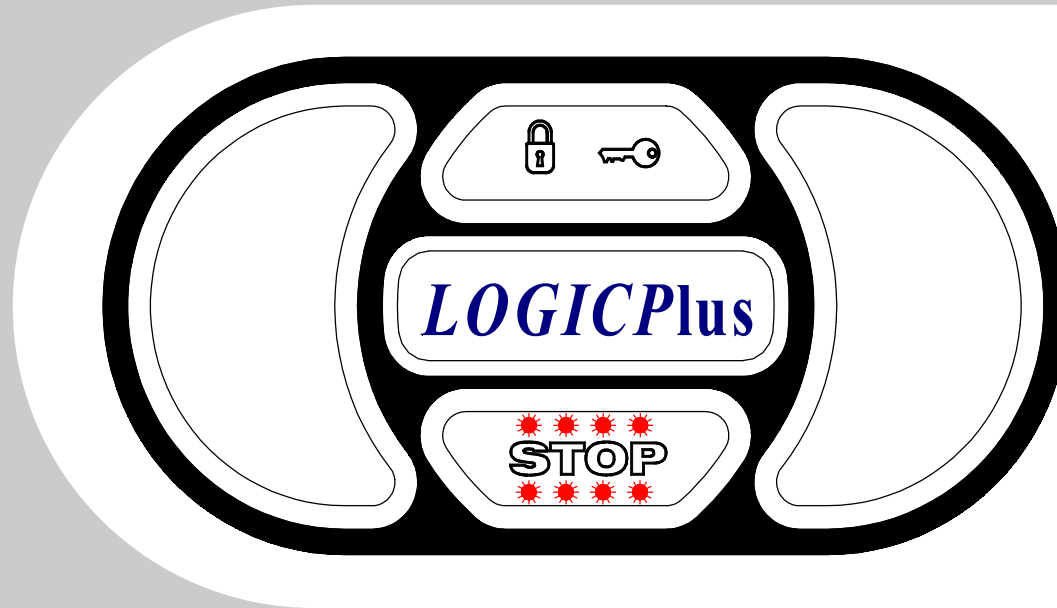


# Standard Systems Configuration Guide



**“Setting the new standard”**

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# *LOGICPlus*<sup>™</sup>

## standard systems configuration guide



The following guide will help you to determine which components are needed and how many of each component you will need for a given system layout. The drawings that follow are in plan view format. Plan view format means that the view is as if you are looking straight down on the mobile system from above. Each layout shows the seven most commonly utilized *LOGICPlus*<sup>™</sup> components. The Photoelectric safety sweep and the Aisle sensor are two of the seven *LOGICPlus*<sup>™</sup> components shown in the layouts that follow, these components though not required for the *LOGICPlus*<sup>™</sup> system to operate are recommended components and should be included in your layout unless a *LOGICPlus*<sup>™</sup> technical support representative has been consulted and approves the exclusion of one or both of these components. The location of the *LOGICPlus*<sup>™</sup> components as shown on the drawings that follow are generic and therefore are not exact. For the exact installation location of a given component as well as the proper installation procedures please consult your mobile system manufacturers installation manual.

In preparation for using this guide it will be necessary to become familiar with the terms “Typical movable carriage”, “Typical fixed interior carriage” and “Typical fixed exterior carriage”, these terms will be used throughout the guide to describe certain aspects of the system layouts that follow.

The term “typical movable carriage” refers to a movable carriage that uses a distance sensor to determine its stopping location when moving to the right and has a movable carriage to its immediate left. The components required for a “typical movable carriage” are noted below.

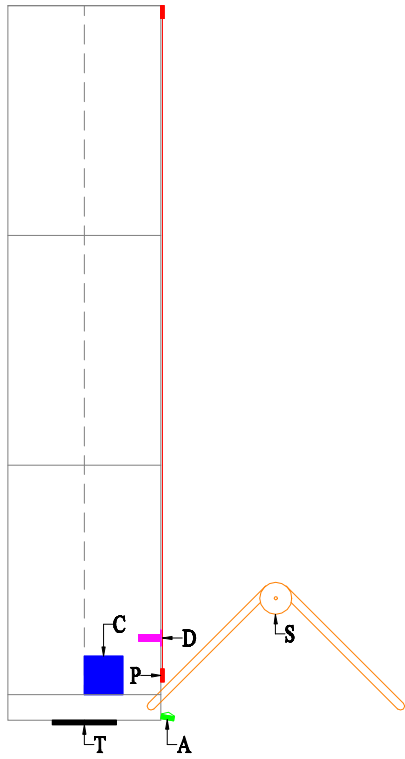
The term “Typical fixed interior carriage” refers to a carriage that has no wheels, is permanently fixed in place and has additional carriages located to both its left and right sides. The “typical fixed interior carriage” will need a controller so that the system may communicate from one end to the other. The components required for a “typical fixed interior carriage” are noted below.

The term “Typical fixed exterior carriage” refers to a carriage that has no wheels, is permanently fixed in place and is the last carriage on either the left or right side of a system. The components required for a “typical fixed exterior carriage” are noted below.

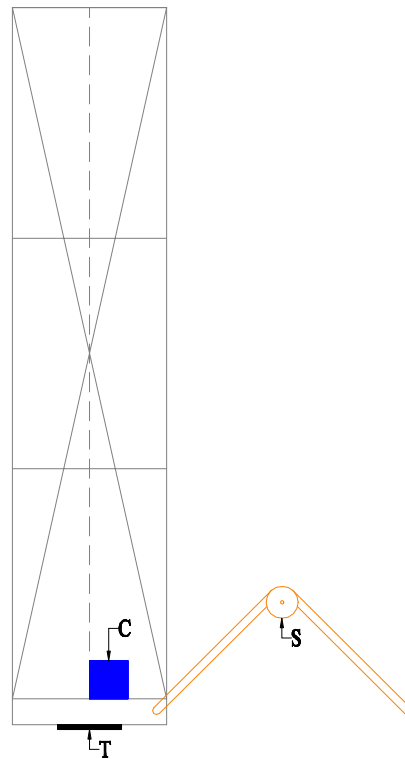
There will be instances when it will be necessary to add or substitute components to a carriage configuration, these instances will be discussed on the applicable layout page.

| <b>Typical movable carriage</b> |                               | <b>Typical fixed interior carriage</b> |                               | <b>Typical fixed exterior carriage</b> |                               |
|---------------------------------|-------------------------------|--|-------------------------------|--|-------------------------------|
| <b>Qty</b>                      | <b>Components</b>             | <b>Qty</b>                             | <b>Components</b>             | <b>Qty</b>                             | <b>Components</b>             |
| 1                               | - Touch pads                  | 1                                      | - Touch pads                  | 1                                      | - Touch pads                  |
| 1                               | - Controllers                 | 1                                      | - Controllers                 | x                                      | - Controllers                 |
| 1                               | - Scissors Arms               | 1                                      | - Scissors Arms               | x                                      | - Scissors Arms               |
| 1                               | - Photoelectric Safety Sweeps | x                                      | - Photoelectric Safety Sweeps | x                                      | - Photoelectric Safety Sweeps |
| 1                               | - Distance Sensors            | x                                      | - Distance Sensors            | x                                      | - Distance Sensors            |
| 1                               | - Aisle Sensors               | x                                      | - Aisle Sensors               | x                                      | - Aisle Sensors               |
| x                               | - Floor Sensors               | x                                      | - Floor Sensors               | x                                      | - Floor Sensors               |

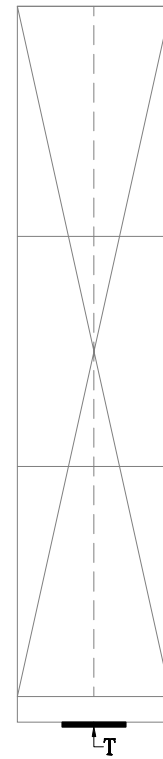
### Typical Movable Carriage



### Typical Fixed Interior Carriage



### Typical Exterior Fixed Carriage



—T - Touch Pad

■C - Controller

—S - Scissor Arm

—P - Photoelectric Safety Sweep

—D - Distance Sensor

●A - Aisle Sensor

●F - Floor Sensor

## SYSTEM ONE

System one is comprised of four carriages.

- Carriage ONE is a “typical fixed exterior carriage”.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed exterior carriage”.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

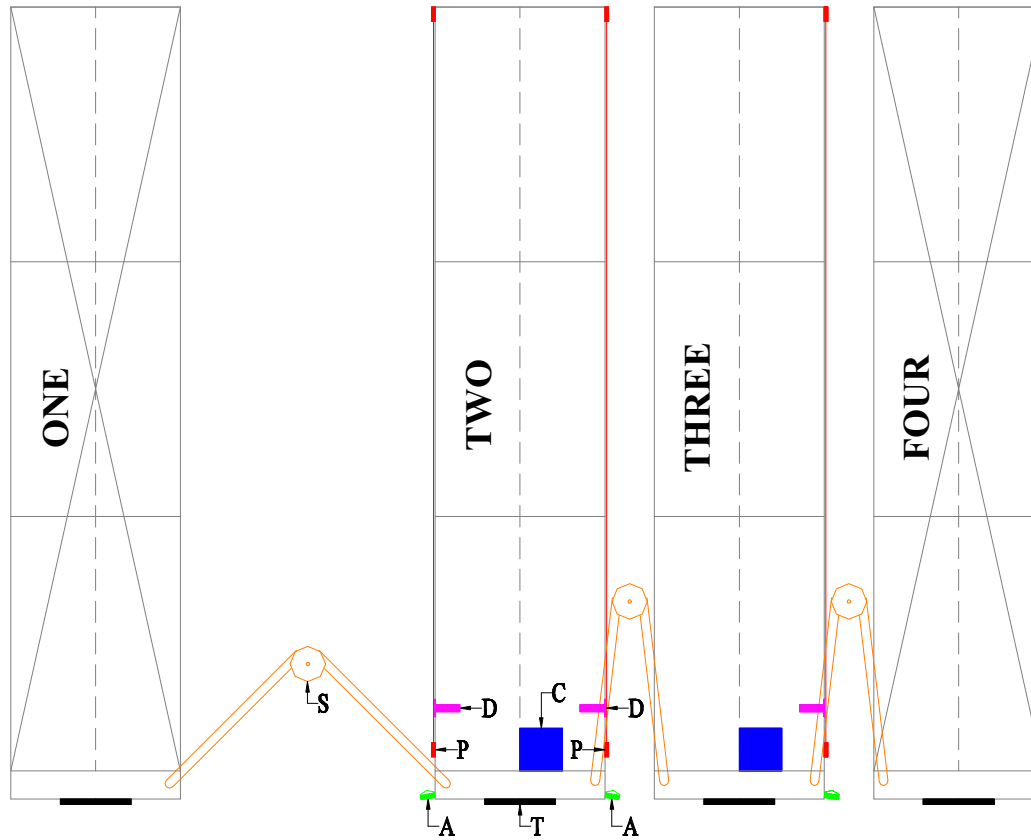
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>2</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>3</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>3</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM ONE

(two fixed outside carriages)



## KEY

- |   |                              |   |                   |
|---|------------------------------|---|-------------------|
|  - T | - Touch Pad                  |  - D | - Distance Sensor |
|  - C | - Controller                 |  - A | - Aisle Sensor    |
|  - S | - Scissor Arm                |  - F | - Floor Sensor    |
|  - P | - Photoelectric Safety Sweep |   |                   |

## SYSTEM TWO

System two is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of one photoelectric safety sweep and one floor sensor. The additional components are required for the open aisle created on the left side of carriage ONE. Carriage ONE moves towards open space on its left side and has no solid object for a distance sensor to read, therefore it is necessary to use a floor sensor on the left side of carriage ONE.
- Carriage TWO is a “typical movable carriage”.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed exterior carriage”.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

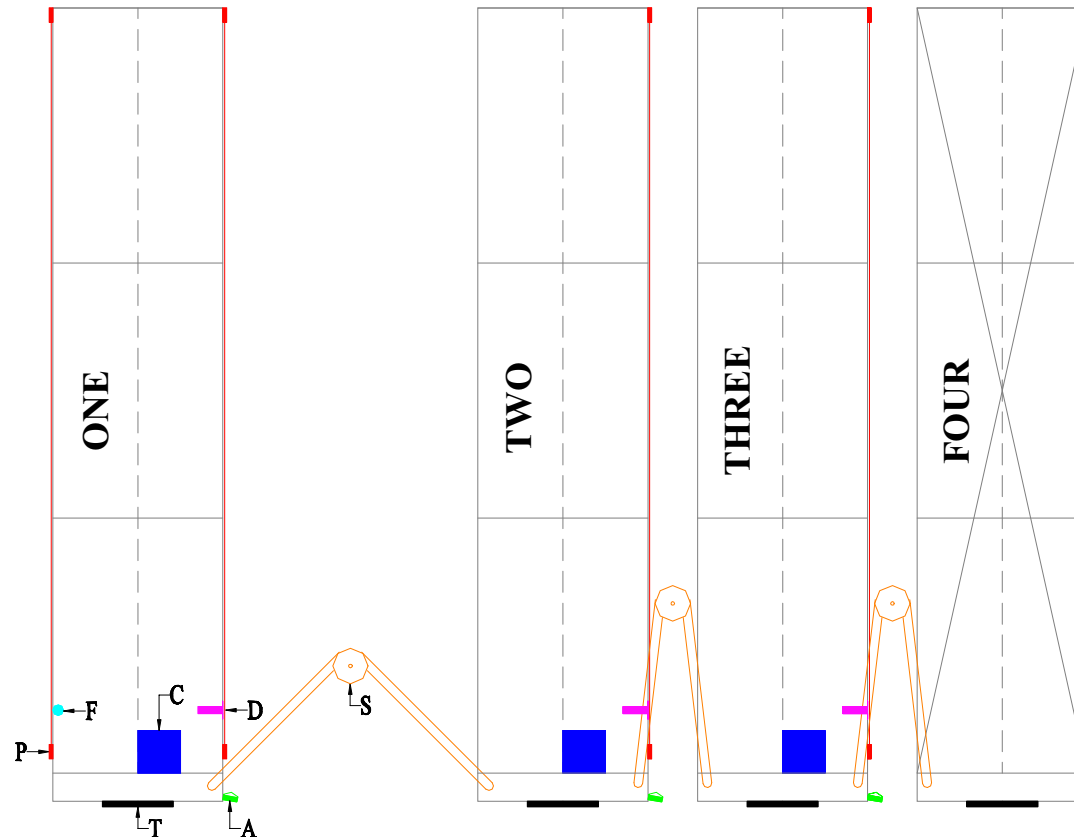
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>3</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

# SYSTEM TWO

(one fixed outside carriage & one movable open outside carriage)



## KEY

-  - T - Touch Pad
-  - C - Controller
-  - S - Scissor Arm
-  - P - Photoelectric Safety Sweep
-  - D - Distance Sensor
-  - A - Aisle Sensor
-  - F - Floor Sensor

## SYSTEM THREE

System three is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor and one distance sensor. The additional components are required for the open aisle created on the left side of carriage ONE.
- Carriage TWO is a “typical movable carriage”.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed exterior carriage”.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

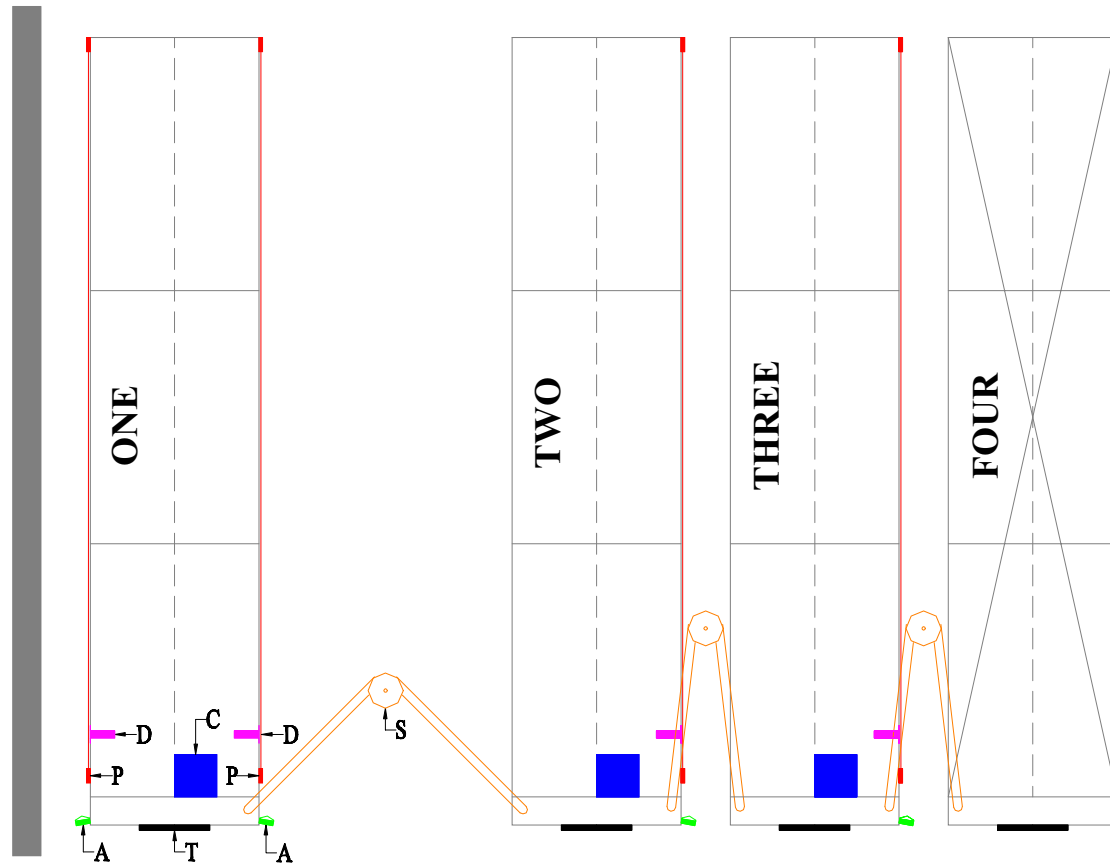
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>3</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>4</b>   | <b>- Distance Sensors</b>            |
| <b>4</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>4</b>   | <b>- Distance Sensors</b>            |
| <b>4</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM THREE

(one fixed outside carriage & one movable closed outside carriage)



## KEY

-  - T - Touch Pad
-  - C - Controller
-  - S - Scissor Arm
-  - P - Photoelectric Safety Sweep
-  - D - Distance Sensor
-  - A - Aisle Sensor
-  - F - Floor Sensor

## SYSTEM FOUR

System four is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor and one distance sensor. The additional components are required for the open aisle created on the left side of carriage ONE.
- Carriage TWO is a “typical movable carriage”.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR has all of the components of a “typical movable carriage” except for the scissor arm, no scissor arm is required because carriage FOUR does NOT need to communicate or send power to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

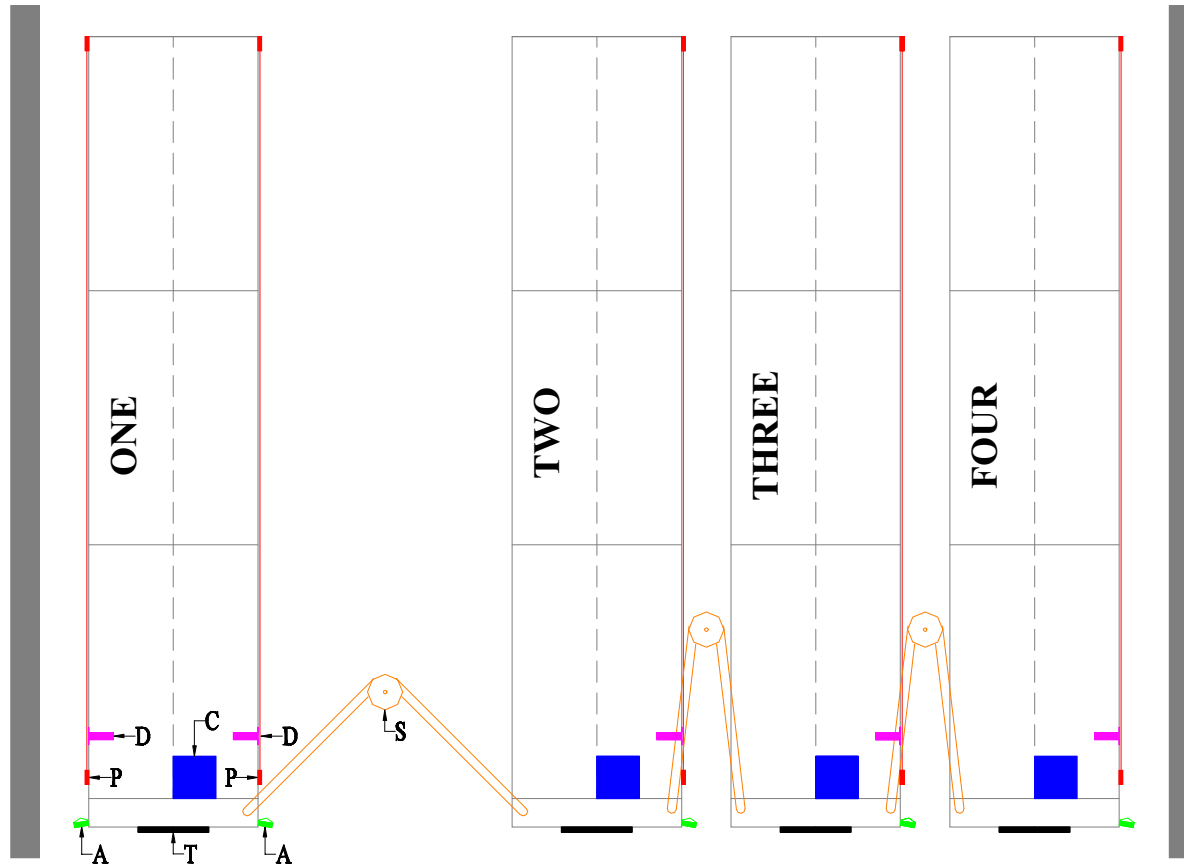
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>5</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>5</b>   | <b>- Distance Sensors</b>            |
| <b>5</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>5</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>5</b>   | <b>- Distance Sensors</b>            |
| <b>5</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM FOUR

(two movable closed outside carriages)



## KEY

- |   |                              |   |                   |
|---|------------------------------|---|-------------------|
|  - T | - Touch Pad                  |  - D | - Distance Sensor |
|  - C | - Controller                 |  - A | - Aisle Sensor    |
|  - S | - Scissor Arm                |  - F | - Floor Sensor    |
|  - P | - Photoelectric Safety Sweep |   |                   |

## SYSTEM FIVE

System five is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of one photoelectric safety sweep and one floor sensor. The additional components are required for the open aisle created on the left side of carriage ONE. Carriage ONE moves towards open space on its left side and has no solid object for a distance sensor to read, therefore it is necessary to use a floor sensor on the left side of carriage ONE.
- Carriage TWO is a “typical movable carriage”.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR has all of the components of a “typical movable carriage” except for the scissor arm, no scissor arm is required because carriage FOUR does NOT need to communicate or send power to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

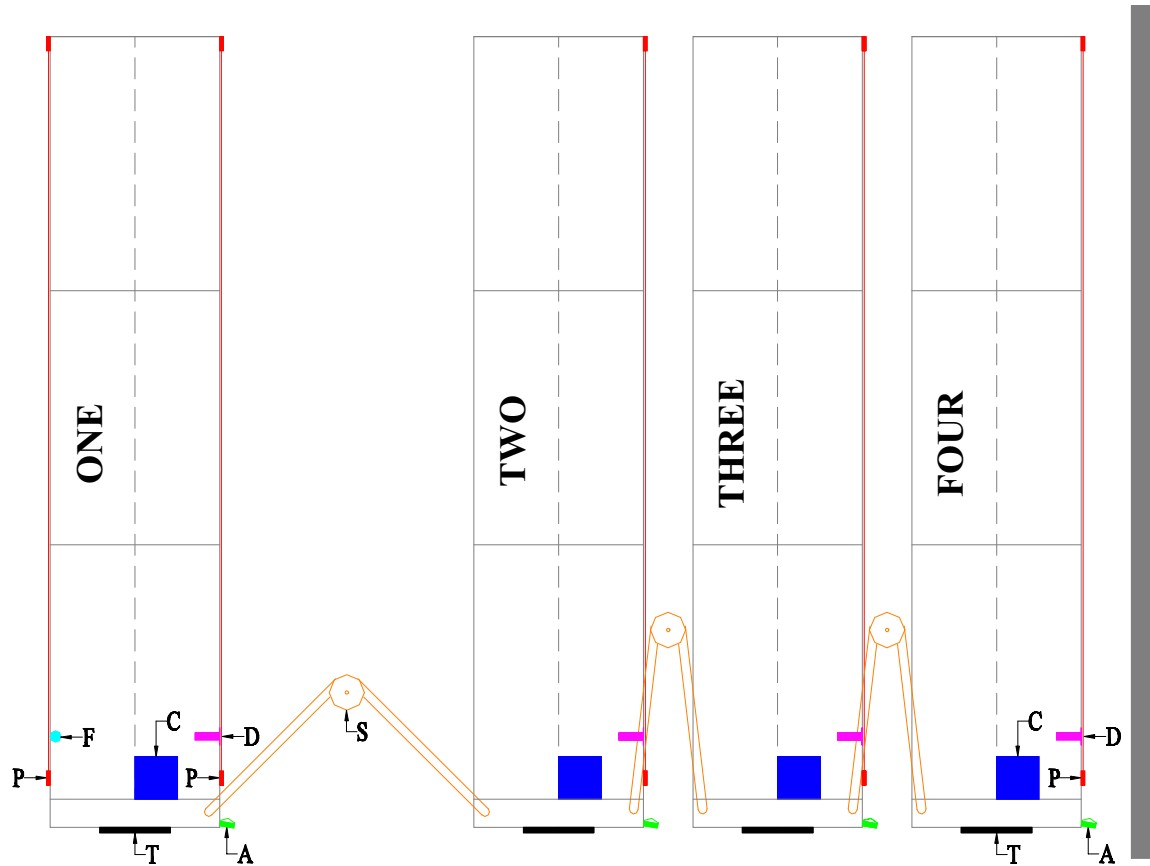
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>5</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>4</b>   | <b>- Distance Sensors</b>            |
| <b>4</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

# SYSTEM FIVE

(one movable open outside carriage & one movable closed outside carriages)



## KEY

- |   |                              |   |                   |
|---|------------------------------|---|-------------------|
|  - T | - Touch Pad                  |  - D | - Distance Sensor |
|  - C | - Controller                 |  - A | - Aisle Sensor    |
|  - S | - Scissor Arm                |  - F | - Floor Sensor    |
|  - P | - Photoelectric Safety Sweep |   |                   |

## SYSTEM SIX

System six is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of one photoelectric safety sweep and one floor sensor. The additional components are required for the open aisle created on the left side of carriage ONE. Carriage ONE moves towards open space on its left side and has no solid object for a distance sensor to read, therefore it is necessary to use a floor sensor on the left side of carriage ONE.
- Carriage TWO is a “typical movable carriage”.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR has all of the components of a “typical movable carriage” with the following exceptions, a floor sensor must be used in place of the distance sensor because there is no solid object for a distance sensor to read when moving to the right, no scissor arm is required because carriage FOUR does NOT need to communicate or send power to its right and no aisle sensor is required because carriage FOUR moves towards open space when moving to the right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

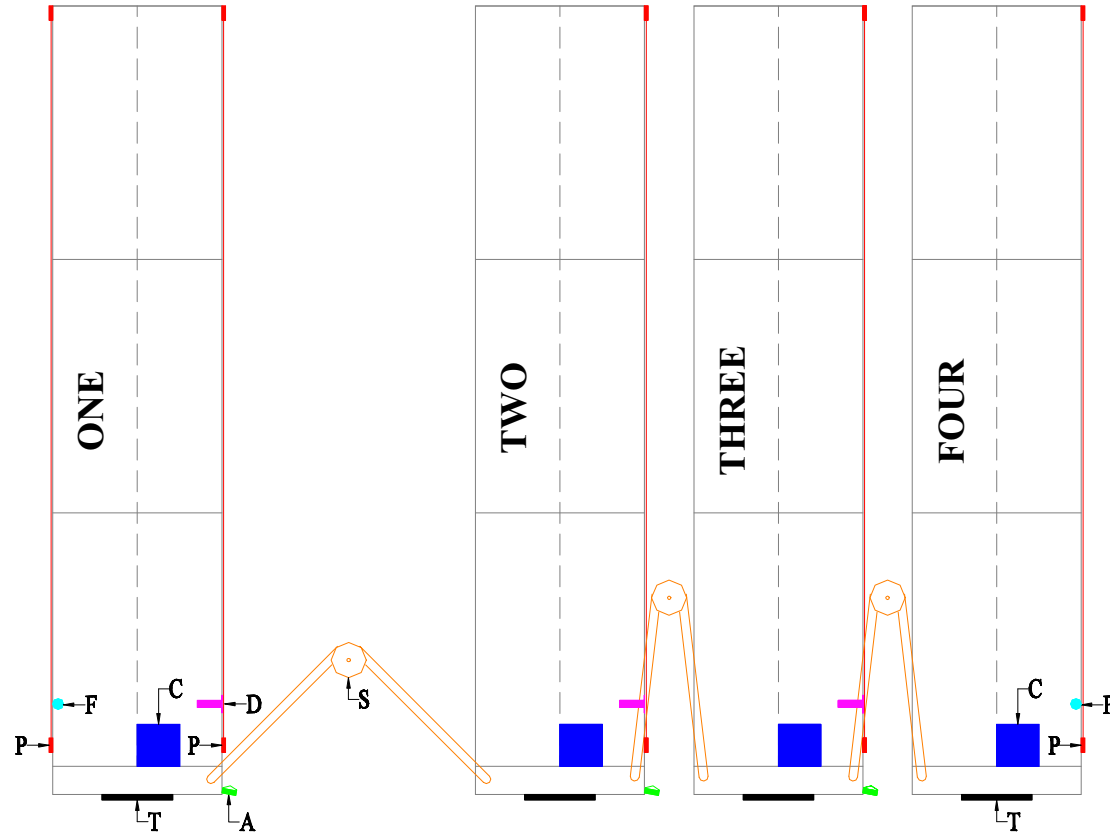
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>4</b>   | <b>- Touch pads</b>                  |
| <b>3</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>8</b>   | <b>- Touch pads</b>                  |
| <b>4</b>   | <b>- Controllers</b>                 |
| <b>3</b>   | <b>- Scissors Arms</b>               |
| <b>4</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>3</b>   | <b>- Distance Sensors</b>            |
| <b>3</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

# SYSTEM SIX

(All carriages are movable and there are no walls)



## KEY

- |  |   |
|--|---|
|  T - Touch Pad                  |  D - Distance Sensor |
|  C - Controller                 |  A - Aisle Sensor    |
|  S - Scissor Arm                |  F - Floor Sensor    |
|  P - Photoelectric Safety Sweep |   |

## SYSTEM SEVEN

System one is comprised of four carriages.

- Carriage ONE is a “typical fixed exterior carriage”.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed interior carriage”.
- Carriage FIVE is a “typical movable carriage”.
- Carriage SIX is a “typical movable carriage”.
- Carriage SEVEN is a “typical fixed exterior carriage”.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

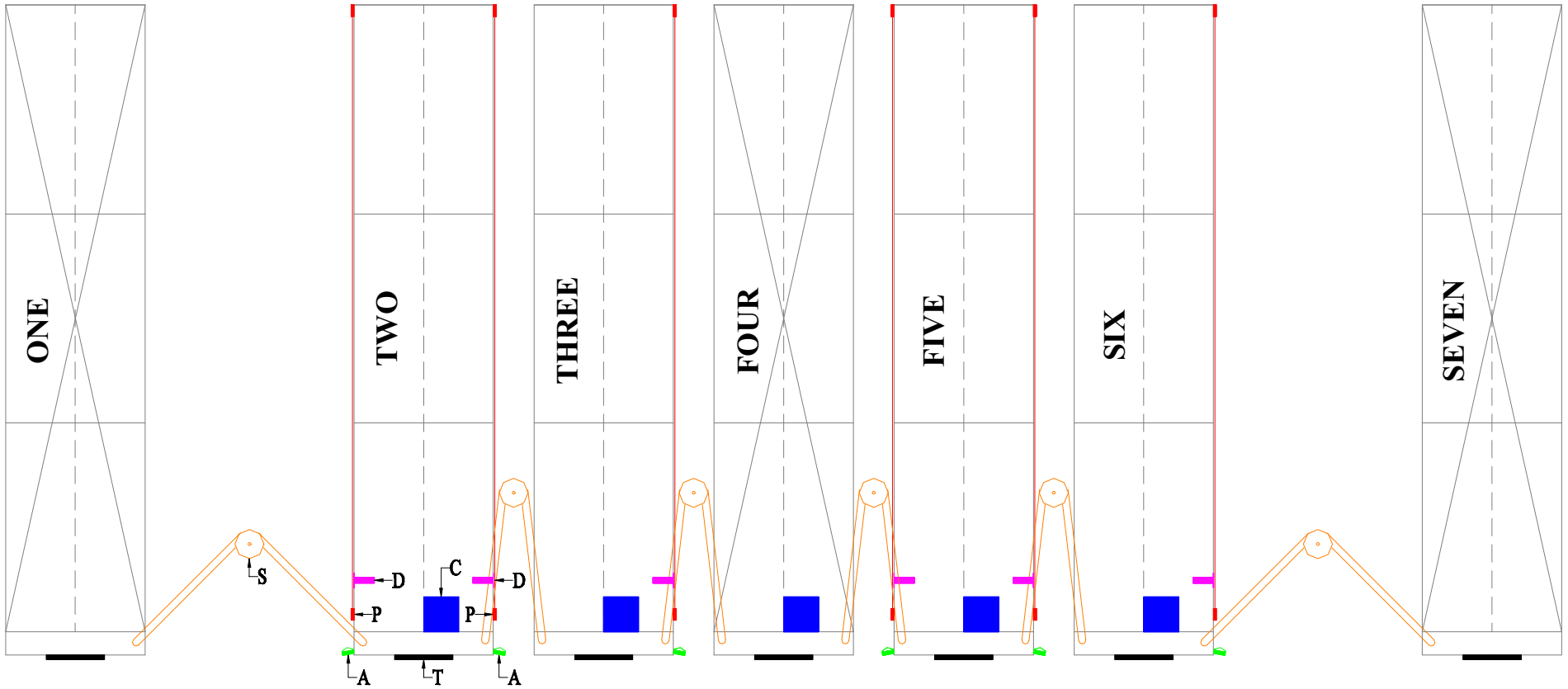
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>7</b>   | <b>- Touch pads</b>                  |
| <b>5</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>6</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>6</b>   | <b>- Distance Sensors</b>            |
| <b>6</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>14</b>  | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>6</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>6</b>   | <b>- Distance Sensors</b>            |
| <b>6</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM SEVEN

(two fixed outside carriages & one fixed center carriage)



## KEY

- |                                  |                       |
|----------------------------------|-----------------------|
| - T - Touch Pad                  | - D - Distance Sensor |
| - C - Controller                 | - A - Aisle Sensor    |
| - S - Scissor Arm                | - F - Floor Sensor    |
| - P - Photoelectric Safety Sweep |                       |

## SYSTEM EIGHT

System one is comprised of four carriages.

- Carriage ONE is a “typical fixed exterior carriage”.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed interior carriage”.
- Carriage FIVE is a “typical movable carriage”.
- Carriage SIX is a “typical movable carriage”.
- Carriage SEVEN has all of the components of a “typical movable carriage” with the following exceptions, a floor sensor must be used in place of the distance sensor because there is no solid object for a distance sensor to read when moving to the right, no scissor arm is required because carriage SEVEN does NOT need to communicate or send power to its right and no aisle sensor is required because carriage SEVEN moves towards open space when moving to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

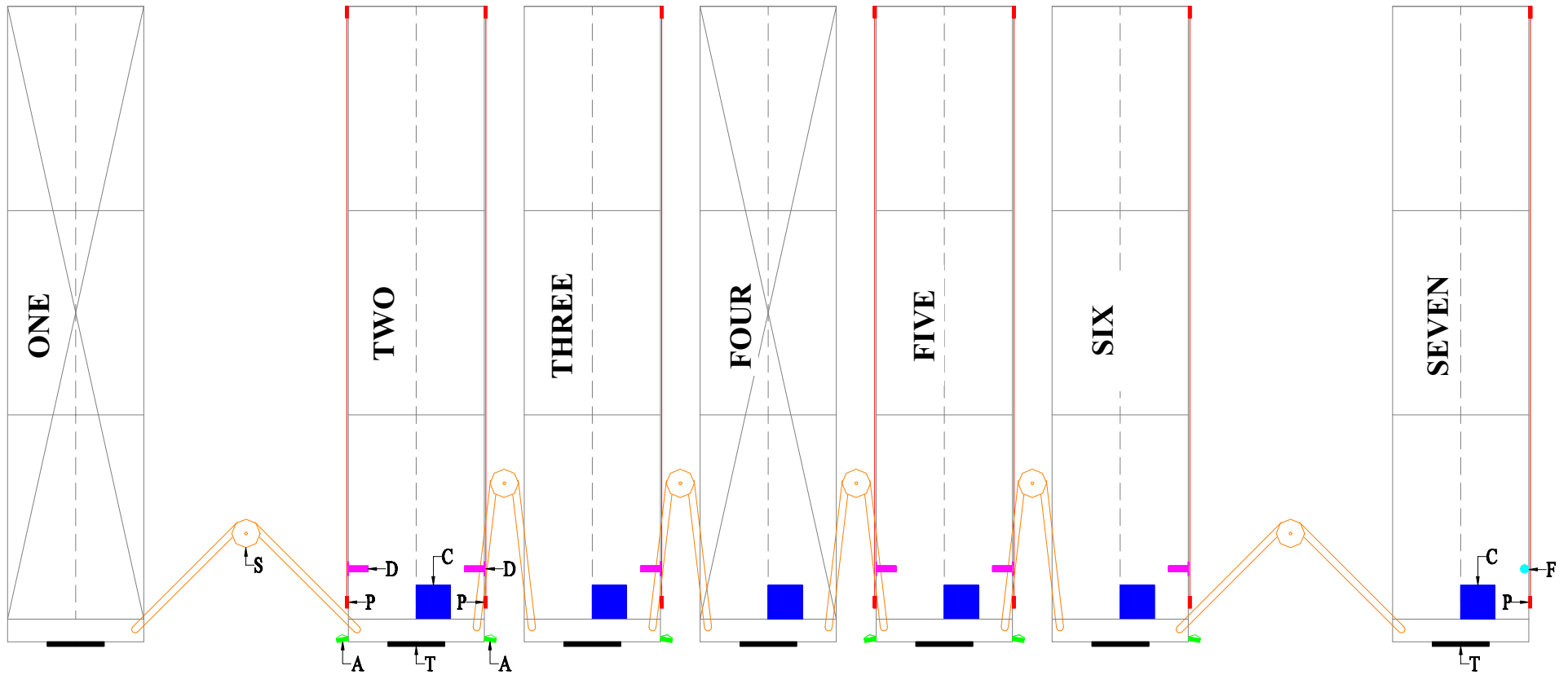
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>7</b>   | <b>- Touch pads</b>                  |
| <b>6</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>7</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>6</b>   | <b>- Distance Sensors</b>            |
| <b>6</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>14</b>  | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>7</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>6</b>   | <b>- Distance Sensors</b>            |
| <b>6</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

# SYSTEM EIGHT

(one fixed outside carriage & one movable open outside carriage)



## KEY

- |                                |                     |
|--------------------------------|---------------------|
| T - Touch Pad                  | D - Distance Sensor |
| C - Controller                 | A - Aisle Sensor    |
| S - Scissor Arm                | F - Floor Sensor    |
| P - Photoelectric Safety Sweep |                     |

## SYSTEM NINE

System one is comprised of four carriages.

- Carriage ONE is a “typical fixed exterior carriage”.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed interior carriage”.
- Carriage FIVE is a “typical movable carriage”.
- Carriage SIX is a “typical movable carriage”.
- Carriage SEVEN has all of the components of a “typical movable carriage” except for the scissor arm, no scissor arm is required because carriage SEVEN does NOT need to communicate or send power to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

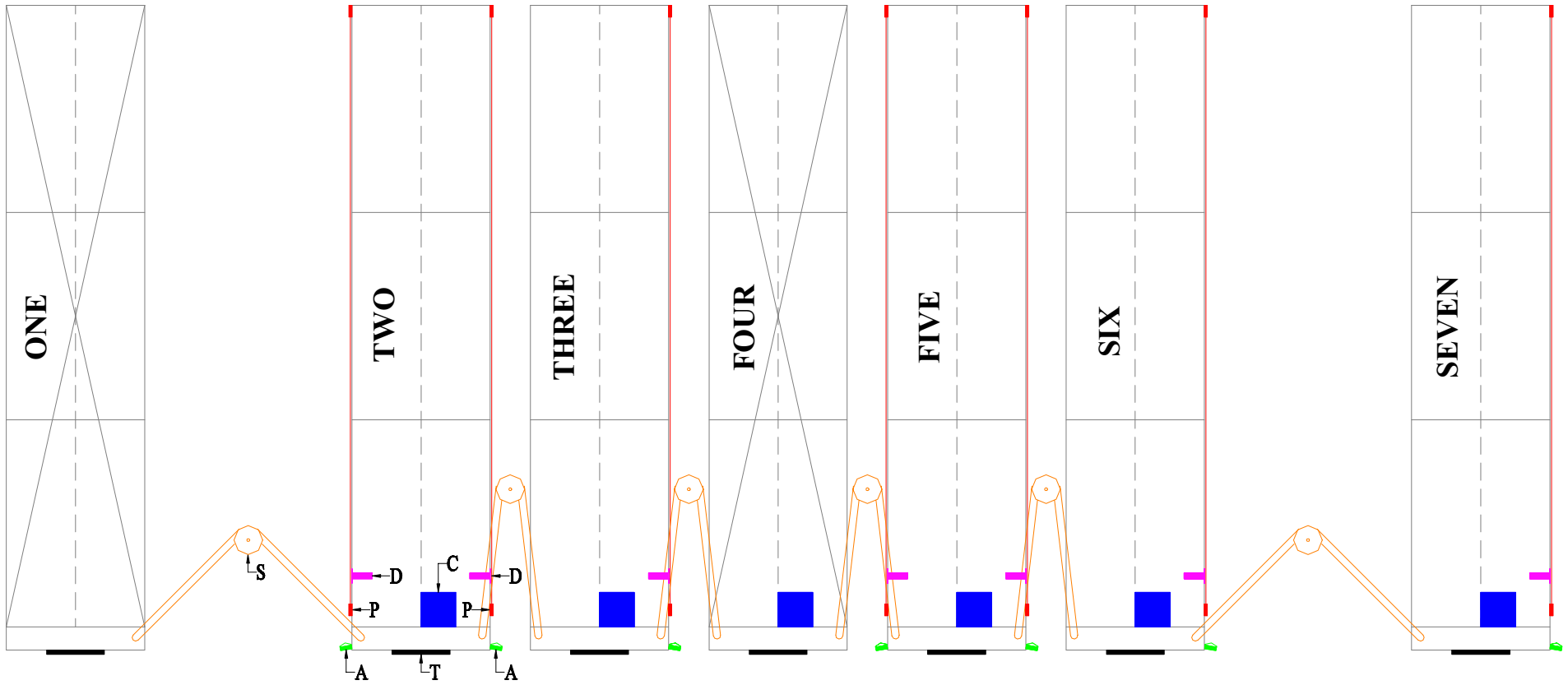
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>7</b>   | <b>- Touch pads</b>                  |
| <b>6</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>7</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>7</b>   | <b>- Distance Sensors</b>            |
| <b>7</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>14</b>  | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>7</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>7</b>   | <b>- Distance Sensors</b>            |
| <b>7</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM NINE

(one fixed outside carriage & one movable closed outside carriage)



## KEY

- |   |                              |   |                   |
|---|------------------------------|---|-------------------|
|  - T | - Touch Pad                  |  - D | - Distance Sensor |
|  - C | - Controller                 |  - A | - Aisle Sensor    |
|  - S | - Scissor Arm                |  - F | - Floor Sensor    |
|  - P | - Photoelectric Safety Sweep |   |                   |

## SYSTEM TEN

System one is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor and one distance sensor. The additional components are required for the open aisle created on the left side of carriage ONE.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed interior carriage”.
- Carriage FIVE is a “typical movable carriage”.
- Carriage SIX is a “typical movable carriage”.
- Carriage SEVEN has all of the components of a “typical movable carriage” with the following exceptions, a floor sensor must be used in place of the distance sensor because there is no solid object for a distance sensor to read when moving to the right, no scissor arm is required because carriage SEVEN does NOT need to communicate or send power to its right and no aisle sensor is required because carriage SEVEN moves towards open space when moving to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

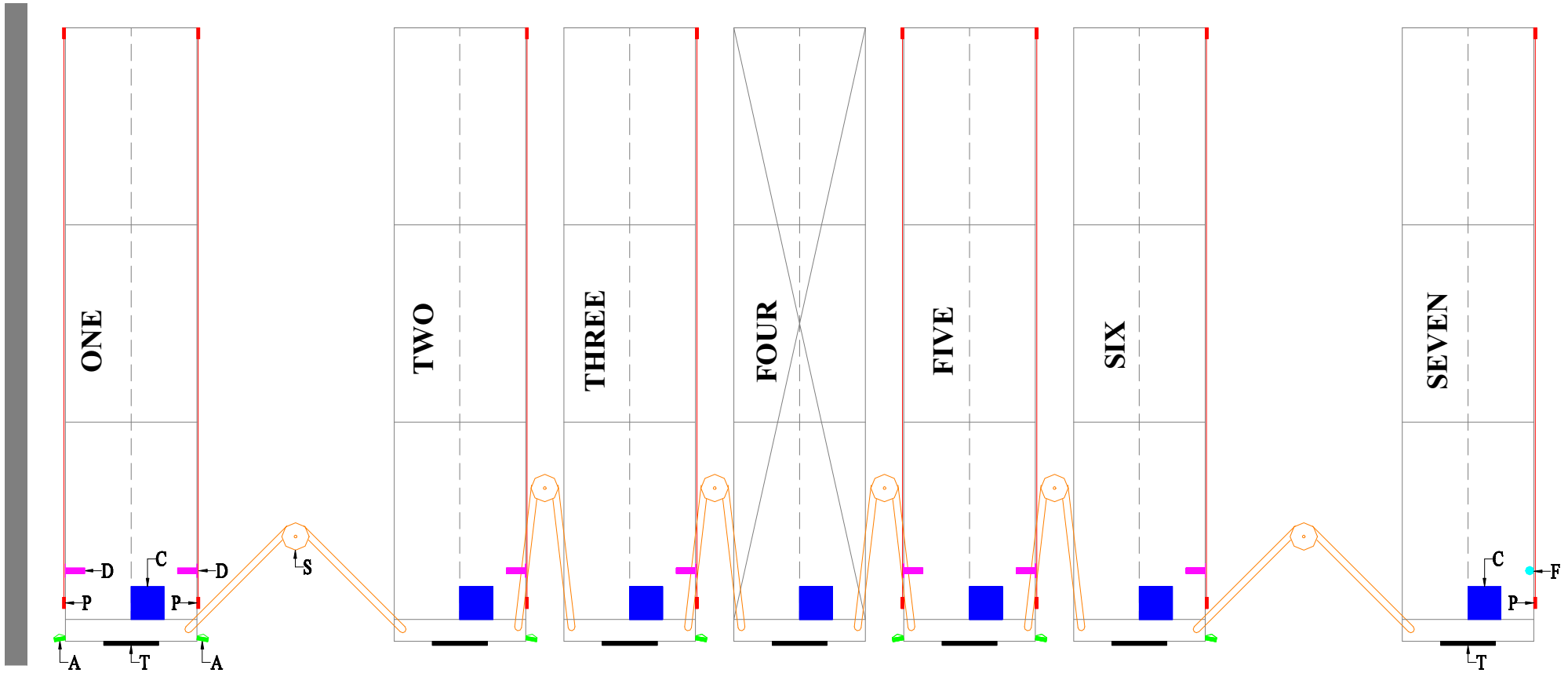
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>7</b>   | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>8</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>7</b>   | <b>- Distance Sensors</b>            |
| <b>7</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>14</b>  | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>8</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>7</b>   | <b>- Distance Sensors</b>            |
| <b>7</b>   | <b>- Aisle Sensors</b>               |
| <b>1</b>   | <b>- Floor Sensors</b>               |

# SYSTEM TEN

(one movable open outside carriage, one movable closed outside carriages & one fixed center carriage)



## KEY

- |  |   |
|--|---|
|  - T - Touch Pad                  |  - D - Distance Sensor |
|  - C - Controller                 |  - A - Aisle Sensor    |
|  - S - Scissor Arm                |  - F - Floor Sensor    |
|  - P - Photoelectric Safety Sweep |   |

## SYSTEM ELEVEN

System one is comprised of four carriages.

- Carriage ONE has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor and one distance sensor. The additional components are required for the open aisle created on the left side of carriage ONE.
- Carriage TWO has all of the components of a “typical movable carriage” with the addition of the following , one photo-electric safety sweep, one aisle sensor, one distance sensor and one scissor arm. The additional components are required for the open aisle created on the left side of carriage TWO.
- Carriage THREE is a “typical movable carriage”.
- Carriage FOUR is a “typical fixed interior carriage”.
- Carriage FIVE is a “typical movable carriage”.
- Carriage SIX is a “typical movable carriage”.
- Carriage SEVEN has all of the components of a “typical movable carriage” except for the scissor arm, no scissor arm is required because carriage SEVEN does NOT need to communicate or send power to its right.

Please note that if a dual access system is desired (Touch pads on both ends of carriages) then the quantity of Touch pads needed should be doubled and a controller should be added for each stationary carriage that does not already have one.

### **Single access**

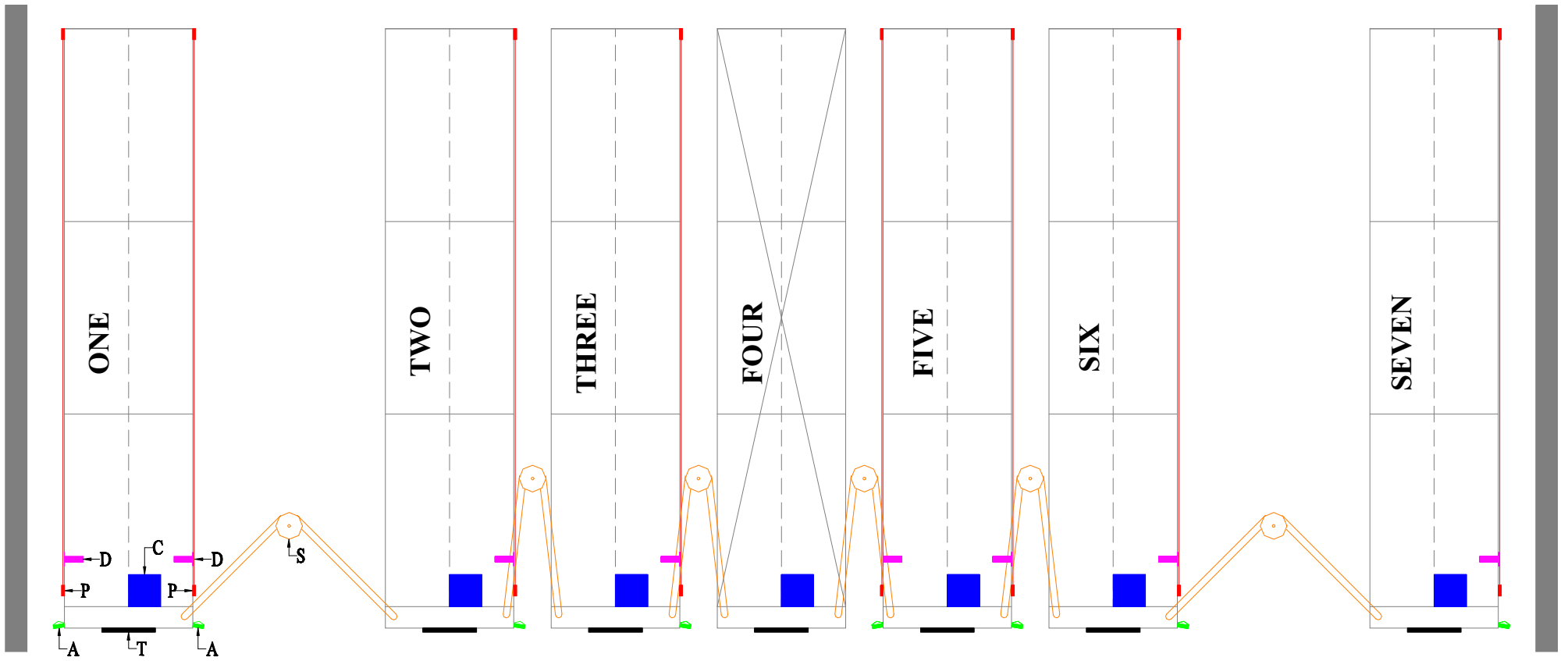
| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>7</b>   | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>8</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>8</b>   | <b>- Distance Sensors</b>            |
| <b>8</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

### **Dual access**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>14</b>  | <b>- Touch pads</b>                  |
| <b>7</b>   | <b>- Controllers</b>                 |
| <b>6</b>   | <b>- Scissors Arms</b>               |
| <b>8</b>   | <b>- Photoelectric Safety Sweeps</b> |
| <b>8</b>   | <b>- Distance Sensors</b>            |
| <b>8</b>   | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |

# SYSTEM ELEVEN

(two movable closed outside carriages & one fixed center carriage)

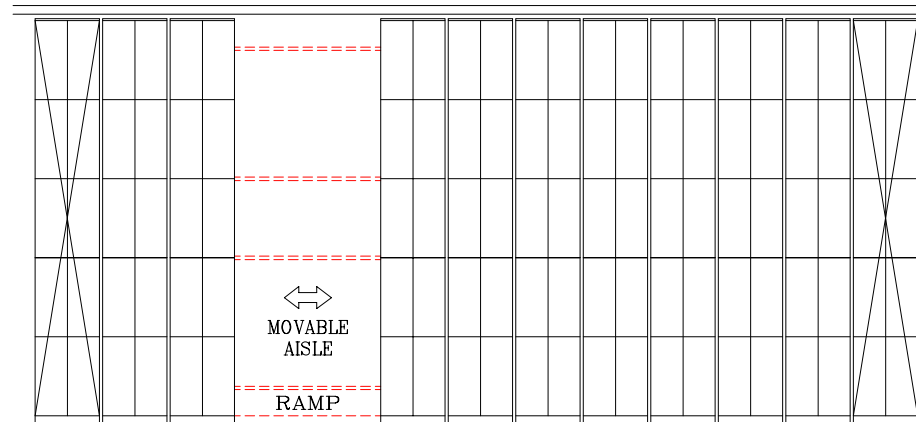


## KEY

- |  |   |
|--|---|
|  T - Touch Pad                  |  D - Distance Sensor |
|  C - Controller                 |  A - Aisle Sensor    |
|  S - Scissor Arm                |  F - Floor Sensor    |
|  P - Photoelectric Safety Sweep |   |

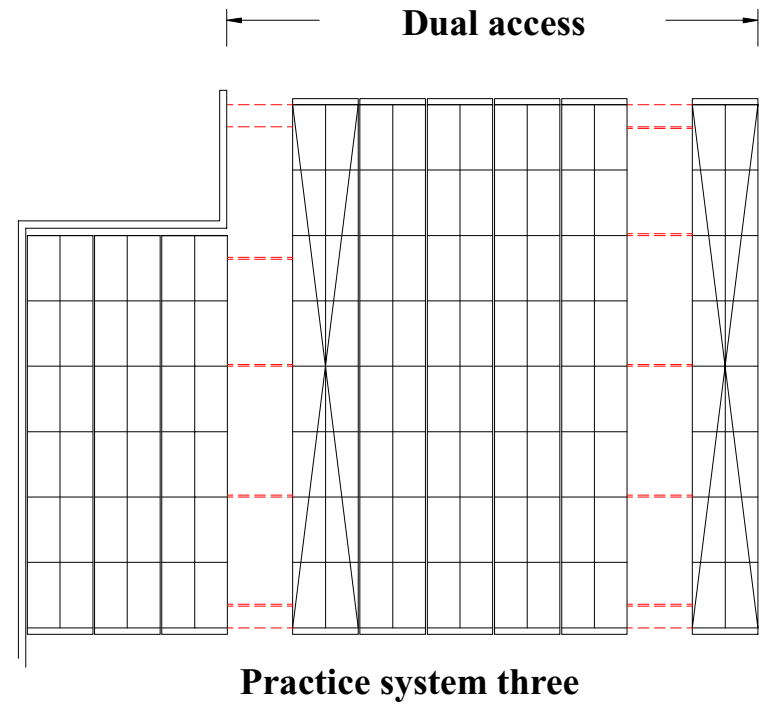
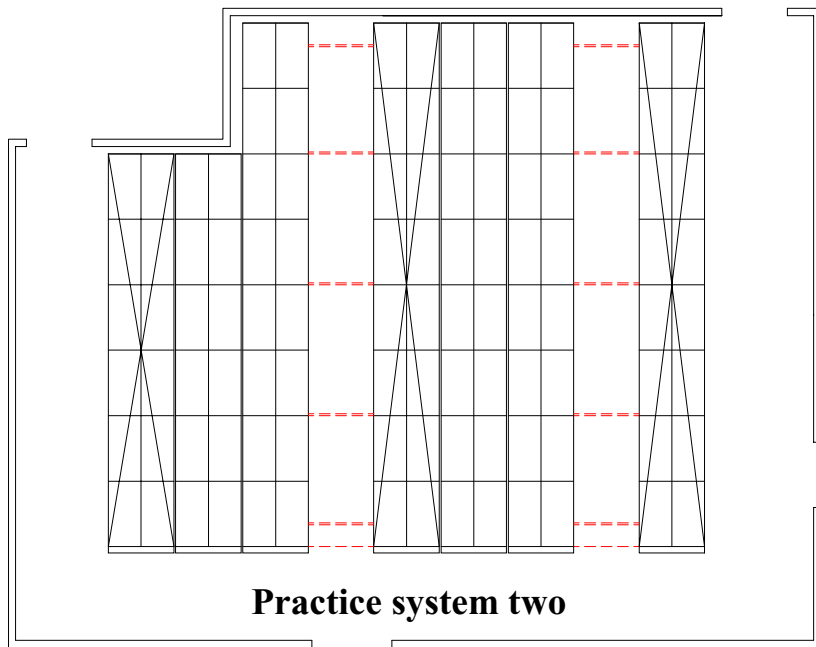
# PRACTICE SYSTEMS

The drawings shown below depict typical dealer drawn mobile system layouts, please use these drawings to practice determining the proper components and quantity of components that are required for a system layout.



**Practice system one**

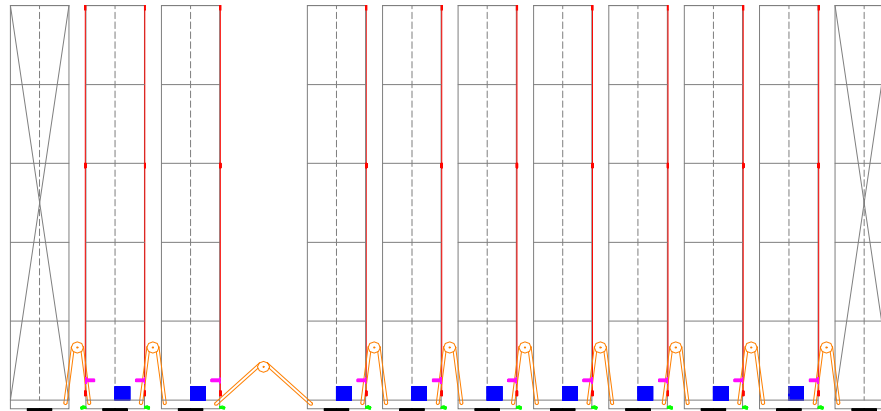
| <b>Qty</b> | <b>Components</b>             |
|------------|-------------------------------|
| ?          | - Touch pads                  |
| ?          | - Controllers                 |
| ?          | - Scissors Arms               |
| ?          | - Photoelectric Safety Sweeps |
| ?          | - Distance Sensors            |
| ?          | - Aisle Sensors               |
| ?          | - Floor Sensors               |



| Qty | Components                    |
|-----|-------------------------------|
| ?   | - Touch pads                  |
| ?   | - Controllers                 |
| ?   | - Scissors Arms               |
| ?   | - Photoelectric Safety Sweeps |
| ?   | - Distance Sensors            |
| ?   | - Aisle Sensors               |
| ?   | - Floor Sensors               |

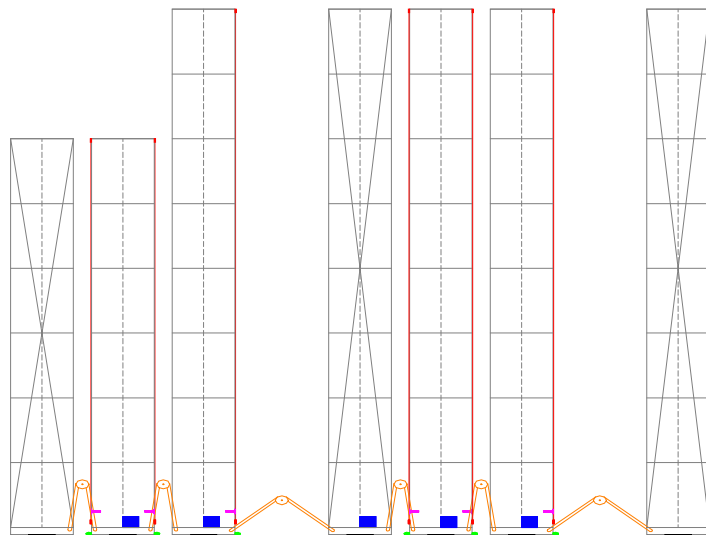
| Qty | Components                    |
|-----|-------------------------------|
| ?   | - Touch pads                  |
| ?   | - Controllers                 |
| ?   | - Scissors Arms               |
| ?   | - Photoelectric Safety Sweeps |
| ?   | - Distance Sensors            |
| ?   | - Aisle Sensors               |
| ?   | - Floor Sensors               |

# PRACTICE SYSTEM ANSWERS

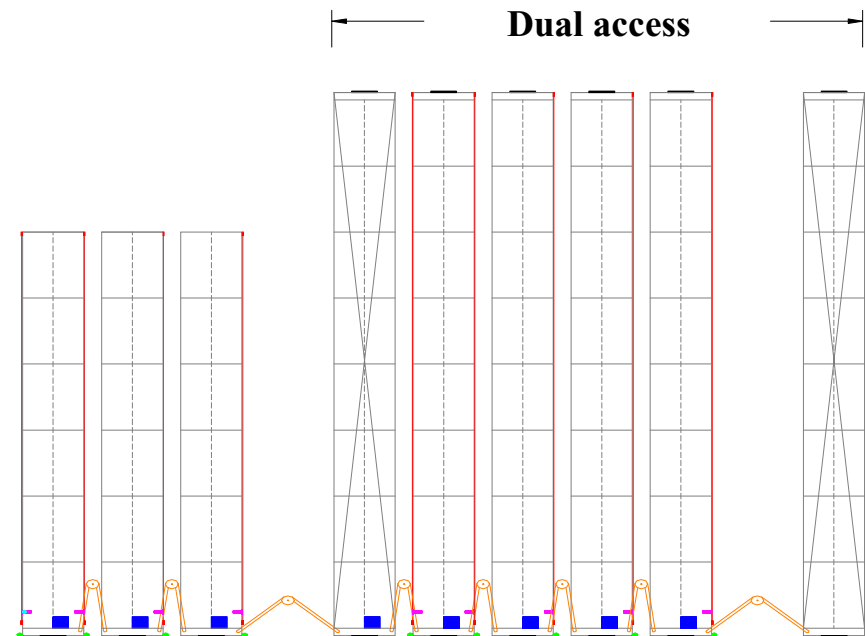


**Practice system one**

| <b>Qty</b> | <b>Components</b>                    |
|------------|--------------------------------------|
| <b>11</b>  | <b>- Touch pads</b>                  |
| <b>9</b>   | <b>- Controllers</b>                 |
| <b>10</b>  | <b>- Scissors Arms</b>               |
| <b>10</b>  | <b>- Photoelectric Safety Sweeps</b> |
| <b>10</b>  | <b>- Distance Sensors</b>            |
| <b>10</b>  | <b>- Aisle Sensors</b>               |
| <b>x</b>   | <b>- Floor Sensors</b>               |



**Practice system two**



**Practice system three**

| Qty | Components                    |
|-----|-------------------------------|
| 7   | - Touch pads                  |
| 5   | - Controllers                 |
| 6   | - Scissors Arms               |
| 6   | - Photoelectric Safety Sweeps |
| 6   | - Distance Sensors            |
| 6   | - Aisle Sensors               |
| x   | - Floor Sensors               |

| Qty | Components                    |
|-----|-------------------------------|
| 15  | - Touch pads                  |
| 8   | - Controllers                 |
| 8   | - Scissors Arms               |
| 9   | - Photoelectric Safety Sweeps |
| 9   | - Distance Sensors            |
| 8   | - Aisle Sensors               |
| 1   | - Floor Sensors               |