



Manufacturer

**TLV** CO., LTD.

Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001



# Instruction Manual

iTrapSensor Monitoring System  
Data Station

**iT5-ZB-DSN-Px-A**

(Non-explosion Proof)

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## Introduction

Thank you for purchasing the TLV monitoring system, iT5.

When the product is delivered, before doing anything else, check the specifications and external appearance to make sure nothing is out of the ordinary. Also be sure to read this manual carefully before use and follow the instructions to be sure of using the product properly.

To ensure safe and correct use of this product, be sure to observe the safety precautions listed in this manual as they relate to installation, operation, maintenance and repair of the product. Please keep it in a safe place for future reference.

TLV accepts no responsibility for incorrect use of the product by the customer or any third-party, malfunction occurring during use, other defects and any damage caused by this product, excluding cases in which it is under obligation to pay reparations by law. This product has undergone strict quality management and product inspection before being shipped from the factory. However, in the event of malfunction or defects, please contact your local TLV representative or the TLV customer service center.

This instruction manual and product are subject to modification without notice, for the purpose of improvement.





Unauthorized reprinting or reproduction, in whole or in part, of this instruction manual or contents of the hardware/software of the product is strictly prohibited.

This product is for use in indoor, non-explosion proof areas.



## Safety Considerations

- Read this section carefully before use and be sure to follow the instructions.
- Installation, inspection, maintenance, repairs, disassembly, adjustment and valve opening/closing should be carried out only by trained maintenance personnel.
- The precautions listed in this manual are designed to ensure safety and prevent equipment damage and personal injury. For situations that may occur as a result of erroneous handling, three different types of cautionary items are used to indicate the degree of urgency and the scale of potential damage and danger: DANGER, WARNING and CAUTION.
- The three types of cautionary items above are very important for safety: be sure to observe all of them as they relate to installation, use, maintenance, and repair. Furthermore, TLV accepts no responsibility for any accidents or damage occurring as a result of failure to observe these precautions.



### Symbols

	<b>Indicates a DANGER, WARNING or CAUTION item</b>
 <b>DANGER</b>	Indicates an urgent situation which poses a threat of death or serious injury
 <b>WARNING</b>	Indicates that there is a potential threat of death or serious injury
 <b>CAUTION</b>	Indicates that there is a possibility of injury or equipment / product damage

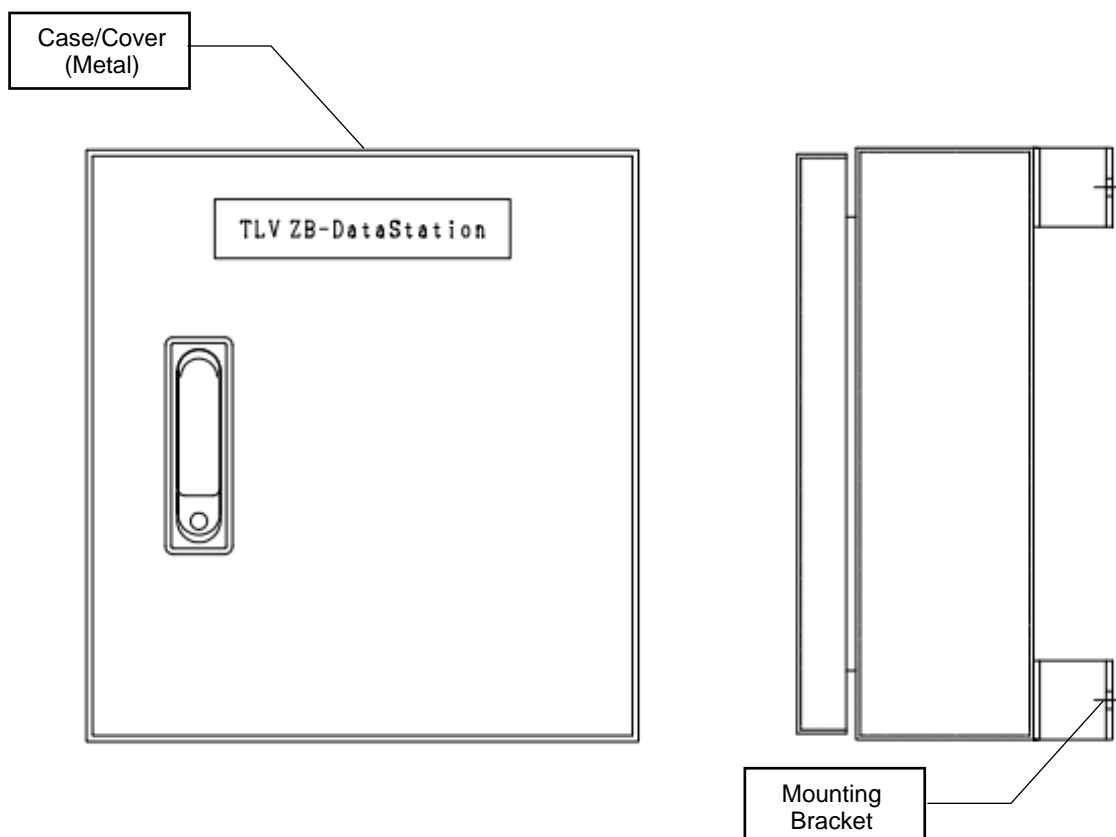
### General Precautions

 <b>DANGER</b>	<b>Do not disassemble or modify.</b> Failure to observe this precaution could result in personal injury, electrocution, ignition or fire.
	<b>Ensure the product is installed and used in indoor, non-hazardous areas.</b>
	<b>Do not use this product in hospitals or airplanes.</b> Failure to observe this precaution could result in malfunction of medical equipment, instrumentation, etc.
	<b>Do not open the cover when energized.</b> Failure to observe this precaution could result in electrocution.
	<b>When installing or working at high elevations, take measures to ensure against dropping the product or parts.</b> Failure to take such measures could result in personal injury if persons passing below are struck by a falling object, or other accidents.
	<b>Check to make sure that no wireless instrumentation other than the product is being used.</b> Failure to observe this precaution could lead to interference of important transmissions or accidents.
 <b>WARNING</b>	<b>As this is an industrial product, it is not to be used on consumer applications nor in residential areas.</b>
	<b>Do not install directly on high temperature locations such as steam piping.</b> Overheating could result in damage to internal parts, excessive heat generation, rupture or ignition.

Continued on the next page

 <b>WARNING</b>	<p><b>Do not subject the unit to strong shocks or throw it against anything.</b></p> <p>Failure to observe this precaution could result in damage to internal parts, excessive heat generation, rupture, ignition or personal injury.</p>
	<p><b>Do not place device in microwave ovens or high-pressure vessels, or in the vicinity of electromagnetic devices.</b></p> <p>Such handling could result in excessive heat generation, smoke, damage to circuitry, battery fluid leakage, rupture or ignition.</p>
 <b>CAUTION</b>	<p><b>Do not allow any foreign matter to enter the unit. In areas with small foreign matter such as metal dust, use the product after taking measures to prevent foreign matter entering the unit.</b></p> <p>Failure to observe this precaution could result in fire or malfunction.</p>
	<p><b>Do not let the unit become immersed in water.</b></p> <p>If liquid gets inside the unit, it may result in excessive heat generation, electrical shock or unit malfunction. Be mindful of the location of use and handling.</p>

## Part Names

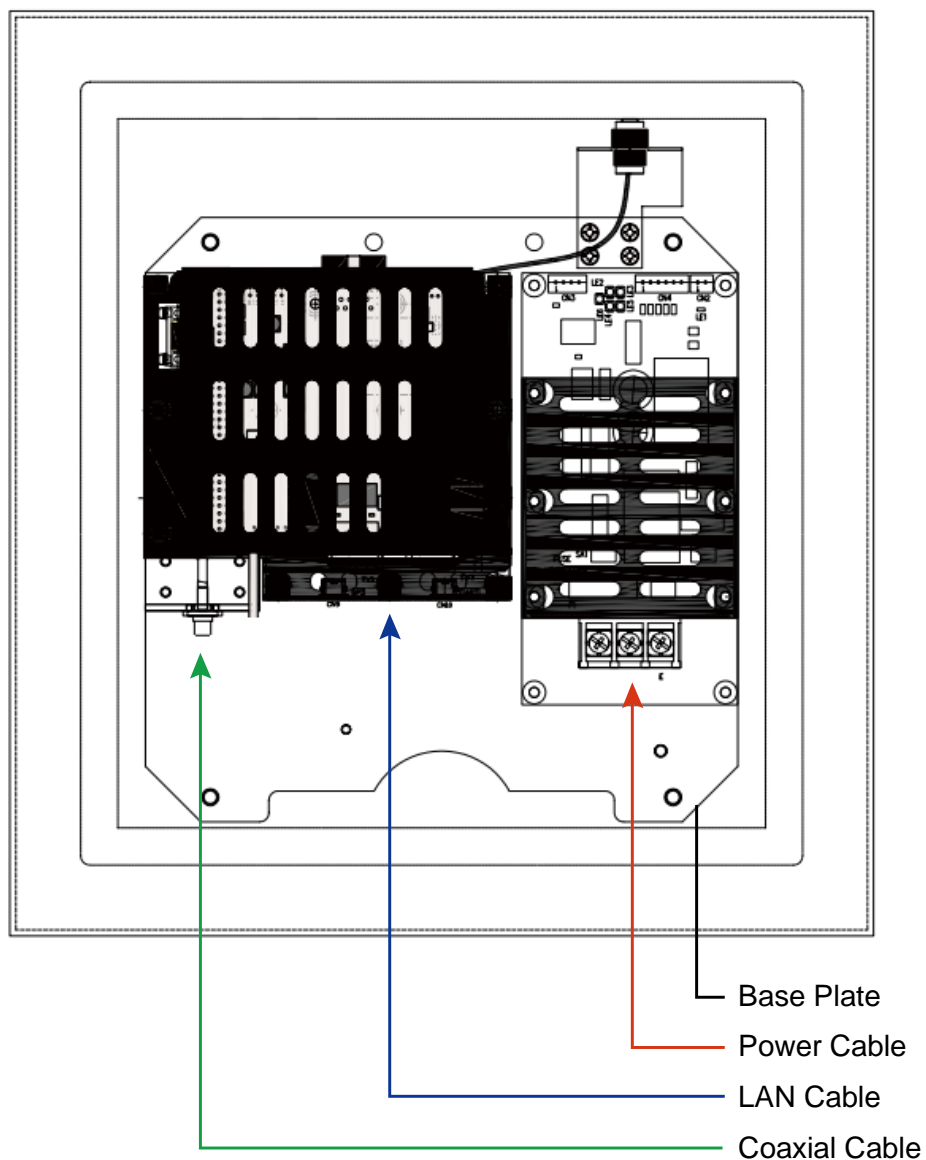


## Installation



**Do not open the cover when energized.**  
**Failure to observe this precaution could result in electrocution.**

**Inside view (cover opened):**



### Notes:

- When drilling holes in the case, remove the board unit and base plate from the case beforehand. Make sure to remove dust or scraps from the case, then reattach the board unit and base plate in the original position.
- Do not connect any cables to the connection ports other than those shown above.

### Compatible Wiring

Item	Description	No. of Cores	Remarks
Power Cable	CV Cable 2.0 mm <sup>2</sup> (AWG 14)	3	—
LAN Cable	CAT 5e or higher recommended	—	—
Coaxial Cable	5D-2V 2.0 mm, Length: 13 m	—	Cable side: SMA male

### Antenna connection:

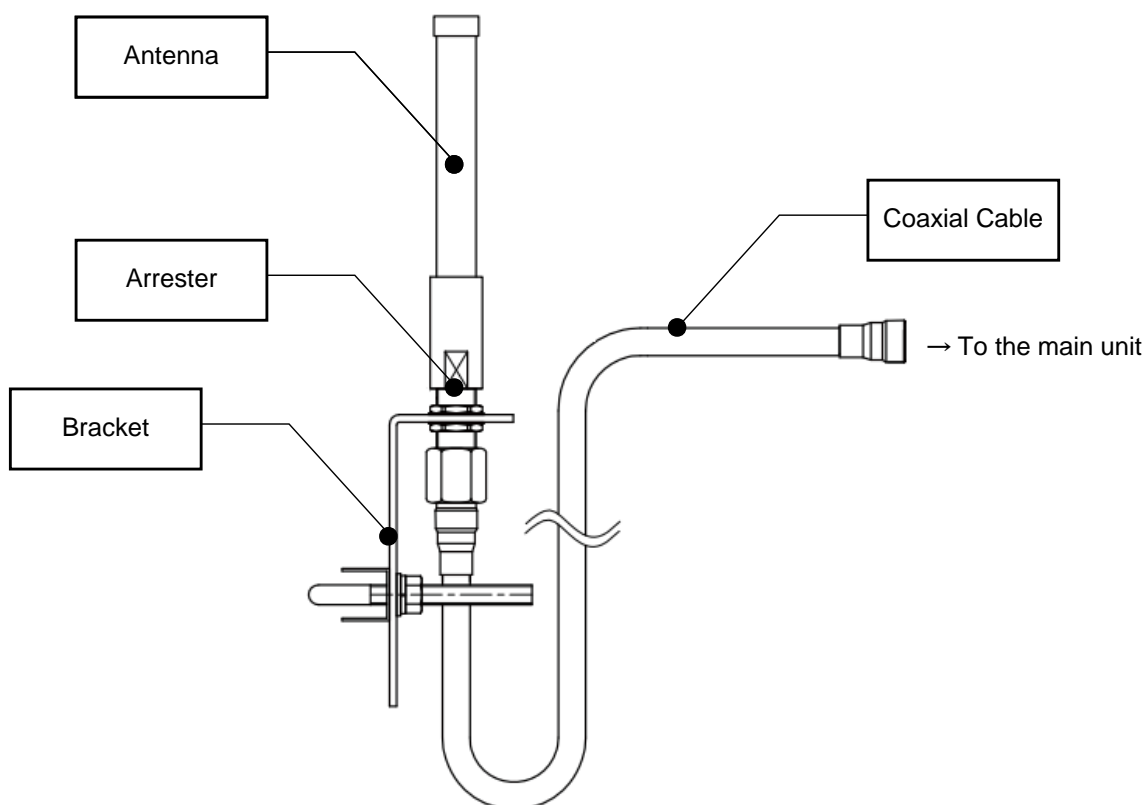
A coaxial cable, antenna, antenna mounting bracket and arrester are packaged with the product.

To prevent signal attenuation (loss), do not extend the antenna beyond the length of the cable packaged with the product.

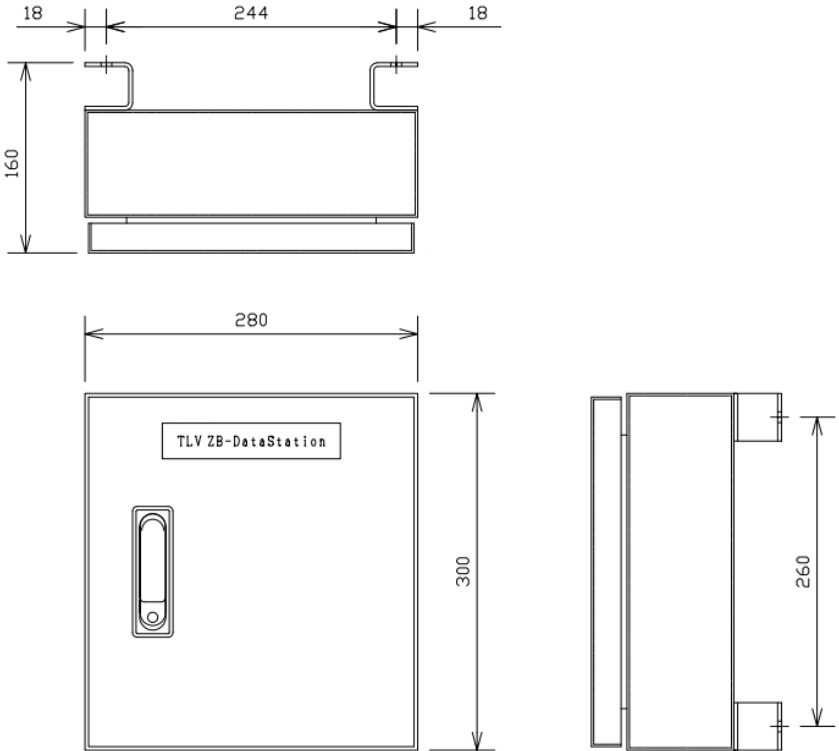
Do not use any cable other than that packaged with the product for the antenna.

If the antenna is installed at a height of 10 m or more above the ground or if there is a possibility of a lightning strike, perform Class A grounding work on the arrester.

If the product is struck by lightning, replace the arrester with a new one and make sure that the antenna, coaxial cable and main unit are not damaged.



## Specifications

Type	<b>iTrapSensor Monitoring System – Data Station (non-explosion proof)</b>
Model	<b>iT5-ZB-DSN-Px-A</b>
Power Source	100 V to 240 V AC 5 W 50/60 Hz
Protective Enclosure	IP40 (Protected against solid objects over 1 mm in diameter, not protected from liquids)
Ambient Temp. Range	-20 °C to 60 °C
Wireless Module (TLV owned wireless network)	TELEC certified [R 018-150057] Frequency Band: 2.400 GHz to 2.480 GHz RF Power Output: 10 mW/MHz Transmitting Range: Approximately 600 m (line of sight between the data station and repeater) Approximately 200 m (line of sight between the data station and sensor)
Communication Port	LAN (Ethernet) RJ45 × 1 (100BASE-TX/10BASE-T)
Material	Case/Cover: Hot rolled steel (pickled)
Weight	Approx. 7 kg
Dimensions	 <p>(Unit: mm)</p>

### FCC and IC Statement

This device complies with Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada (IC) RSS-210. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.



## TLV EXPRESS LIMITED WARRANTY

Subject to the limitations set forth below, TLV CO., LTD., a Japanese corporation (“**TLV**”), warrants that products which are sold by it, TLV International Inc. (“**TII**”) or one of its group companies excluding TLV Corporation (a corporation of the United States of America), (hereinafter the “**Products**”) are designed and manufactured by TLV, conform to the specifications published by TLV for the corresponding part numbers (the “**Specifications**”) and are free from defective workmanship and materials. The party from whom the Products were purchased shall be known hereinafter as the “**Seller**”. With regard to products or components manufactured by unrelated third parties (the “**Components**”), TLV provides no warranty other than the warranty from the third party manufacturer(s), if any.

### Exceptions to Warranty

This warranty does not cover defects or failures caused by:

1. improper shipping, installation, use, handling, etc., by persons other than TLV, TII or TLV group company personnel, or service representatives authorized by TLV; or
2. dirt, scale or rust, etc.; or
3. improper disassembly and reassembly, or inadequate inspection and maintenance by persons other than TLV or TLV group company personnel, or service representatives authorized by TLV; or
4. disasters or forces of nature or Acts of God; or
5. abuse, abnormal use, accidents or any other cause beyond the control of TLV, TII or TLV group companies; or
6. improper storage, maintenance or repair; or
7. operation of the Products not in accordance with instructions issued with the Products or with accepted industry practices; or
8. use for a purpose or in a manner for which the Products were not intended; or
9. use of the Products in a manner inconsistent with the Specifications; or
10. use of the Products with Hazardous Fluids (fluids other than steam, air, water, nitrogen, carbon dioxide and inert gases (helium, neon, argon, krypton, xenon and radon)); or
11. failure to follow the instructions contained in the TLV Instruction Manual for the Product.

### Duration of Warranty

This warranty is effective for a period of one (1) year after delivery of Products to the first end user. Notwithstanding the foregoing, asserting a claim under this warranty must be brought within three (3) years after the date of delivery to the initial buyer if not sold initially to the first end user.

ANY IMPLIED WARRANTIES NOT NEGATED HEREBY WHICH MAY ARISE BY OPERATION OF LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ANY EXPRESS WARRANTIES NOT NEGATED HEREBY, ARE GIVEN SOLELY TO THE INITIAL BUYER AND ARE LIMITED IN DURATION TO ONE (1) YEAR FROM THE DATE OF SHIPMENT BY THE SELLER.

### Exclusive Remedy

THE EXCLUSIVE REMEDY UNDER THIS WARRANTY, UNDER ANY EXPRESS WARRANTY OR UNDER ANY IMPLIED WARRANTIES NOT NEGATED HEREBY (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE), IS **REPLACEMENT**; PROVIDED: (a) THE CLAIMED DEFECT IS REPORTED TO THE SELLER IN WRITING WITHIN THE WARRANTY PERIOD, INCLUDING A DETAILED WRITTEN DESCRIPTION OF THE CLAIMED DEFECT AND HOW AND WHEN THE CLAIMED DEFECTIVE PRODUCT WAS USED; AND (b) THE CLAIMED DEFECTIVE PRODUCT AND A COPY OF THE PURCHASE INVOICE IS RETURNED TO THE SELLER, FREIGHT AND TRANSPORTATION COSTS PREPAID, UNDER A RETURN MATERIAL AUTHORIZATION AND

TRACKING NUMBER ISSUED BY THE SELLER. ALL LABOR COSTS, SHIPPING COSTS, AND TRANSPORTATION COSTS ASSOCIATED WITH THE RETURN OR REPLACEMENT OF THE CLAIMED DEFECTIVE PRODUCT ARE SOLELY THE RESPONSIBILITY OF BUYER OR THE FIRST END USER. THE SELLER RESERVES THE RIGHT TO INSPECT ON THE FIRST END USER'S SITE ANY PRODUCTS CLAIMED TO BE DEFECTIVE BEFORE ISSUING A RETURN MATERIAL AUTHORIZATION. SHOULD SUCH INSPECTION REVEAL, IN THE SELLER'S REASONABLE DISCRETION, THAT THE CLAIMED DEFECT IS NOT COVERED BY THIS WARRANTY, THE PARTY ASSERTING THIS WARRANTY SHALL PAY THE SELLER FOR THE TIME AND EXPENSES RELATED TO SUCH ON-SITE INSPECTION.

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THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED.

#### **Severability**

Any provision of this warranty which is invalid, prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such invalidity, prohibition or unenforceability without invalidating the remaining provisions hereof, and any such invalidity, prohibition or unenforceability in any such jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

## Service

For Service or Technical Assistance: Contact your TLV representative or your regional TLV office.

### In Europe:

#### **TLV EURO ENGINEERING GmbH**

Daimler-Benz-Straße 16-18, 74915 Waibstadt, **Germany**

Tel: [49]-(0)7263-9150-0

Fax: [49]-(0)7263-9150-50

#### **TLV EURO ENGINEERING UK LTD.**

Units 7 & 8, Furlong Business Park, Bishops Cleeve, Gloucestershire GL52 8TW, **U.K.**

Tel: [44]-(0)1242-227223

Fax: [44]-(0)1242-223077

#### **TLV EURO ENGINEERING FRANCE SARL**

Parc d'Ariane 2, bât. C, 290 rue Ferdinand Perrier, 69800 Saint Priest, **France**

Tel: [33]-(0)4-72482222

Fax: [33]-(0)4-72482220

### In North America:

#### **TLV CORPORATION**

13901 South Lakes Drive, Charlotte, NC 28273-6790, **U.S.A.**

Tel: [1]-704-597-9070

Fax: [1]-704-583-1610

### In Mexico and Latin America:

#### **TLV ENGINEERING S. A. DE C. V.**

Av. Jesús del Monte 39-B-1001, Col. Hda. de las Palmas, Huixquilucan, Edo. de México, 52763, **Mexico**

Tel: [52]-55-5359-7949

Fax: [52]-55-5359-7585

### In Oceania:

#### **TLV PTY LIMITED**

Unit 8, 137-145 Rooks Road, Nunawading, Victoria 3131, **Australia**

Tel: [61]-(0)3-9873 5610

Fax: [61]-(0)3-9873 5010

### In East Asia:

#### **TLV PTE LTD**

36 Kaki Bukit Place, #02-01/02, **Singapore** 416214

Tel: [65]-6747 4600

Fax: [65]-6742 0345

#### **TLV SHANGHAI CO., LTD.**

Room 5406, No. 103 Cao Bao Road, Shanghai, **China** 200233

Tel: [86]-(0)21-6482-8622

Fax: [86]-(0)21-6482-8623

#### **TLV ENGINEERING SDN. BHD.**

No.16, Jalan MJ14, Taman Industri Meranti Jaya, 47120 Puchong, Selangor, **Malaysia**

Tel: [60]-3-8065-2928

Fax: [60]-3-8065-2923

#### **TLV PRIVATE LIMITED**

252/94 (K-L) 17th Floor, Muang Thai-Phatra Complex Tower B, Rachadaphisek Road, Huaykwang, Bangkok 10310, **Thailand**

Tel: [66]-2-693-3799

Fax: [66]-2-693-3979

#### **TLV INC.**

#302-1 Bundang Technopark B, 723 Pangyo-ro, Bundang, Seongnam, Gyeonggi, 13511, **Korea**

Tel: [82]-(0)31-726-2105

Fax: [82]-(0)31-726-2195

### In the Middle East:

#### **TLV ENGINEERING FZCO**

Building 2W, No. M002, PO Box 371684, Dubai Airport Free Zone, Dubai, **UAE**

Email: sales-me@tlv.co.jp

### In Other Countries:

#### **TLV INTERNATIONAL, INC.**

881 Nagasuna, Noguchi, Kakogawa, Hyogo 675-8511, **Japan**

Tel: [81]-(0)79-427-1818

Fax: [81]-(0)79-425-1167

### Manufacturer:

#### **TLV CO., LTD.**

881 Nagasuna, Noguchi, Kakogawa, Hyogo 675-8511, **Japan**

Tel: [81]-(0)79-422-1122

Fax: [81]-(0)79-422-0112