

ProTran1

Instruction Manual

Portable ProTracker®

Portable Train Detector KIT

MODEL 101601-75

Any questions/inquiries regarding
this product, please contact
ProTran1 at:
(862) 251-1490



The ProTran1 Portable ProTracker advance warning system was developed to provide track work zones a second layer of safety. Each Kit comes with the minimum of the following:

- Qty 1 – Portable Train Detector (PTD)
- Qty 2 – Personal Alert Devices (PAD)
- Qty 2 – Portable Warning Light/Horn (PWLH)
- Qty 1 - Flagger Device (FD)

Overview

Taking only seconds to implement, the **Portable Train Detector (PTD)** is designed to be attached to the running rail. The PTD will detect the presence of a train on the applied track and alert the track workers with Personal Alert Devices (PAD) and Portable Warning Light/Horn Devices (PWLH) a standard 800 - 1200 feet away (longer distances up to 2 miles are available) giving them a **secondary warning in conjunction with their existing primary warning procedures.**



Portable Train Detector (PTD)

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Note: The PTD is currently set up to only detect a train on the track it is installed on and not adjacent tracks. Options are available if adjacent tracks require protection or if the train operator requires early warning prior to reaching the PTD.

The **Personal Alert Device (PAD)** is intended to be worn by the flagger, track foreman and/or supervisor. The PAD communicates with the PTD. When the PTD detects a train, it sends a signal to the PAD. The PAD will turn on and alert the flagger, track foreman and/or supervisor on the track that the unit is installed on.



Personal Alert Device (PAD)

The **Portable Warning Light/Horn (PWLH)** is placed within the Work Zone and communicates with the PTD. When the PTD detects a train, it sends a signal to the PWLH. The PWLH will turn on and give warning to the work crew of an approaching train on the track that the PTD is installed on.



Portable Warning Light/Horn (PWLH)

The **Flagger Device (FD)** is a hand held device used by the flagger. The FD is intended to give a flagger the ability to activate all PAD's and PWLH's in the worker area, if necessary. The flagger sees an approaching train and determines the need to alert the work crews, he simply pushes the #1 button on the FD. The FD communicates with the PAD and PWLH giving the work crew warning of an approaching train. The FD works independently from the PTD allowing additional redundancy and helps remove worker complacency.



Flagger Device (FD)

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Testing, Installation and Operation

The following steps must be followed to ensure the proper use of this device:

Testing



A functional operation test **MUST** be performed **PRIOR TO** installation and use of any ProTran1 Portable ProTracker Device.



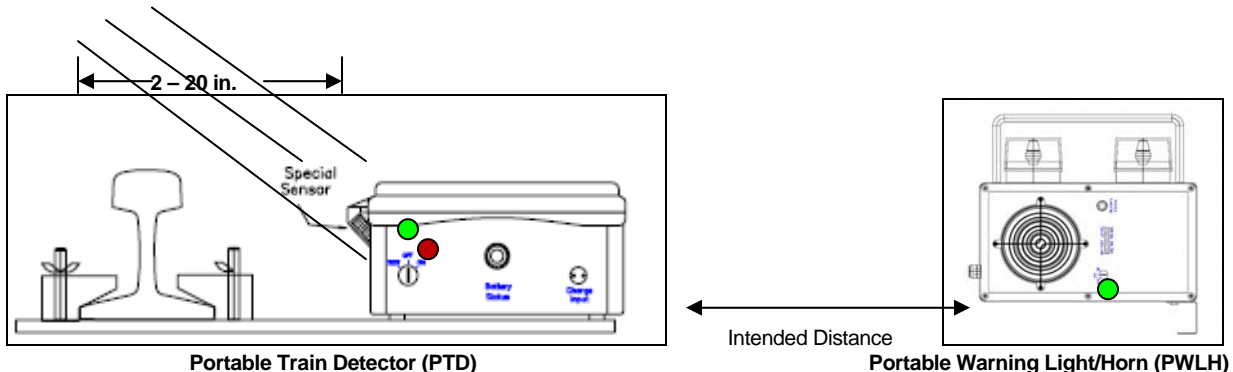
Ensure that all batteries are charged to 100% level before testing and installation. (Battery Status push button on PTD and PWLH. Low Battery LED on PAD and FD.)

Testing Procedure - PTD and PWLH:

1. Place the PTD and PWLH at the intended distance locations.
2. Place the key for the PTD in the three-keyed switch and turn it to the TEST position. The Green LED indicates that the unit is ON and the Red TX LED indicates that the unit is transmitting a signal.
3. Place the key for the PWLH in the two keyed switch and turn the PWLH to the ON position. The Green LED indicates the unit is ON.
4. The PWLH should activate its audible and visual alarms. The alarms should remain in alert mode.
5. After 5 – 7 seconds, turn the PTD key to the OFF position. The PWLH will silence and reset automatically for GEN1 and GEN2 PWLH systems. For GEN3 PWLH systems, the PWLH will continue to alert.
6. Turn the PWLH key to the OFF position.
7. Ensure that all devices are in the OFF position.
8. The test is complete. If test is successful, units may be installed. If test is unsuccessful, place affected unit OOS for evaluation.



Ensure that both PTD and PWLH units are in the OFF position prior to installation.



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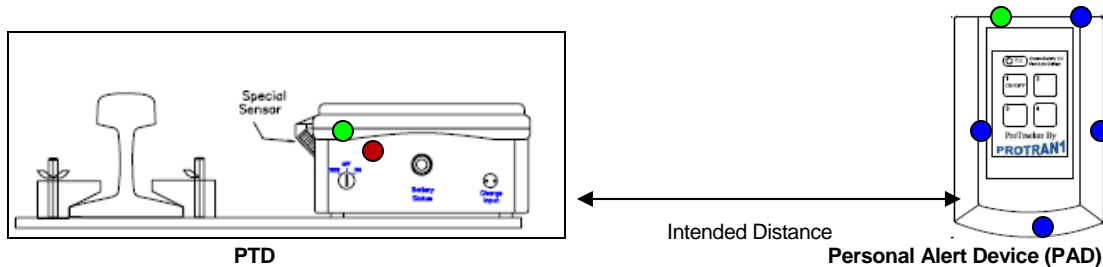
Note: When PTD is ON, stay clear of Sensor 2-20 Inches. 45 Deg. angle. Red LED lights when unit is activated.

Testing Procedure - PTD and PAD:

1. Place the PTD and PAD at the intended distance locations.
2. Turn on the PAD by pressing the #1 button for 4 seconds. A flashing Green LED will appear. Flashing Green LED indicates unit is ON. (If a Red LED lights instead of the Green LED, this means the battery level is low and the batteries should be replaced.)
3. Place the key for the PTD in the three-keyed switch and turn it to the TEST position. The Green LED indicates that the unit is ON and the Red TX LED on the PTD indicates that the PTD is transmitting a signal.
4. The PAD should activate its audible and visual alarms. The alarms should remain in alert mode.
5. After 5 – 7 seconds, turn the PTD key to the OFF position. The PAD will silence and reset automatically.
6. Turn off the PAD by pressing the #1 button for 4 seconds. The Green LED will turn off.
7. Ensure that all devices are in the OFF position.
8. The test is complete. If test is successful, units may be installed. If test is unsuccessful, place affected unit OOS for evaluation.



Ensure that both PTD and PAD units are in the OFF position prior to installation.



Testing Procedure - FD and PWLH:

1. Place the FD and PWLH at the intended distance locations.
2. Place the key for the PWLH in the two keyed switch and turn the PWLH to the ON position. The Green LED indicates the unit is ON. Leave the unit on.
3. Press the #1 button on the FD. The Green LED will light indicating that the SFD is transmitting a signal.
4. The PWLH should activate its audible and visual alarms. The alarms should remain in alert mode for several seconds, then silence and reset automatically.
5. The FD will reset automatically.
6. Turn the PWLH key to the OFF position.
7. Ensure that all devices are in the OFF position.
8. The test is complete. If test is successful, units may be installed. If test is unsuccessful, place affected unit OOS for evaluation.

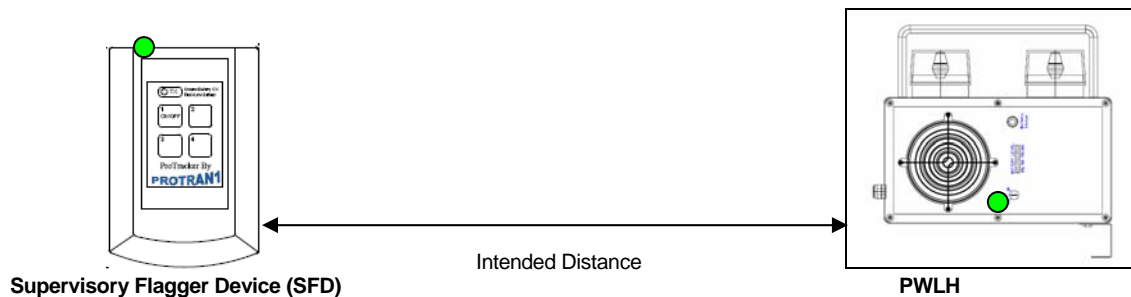
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If using a GEN 3 system, the PTD must be in the ON position for this test or the PWLH will automatically activate. (GEN 3 systems have a continuous communication feature between the PTD and PWLH and will activate the PWLH if no signal is present).



Ensure that both FD and PWLH units are in the OFF position prior to installation.

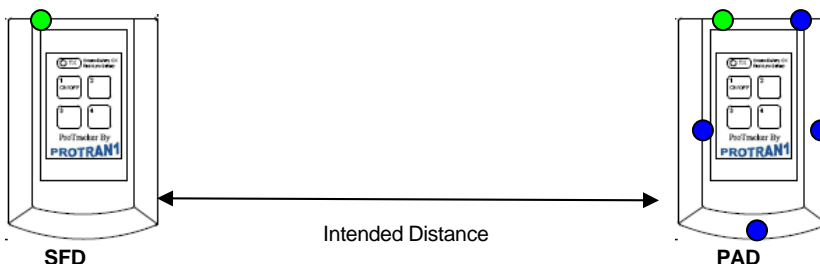


Testing Procedure - FD and PAD:

1. Place the FD and PAD at the intended distance locations.
2. Turn on the PAD by pressing the #1 button for 4 seconds. A flashing Green LED will appear. Flashing Green LED indicates unit is ON. (If a Red LED lights instead of the Green LED, this means the battery level is low and the batteries should be replaced.)
3. Press the #1 button on the FD. The Green LED will light indicating that the FD is transmitting a signal.
4. The PAD should activate its audible and visual alarms. The alarms should remain in alert mode for several seconds, then silence and reset automatically.
5. The FD will reset automatically after 10 seconds.
6. Turn off the PAD by pressing the #1 button for 4 seconds. The Green LED will turn off.
7. Ensure that all devices are in the OFF position.
8. The test is complete. If test is successful, units may be installed. If test is unsuccessful, place affected unit OOS for evaluation.



Ensure that both FD and PAD units are in the OFF position prior to installation.



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Testing Procedure – Visual Inspection – PTD, PAD, PWLH, FD



Inspect all ProTran1 devices for cracks, loose items, or defects. If found, place device out of service (OOS) for evaluation, inspection, or repair.

Place PTD OOS if:

- The Green LED power light does not light.
- The Red LED Battery Level lights do not light (after charging or after pushing Battery Test button).
- The Red LED TEST light does not light.
- The rail brackets do not hold the device securely to the running rail.
- **On GEN 3 systems: The White or Amber LED light remains on.**

Place PAD OOS if:

- The Green LED power light does not light.
- The Red LED low battery light remains on after changing batteries.
- The Blue LED alert lights do not light.
- The Blue LED alert lights do not blink.
- The audible alert does not sound.
- Cracks in outer casing.

Place PWLH OOS if:

- The Green LED power on light does not light.
- The Red LED Battery Level lights do not light (after charging or after pushing Battery Test button).
- The PWLH LED alert lights do not light.
- The PWLH LED alert lights do not flash.
- The audible alert does not sound.
- Cracks or defects in lights and/or outer casing.

Place FD OOS if:

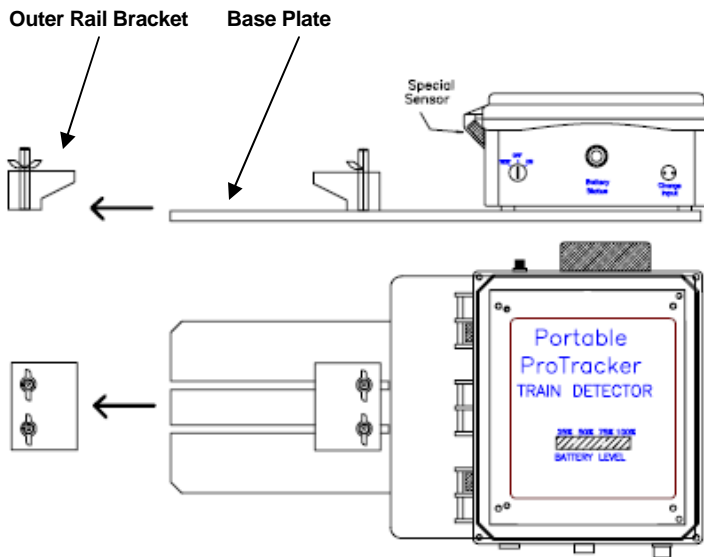
- The Green LED transmit light does not light.
- The Green LED transmit light remains on.
- Cracks in outer casing.

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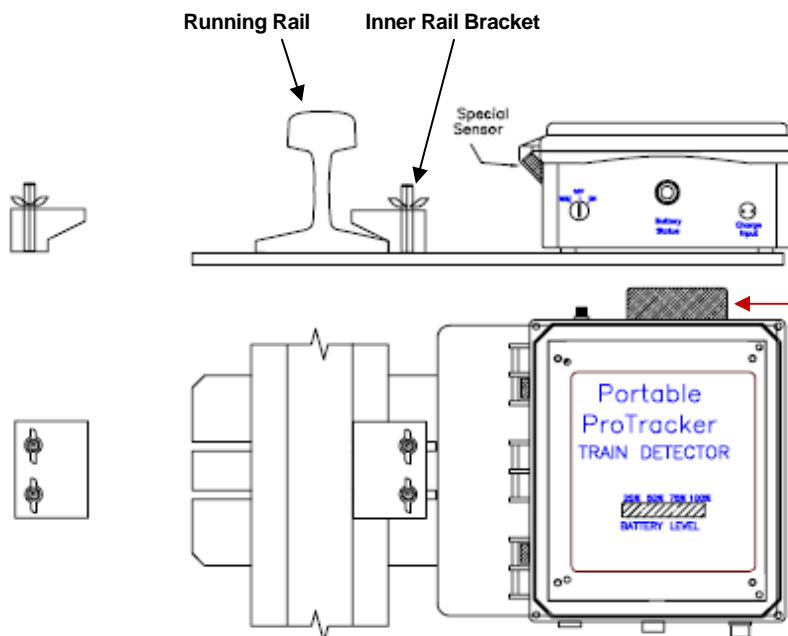
Installation

Portable Train Detector (PTD)

1. Loosen the wing nuts and remove the **outer rail bracket** from the **base plate** as shown.



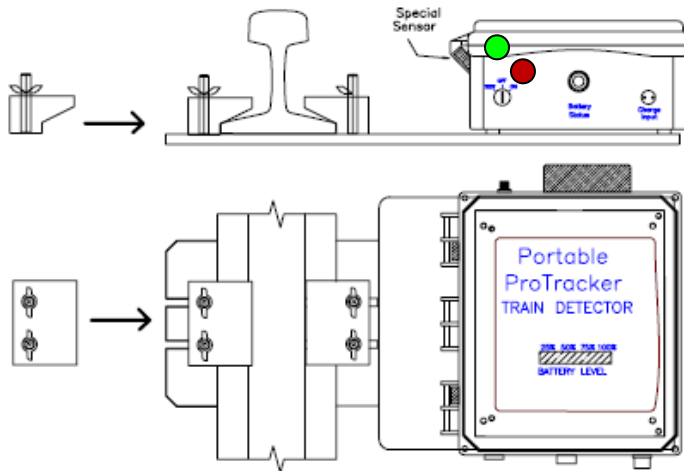
2. Slide the PTD **base plate** under the running rail until the **inner rail bracket** is secured against the rail. Ensure that the **Antenna** is facing in the direction of travel and pointing towards the track work crew.



Antenna
Facing in the direction of travel
and pointed towards the track
work crew.

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3. Re-install the **outer rail bracket** and secure it up to the running rail. Hand-tighten the wing nuts.



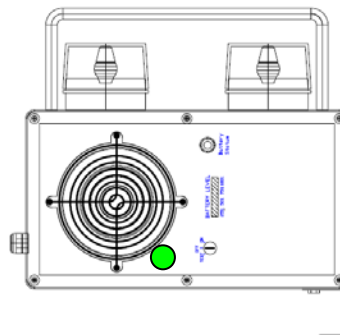
4. Place the key for the PTD in the three-keyed switch and turn it to the ON position. The Green LED indicates that the unit is ON.



NOTE: If the Red TX LED lights up when turning on the PTD, it may indicate that the sensors are being blocked. Adjust the rail brackets so the sensors are not blocked by the running rail. Additionally, ensure that a distance of 2 – 20' at 45 degrees are kept clear of the sensors.

Portable Warning Light/Horn (PWLH)

5. Position the PWLH in the desired position near the work area and/or track work crew (the same intended distance as tested).
6. Place the key for the PWLH in the two keyed switch and turn the PWLH to the ON position. The Green LED indicates the unit is ON.



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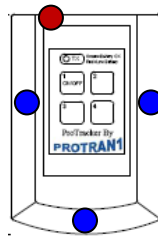
If using the GEN 3 PWLH, the PWLH will sound a “chirping” audible alert when it is on and cannot find or receive a signal from the GEN 3 PTD. Ensure that the proper intended distance between the PTD and PWLH are met as per Authority requirements.

Personal Alert Device (PAD)

7. Flaggers, Foremen and Supervisors are to wear the PAD on their arm above the elbow. The PAD is secured with the elastic arm band.
8. Turn on the PAD by pressing the #1 button for 4 seconds. A flashing Green LED will appear. Flashing Green LED indicates unit is ON.



If a Red LED lights instead of the Green LED, this means the battery level is low and the batteries should be replaced.

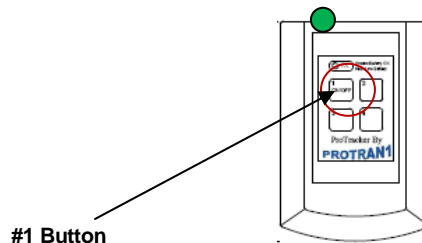


Flagger Device (FD)

9. Assign the FD to a qualified flagger/lookout/watchman. If this person deems it necessary to activate the PWLH and PAD's in the work area, he/she may do so by pressing the #1 button on the FD. The Green LED will light indicating that the FD is transmitting a signal.



If Green LED lights are flashing without pressing the #1 button, this means the battery level is low and the batteries should be replaced.



10. **Installation is complete.** The track work zone now has secondary protection along with the existing primary protection provided by the Authority.

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Operation

PTD. The PTD communicates with the PAD and PWLH. The PTD will detect the presence of a train on the applied track and transmits a signal to activate PAD's and PWLH's a standard 800' - 1200' away (longer distances up to 2 miles are available) giving them a **secondary warning in conjunction with their existing primary warning procedures.**



Note: The PTD is currently set up to only detect a train on the track it is installed on and not adjacent tracks. Options are available if adjacent tracks require protection or if the train operator requires early warning prior to reaching the PTD.



Note: If using the GEN 3 PTD system, the PTD will be equipped with a White or Amber LED that will light up when the PTD cannot send a signal to or find the PWLH. Ensure that the proper intended distance between the PTD and PWLH are met as per Authority requirements.

PWLH. The PWLH communicates with the PTD. When the PTD detects a train, it sends a signal to the PWLH. The PWLH will automatically turn on and give warning to the work crew with an audible and visual warning of an approaching train on the track that the PTD is installed on. Once the train is out of range, the PWLH will automatically reset.

PAD. The PAD communicates with the PTD. When the PTD detects a train, it sends a signal to the PAD. The PAD will automatically turn on and alert the flagger, track foreman and/or supervisor with an audible and visual warning of an approaching train on the track that the PTD is installed on. Once the train is out of range, the PAD will automatically reset.

FD. The FD communicates with the PAD and PWLH. The FD is a hand held device used by the flagger. The FD is intended to give a flagger the ability to activate all PAD's and PWLH's in the worker area, if necessary. If the flagger sees an approaching train and determines the need to alert the track workers/walkers, he simply pushes the #1 button on the FD. The FD will send a signal to the PAD and PWLH. The PAD and PWLH will automatically turn on and alert the track worker/walker with an audible and visual warning of an approaching train. The PAD and PWLH will automatically reset after 6 – 10 seconds. The FD works independently from the PTD allowing additional redundancy and helps remove worker complacency.

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Note: After each use and before storing the ProTran1 Portable ProTracker devices, Plug in so it will recharge the devices to 100% battery level. Follow these instructions:

1. Find a location to store the equipment
2. With the equipment in the off position, plug in the PTD and PWLH.
3. Leave plugged in unit needed. The units have a smart charge which allows charging when needed. Units should be in the OFF position.

Safety Notes

1. ProTran1 devices do not replace existing Authority safety procedures. ProTran1 devices work in conjunction with Authority safety procedures to add a secondary layer of safety. Authority procedures supersede all other procedures. Follow the Authorities existing procedures to ensure safety on the tracks.
2. Always inspect the unit prior to use. Inspect for nicks or cuts, loose parts, etc. If any problems are discovered, have the unit returned for evaluation, inspection and/or repair.
3. Always ensure that the unit is in proper working condition before attempting to use it in the field.
4. Always ensure the batteries are charged or operating properly.

Service and Maintenance



Service and maintenance of all ProTran1 products will be limited to replacing the batteries in the PAD and FD, when necessary. All other repairs will be performed by a ProTran1 service representative. PAD/FD (4) 3V Lithium Ion each, size AA , to equal 3.0VDC nominal. p/n 03-2023 energizer only. 50 hours life service when new. When replacing batteries make sure they are a complete new set. Never change just individual batteries or move the old ones around.

If any ProTran1 product requires service, please contact ProTran1 at:

ProTran1 LLC
152 Waterford Road
Blue Anchor, NJ 08037
Tel.: (862) 251-1490
Fax: (973) 691-0043
peter.bartek@protran1.com

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Specifications



Specifications shown are for all models sold after the printed document date at the end of each bulletin. Please visit www.protran1.com under the product page to receive the most updated product bulletin.

LIMITED WARRANTY STATEMENT

ProTran1- branded products purchased in the U.S. or Europe come with a limited warranty ; if properly used and installed, will be free from defects in material and workmanship for a period of 1-year after date of purchase. The warranty period is not extended if we repair or replace a warranted product or any parts. Said warranty to include the repair or replacement of defective equipment.

Any re-chargeable batteries provided come with a 9-month warranty under the same conditions as stated above.

What is not covered by this limited warranty?

This limited warranty does not cover:

Damage due to external causes, including accident, problems with electrical power, and usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing.

This limited warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of the equipment, and last only for as long as such purchaser continues to own the equipment. This warranty replaces all other warranties, express or implied including, but not limited to, the implied warranties or merchantability and fitness for a particular purpose. ProTran1 makes no express warranties beyond those stated here. ProTran1 disclaims without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties so this limitation may not apply to you.

To obtain warranty service, contact ProTran1 for a return material authorization. When returning equipment to ProTran1, the customer assumes the risk of damage or loss during shipping and is responsible for the shipping costs incurred.

Refer to the “Service and Support” for Service and Maintenance contracts ProTran1 offers to the customers.



NOTE: ONLY GENERATION COMPATABLE SERIES WILL WORK WITH EACH OTHER. EXAMPLE GEN1 WILL ONLY WORK WITH GEN1, GEN2 WITH GEN2 AND GEN3 WITH GEN3. PLEASE CONSULT FACTOR IF YOU HAVE ANY QUESTIONS.

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