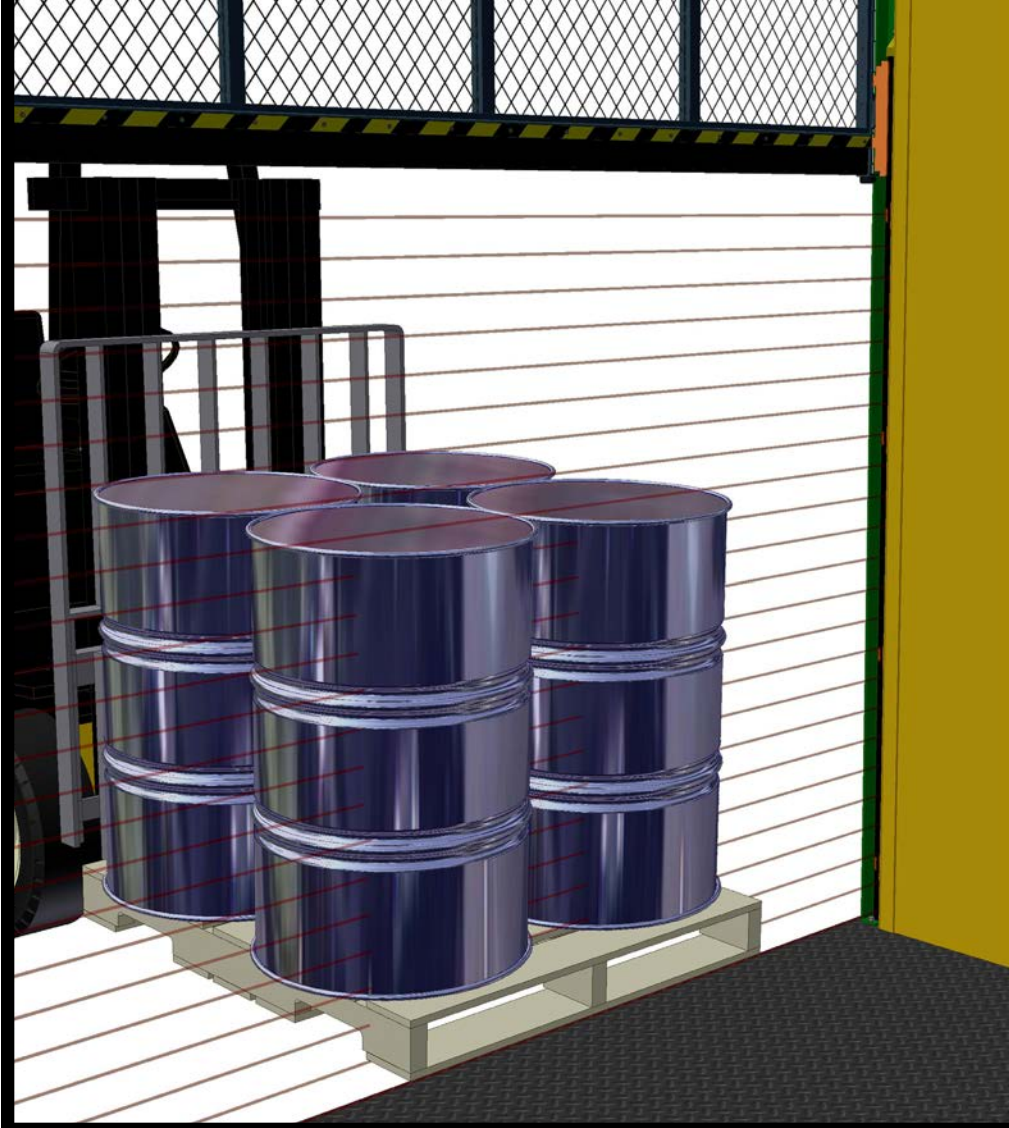




THE PEELLE COMPANY
FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

GUIDE 212.V3



THE PROTECTOR™
Safety Light Curtain

INSTALLATION GUIDE

Light Curtain Series 4694

VSD VERTICALLY
SLIDING
DOORS

11/24/2011

IMPORTANT INFORMATION

FOLLOW THE INSTRUCTIONS GIVEN IN THIS MANUAL CAREFULLY. FAILURE TO DO SO MAY CAUSE CUSTOMER COMPLAINTS, INJURY, OR CALL BACKS. KEEP INSTRUCTION MANUAL ON SITE.

FOR THE OPERATION OF LIGHT CURTAIN IN THE MODE “AUTO BLANKING ”, THE FOLLOWING POINTS MUST BE OBSERVED:

- THE LIGHT CURTAIN REMAINS INACTIVE UP UNTIL THE GATE IS COMPLETELY OPEN. RUNNING MOVEMENTS BELOW THE ENTIRE OPENING ARE NOT MONITORED.

DO NOT USE THIS PRODUCT IN EXPLOSIVE ATMOSPHERES, RADIOACTIVE ENVIRONMENTS OR FOR MEDICAL APPLICATIONS! USE ONLY SPECIFIC AND APPROVED DEVICES FOR SUCH APPLICATIONS OTHERWISE SERIOUS INJURY OR DAMAGE TO PROPERTY MAY OCCUR!

IT IS IN THE SOLE RESPONSIBILITY OF THE PLANNER AND/OR INSTALLER AND/OR BUYER THAT THIS PRODUCT IS USED ACCORDING TO ALL APPLICABLE CODES AND STANDARDS IN ORDER TO ENSURE SAFE OPERATION OF THE WHOLE APPLICATION.

ANY CHANGE OF THE DEVICE BY THE BUYER OR USER MAY RESULT IN AN UNSAFE CONDITION.

THE MANUFACTURE DENIES EVERY LIABILITY AS WELL AS WARRANTY CLAIMS WHICH RESULT FROM SUCH MANIPULATION.

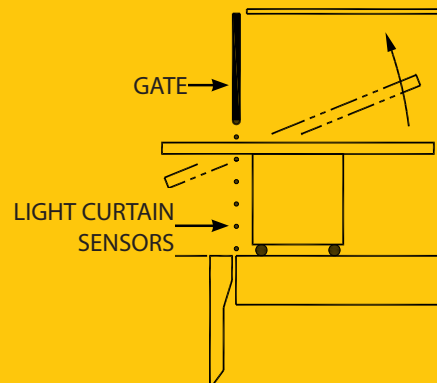
OBJECTS THAT PASS THROUGH THE PROTECTED AREA FASTER THAN THE MAXIMUM RESPONSE TIME OF THE DEVICE MAY NOT BE DETECTED.

IT IS THE RESPONSIBILITY OF THE SPECIFIER, PURCHASER AND INSTALLER TO ENSURE THAT ON COMPLETION, THE INSTALLATION COMPLIES WITH ALL RELEVANT FEDERAL, STATE AND LOCAL CODES AND REGULATIONS THAT APPLY TO YOUR APPLICATION. PARTICULAR ATTENTION SHOULD BE GIVEN TO CLAUSE 2.13.3.4 POWER CLOSING OF VERTICALLY SLIDING HOISTWAY DOORS AND VERTICALLY SLIDING CAR DOORS OR GATES OUTLINED IN ASME A17.1a-2008 / CSA B44a-08 ADDENDA TO SAFETY CODE FOR ELEVATORS AND ESCALATORS. THESE LIGHT CURTAIN SYSTEMS MUST BE INSTALLED ONLY BY AUTHORIZED AND FULLY TRAINED PERSONNEL.

CAUTION!

THE LIGHT CURTAIN IS DESIGNED TO DETECT PASSENGERS AND FREIGHT OF A SPECIFIC SIZE

OBJECTS SMALLER THAN THE SPACING BETWEEN THE LIGHT BEAMS MAY NOT BE DETECTED. TRANSPARENT OBJECTS MAY NOT BE DETECTED.



AVOID IMPROPER USE



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

212.V3

THE PROTECTOR
INSTALLATION GUIDE

Table of Contents

Parts Included

1

Assembly Notes

2

Installation Prep Work

3

New Rail Clips

4

Beam Blocker

5

Wiring

6

How it Works

7

Specifications

10



THE PEELLE COMPANY

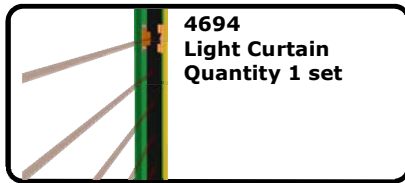
FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

TECHNICAL SUPPORT 1-800-787-5020 ext 275

212.V3

THE PROTECTOR
INSTALLATION GUIDE

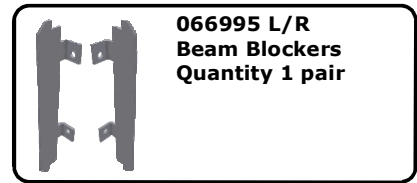
Parts Included



4694
Light Curtain
Quantity 1 set



060004
Self Tapping Bolt
3/8"-16 x 1 1/4"
Quantity 2



066995 L/R
Beam Blockers
Quantity 1 pair



Truss Head Screw
10-24 x 1/4"
Quantity 30



066937
Z Clip
Quantity 10



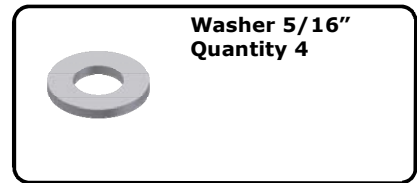
Hex Head Bolt
5/16"-18 x 7/8"
Quantity 4



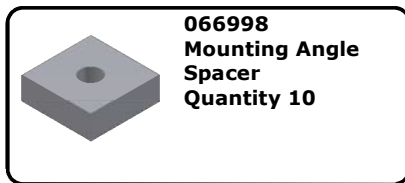
Flat Head Screw Undercut
3/8"-16 x 1/2"
Quantity 10



Carriage Bolt
3/8"-16 x 1 3/4"
Quantity 10



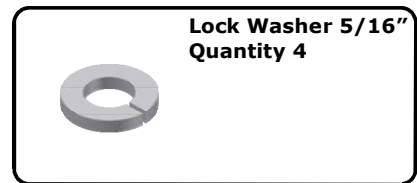
Washer 5/16"
Quantity 4



066998
Mounting Angle
Spacer
Quantity 10



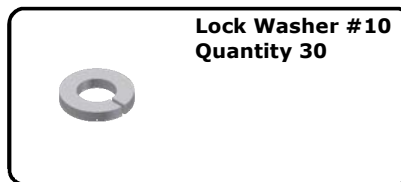
066932
Mounting Angle
Quantity 10



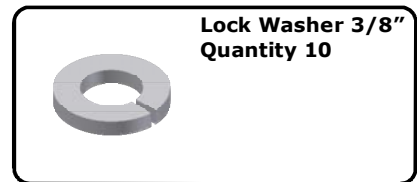
Lock Washer 5/16"
Quantity 4



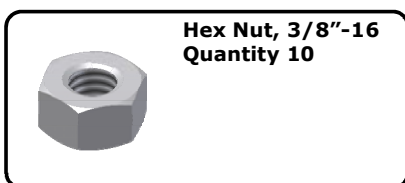
066001
Lock in Angle
Quantity 10



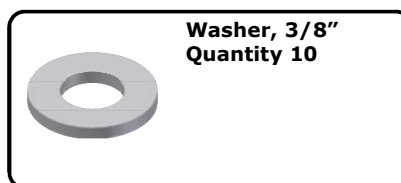
Lock Washer #10
Quantity 30



Lock Washer 3/8"
Quantity 10



Hex Nut, 3/8"-16
Quantity 10



Washer, 3/8"
Quantity 10



THE PEELLE COMPANY

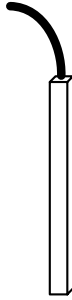
FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

TECHNICAL SUPPORT 1-800-787-5020 ext 275

Assembly Notes

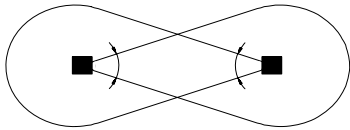
Position

The cable outlets of the sensor edges must be at the top, as the car door must enter the protective area from the top.



Alignment

The sensor edges have to be aligned within 10 degrees of each other.



Cleaning of the sensor edges

The edges shall be cleaned with a soft tissue and little soapy water only. Any use of abrasive or inappropriate cleaning solvents may cause loss of range or may damage the device.

Environment

The sensor edges must not be bent or exposed to tension.

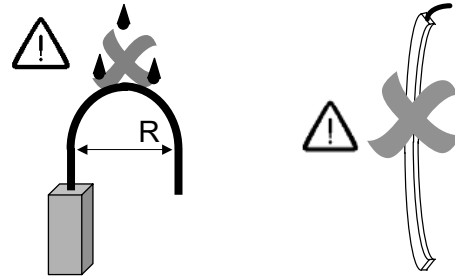
The cables shall not be stretched or squeezed.

Ensure the cable radius is not less than 80 mm (3 in)

Avoid contamination by oil or greasy liquids.

Keep the optical edges free and clear of dust and dirt on the lenses.

Ensure there is no direct light sources interfering with the light curtain receiver. i.e. sunlight, flashlight, strobe light. If this happens, switch the location of the emitter and receiver.

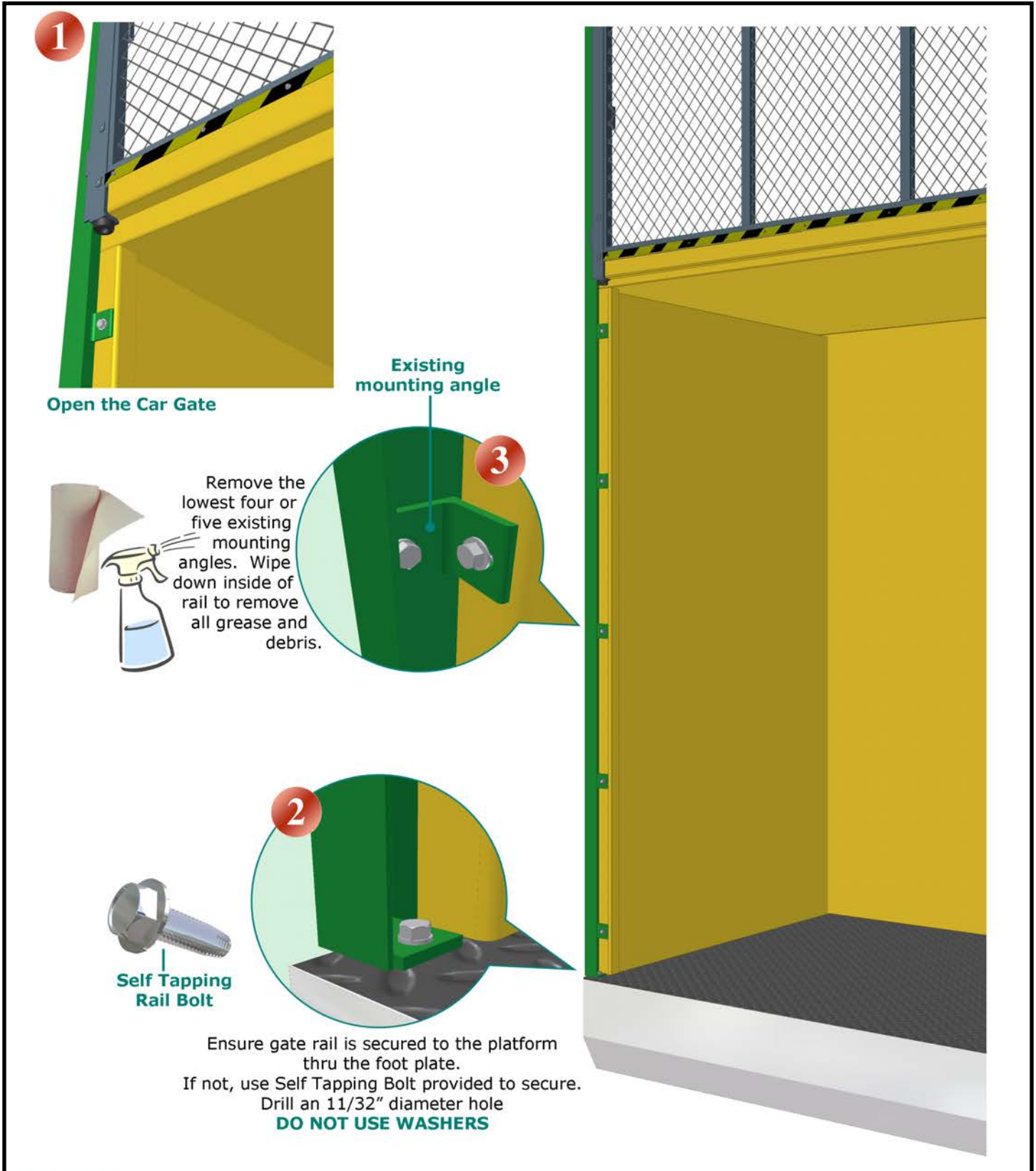


THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

TECHNICAL SUPPORT 1-800-787-5020 ext 275

Installation Prep Work



1

Open the Car Gate

Existing mounting angle

Remove the lowest four or five existing mounting angles. Wipe down inside of rail to remove all grease and debris.

3

2

Self Tapping Rail Bolt

Ensure gate rail is secured to the platform thru the foot plate.
If not, use Self Tapping Bolt provided to secure.
Drill an 11/32" diameter hole
DO NOT USE WASHERS



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

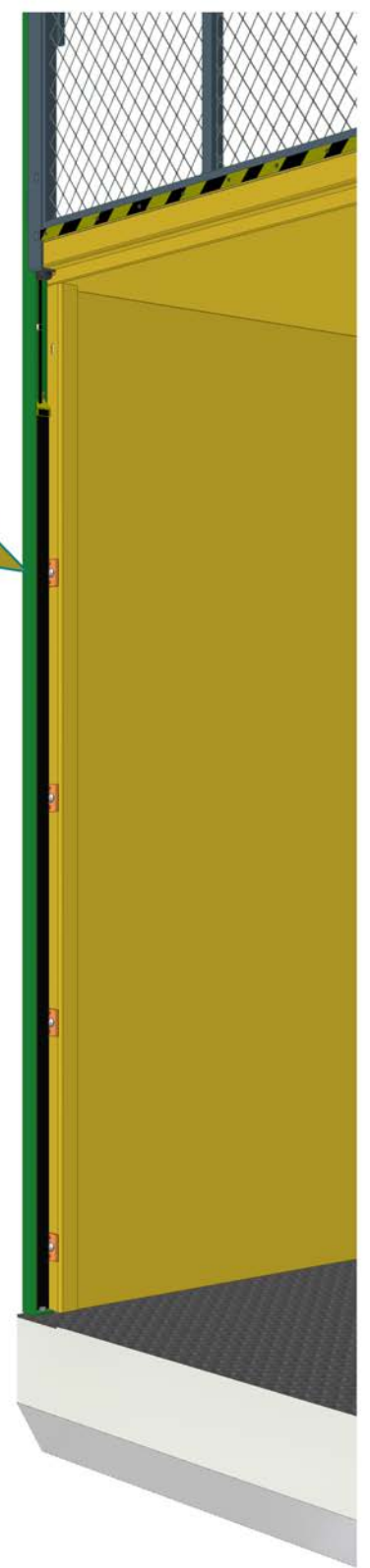
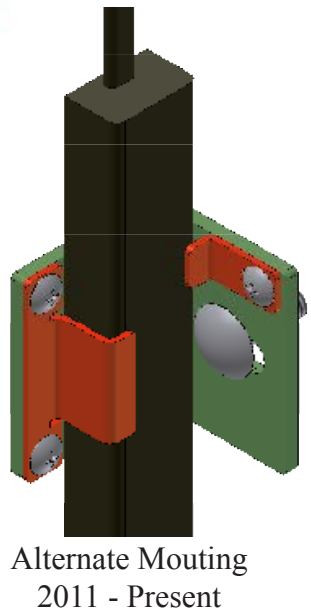
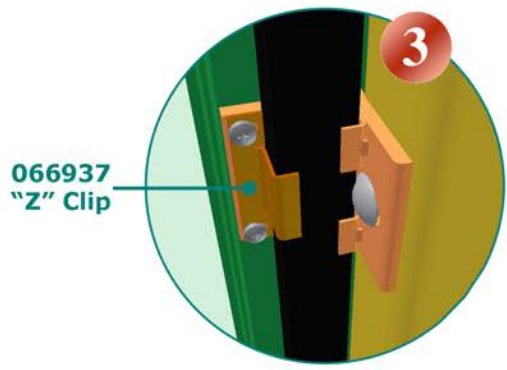
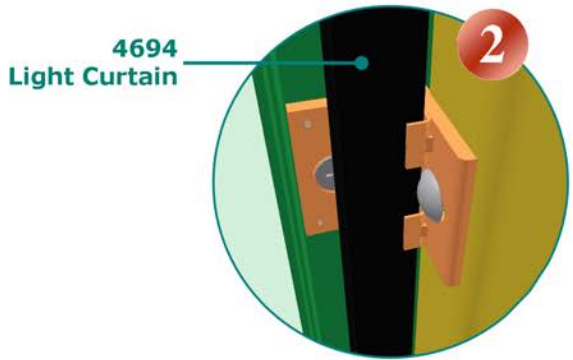
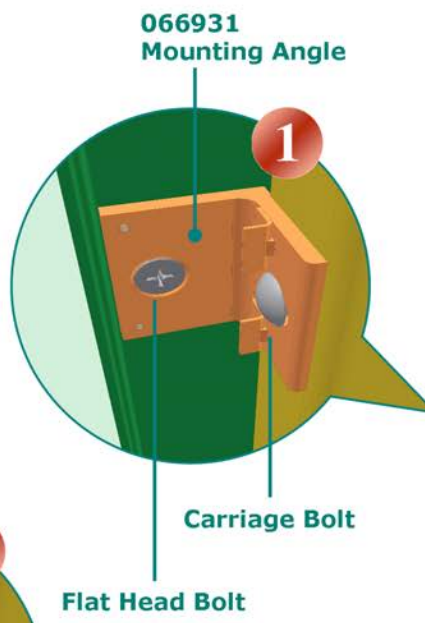
TECHNICAL SUPPORT 1-800-787-5020 ext 275

3

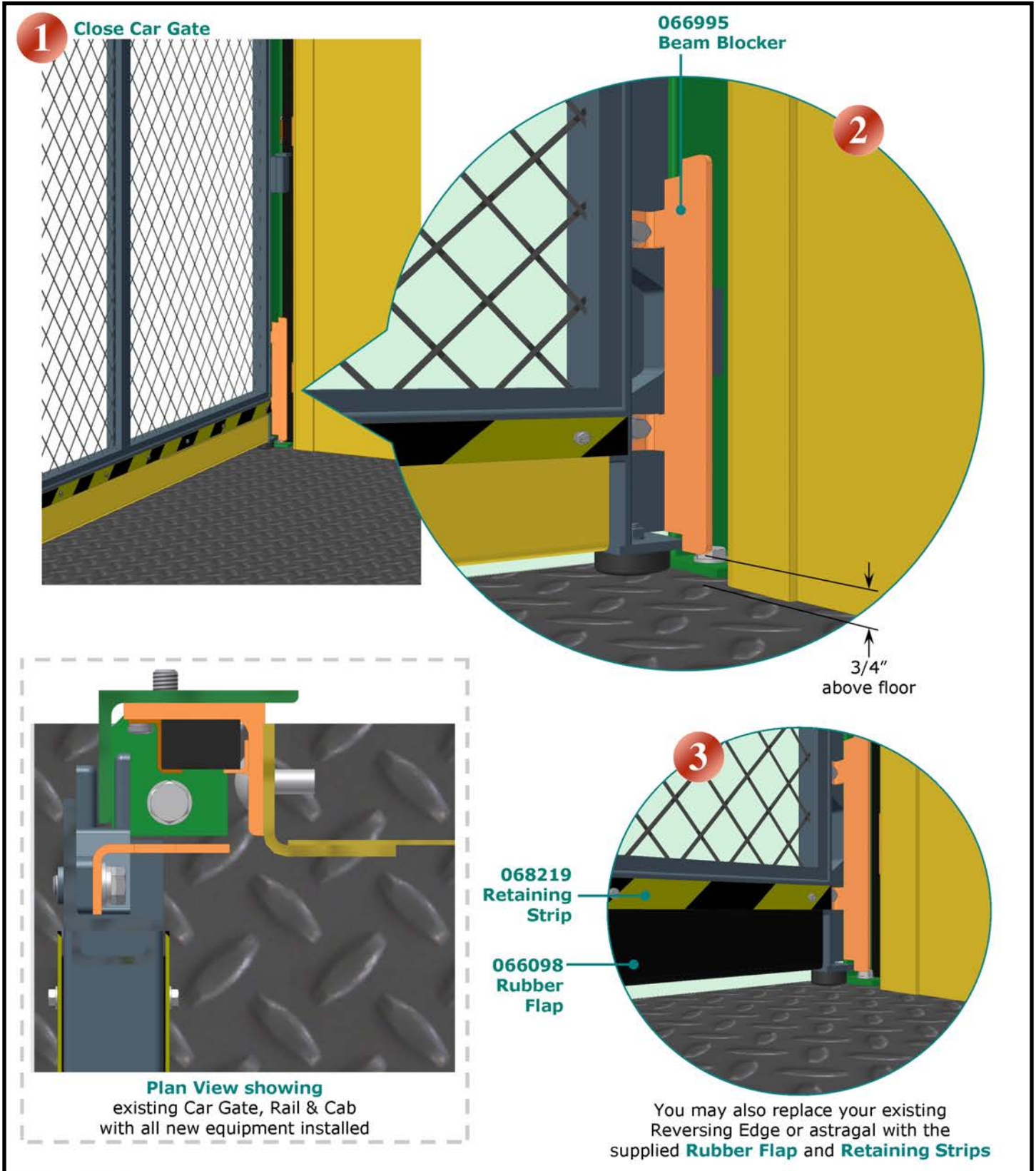
212.V3

THE PROTECTOR
INSTALLATION GUIDE

New Rail Clips



Beam Blocker



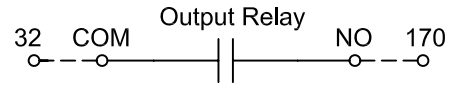
THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

Wiring

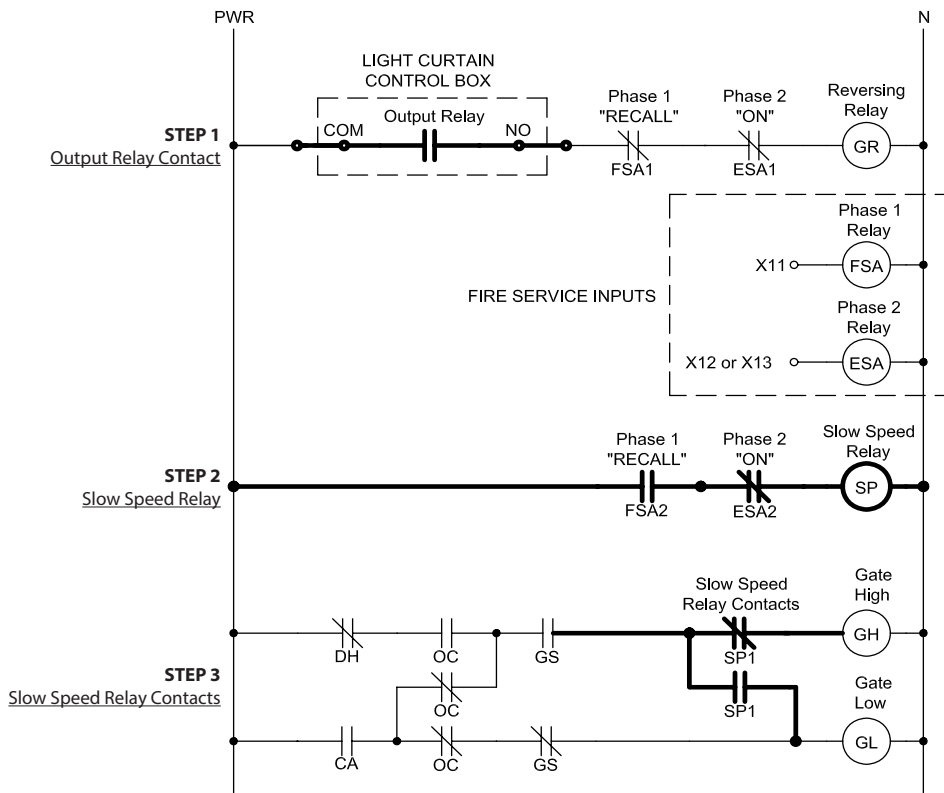
WIRING FOR EXISTING PELLE GATES WITH SENSOR BEAM

When adding a light curtain to an existing gate, compliance with A17.1-2000 is required. If the pre-existing reversal device is a Peelle Sensor Beam, simply wire the Output Relay Contact between 32 and 170 of the Peelle Controller.



WIRING FOR EXISTING PELLE GATES WITH OR WITHOUT REVERSING EDGE

1. Wire the Output Relay Contact to the GR relay of the door control. Add Contacts from Fire Service relays (not included) to ignore detection during Fire Service.
2. Wire a gate Slow Speed Relay as shown in the diagram to ensure gate Slow Speed operation during Fire Service Phase 1 Recall.
3. Wire the gate Slow Speed Relay Contacts to the GH / GL contactor of the existing logic as shown.



NOTES AND EXCEPTIONS:

1. Code compliance is the responsibility of the installer.
2. For other control interfaces, please contact Peelle engineering for assistance.



THE PELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

How it Works

The PROTECTOR is an infrared light curtain sensor system for detecting obstructions immediately under a vertically descending freight car door or gate.

The system contains 24 protective beams spaced evenly (see specifications). The standard product is suitable for vertically closing freight doors of up to 20ft. (6m) wide. The system ignores the closing freight car gate as it closes over the system sensors. The system will ignore the freight car gate provided that the closing speed of the door is greater than 0.2ft/s and less than 7ft/s.

The system consists of three parts - a Transmitter Edge (Tx), Receiver Edge (Rx) and a Light Curtain Controller. The edges contain all the intelligence required to control and synchronize the transmission and reception of all the protection beams and provide an output that indicates the obstruction status of the detector system to the Light Curtain Controller.

The RX edge includes a special routine which allows for any one beam to be permanently obstructed but which allows the system to remain operational. This override condition can be identified by monitoring the red LED on the RX edge.

No Override Condition - LED instantly illuminates on detection.

Override Condition - LED flashes momentarily, and then remains constant on detection.

If two or more beams are permanently obstructed then the system will remain in a permanent detect state.

The Light Curtain Controller uses dual pole changeover relays which are wired to the door controller to cause a door reversal when the system enters a detection state. This universal method of connection is detailed in the section Installation - Light Curtain Controller.

Installation TX and RX (light curtain arrays)

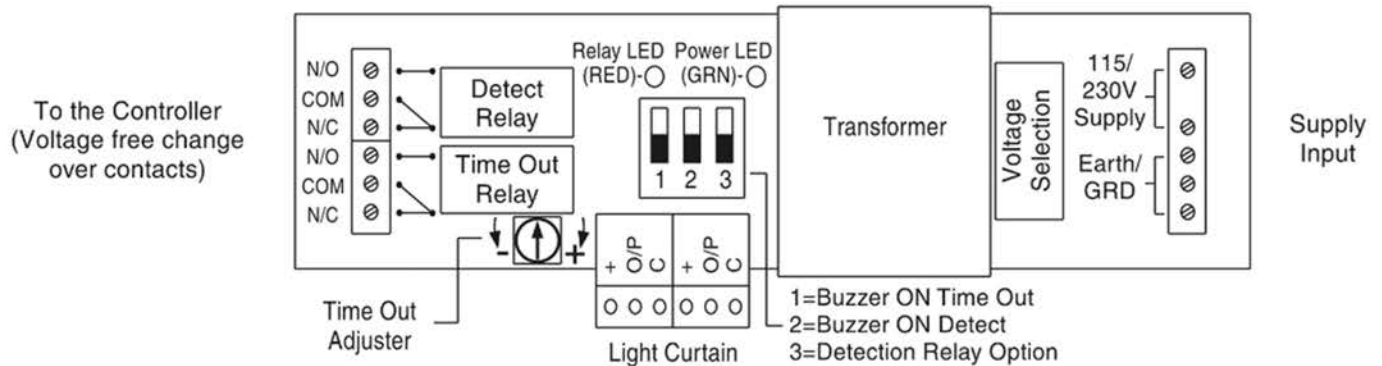


Figure 2 Light Curtain Controller



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

How it Works

Installation - Light Curtain Controller (Fig. 2)

The Light Curtain Controller box can be mounted to the top of the elevator car by means of the mounting holes and screws. After ensuring the supply switch is off, connect the electrical supply and relay output contacts to the elevator system according to local code requirements. Ensure the correct supply voltage is selected (115V or 230V) BEFORE switching on the supply.

Switch on the supply, check that both red and green LEDs are on. Connect the transmitter (Tx) and receiver (Rx) arrays to the Light Curtain Controller. With the light curtain uninterrupted, the red LED should be off and the relay should be energized. With the beams interrupted, the red LED should illuminate and the relay should drop out.

Supply Requirements

Voltage - 230V or 115V AC, Frequency - 50 or 60Hz. Power consumption - less than 14VA

Output Contacts

Dual pole changeover, Relay rating (each contact) 240V AC 4A RES.

Field Wiring

Cable insulation to be rated 60°C minimum



Copper conductors must be used. Nominal tightening torque vale 0.45Nm



Cord Routing

Connect the cable assembly to the short flying lead from the Tx and Rx arrays and plug it into the Light Curtain Controller. It is important that the cord is routed with sufficient free cord to avoid sharp bends or flexing at anchor points.

Ensure there is no risk of catching or rubbing by fastening the cord (using the nylon clamps and restraints provided in the parts kit). Generous bend radii should be maintained, to avoid damage to the cord. Ensure cable is clamped either side of the inline connector to restrain the short flying lead from the array. This cord is stationary unlike typical passenger applications.

Switch Selection

The receiver array contains a 2 way switch. Switch configuration is as follows:

Selector 1 (ON) =	Buzzer On after time-out
Selector 1 (OFF) =	No Buzzer after time-out
Selector 2 (ON) =	Buzzer On with detection
Selector 2 (OFF) =	No Buzzer with detection
Selector 3 (ON) =	Detect Relay - resets after time-out
Selector 3 (OFF) =	Detect Relay - remains set after time-out

If you are experiencing false door reversals, Switch 2 can be set to the off position in an attempt to resolve the false door reversals. Switches can be revealed by carefully prying off the filter. The switch is located near the green LED.

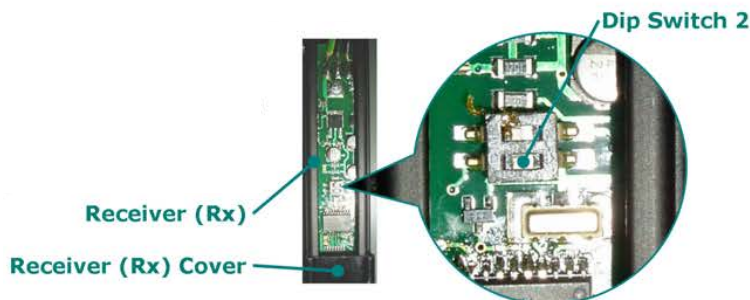
Indicator LEDs

Both the transmitter and receiver have a green LED to indicate that power is present. In addition, the receiver has a red LED to indicate that the sensor system has detected an obstruction.

DIP Switches—Inside Receiver (Rx)

There are two dip switches inside the receiver. They are located at the top of the receiver (Rx) behind the plastic cover. Dip switch

1 has no current function. Dip switch 2 controls the sensitivity of the receiver (Rx). It should be field set to the "OFF" position for applications less than 8'-0" in opening width.



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES

TECHNICAL SUPPORT 1-800-787-5020 ext 275

8

210.V8

OTHER PREFERENCE
INSTALLATION GUIDE

Specifications

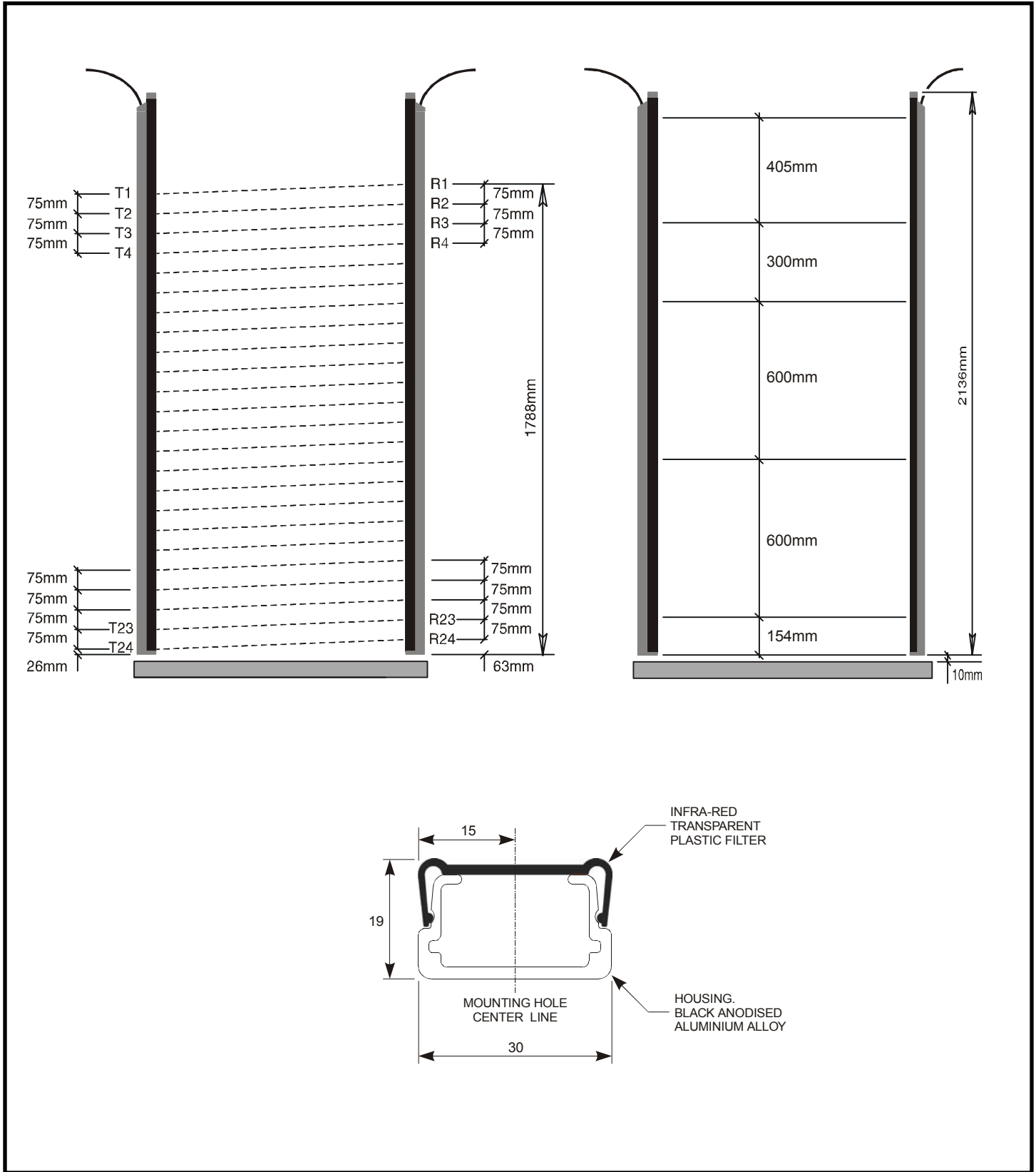
Item	Detail	Additional comments
Number of beams	24 non-focused beams	Infra-red
Number of Sensors	24	See drawing outline
Sensor Spacing	2.95" (75mm)	See drawing outline
Scan Type	Direct	
Door Closure Speed Range	0.2 ft/s 7.0 ft/s	Minimum Maximum
Range of detection	4m	Standard
Light Immunity	50 000 lux	Visible light
Angular displacement	10°	
Positional mounting tolerance	+/- 0.7" (18mm) vertically +/- 0.2" (5mm) side by side	
Operating voltage	24 volts	16 volts min 30 volts max
Current consumption	<100 mA RMS	Total of both units
Control unit	FPS 0272	Mandatory
Environmental protection	IP54	Conformal coating to PCB's
Operating temperature range	0°C to +70°C	
Storage temperature range	-40°C to +80°C	
Unit size	1.18"x0.8"x7' (30x20x2136mm)	
Mounting	Five screw positions	See drawing outline
Indicators	Supply present: System fault / beams obstructed:	Green LED Red LED
Cable supplied	Two x 26' (8m) approx of 3 core cable	Connects to product via short fixed lead
Case material	Aluminium alloy	Finished Black
Cover (filter)	Infra-red transparent plastic	Snap-on fixing
Installation kit	Instructions - 1 off Cable Clips - 10 off Nytie - 6 off Screws M4 x 20mm - 20 off M4 Hex Nut - 10 off Washers - 10 off	Self Tapping
SYSTEM APPROVALS	UL, cUL, CE (EMC)	EN12015, EN12016.



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

Specifications



THE PELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

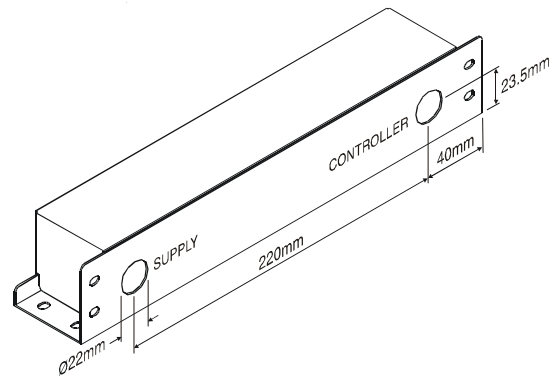
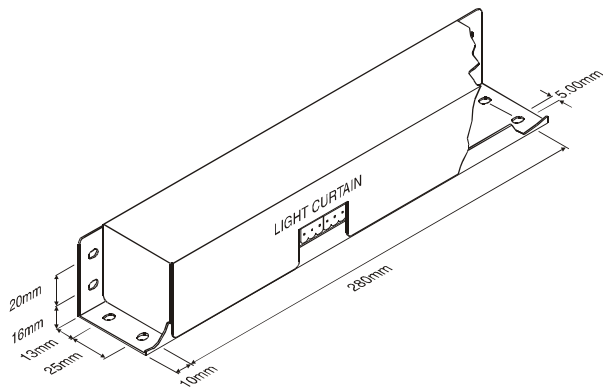
10

212.V3

THE PROTECTOR
 INSTALLATION GUIDE

Specifications

Item	Detail	Additional comments
INTERFACE UNIT	ENHANCED FEATURES	Buzzer with adjustable time-out
Power Consumption	4.0VA (Typical)	



COMMON FEATURES:

Supply Voltage	230 or 115V AC (50Hz or 60Hz)	Switch selected (SW1)
Signal Output	Voltage free change-over relay contacts	Contacts rated / set, 240V AC 4A RES
Fail Safe Conditions	Faulty cable or supply failure	
Operating Temperature Range	0°C to +70°C	
Storage Temperature Range	-40°C to +80°C	
Unit size	2" x 2" x 12" (54 x 54 x 300mm)	See drawing outline
Mounting	Four screw positions (2 sets)	See drawing outline
Enclosure material	Plated steel	
Indicators	Supply present: System fault / System Detection:	Green LED Red LED
SYSTEM APPROVALS	UL, cUL, CE (EMC)	EN12015, EN12016



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES
TECHNICAL SUPPORT 1-800-787-5020 ext 275

11

212.V3

THE PROTECTOR
 INSTALLATION GUIDE



THE PEELLE COMPANY

FREIGHT DOORS | CAR GATES | CAR ENCLOSURES



TECHNICAL SUPPORT

1-800-787-5020 ext 275

NORTH AMERICAN SALES

sales@peelldoor.com

EXPORT SALES

exportsales@peelldoor.com

