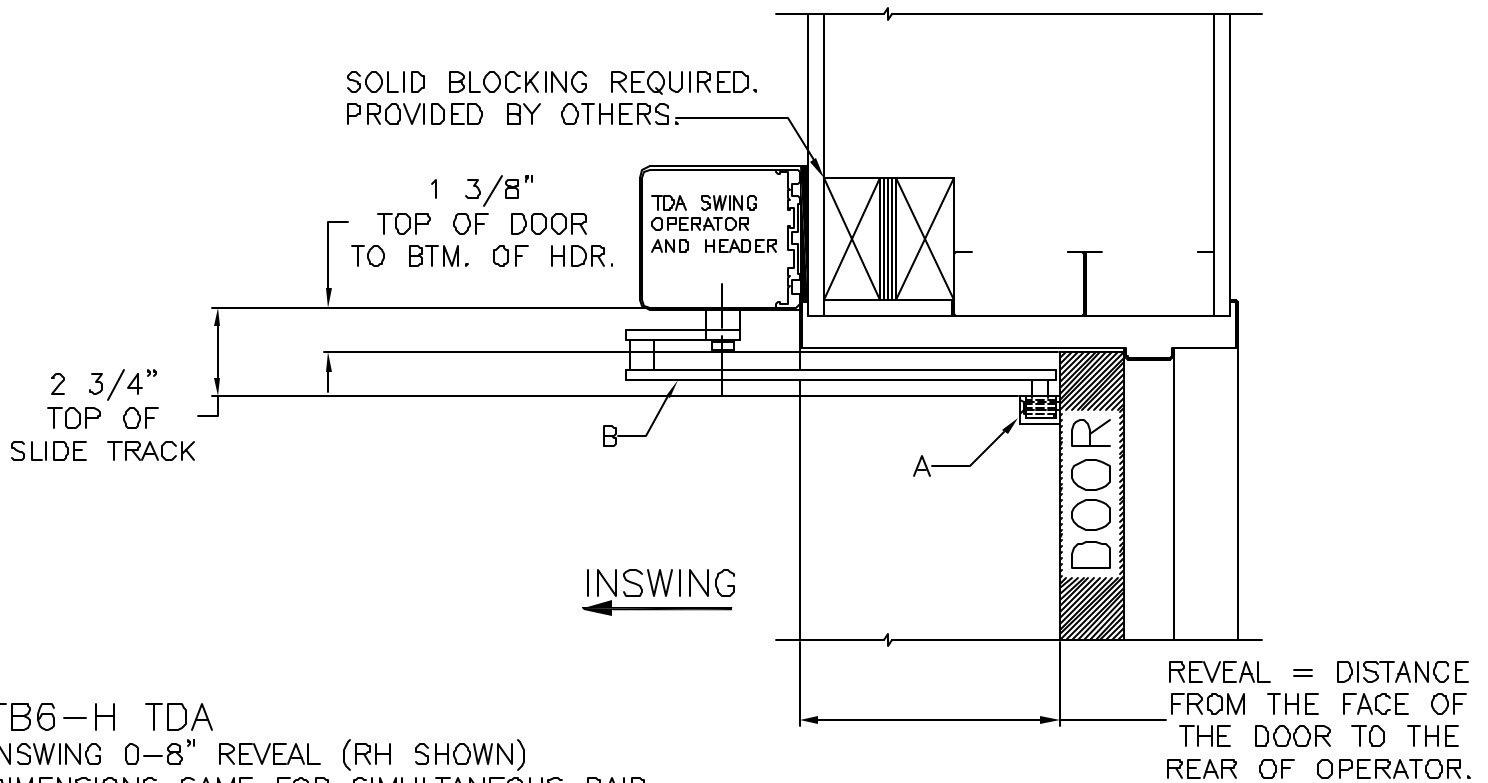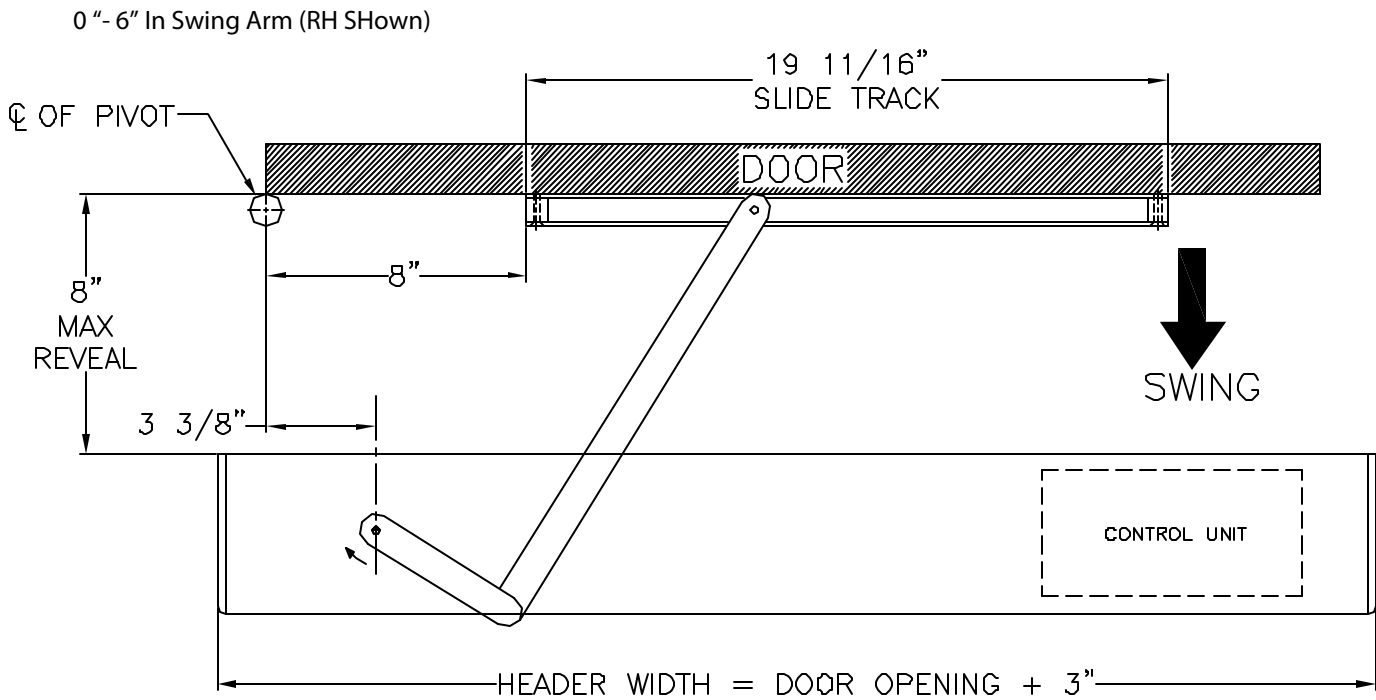
TB6-H TDA
INSWING 0-8" REVEAL (RH SHOWN)
DIMENSIONS SAME FOR SIMULTANEOUS PAIR.

ITEM	DESCRIPTION	PART NUMBER
A	TRACK ASSYEMBLY	STD.GS5
B	RH INSWING DOG LEG ARM	140911
	LH INSWING DOG LEG ARM	141046

7

In Swing Parallel Arm (Speical Order)

11 - 13/16"

℄ OF PIVOT

DOOR

CONTROL UNIT

SWING

A

HEADER WIDTH = DOOR OPENING + 3"

SOLID BLOCKING REQUIRED.
PROVIDED BY OTHERS.

TDA SWING
OPERATOR
AND HEADER

2 13/32"
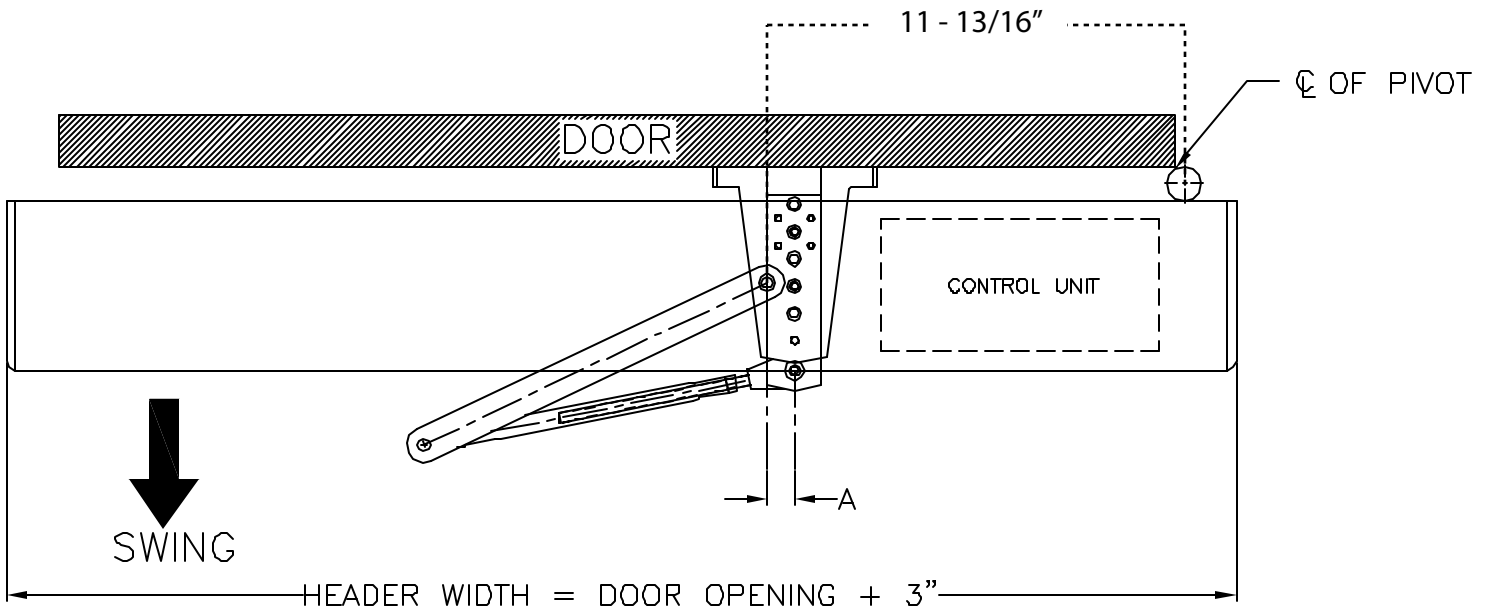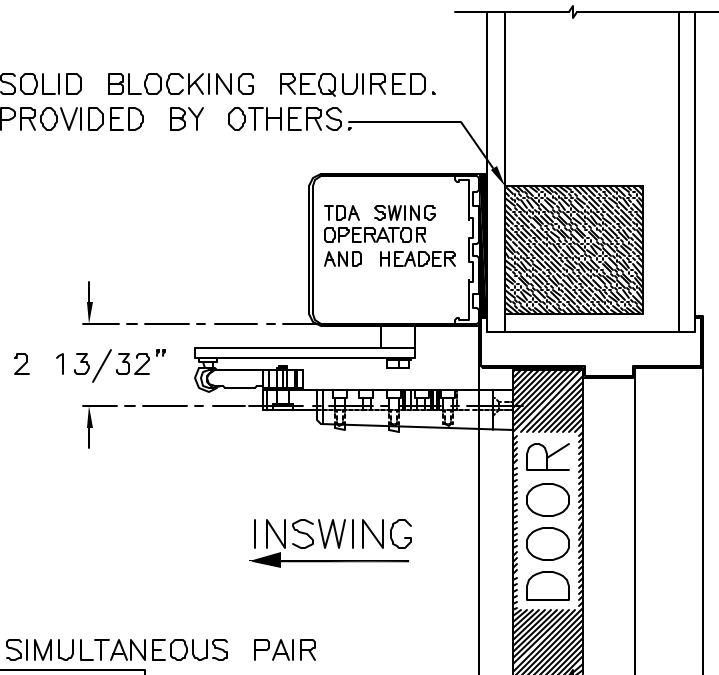
INSWING

DOOR

TB6—G TDA 06A
INSWING PARALLEL ARM
DIMENSIONS SAME FOR SIMULTANEOUS PAIR

REVEAL	A
0" — 1 21/32"	25/32"
1 21/32" — 3 5/32"	1 9/16"
3 5/32" — 6 9/32"	2 3/8"

REVEAL = DISTANCE
FROM THE FACE OF
THE DOOR TO THE
REAR OF OPERATOR.

4 Installation 100 series

NOTE: Tormax recommends the use of a water level and and plumb bob
to proprley install any door package provided. An improper installation
could lead to premature weare of moving parts as well as an unpleasing
appeearance and / or service issues for the customer.

1.   TDA (Over Head Concealed) Installation
If the unit w as suppl ied with jambs they   should be i nstalled at this time. If
the unit was supplied without jambs, then the un it should be secured into
the pr ovided locat ion us ing the appr opriate fasteners. The unit should be
instal led so that outsi de forces acting on the door   will not be able to move
or twist the unit, allowing the fasteners to work themselves loose.

TDA UNIT

FASTENERS

JAMB
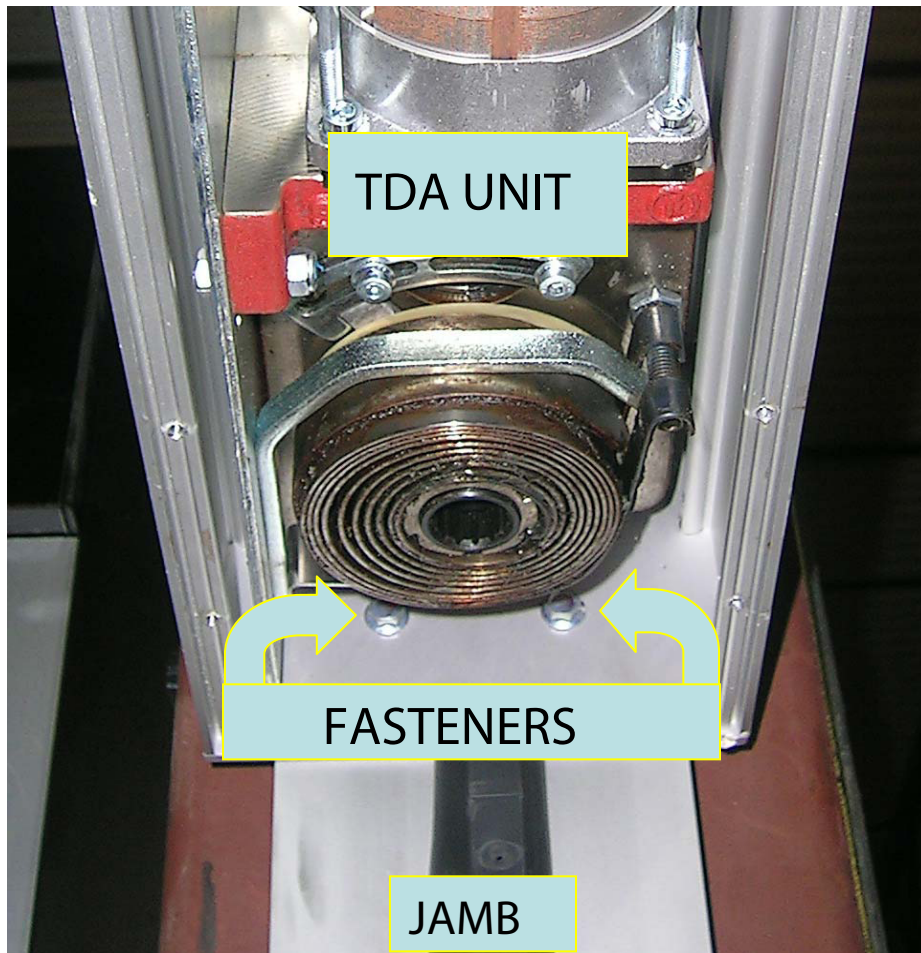
2.   DRIVE ARM INSTALLATION
      At this point install the drive ar   m (PN TID 345026)(Pic 2a) into the
      splined output of the TDA   Motor/Gear box assembly.   This step should
      be completed with no powe   r supplied to the TDA.

      The drive arm should be in   serted so that two sides of the square boss run
      as close to parallel to the header   as the splines will allow (Pic. 2b).   The
      location of the drive arm serves mu   ltiple purposes, it pre-loads the
      door and also allows the door to br   eak out when equipped to do so.

      The drive arm is designed to have   an interference fit with the splines on
      the TDA unit and thus should be driven   into place. In sert the supplied
      bolt (PN 140240-16) into the drive arm at least half way (Pic. 2c). Drive
      the assembly into the TDA (Pic.2d). T   he drive arm should be driven until
      it bottoms. Once installed the   drive arm must be secured with the
      provided screw (M8 x 1.25 x 55   flat head). Insert as shown (Pic. 2e), into
      the threaded bore in the TDA unit (Pic. 2f). The finished assembly can be
      seen in (Pic. 2g).

2a   2b

2e

2c   2d   2f   2g
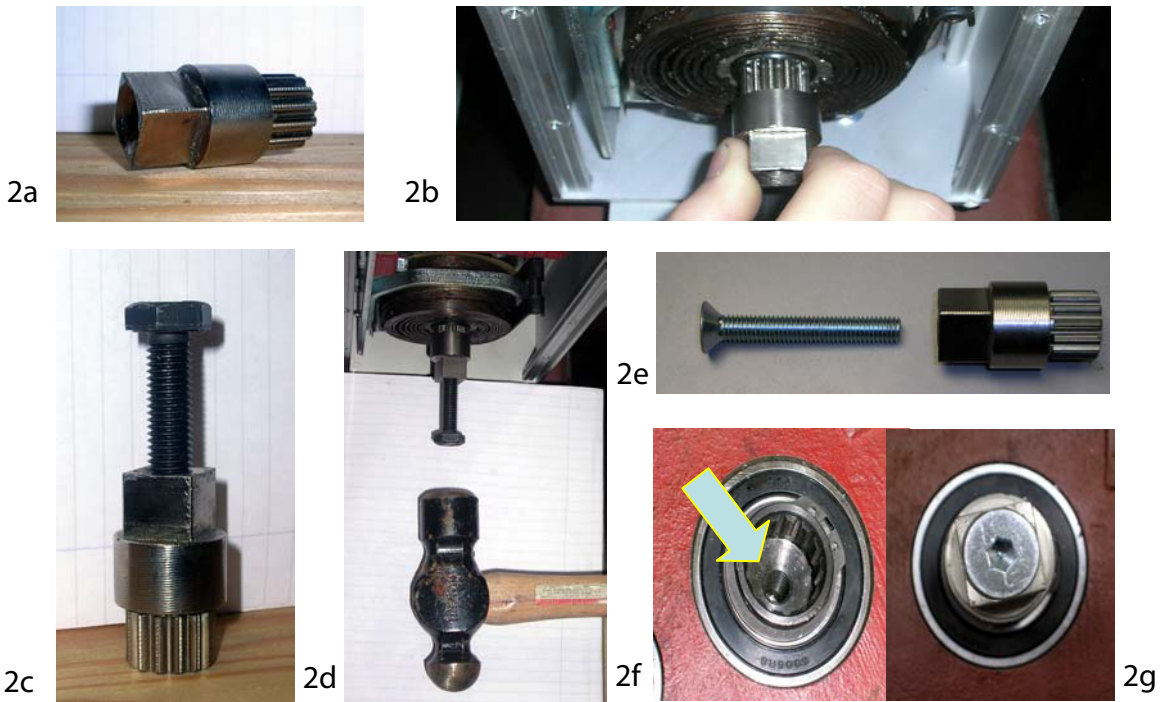
3. INSTALLATION OF BOTT   OM GUIDE/ THRESHOLD
The bottom door pivot should now be installed along with the threshold if required for this installation (Pic 3a).   NOTE: The bottom doo   r pivot is included in PN STD.AKIS. The bottom door pi   vot must be in line with the drive arm previously installed in the TDA. The   use of a plumb bob to align the bottom pivot is advised.   If installed incorrectly, the door could swing in an elliptical arc, resulting in ad   verse door characteristics.

3a

4. DOOR   INSTALLATION
Install the door from the side op   posite the normal swing path (breakout side) and at approximately 90   degrees to the TDA unit, place the door onto the bottom pivot (Pic 4a & 4b).   Line up the drive arm re   ceiver with the drive arm mounted to the TDA (Pic. 4c & 4d). NO   TE: The drive arm re   ceiver is included in PN STD.AKIS. Engage the door with   the drive arm and secure it with the supplied cap and bolts (Pic. 4e).   Pictures contin ued on next page.

ENGAGE DOOR

4a
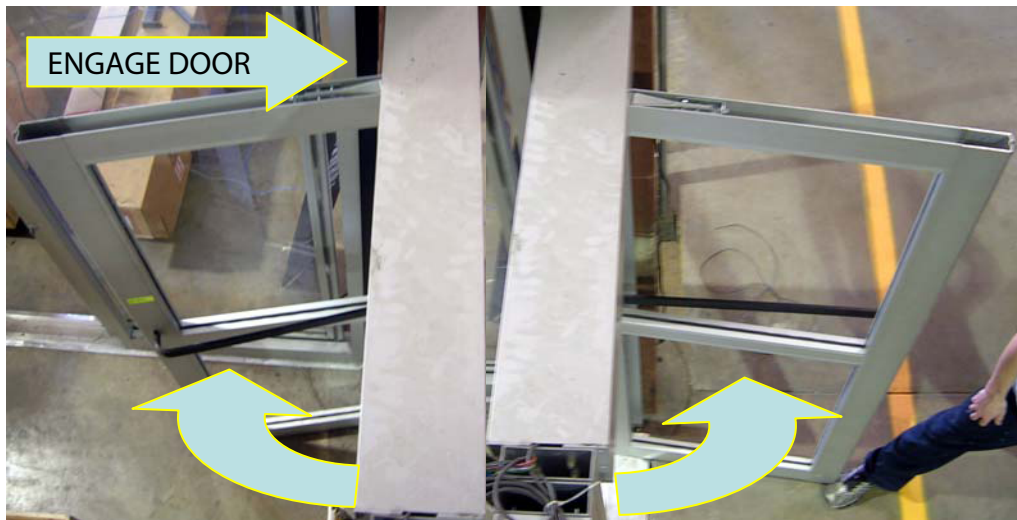
BREAK OUT PATH

INTENDED SWING PATH

4b

11

4c

DRIVE ARM RECEIVER

4d   4e
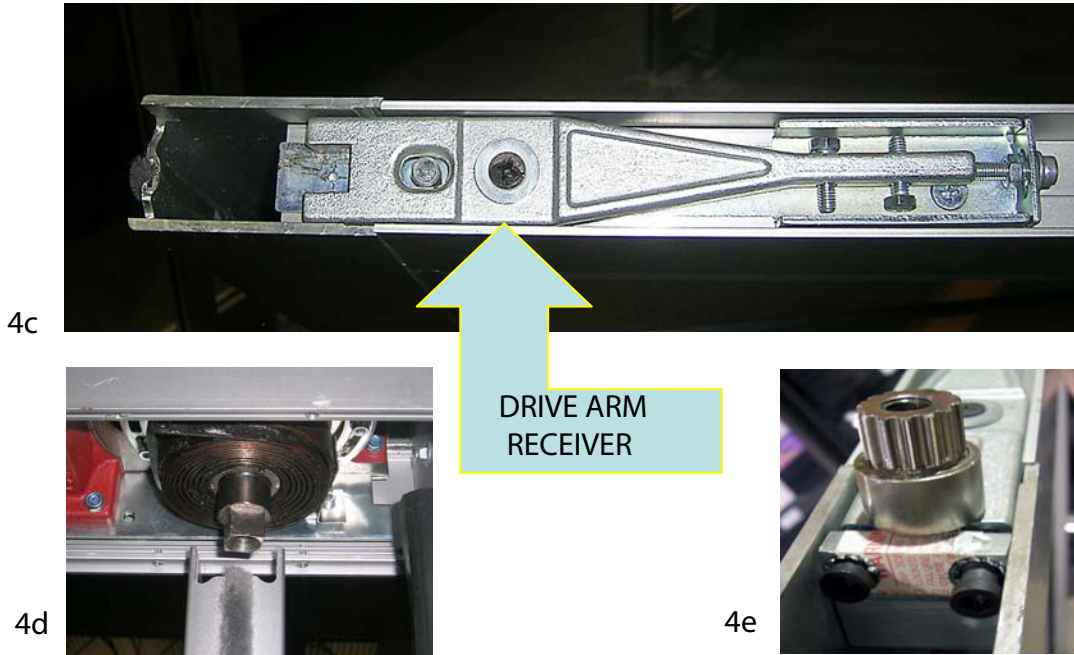
5.   BREAK OUT SWITCH
      The break out switch (PN STD.PKI) co   mes factory installed and programmed
      for each ap plication. After the door is installed, rotate it to the closed position.
      The breakout switch can be toggled back   and forth to allow the door to bypass
      it (Pic 5a).

5a

6.   TEACH IN AND FINAL ASSEMBLY
      The TDA overhead unit is   now ready to be taught   in. See Teach In
      instructions at the end of this docu   ment. Install inspection covers (PN
      140733-01 Clear   finish, 140733-02 Drk Bronz   e finish) provided and any
      applicable labels.

      For technical questions contact Tormax   Technical Service at 888-685-3707
      Exts. 123 or 103.

7.   DRIVE ARM REMOVAL

In the event the dr ive arm needs to be   removed proceed as follows. Lubricate and insert supplied bolt into drive arm.   Hold drive arm wh ile tightening the bolt. Once the bolt bottoms   against the TDA it will b egin to pull the drive arm out.

5 Electrical Connections
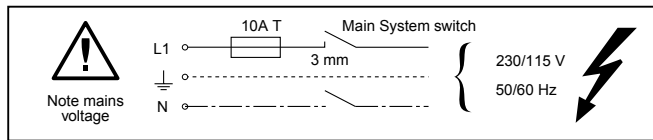
T957/9 e

Mains Connection

Prior to beginning any of the following work, ensure that the mains supply is turned off.

The mains cable should be routed along the side containing the power supply if possible.

The connections must be of type "PVC-cable H05VV-F" or "Rubber hose cable H05RR-F" or material approved by local code.

Remove burrs from all feed-through holes for mains connections.

• Remove the mains supply cover (1).

• Connect the mains cable to terminal (K) according to the figure.

• Route mains cable either through the prepared holes in the side part or through the openings in the mounting plate.

• Use only cable glands made from plastic material. Metallic bushings are to be grounded..

• Secure mains cable with a cable strap on the cable relief (Z).

T957/8

• Check the correct setting of the voltage selector (S) and replace the mains supply cover (1).

• When all work is complete and it has been verified that nobody is endangered by moving parts, the system can be connected to mains supply.
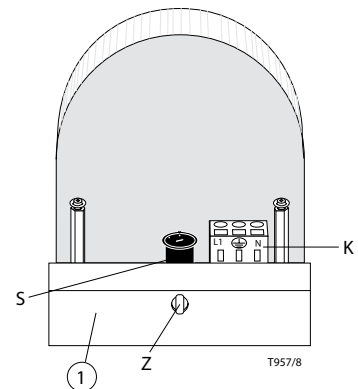
Cable Routing

The two cable straps fastened to the motor casing are used for the routing of external cables.

• Remove both cable straps.

• Install emergency-off switch according to the contract order and route the mains connection via the emergency-off switch.

Emergency-Off Switch
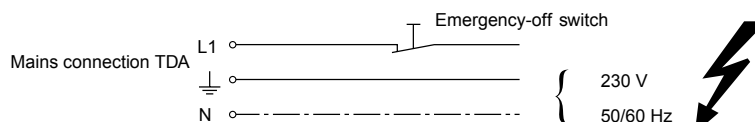
T957/1e

TDA Single / Master "Teach-In"

If required, the following basic adjustments of the door can be changed by the "Teach-In" function:

SOFT KEY

❑ Opening speed
❑ Opening angle
❑ Hold-open time (time delay)

Do not hold soft key down or programming will be deleted!

"Teach-In" Procedure

1. Locate the small gray button (Soft-Key) on the TCP-52 control next to the wide ribbon cable

   NOTE: If the following steps take longer than 30 seconds each (except the adjustment for the hold-open time), the control system will return to the previously active operating mode (e.g. OFF, AUTO, HOLD-OPEN). The door should be in the HOLD-OPEN position before proceeding to the next steps!

2. Select operating mode OFF.
3. Press and release the gray button.
4. The control will "beep" and the LED's on the ON/OFF/HOLD-OPEN panel will flash up and down. This signals that the Teach-In mode is activated.
5. The 2nd "beep" indicates the door is closed and the encoder is at the zero (0) degree position.
6. Manually open the door to establish the opening speed and opening angle. Hold the door in this position until the control "beeps" (3rd beep).
7. After the 3rd "beep", continue holding the door open to set the Hold-Open time.
8. Release the door after the desired Hold-Open time. When the door begins closing, the control will "beep" a 4th time signaling that the Hold-Open time has been set.
9. The control will "beep" a 5th time when the door is in the fully closed position.
10. Press and release the gray button. The control will "beep" a 6th time acknowledging the settings.

   NOTE: After the door resets, it will open fully to the HOLD-OPEN position.

1/26/04

Do not hold soft key down or programming will be deleted!

PN: 408468 (Jumper Bee)

TDA Slave "Teach-In"

If required, the following basic adjustments of the door can be changed by the "Teach-In" function:

- ❑ Opening speed
- ❑ Opening angle
- ❑ Hold-open time (time delay)

Slave "Teach-In" Procedure

1. Unplug the power to the Slave control by disconnecting the transformer cable.
2. Plug the red Jumper Bee plug into the red socket on the Slave control next to the wide ribbon cable as shown above. (This plug will be installed from the factory.)
3. Power the Slave control by reconnecting the transformer cable.
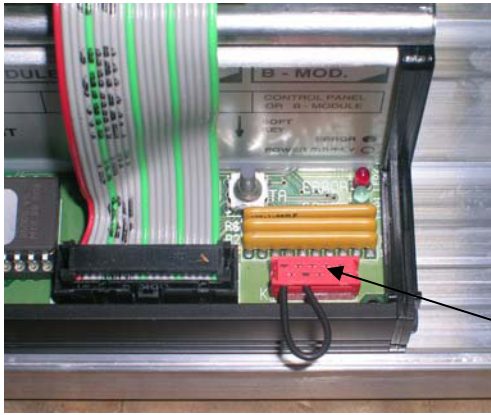4. Put the function control panel on the Master in the "Automatic" position.
5. Locate the small gray button (Soft-Key) on the TCP-52 control next to the wide ribbon cable.

   NOTE: If the following steps take longer than 30 seconds each (except the adjustment for the hold-open time), the control system will return to the previously active operating mode (e.g. OFF, AUTO, HOLD-OPEN).

6. Press and release the gray button. This is the 1st "beep" for the Teach-In process.
7. The 2nd "beep" indicates the door is closed and the encoder is at the zero (0) degree position.
8. Manually open the door to establish the opening speed and opening angle. Hold the door in this position until the control "beeps" (3rd beep).
9. After the 3rd "beep", continue holding the door open to set the Hold-Open time.
10. Release the door after the desired Hold-Open time. When the door begins closing, the control will "beep" a 4th time signaling that the Hold-Open time has been set.
11. The control will "beep" a 5th time when the door is in the fully closed position.
12. Press and release the gray button. The control will "beep" a 6th time acknowledging the settings. The door will slightly move while the control resets.
13. Remove the red Jumper Bee plug. Do not throw this plug away!!! It may be needed to make future adjustments.

2/6/04

7 Sensor wiring and input / output functions

Terminal Input / Output Functions

Activation - Signals the operator to open. (NO input)

Reactivation - Reopens door while closing input is inhibited when the door reaches the full closed position. (NO input)

Stall - When door is opening and input is active the door will stop in the position it is in. Input is inhibited when door reaches 75* of the full open 90* (NO input)

Safety - Keeps a open door opena nd a closed door from opening. (NO input)

Key Switch - Signals the door to open even if in the Off Mode. (NO input)

E Module - Dry relay contact active when door is in programmed state. (NO or NC avaliable)

.75 A max output from 24vdc output, use of 24vac trans is strongly recommended

Factory Wiring for TDA 200 Single

Terminal C

	1	GND
Activation	2	IN
	3	GND
Reactivation	4	IN
	5	+24 VDC
	6	GND
Stall	7	IN
	8	GND
Safety	9	IN
	10	+24 VDC

Key Switch

Terminal D

1	IN
2	GND

Terminal L

1	GND
2	
3	

24 VDC

E-Module

Door Closed — OUT B — E14 / E12 / E11

Opening / Open — OUT A — E14 / E12 / E11

To lock out relay +24vdc present when door is Open / Opening.

Terminal Input / Output
Functions

Activation - Signals the operator to open. (NO input)

Reactivation - Reopens door while closing input is inhibited when the door reaches the full closed position. (NO input)

Stall - When door is opening and input is active the door will stop in the position it is in. Input is inhibited when door reaches 75* of the full open 90* (NO input)

Safety - Keeps a open door opena nd a closed door from opening. (NO input)

Key Switch - Signals the door to open even if in the Off Mode. (NO input)

E Module - Dry relay contact active when door is in programmed state. (NO or NC avaliable)

Inhibit Switch - Prevents door from operating also called break out switch. (NO input)

.75 A max output from 24vdc output, use of 24vac trans is strongly recommended

Factory Wiring for TDA 100 Single

Terminal C		
Activation	1	GND
	2	IN
	3	GND
Reactivation	4	IN
	5	+24 VDC
	6	GND
Stall	7	IN
	8	GND
Safety	9	IN
	10	+24 VDC

Terminal D

Inhibit switch

1	IN
2	GND

Function Control Panel   **B Module on TCP**

Panel lock

Screen

1		1	GND
2		2	IN
3		3	IN
4		4	IN
5		5	OUT
6		6	OUT
7		7	OUT
8		8	OUT
9		9	OUT
10		10	+ 24 VDC

Terminal L

1	GND
2	
3	

24 VDC

E-Module

Door Closed — OUT B — E14 / E12 / E11

Opening / Open — OUT A — E14 / E12 / E11

To lock out relay +24vdc present when door is Open / Opening.

EAGLE

POWER 1 red	POWER 2 black	COM white	N.O. green	N.C.
1	2	3	4	5

APPROACH SUPERSCAN

EMPTY 1	INHIBIT GND 2	INHIBIT + 3	N.C. 4	N.O. 5	COM 6	POWER 7	POWER 8

SAFETY SUPERSCAN

EMPTY 1	INHIBIT GND 2	INHIBIT + 3	N.C. 4	N.O. 5	COM 6	POWER 7	POWER 8

BODYGUARD

SEE NOTE 2

POWER 1 red	POWER 2 black	COM white	N.O. green	N.C. brown	DATA - 6 blue	DATA + 7

LO-21P

RED
GREEN

LO21 DEFAULT DIP SWITCHES

OFF
ON

RED
BLACK

- BLACK/WHITE
- BROWN
- ORANGE
- VIOLET
- GREY
- GREEN
- RED/WHITE
- WHITE
- BLUE
- YELLOW

TDA CONTROL SINGLE

SEE NOTE 1

1 GND	2 IN	3 GND	4 IN	5 +24 VDC	6 GND	7 IN	8 GND	9 IN	10 +24 VDC

BASIC MODULE C

IN 1	GND 2
MODULE D

E11	E12	E14
E MODULE 1 RELAY A

E11	E12	E14
E MODULE 1 RELAY B

NOTES: 1.) SEE TORMAX INSTALLATION MANUAL FOR ASSISTANCE.
2.) ENSURE TO SET THE BODYGUARD RELAY TO VALUE 2. N.C.
3.) SEE LO21P USER GUIDE FOR ASSISTANCE

IF AFTER TROUBLESHOOTING A PROBLEM, A SATISFACTORY SOLUTION CANNOT BE ACHIEVED, PLEASE CALL B.E.A., INC. FOR FURTHER ASSISTANCE DURING EASTERN STANDARD TIME AT 1-800-523-2462 FROM 8AM - 5PM. FOR AFTER-HOURS, CALL EAST COAST: 1-866-836-1863 OR 1-800-407-4545 / MID-WEST: 1-888-308-8843 / WEST COAST: 1-888-419-2564. DO NOT LEAVE ANY PROBLEM UNRESOLVED. IF YOU MUST WAIT FOR THE FOLLOWING WORKDAY TO CALL B.E.A., LEAVE THE DOOR INOPERABLE UNTIL SATISFACTORY REPAIRS CAN BE MADE. NEVER SACRIFICE THE SAFE OPERATION OF THE AUTOMATIC DOOR OR GATE FOR AN INCOMPLETE SOLUTION. WEB: WWW.BEASENSORS.COM

BEA
We open up New Horizons
HALMA GROUP COMPANY

100 ENTERPRISE DRIVE
PITTSBURGH, PA 15275
PHONE: (412) 249-4100
FAX: (412) 249-4101
EMAIL: www.beasensors.com

TITLE: TORMAX TDA SINGLE DOOR WITH PARALLAX 1 SYSTEM (LO-21P)

SIZE: A	DRAWN BY: JED	REV BY:	PART NO: 80.0308.00
	SCALE: NONE	DATE: 21 JULY 2009	SHEET 1 OF 1

Terminal Input / Output
Functions

Activation - Signals the operator to open. (NO input)

Reactivation - Reopens door while closing input is inhibited when the
door reaches the full closed position. (NO input)

Stall - When door is opening and input is active the door will stop
in the position it is in. Input is inhibited when door reaches 75* of the
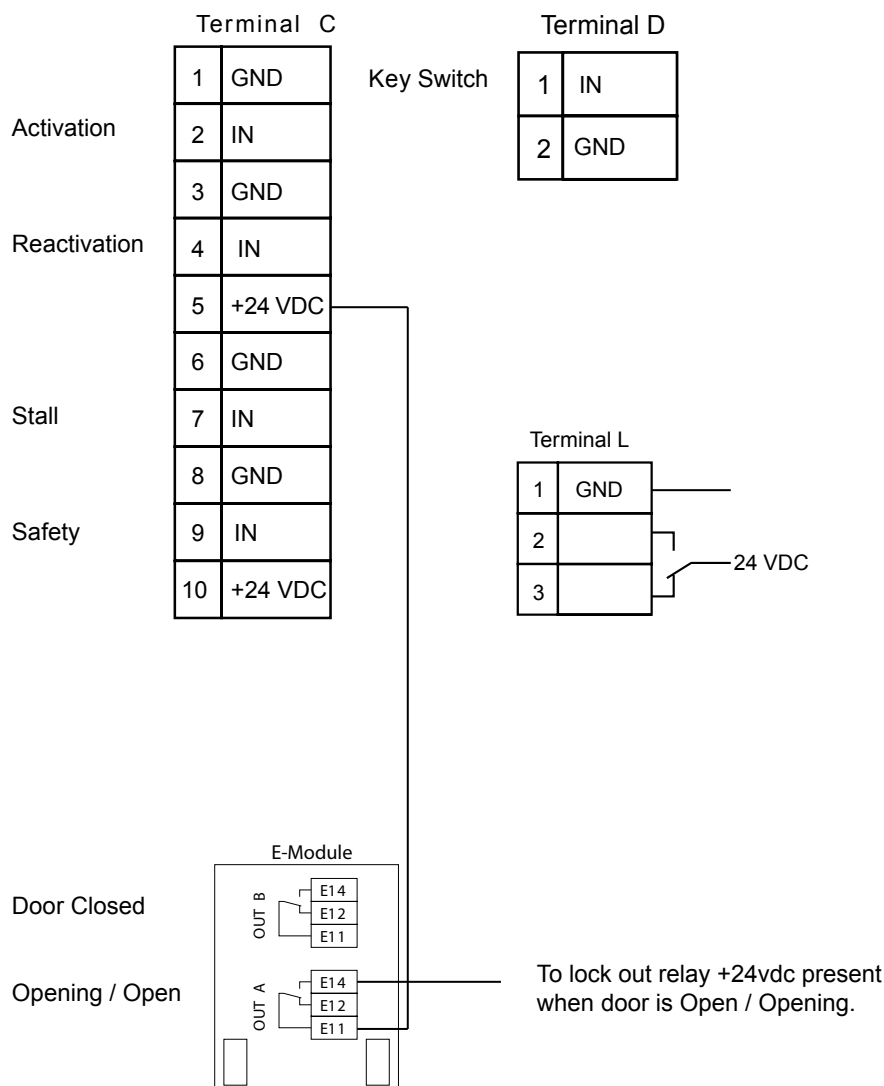full open 90* (NO input)

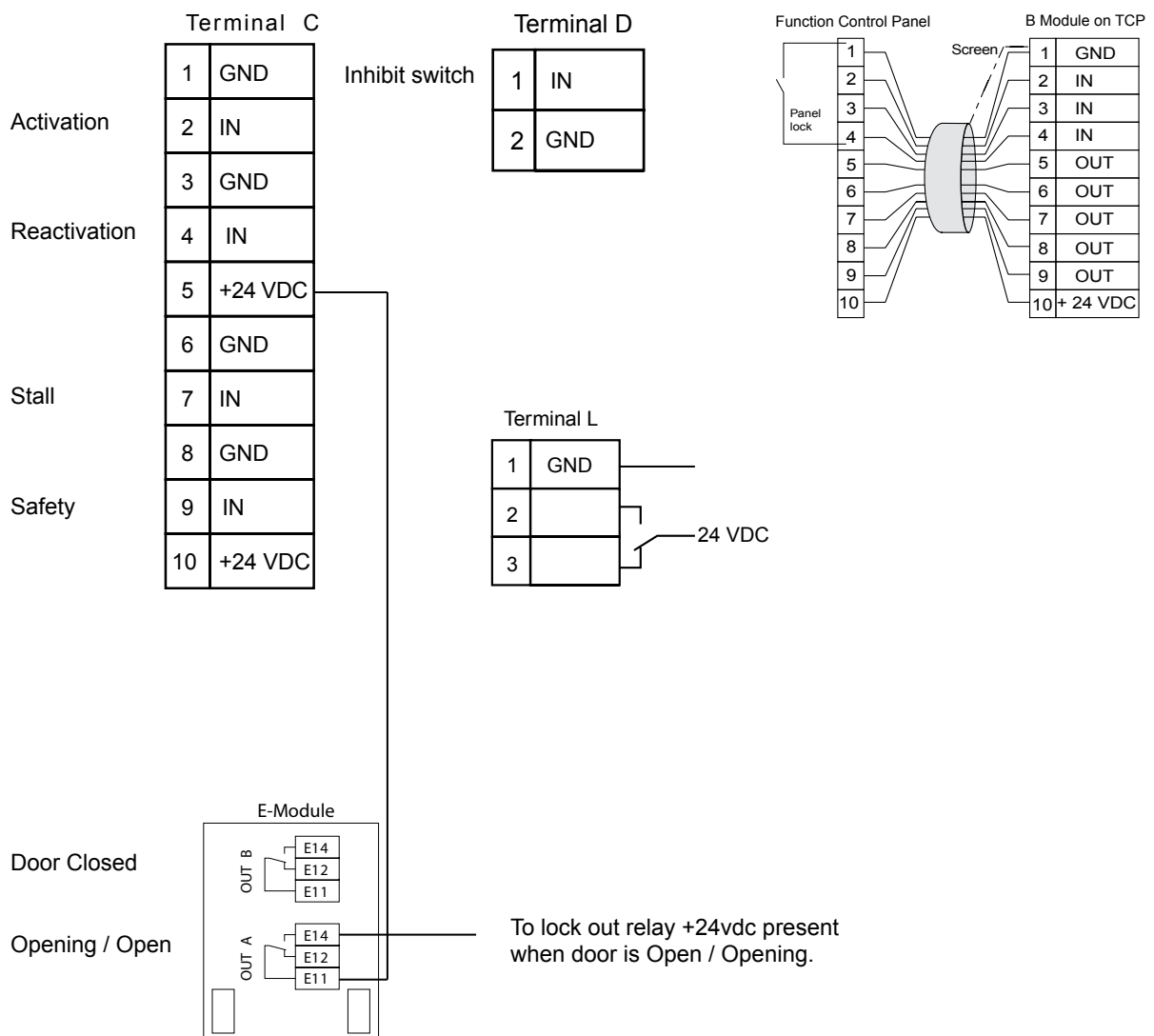Safety - Keeps a open door opena nd a closed door from opening. (NO input)

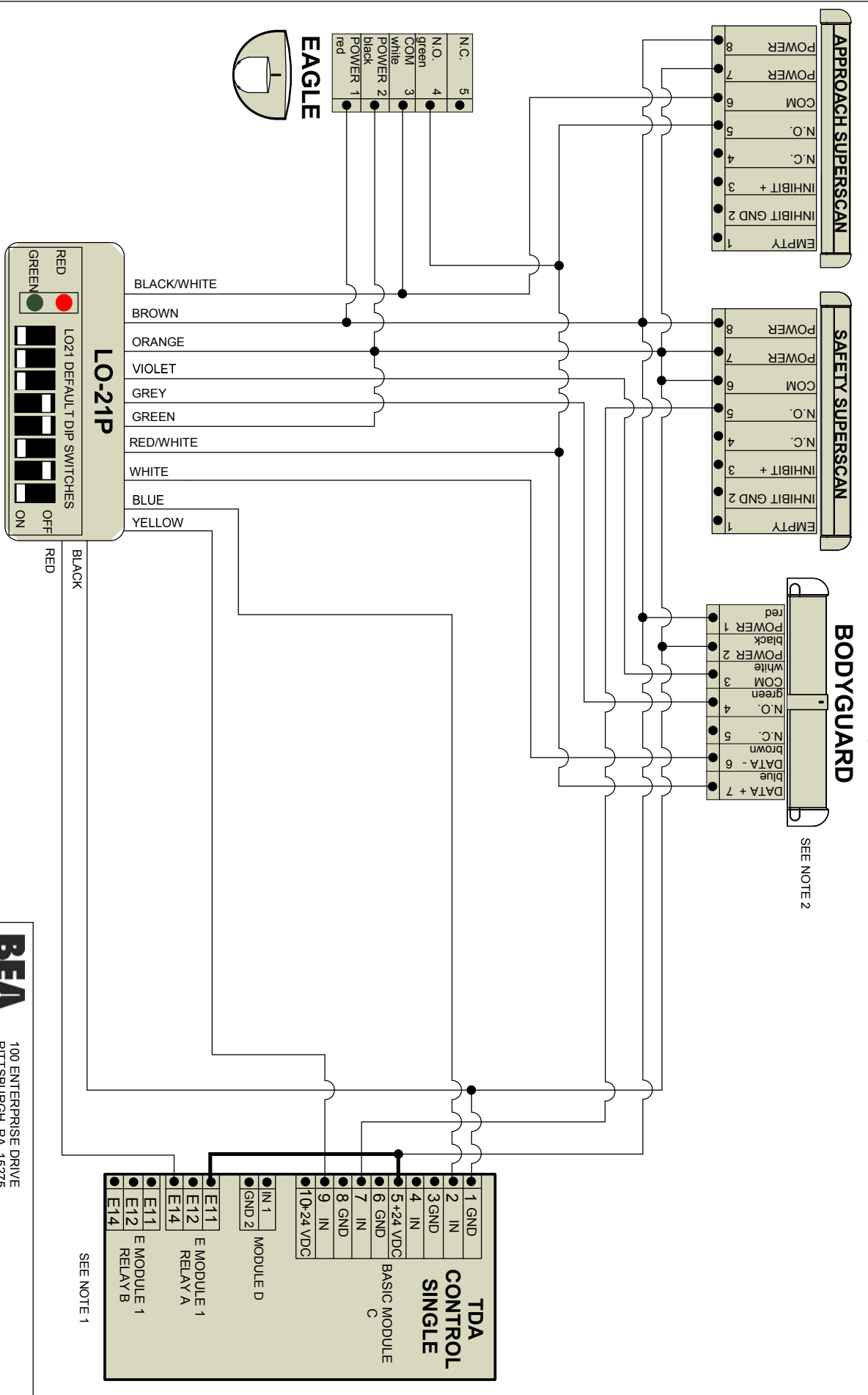Key Switch - Signals the door to open even if in the Off Mode. (NO input)

E Module - Dry relay contact active when door is in programmed
state. (NO or NC avaliable)

.75 A max output from 24vdc output, use of 24vac trans is strongly recommended

Factory Wiring for TDA 200 Pair

Master
Terminal C

1	GND
2	IN
3	GND
4	IN
5	+24 VDC
6	GND
7	IN
8	GND
9	IN
10	+24 VDC

Activation — 2
Reactivation — 4
Stall — 7
Safety — 9

Slave
Terminal C

1	GND
2	IN
3	GND
4	IN
5	+24 VDC
6	GND
7	IN
8	GND
9	IN
10	+24 VDC

Off Mode — 2
Reactivation — 4
Stall — 7
Activation — 9

Terminal D

Key Switch

| 1 | IN |
| 2 | GND |

Safety

Terminal D

| 1 | IN |
| 2 | GND |

E-Module

OUT B
E14
E12
E11

OUT A
E14
E12
E11

Open Mode

Off Mode

E-Module

OUT B
E14
E12
E11

OUT A
E14
E12
E11

Door
Opening / Open

Door Closed

To lock out relay +24vdc present
when door is Open / Opening.

Terminal Input / Output Functions

Activation - Signals the operator to open. (NO input)

Reactivation - Reopens door while closing input is inhibited when the door reaches the full closed position. (NO input)

Stall - When door is opening and input is active the door will stop in the position it is in. Input is inhibited when door reaches 75* of the full open 90* (NO input)
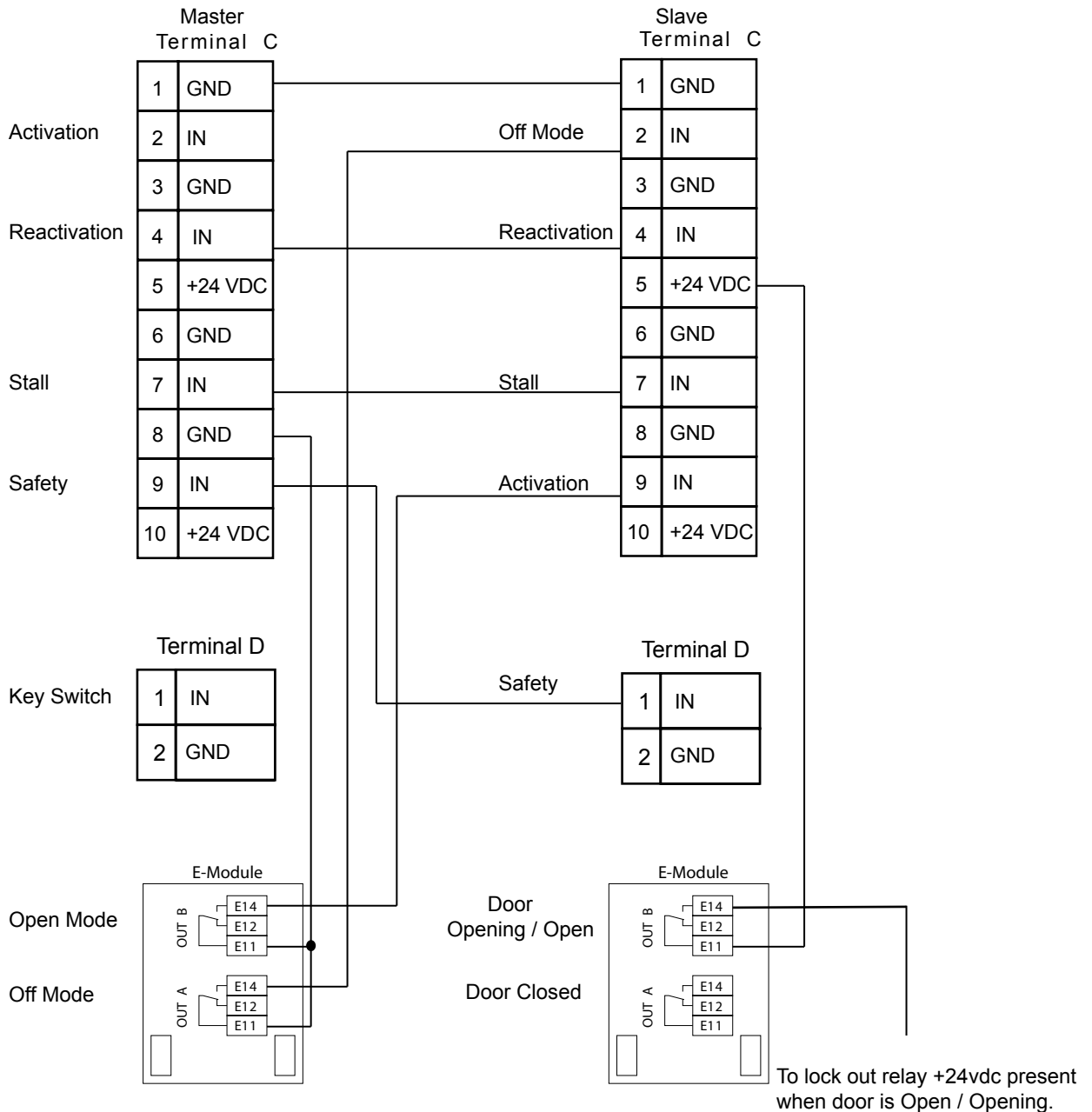
Safety - Keeps a open door opena nd a closed door from opening. (NO input)

Key Switch - Signals the door to open even if in the Off Mode. (NO input)

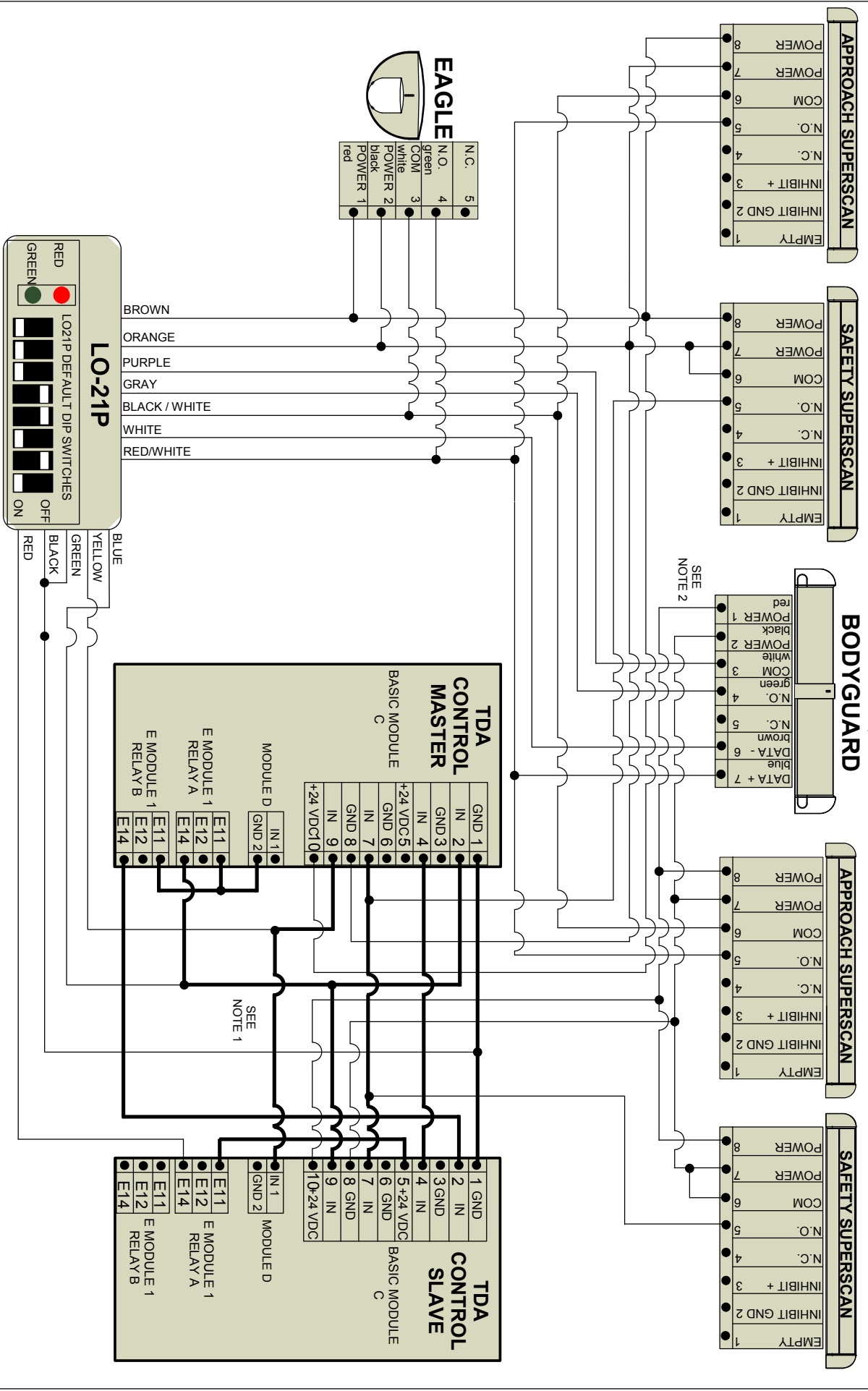E Module - Dry relay contact active when door is in programmed state. (NO or NC avaliable)

Inhibit Switch - Prevents door from operating aslo called the break out switch. (NO input)

.75 A max output from 24vdc output, use of 24vac trans is strongly recommended

Factory Wiring for TDA 100 Pair

Master Terminal C

1	GND
2	IN
3	GND
4	IN
5	+24 VDC
6	GND
7	IN
8	GND
9	IN
10	+24 VDC

Activation - 2
Reactivation - 4
Stall - 7
Safety - 9

Slave Terminal C

1	GND
2	IN
3	GND
4	IN
5	+24 VDC
6	GND
7	IN
8	GND
9	IN
10	+24 VDC

Off Mode - 2
Reactivation - 4
Stall - 7
Activation - 9

Function Control Panel
Panel lock
Screen
B Module on TCP

1	GND
2	IN
3	IN
4	IN
5	OUT
6	OUT
7	OUT
8	OUT
9	OUT
10	+ 24 VDC

Terminal D

Inhibit Switch
| 1 | IN |
| 2 | GND |

Terminal D

Safety
| 1 | IN |
| 2 | GND |

Terminal F

1	GND
2	IN
3	GND
4	+24 VDC / OUT
5	GND
6	IN
7	IN

Inhibit Switch - 2
Auxiliary supply

See Sercom or Sersoft for programming input options.

E-Module

OUT B
| E14 |
| E12 |
| E11 |

OUT A
| E14 |
| E12 |
| E11 |

Open Mode
Off Mode

E-Module

OUT B
| E14 |
| E12 |
| E11 |

OUT A
| E14 |
| E12 |
| E11 |

Door Opening / Open
Door Closed

To lock out relay +24vdc present when door is Open / Opening.

NOTES: 1. CONNECTIONS SHOWN IN BOLD ARE THE SYNCH LINES REQUIRED BY TORMAX FOR A SIMULTANEOUS PAIR.
SEE TORMAX INSTALLATION MANUAL FOR ASSISTANCE.
2. SET BODY GUARD OUTPUT CONFIGURATION TO "2".

IF AFTER TROUBLESHOOTING A PROBLEM, A SATISFACTORY SOLUTION CANNOT BE ACHIEVED, PLEASE CALL B.E.A., INC. FOR FURTHER ASSISTANCE DURING EASTERN STANDARD TIME AT 1-800-523-2462 FROM 8AM - 5PM. FOR AFTER-HOURS, CALL EAST COAST: 1-866-836-1863 OR 1-800-407-4545 / MID-WEST: 1-888-308-8843 / WEST COAST: 1-888-419-2564. DO NOT LEAVE ANY PROBLEM UNRESOLVED. IF YOU MUST WAIT FOR THE FOLLOWING WORKDAY TO CALL B.E.A., LEAVE THE DOOR INOPERABLE UNTIL SATISFACTORY REPAIRS CAN BE MADE. NEVER SACRIFICE THE SAFE OPERATION OF THE AUTOMATIC DOOR OR GATE FOR AN INCOMPLETE SOLUTION. WEB: WWW.BEASENSORS.COM

EAGLE

N.C.	5
N.O.	4
COM green	3
POWER 2 white	2
POWER 1 black	1
	red

LO-21P
RED / GREEN
LO21P DEFAULT DIP SWITCHES
ON / OFF

BROWN
ORANGE
PURPLE
GRAY
BLACK / WHITE
WHITE
RED/WHITE

BLUE
YELLOW
GREEN
BLACK
RED

APPROACH SUPERSCAN

8	POWER
7	POWER
6	COM
5	N.O.
4	N.C.
3	INHIBIT +
2	INHIBIT GND 2
1	EMPTY

SAFETY SUPERSCAN

8	POWER
7	POWER
6	COM
5	N.O.
4	N.C.
3	INHIBIT +
2	INHIBIT GND 2
1	EMPTY

BODYGUARD
SEE NOTE 2

POWER 1 red	
POWER 2 black	
COM white	3
N.O. green	4
N.C.	5
DATA - brown	6
DATA + blue	7

TDA CONTROL MASTER
BASIC MODULE C
MODULE D
E MODULE 1 RELAY A
E MODULE 1 RELAY B

GND 1	IN 2	GND 3	IN 4	+24 VDC 5	GND 6	GND 7	IN 8	IN 9	+24 VDC 10
GND 2	IN 1
E11	E12	E14
E11	E12	E14

SEE NOTE 1

TDA CONTROL SLAVE
BASIC MODULE C
MODULE D
E MODULE 1 RELAY A
E MODULE 1 RELAY B

1 GND	2 IN	3 GND	4 IN	5 +24 VDC	6 GND	7 IN	8 GND	9 IN	10 +24 VDC
GND 2	IN 1
E11	E12	E14
E11	E12	E14

APPROACH SUPERSCAN

8	POWER
7	POWER
6	COM
5	N.O.
4	N.C.
3	INHIBIT +
2	INHIBIT GND 2
1	EMPTY

SAFETY SUPERSCAN

8	POWER
7	POWER
6	COM
5	N.O.
4	N.C.
3	INHIBIT +
2	INHIBIT GND 2
1	EMPTY

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We open up new horizons
HALMA GROUP COMPANY
100 ENTERPRISE DRIVE
PITTSBURGH, PA. 15275
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EMAIL: www.beasensors.com

TITLE: TORMAX TDA SIMULTANEOUS PAIR WITH PARALLAX 2 SYSTEM LO-21P

| SIZE: A | DRAWN BY: WJR | REV BY: | PART NO. |
| SCALE: NONE | DATE: 04 DEC 2009 | SHEET 1 OF 1 | 80.0305.01 |

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Programming for TDA Single COMMERCIAL

TDASICOM		
DIRCOM Codes		**In / Output**
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,37	Door opening or open	E-module #1 relay A
T,80,W,455	Over reading of safety swing side	
T, 71, W, 0	Fire mode off	
T, 70, W, 0	Push and Go off	
T,100,W,1	3-position control panel	
S,0	Software reset	
Options		
T,50,W,50	1/2 second lock delay	
T,70,W,10	Push and Go on	Standard setting
T,100,W,2	5-function control panel	

10/29/09

TDA OHC Single COMMERCIAL

*** Press UP BUTTON for 4 beeps before programming ***

TDAOHCLE		
DIRCOM Codes		**In / Output**
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,20,7,W,14	Reset after panic (OHC breakout)	D1
P,30,14,W,0	Active level (active when closed)	D1
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,37	Door opening or open	E-module #1 relay A
P,40,1,W,16	Door closed	E-module #1 relay B
T,100,W,2	5-Function control panel	
T,80,W,455	Over reading of safety swing side	
T,70,W,0	Push & Go	Off
T,87,W,0	Internal reversing off closing	
T,86,W,0	Internal reversing off opening	
T,71,W,0	Fire mode off	

TDA OHC LE Single COMMERCIAL

*** Press UP BUTTON for 4 beeps before programming ***

TDAOHCLE		
DIRCOM Codes		**In / Output**
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,20,7,W,14	Reset after panic (OHC breakout)	D1
P,30,14,W,0	Active level (active when closed)	D1
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,37	Door opening or open	E-module #1 relay A
P,40,1,W,16	Door closed	E-module #1 relay B
S,32,W,1	Reduced opening force	Low Energy application
T,100,W,2	5-Function control panel	
T,80,W,455	Over reading of safety swing side	
T,70,W,0	Push & Go	Off
T,87,W,0	Internal reversing off closing	
T,86,W,0	Internal reversing off opening	
T,71,W,0	Fire mode off	

10/29/09

Programming for TDA COMMERCIAL Pair

DIRCOM Codes		In / Output
<u>Master</u>		
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,29	Operating Mode – Open	E module #1 relay A
P,40,1,W,25	Operating Mode - Off	E module #1 relay B
S,30,W,2	Operation mode auto	
T,70,W,0	Push and go off	
T,80,W,455	Over reading of safety swing side	
T,87,W,0	Internal Closing Reversing – Off	
T,71,W,0	Fire mode off	
<u>Slave</u>		
P,20,3,W,18	Mode off	C2
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,4	Open impulse	C9
P,20,7,W,6	Safety Both Sides	D1
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	D1
P,40,0,W,37	Door opening or open	E module #1 relay A
P,40,1,W,16	Door closed (for interlocking)	E module #1 relay B
T,110,W,1	Operation mode return	
T,70,W,0	Push and go off	
T,80,W,455	Over read of safety swing side	
T,87,W,0	Internal Closing Reversing – Off	
P,20,2,W,32	Operation mode auto	B4
P,30,32,W,1	Active level (active when open)	B4
T,71,W,0	Fire mode off	

Prog. for TDA OHC COMMERCIAL Pair

*** Press BLUE UP BUTTON for 4 beeps before programming***

DIRCOM Codes		In / Output
Master		
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,29	Operating Mode – Open	E module #1 relay A
P,40,1,W,25	Operating Mode - Off	E module #1 relay B
T,71,W,0	Fire mode off	
T,70,W,0	Push and go off	
T,80,W,455	Over reading of safety swing side	
T,87,W,0	Internal Reversing – Off closing	
T,100,W,2	5-Function control panel	
T,86,W,0	Internal reversing – Off opening	
P,20,7,W,14	Reset after panic (OHC breakout)	D1
P,30,14,W,0	Reset after panic (active when closed)	D1
Slave		
P,20,3,W,18	Mode off	C2
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,4	Open impulse	C9
P,20,7,W,6	Safety Both Sides	D1
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	D1
P,40,0,W,37	Door opening or open	E module #1 relay A
P,40,1,W,16	Door closed (for interlocking)	E module #1 relay B
T,110,W,1	Operation mode return	
T,70,W,0	Push and go off	
T,80,W,455	Over read of safety swing side	
T,87,W,0	Internal Reversing – Off closing	
P,20,2,W,32	Operation mode auto	B4
P,30,32,W,1	Active level (active when open)	B4
T,100,W,2	5-Function control panel	
T,86,W,0	Internal reversing-Off opening	
P,20,8,W,14	Reset after panic (OHC breakout)	F2
P,30,14,W,0	Reset after panic (active when closed)	F2
T,71,W,0	Fire mode off	

10-29-09

Prog. for TDA OHC COMMERCIAL Pair Low Energy

*** Press BLUE UP BUTTON for 4 beeps before programming***

DIRCOM Codes		In / Output
Master		
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,29	Operating Mode – Open	E module #1 relay A
P,40,1,W,25	Operating Mode – Off	E module #1 relay B
S,32,W,1	Reduced opening force (low energy)	
T,70,W,0	Push and go	Off
T,80,W,455	Over reading of safety swing side	
T,87,W,0	Internal Reversing – Off closing	
T,100,W,2	5-Function control panel	
T,71,W,0	Fire mode off	
T,86,W,0	Internal reversing- Off opening	
P,20,7,W,13	Inhibit switch (OHC breakout)	D1
P,30,13,W,0	Inhibit switch (active when closed)	D1
Slave		
P,20,3,W,18	Mode off	C2
P,20,4,W20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,4	Open impulse	C9
P,20,7,W,6	Safety Both Sides	D1
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	D1
P,40,0,W,37	Door opening or open	E module #1 relay A
P,40,1,W,16	Door closed (for interlocking)	E module #1 relay B
S,32,W,1	Reduced opening force (low energy)	
T,110,W,1	Operation mode return	
T,70,W,0	Push and go	Off
T,80,W,455	Over read of safety swing side	
T,87,W,0	Internal Reversing – Off closing	
P,20,2,W,32	Operation mode auto	B4
P,30,32,W,1	Active level (active when open)	B4
T,100,W,2	5-Function control panel	
P,20,8,W,13	Inhibit switch (OHC breakout)	F2
P,30,13,W,0	Inhibit switch (active when closed)	F2
T,86,W,0	Internal reversing – Off opening	
T,71,W,0	Fire mode off	

10/29/09

Programming for Double Egress
REQUIRES 2 OFF/AUTO/HO SWITCHES

MASTER		
DIRCOM Codes		**In / Output**
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,37	Door opening or open	E-module #1 relay A
T,80,W,455	Over reading of safety swing side	
T,71,W,0	Fire mode off	
T,70,W,0	Push & Go off	
T,100,W,1	3-position control panel	
S,0	Software reset	
MASTER		
DIRCOM Codes		**In / Output**
P,20,4,W,20	Safety approach side	C4
P,20,5,W,21	Safety swing side	C7
P,20,6,W,6	Safety both sides	C9
P,30,20,W,0	Active level (active when closed)	C4
P,30,21,W,0	Active level (active when closed)	C7
P,30,9,W,0	Active level (active when closed)	C9
P,40,0,W,37	Door opening or open	E-module #1 relay A
T,80,W,455	Over reading of safety swing side	
T,71,W,0	Fire mode off	
T,70,W,0	Push & Go off	
T,100,W,1	3-position control panel	
S,0	Software reset	

10/29/09

7 Additional DirCom Programing

On the following pages, you find all TDA/TDM DirCom codes and corresponding explanations

7.1 List of the DirCom Codes

Units

Explanations

ms = Milliseconds

SE = System units (abstract term)

l/min = Revolutions per minute

EF = edge of encoder pulse

Applicable from software version A6299.

Motor-Driven Opening Motion

Delay time to open:

Code Input	Minimum	Standard	Maximum	Unit
T,50,W,VALUE,	0	40	5000	ms

– Time that elapses from the activation of the E-opener to the start of the motor. This enables a reliable unlocking of the E-opener; high value = long delay time.

Opening acceleration:

Code Input	Minimum	Standard	Maximum	Unit
T,20,W,VALUE,	2	8	25	SE

– Acceleration value; high value = high acceleration rate.

Opening speed:

Code Input	Minimum	Standard	Maximum	Unit
T,62,W,VALUE,	200	800	1200	l/min

– Determines the max. speed of the motor and thus the max. opening velocity; high value = high speed.

Opening angle:

Code Input	Minimum	Standard	Maximum	Unit
T,60,W,VALUE,	500	1000	5000	EF

– Determines the opening angle of the door in terms of encoder pulses; high value = large opening angle.

Reduced opening angle in stepping operation after input function 16

Code Input	Minimum	Standard	Maximum	Unit
T,600,W,VALUE,	200	300	5000	EF

– Special function: in connection with input function 16, a reduced opening width can be defined as a stepping function; high value = large opening angle.

Opening damping:

Code Input	Minimum	Standard	Maximum	Unit
T,21,W,VALUE,	2	8	25	SE

– Defines the damping behaviour during an opening motion; high value = reduced damping.

Homing-in speed:

Code Input	Minimum	Standard	Maximum	Unit
T,25,W,VALUE,	50	100	300	l/min

– Defines the speed with which the door drives into the end position after the damping phase; high value = high speed.

Tolerance of programmed open position:

Code Input	Minimum	Standard	Maximum	Unit
T,26,W,VALUE,	20	30	300	EF

– Defines how exactly the door needs to drive to the programmed position; high value = large admissible deviation.

Reduced opening force:

Code Input	Minimum	Standard	Maximum	Unit
S,32,W,VALUE,	0	0	1	SE

– With this command, a reduced opening force can be set. This function is not suitable for the roller lever.

> For fire protection applications, the value is to be set to 1.

Manual Opening Motion

Beginning of damping:

Code Input	Minimum	Standard	Maximum	Unit
T,63,W,VALUE,	50	250	2000	EF

– Defines the beginning of damping for a manual opening motion. It is also effective in operating mode OFF. High value = earlier beginning of damping.

Maintained Opening

Retaining force in the open position:

Code Input	Minimum		Maximum	Unit
T,64,W,VALUE,	13		20	SE

– Defines, how strongly the door is held in the open position (e.g. against wind load); high values = high retaining force. Note: high values entail an increased heating up of the control system.

Hold-open time settings:

Code Input	Minimum	Standard	Maximum	Unit
T,61,xx,W,VALUE,	1	20	1200	100 ms

xx = 1: for key switches;   xx = 3: for activators outside IGA;   x x = 2: for activators inside IGI;   xx = 4: for "Push-and-Go".
In "Teach-In" mode, all time settings are set to the same value.

– Define how long the door remains open. Per activator, different time settings can be defined; high values = long hold-open durations.

Closing Motion

Closing speed:

Code Input	Minimum	Standard	Maximum	Unit
T,41,W,VALUE,	5	14	25	SE

– Limits the max. motor speed and thereby determines the max. closing speed; high value = high speed.

Beginning of damping in closing direction:

Code Input	Minimum	Standard	Maximum	Unit
T,42,W,VALUE,	10	300	2000	EF

– Defines the position where damping begins in closing direction; high value = At the point of beginning of damping, the door is still wide open.

Closing damping:

Code Input	Minimum	Standard	Maximum	Unit
T,40,W,VALUE,	10	118	200	SE

– Defines the hardness of damping or the speed in the damping range; high value = high damping or low speed.

Motor supported closing action:

Code Input	Minimum	Standard	Maximum	Unit
T,90,W,VALUE,	0	0	1	SE

Value 0: Spring-operated closing; Value 1: Motor supported closing action from value T 88. (T88 < T86)

– Standard (value = 0): switched inactive, no effect;
If switched active (value = 1), the door at standstill is pressed into the end position by motor within the range defined under "Beginning of the motor supported closing action" and for closed position of door.

Note: This adjustment can create dangerous conditions. Therefore, appropriate safety precautions are required.

Beginning of the motor supported closing action:

Code Input	Minimum	Standard	Maximum	Unit
T,88,W,VALUE,	0	100	2000	EF

– Defines the activation range for the motor supported closing action; high value = large range.

Maintained Closing

Motor supported maintained closing:

Code Input	Minimum	Standard	Maximum	Unit
T,91,W,VALUE,	0	0	1	SE

– Standard (value = 0) switched inactive, no effect.
If switched active (value = 1), the door in closed position is additionally kept closed by motor.

Internal and External Safety Devices

Deactivate external safety devices during opening:

Code Input	Minimum	Standard	Maximum	Unit
T,80,W,VALUE,	0	60	3000	EF

– Defines a range before the OPEN position of the door in which external safety devices are switched inactive; high value = large inactive range, e.g. disabling the sensor strip when opening against a wall.

Deactivate external safety device during closing:

Code Input	Minimum	Standard	Maximum	Unit
T,81,W,VALUE,	0	60	3000	EF

– Defines a range before the CLOSED position of the door in which external safety devices are switched inactive; high value = large inactive range.

Internal reversing during opening:

Code Input	Minimum	Standard	Maximum	Unit
T,86,W,VALUE,	0	100	500	EF

– Defines a range from the CLOSED position of the door in opening direction in which internal reversing is not active in both directions; high value = large inactive range. Reversing is switched off if value equal 0.

Internal reversing during closing:

Code Input	Minimum	Standard	Maximum	Unit
T,87,W,VALUE,	0	100	500	EF

– Defines a range from the OPEN position of the door in closing direction in which internal reversing is not active in either direction; high value = large inactive range. Reversing is switched off if value equal 0.

Special Impulses/Panel

Push-and-Go:

Code Input	Minimum	Standard	Maximum	Unit
T,70,W,VALUE,	0	10	100	EF

– If switched active (value > 0) and with standard settings S,21,W,0, the motor takes over the manually initiated opening motion starting from the entered value only when a reduction of the manual opening speed occurs; high value = large manual range.
If switched active (value > 0) and with parameter S,21,W,4, the motor takes over the manually initiated opening motion immediately starting from the entered value; high value = large manual range

Note: In applications where the doors are opened manually with high dynamics, this setting is being felt as unpleasant. Therefore, it is recommended to apply this setting only in old age and nursing homes.

Function change key switch signal:

Code Input	Minimum	Standard	Maximum	Unit
P,190,4,W,VALUE,	0	1	1	

– With standard setting (value = 1), the input command "close door" (P,20,n,W,37) is only carried out when the key switch is inactive. With the setting value = 0, the input command "close door" (P,20,n,W,37) is carried out even if the key switch is active.

Activation of 3-position or 5-position panel:

Code Input	Minimum	Standard	Maximum	Unit
T,100,W,VALUE,	1	1	2	EF

– Defines whether the integrated 3-position (Value 1) or the external 5-position panel (value 2) is used.

Change of Operating Mode

Operating mode after mains failure:

Code Input	Minimum	Standard	Maximum	Unit
S,31,W,VALUE,	0	0	1	

– Defines the behaviour of the control system after mains failure or power interruption, by factory default (value =0), the operating mode prior to mains failure is maintained. If the value is set to 1, operating mode OFF is selected after each supply disruption or reset.

Operating mode after input function 30 or mains failure:

Code Input	Minimum	Standard	Maximum	Unit
S,22,W,VALUE,	0	0	2	

– Defines the operating mode which is activated after input function 30 is applied or a mains failure occurred. Value 0: No modification; Value 1: Operating mode OFF; Value 2: Operating mode AUTO.

For fire protection applications, the value is to be set to 1.

Operating mode return:

Code Input	Minimum	Standard	Maximum	Unit
T,110,W,VALUE,	0	0	1	EF

– Defines the behaviour of the control system if an input signal is removed that entailed a mode change. By factory default, the original operating mode is not restored (value =0); if the value = 1 is programmed, the original operating mode is recalled.

Operating mode selection:

Code Input	Minimum	Standard	Maximum	Unit
S,30,W,VALUE,	1	1	5	

– Permits to set the desired operating mode via the interface. Value 1: OFF; Value 2: AUTO; Value 3: cannot be selected; Value 4: EXIT (only 5-position panel); Value 5: OPEN.

Reset

Factory reset through SERCOM:

Code Input	Minimum	Standard	Maximum	Unit
P,0,W,T,				

– Resets all parameters to the factory settings. All prior programming is deleted.

Factory reset by soft key:

– Press the grey key on the control system printed circuit board until 5 short tones can be heard.
Resets all parameters to the factory settings. All prior programming is deleted.

Software reset through SERCOM:

Code Input	Minimum	Standard	Maximum	Unit
S,				

Software reset from the panel,
Press panel key UP until 3 short tones can be heard

Software-Reset by input function:
– Program is restarted. All prior programming is maintained. See separate list "programmable input functions".

Fault Interrogation

Reading the current fault:

Code Input	Minimum	Standard	Maximum	Unit
S,40,				

– Shows the current fault which is also displayed at the panel. Value 0: No fault; Value 29: Reversing during closing; Value 30: Reversing during opening.

Reading the last 32 faults:

Code Input	Minimum	Standard	Maximum	Unit
S,45,				

– Displays the last 32 faults. Values see S,40.

Error message during SERCOM/DirCOM programming:

– Indicates that the input via SERCOM was not understood by the control system,
Error 04: Command unknown or syntax error
Error 10: Function used more than once (only with older software versions).

Interrogation of Drive Information

Reading the software version:

Code Input	Minimum	Standard	Maximum	Unit
P,				

– Displays the current software version.

Reading the hardware version:

Code Input	Minimum	Standard	Maximum	Unit
T,				

– Displays the hardware version.

Reading the operator type:

Code Input	Minimum	Standard	Maximum	Unit
P,1000,R,				

– Shows the programmed operator type:
  8 stands for TDA, 9 stands for TDM.

Door opening command through SERCOM:

Code Input	Minimum	Standard	Maximum	Unit
S,20,				

– Permits to issue an opening command from SERCOM.

Reading the current motor position:

Code Input	Minimum	Standard	Maximum	Unit
S,70,				

– Displays in which position the motor is. This is useful for diagnosis.

Reading the current motor position and programmed opening angle:

Code Input	Minimum	Standard	Maximum	Unit
S,75,				

– Displays in which position the motor is and additionally the programmed opening
  angle in terms of encoder pulses for the full opening angle and the reduced opening
  angle.

Reading the number of door openings:

Code Input	Minimum	Standard	Maximum	Unit
S,10,				

– Allows to read the number of openings. The number to the left of the comma indicates
  hundredths of openings, the number to the right of the comma indicates single open-
  ings. Example: 455,67 means therefore: 455 x 100 + 67 = 45567 openings.
  Note: On a software update and factory reset, the counter is reset to 0. On software
  reset, only the 0-100 part (67 in our example) is reset.

**Input/Output Functions
Programmable Functions**

Activation limit of the output functions:

Code Input	Minimum	Standard	Maximum	Unit
T,120,W,VALUE,	0	60	300	EF

– Defines a range in the CLOSED position as also in the OPEN position in which feed-
  back is disabled in order to avoid incorrect feedback due to vibrations of the door
  leaf; large values = large inactive range.

8   Check List

Y	N	N/A	
☐	☐	☐	Does the door / door panels swing freely w/o obstruction?
☐	☐	☐	Are all wires clear from moving parts?
☐	☐	☐	Are all adjustment bolts tight?
☐	☐	☐	Does the break out switch function on a 100 series application?
☐	☐	☐	Are there any error codes being displayed?
☐	☐	☐	Do all the modes of operation function (Auto, Off HO)?
☐	☐	☐	Are all safety devices / sensors operating correctley?
☐	☐	☐	Has an ANSI A156.10 and / or ANSI A156.19 inspection been preformed?
☐	☐	☐	Are the Door# decal, Service decal, Daily Safety Check decal all present and in proper location?
☐	☐	☐	Has the Daily Safety Check been reviewed with the Manager?
☐	☐	☐	Have all the functions been reviewed with the Manager?
☐	☐	☐	Was the Owners manual given to the Manager?
☐	☐	☐	Did the Manager sign the work order/service ticket?

Installer signature/date   _____

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