



Manufacturer

TLV CO., LTD.

Kakogawa, Japan

is approved by LRDA Ltd. to ISO 9001/14001



Instruction Manual

(Information for use in hazardous locations)

iTrapSensor Monitoring System
Data Station

iT5-ZB-DSN

(Explosion-proof Type)

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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 instruction manual contains information for use in hazardous locations. Be sure to read this instruction manual carefully before installing in hazardous locations.

Please use correctly and safely.

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

	Indicates a DANGER, WARNING or CAUTION item.
	Indicates an urgent situation which poses a threat of death or serious injury
	Indicates that there is a potential threat of death or serious injury
	Indicates that there is a possibility of injury or equipment/product damage
	Do not disassemble or modify. Failure to observe this precaution could result in personal injury, electrocution, ignition or fire. DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT. Do not wipe/rub the surfaces of this product with a dry cloth etc. There is the danger of electrostatically charging the unit, which may result in ignition or explosions, especially in hazardous locations. Aluminum is used in this product. Do not expose the product to impact or friction. Exposure to impact or friction may result in ignition or accidental explosions. Do not use this product in hospitals or airplanes. Failure to observe this precaution could result in malfunction of medical equipment, instrumentation, etc. Do not use oil, organic solvents or pesticides for cleaning, and avoid any contact with the antennae, as the antennae (polycarbonate resin) are affected by these substances.
	As this is an industrial product, it is not to be used on consumer applications nor in residential areas. Do not install directly on high temperature locations such as steam piping. Overheating could result in damage to internal parts, excessive heat generation, rupture or ignition.

Continued on the next page

 WARNING	Ensure the specifications for the structure of this product meet the requirements for installation in hazardous locations. Specifications for the explosion-proof structure of this product are described in the "Specifications" section.
	When installing or working at high elevations, take measures to ensure against dropping the product or parts. Failure to take such measures could result in personal injury if persons passing below are struck by a falling object, or other accidents.
	Check to make sure that no wireless instrumentation other than the product is being used. Failure to observe this precaution could lead to interference of important transmissions or accidents.
	Use fasteners with yield stress $\geq 450 \text{ N/mm}^2$ (65 ksi).
	As this is an industrial product, it is not to be used on consumer applications nor in residential areas.
	Do not install directly on high temperature locations such as steam piping. Overheating could result in damage to internal parts, excessive heat generation, rupture or ignition.
	Do not subject the unit to strong shocks or throw it against anything. Failure to observe this precaution could result in damage to internal parts, excessive heat generation, rupture, ignition or personal injury.
	Do not place device in microwave ovens or high-pressure vessels, or in the vicinity of electromagnetic devices. Such handling could result in excessive heat generation, smoke, damage to circuitry, battery fluid leakage, rupture or ignition.
 CAUTION	The weight of this product is approximately 16.3 kg (36 lb). Take safety measures against dropping and to prevent back pain, etc.
	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. Failure to observe this precaution could result in fire or malfunction.
	Do not let the unit become immersed in water. 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.
	Cable, wiring, and glands suitable for 70°C (158 °F) or higher shall be used.
	Be careful when connecting wires to terminal connections, because the terminals are inside the product.
	A UL Listed 2-pole switch or circuit breaker rated min. 240 V, 2 A, shall be installed near the equipment for use as an equipment disconnecting device, and shall be marked accordingly.
	A UL Listed Class 2 device shall be used as a DC power source.

Règles de sécurité

- Lire attentivement cette section avant l'utilisation et respecter les instructions données.
- Toute installation, inspection, entretien, réparation, démontage, ajustement et ouverture/fermeture de vanne doit être fait uniquement par une personne formée à l'entretien.
- Les précautions reprises dans ce manuel ont pour but de garantir la sécurité et de prévenir tout dommage matériel et blessure humaine. Pour les situations potentiellement dangereuses qui pourraient survenir à la suite d'un maniement impropre, trois types de signaux sont utilisés pour indiquer le degré d'urgence et de dégât potentiel: DANGER, AVERTISSEMENT et ATTENTION.
- Les trois types de symboles énumérés ci-dessous sont très importants pour votre sécurité: n'oubliez pas de les respecter, car ils concernent aussi bien l'installation et l'utilisation que l'entretien et les réparations. D'autre part, TLV n'accepte aucune responsabilité pour tout accident ou dégât survenant à la suite d'un non-respect de ces précautions.

Symboles

	Indique un signal DANGER , AVERTISSEMENT ou ATTENTION .
	Indique une situation d'urgence avec risque de mort ou de blessure grave.
	Indique une situation pouvant entraîner la mort ou des blessures graves.
	Indique un risque de blessure ou de dégât matériel au produit et/ou aux installations.
	Ne pas démonter ou modifier le produit. Le non-respect de cette règle peut entraîner des blessures, chocs électriques, brûlures, incendies. NE PAS OUVRIR QUAND LE PRODUIT EST SOUS TENSION OU EN PRÉSENCE D'UNE ATMOSPHÈRE EXPLOSIVE. Ne pas frotter/essuyer la surface du produit avec un chiffon sec. Il y a un risque de charger en électricité statique l'appareil. Cela peut provoquer un incendie ou une explosion, particulièrement dans des zones dangereuses. Ce produit contient de l'aluminium. Ne pas soumettre au choc ni au frottement. Cela pourrait provoquer un incendie ou une explosion. Ne pas utiliser ce produit dans un hôpital ou un avion. Le non-respect de cette règle pourrait provoquer le dysfonctionnement d'équipements médicaux, d'instrumentations, etc. Ne pas utiliser d'huile, de solvants organiques ou des pesticides pour le nettoyage ou tout autre contact avec les antennes, car ces antennes (en résine de polycarbonate) sont sensibles aux substances citées ci-dessus.

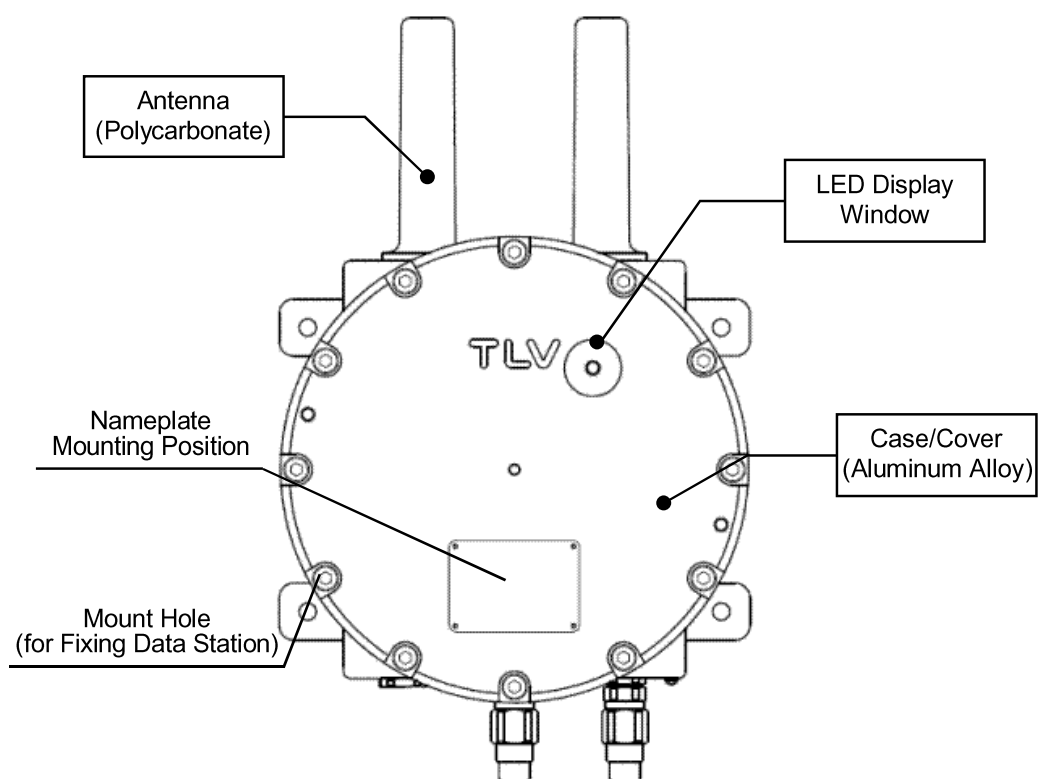
Suite à la page suivante

 DANGER	Assurez-vous que les spécifications de ce produit répondent aux exigences pour l'installation dans des zones dangereuses. Les spécifications de ce produit sont décrites dans la section « Spécifications ».
	Lors de l'installation ou de l'utilisation dans des lieux en hauteur, prenez des mesures pour éviter de laisser tomber le produit ou des pièces. Le non-respect de cette règle pourrait entraîner des blessures si des personnes passaient en dessous et étaient attentes par un objet tombant ou autres accidents.
	Veiller vérifier qu'il n'y a pas d'autres appareils sans-fils utilisés dans la zone. Le non-respect de cette règle pourrait provoquer des interférences ou des accidents.
	Utiliser des attaches avec une limite d'élasticité $\geq 450 \text{ N/mm}^2$ (65 ksi).
 AVERTISSEMENT	Comme il s'agit d'un produit industriel, il ne doit pas être utilisé pour des applications grand public ni dans les zones résidentielles.
	Le remplacement de tout composant du produit peut compromettre sa sécurité intrinsèque.
	Ne pas installer le produit directement sur des endroits à haute température tels qu'une conduite à vapeur. La surchauffe pourrait endommager les pièces internes, causer une chaleur excessive, une rupture ou une inflammation.
	Ne pas soumettre l'appareil à des chocs violents ni le projeter. Le non-respect de cette précaution pourrait entraîner des dommages aux pièces internes, provoquer une chaleur excessive, la rupture, l'inflammation ou des blessures.
	Ne pas placer l'appareil dans un four à micro-onde ou un récipient sous haute pression, ni à proximité de dispositifs électromagnétiques. Cela pourrait entraîner une génération excessive de chaleur, de la fumée, des dégâts aux circuits, des fuites de liquide de la batterie, une rupture ou une inflammation.
	Ce produit pèse environ 16,3 kg (36 lb). Prendre des mesures de sécurité contre le risque de chute ou de douleurs lombaires, etc.
 ATTENTION	Faire en sorte qu'aucun corps étranger ne pénètre dans l'appareil. Dans les zones avec des particules fines telles que la poussière métallique, prendre des mesures pour éviter que les corps étrangers ne pénètrent dans l'appareil. Le non-respect de cette précaution pourrait entraîner un incendie ou un dysfonctionnement.
	Ne pas immerger l'équipement dans l'eau. Si un liquide pénètre dans l'appareil, cela peut entraîner une chaleur excessive, un choc électrique ou un dysfonctionnement. Prêter toujours attention au lieu où vous manipulez l'appareil.
	Utilisez des câbles et presse-étoupes pouvant résister à une température de 70°C (158°F) ou plus.

Suite à la page suivante

 ATTENTION	Faire attention au branchement aux bornes de raccordement, car les raccordements se trouvent à l'intérieur du produit.
	Un interrupteur bipolaire ou un disjoncteur homologué UL à tension et intensité nominale de min. 240 V, 2 A, doit être installé près de l'équipement pour être utilisé comme dispositif de coupure et doit être signalé comme tel.
	La source d'alimentation CC doit être homologuée UL classe 2.

Part Names



Installation



Ensure the specifications for the structure of this product meet the requirements for installation in hazardous locations.

Specifications for the structure of this product are described in the "Specifications" section.

Aluminum is used in this product, therefore do not expose the product to impact or friction. Exposure to impact or friction may result in ignition or accidental explosions.

Do not wipe/rub the surfaces of this product with a dry cloth etc. There is the danger of electrostatically charging the unit, which may result in ignition or explosions, especially in hazardous locations.

The antennae are made from polycarbonate resin. Make sure that chemical substances which degrade polycarbonate do not come into contact with the antennae.



Assurez-vous que les spécifications de ce produit répondent aux exigences pour l'installation dans des zones dangereuses.

Les spécifications de ce produit sont décrites dans la section « Spécifications ».

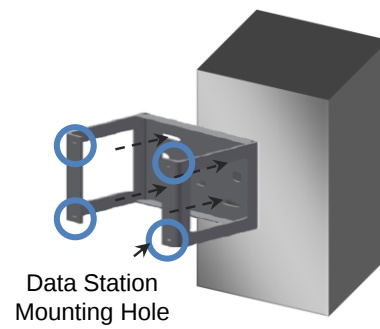
Ce produit contient de l'aluminium. Ne pas soumettre au choc ni au frottement. Cela pourrait provoquer un incendie ou une explosion.

Ne pas frotter/essuyer la surface du produit avec un chiffon sec.

Il y a un risque de charger en électricité statique l'appareil. Cela peut provoquer un incendie ou une explosion, particulièrement dans des zones dangereuses.

Les antennes sont composées de résine polycarbonate. Ne pas utiliser des substances chimiques, qui pourraient détériorer la résine polycarbonate, d'entrer en contact avec les antennes.

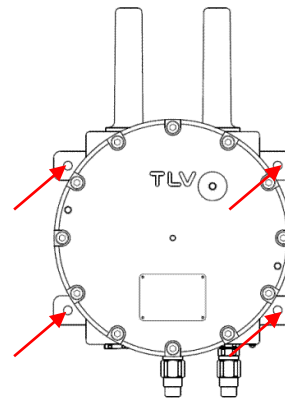
1. Fix the data station mount to the structure.
NOTE: Make sure to select a structure which can bear the weight of the data station.



2. Fix the data station to the data station mount.

Fix the data station to the data station mount with the 4 bolts (included with the product) on each corner of the data station.

The antennae should point upward as shown in the figure on the right.



Connection method



DO NOT REMOVE THE COVER WHEN THIS PRODUCT (iT5-ZB-DSN) IS CONNECTED TO A POWER SOURCE.

DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

Aluminum is used in this product, therefore do not expose the product to impact or friction. Exposure to impact or friction may result in ignition or accidental explosions.

Do not wipe/rub the surfaces of this product with a dry cloth etc. In particular the antennae are made from a non-metallic material. There is the danger of electrostatically charging the unit, which may result in ignition or explosions, especially in hazardous locations.



A UL Listed 2-pole switch or circuit breaker rated min. 240 V, 2 A, shall be installed near the equipment for use as an equipment disconnecting device, and shall be marked accordingly.

A UL Listed Class 2 device shall be used as a DC power source.



NE PAS RETIRER LE COUVERCLE QUAND LE PRODUIT (iT5-ZB-DSN) EST BRANCHÉ À UNE SOURCE D'ALIMENTATION.

NE PAS OUVRIR QUAND LE PRODUIT EST SOUS TENSION OU EN PRÉSENCE D'UNE ATMOSPHÈRE EXPLOSIVE.

Ce produit contient de l'aluminium. Ne pas soumettre au choc ni au frottement. Cela pourrait provoquer un incendie ou une explosion.

Ne pas frotter/essuyer la surface du produit avec un chiffon sec.

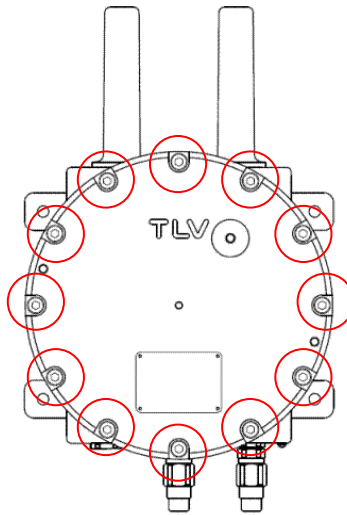
Il y a un risque de charger en électricité statique l'appareil. Cela peut provoquer un incendie ou une explosion, particulièrement dans des zones dangereuses.



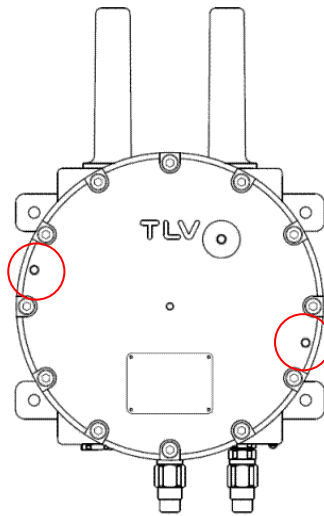
Un interrupteur bipolaire ou un disjoncteur homologué UL à tension et intensité nominale de min. 240 V, 2 A, doit être installé près de l'équipement pour être utilisé comme dispositif de coupure et doit être signalé comme tel.

La source d'alimentation CC doit être homologuée UL classe 2.

1. Loosen the 12 hexagon bolts on the data station.



2. Two special bolts are included with the product to ease removal of the cover. Insert the bolts in the holes shown below. Turn the bolts to raise the cover from the product, then remove the cover by hand.

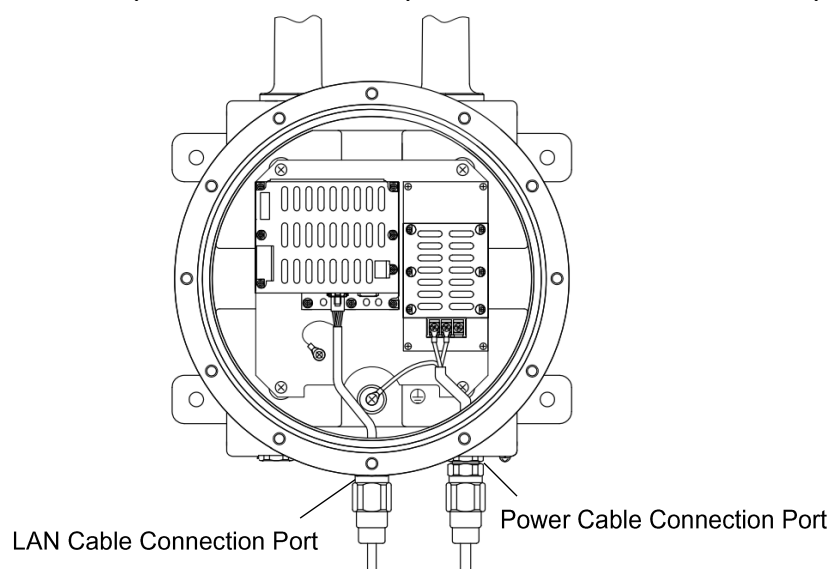


3. Connect wiring

Cable types applicable for use and the compatible cable glands are listed below.

Item	Description	No. of Cores	Finish Outer Diameter	Cable Gland
Power Cable	CV 2.0 mm ²	3	11 mm	CGW-16 Inner diameter of packing: 12 mm
	CVV 2.0 mm ²			
	CVVS 2.0 mm ²			
	M-CV 2.0 mm ²			
	FPM-CV 2.0 mm ²			
	2PNCT 2.0 mm ²		11.1 mm	
LAN Cable	0.5 mm × 4P (with shield) Recommended cable: FS-TPCC5-LAP	8	9.5 mm	CGW-16 Inner diameter of packing: 10 mm

For information regarding cable glands, refer to the electrical wire leading-in device (CGK, CGW series) instruction manual (JAPAN SAFETY SYSTEM INC).



4. Close the cover.

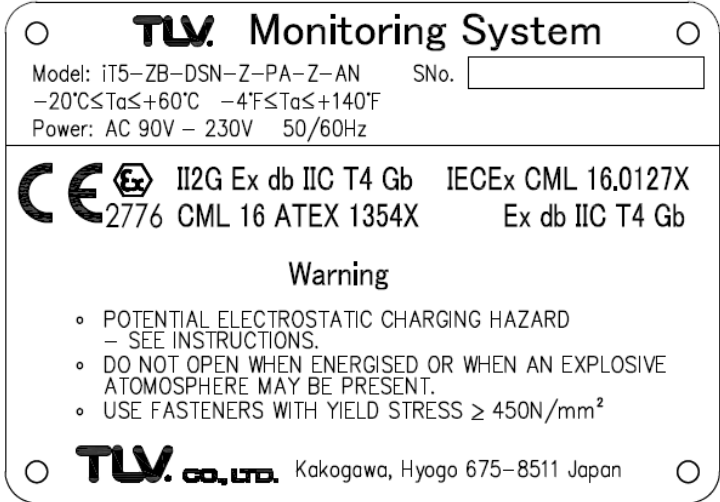
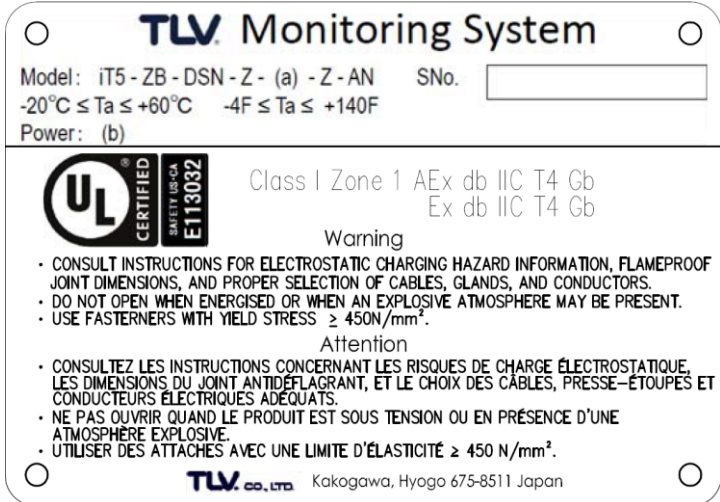
Coat the sealing surfaces of the case and cover with fluorinated grease when closing the cover. Sumitec F931 (Suiko Lubricant Co., Ltd.) grease is applied when shipped from the factory. (Grease not provided with the product)

Tightening torque of the bolts: 24 N·m

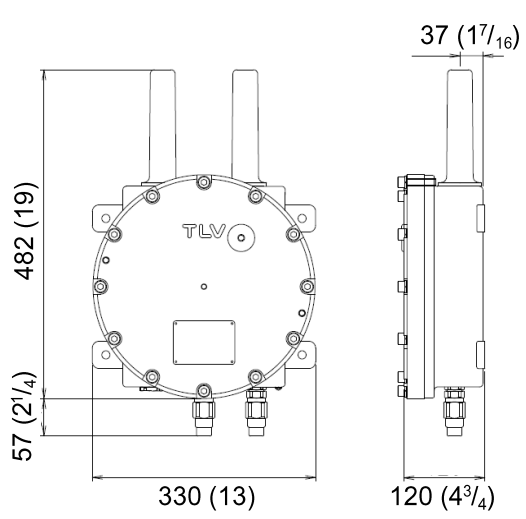
Specifications

Type	iTrapSensor Monitoring System – Data Station		
Model	iT5-ZB-DSN		
Classification Markings of Hazardous Locations	ATEX:  II 2 G Ex db IIC T4 Gb (Certificate No.: CML 16ATEX1354X) UL/cUL: Class I Zone 1 AEx db IIC Ex db IIC T4 (File No.: E113032) IECEX: Ex db IIC T4 Gb (Certificate No.: IECEX CML 16.0127X)		
	Mark for Certified Electrical Equipment	Ex	—
	Type of Protection	db	Flameproof type
	Applicable Gas Groups	IIC	Applicable to gases (Hydrogen, Acetylene, etc.) with minimum ignition current ratio is less than 0.45.
	Temperature Classification	T4	Applicable when maximum surface temperature of the unit is 130 °C (266 °F) and gas ignition temperature is 135 °C (275 °F) or more.
	EPL (Equipment Protection Level)	Gb	This product can be used in Zone 1 hazardous locations.
Applicable Standards	ATEX: • EN 60079-0:2018 • EN 60079-1:2014 UL/cUL: • UL 60079-0 EXPLOSION ATMOSPHERE – PART 0: EQUIPMENT – GENERAL REQUIREMENTS, Edition 6 • UL 60079-1 EXPLOSION ATMOSPHERE – PART 1: EQUIPMENT PROTECTION BY FLAMEPROOF ENCLOSURE “D”, Edition 7 • UL 61010-1 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - PART 1: GENERAL REQUIREMENTS- Edition 3 • CSA C22.2 NO. 60079-1 ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES – PART 1: FLAMEPROOF ENCLOSURES ‘D’- Edition 3 • CSA C22.2 NO. 60079-0 EXPLOSIVE ATMOSPHERES — PART 0: EQUIPMENT — GENERAL REQUIREMENTS- Edition 3 • CSA C22.2 NO. 61010-1-12 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - PART 1: GENERAL REQUIREMENTS- Edition 3 IECEX: • IEC 60079-0:2011, Edition 6 • IEC 60079-1:2011:2014-06, Edition 7		

Continued on the next page

Nameplate	ATEX/IECEX:  TLV Monitoring System Model: iT5-ZB-DSN-Z-PA-Z-AN SNo. -20°C ≤ Ta ≤ +60°C -4°F ≤ Ta ≤ +140°F Power: AC 90V - 230V 50/60Hz CE  II2G Ex db IIC T4 Gb IECEx CML 16.0127X 2776 CML 16 ATEX 1354X Ex db IIC T4 Gb Warning - POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS. - DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT. - USE FASTENERS WITH YIELD STRESS ≥ 450N/mm² TLV CO., LTD. Kakogawa, Hyogo 675-8511 Japan UL/cUL:  TLV Monitoring System Model: iT5-ZB-DSN-Z-(a)-Z-AN SNo. -20°C ≤ Ta ≤ +60°C -4°F ≤ Ta ≤ +140°F Power: (b)  Class I Zone 1 AEx db IIC T4 Gb Ex db IIC T4 Gb Warning - CONSULT INSTRUCTIONS FOR ELECTROSTATIC CHARGING HAZARD INFORMATION, FLAMEPROOF JOINT DIMENSIONS, AND PROPER SELECTION OF CABLES, GLANDS, AND CONDUCTORS. - DO NOT OPEN WHEN ENERGISED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT. - USE FASTENERS WITH YIELD STRESS ≥ 450N/mm². Attention - CONSULTEZ LES INSTRUCTIONS CONCERNANT LES RISQUES DE CHARGE ÉLECTROSTATIQUE, LES DIMENSIONS DU JOINT ANTIDÉFLAGRANT, ET LE CHOIX DES CÂBLES, PRESSE-ÉTOUPES ET CONDUCTEURS ÉLECTRIQUES ADEQUATS. - NE PAS OUVRIR QUAND LE PRODUIT EST SOUS TENSION OU EN PRÉSENCE D'UNE ATMOSPHERE EXPLOSIVE. - UTILISER DES ATTACHES AVEC UNE LIMITE D'ÉLASTICITÉ ≥ 450 N/mm². TLV CO., LTD. Kakogawa, Hyogo 675-8511 Japan <table border="1" data-bbox="603 1424 1141 1583"> <tr> <td>(a)</td><td>(b)</td></tr> <tr> <td>PA</td><td>AC 100V to 240V/5W 50/60Hz</td></tr> <tr> <td>PD</td><td>DC 24V/1A</td></tr> </table> Note: The layout may be changed, but contents will be kept.	(a)	(b)	PA	AC 100V to 240V/5W 50/60Hz	PD	DC 24V/1A
(a)	(b)						
PA	AC 100V to 240V/5W 50/60Hz						
PD	DC 24V/1A						
Power Source	AC Powered type: 100-240 V AC /5 W 50/60 Hz DC Powered type: 24 V DC / 1 A						
Enclosures	IP54 (Protected from limited dust ingress/Protected from water spray from any direction, limited ingress protection)						
Ambient Temperature Range	-20 to 60 °C (-4 to 140 °F)						

Continued on the next page

Wireless Module	TLV owned wireless network	TELEC certified [CE] R 018-150057] Frequency Band: 2.400 to 2.480 GHz RF Power Output: 10 mW/MHz Transmitting Range: Approximately 600 m (1970 ft) (line of sight)												
	WLAN	TELEC certified [CE] R 003WWA110792] Compliance: IEEE 802.11b/g/n Security: 802.11i Compliance AES, WPA/WPA2-PSK, WEP (64/128 bit, TKIP)												
Material		Case/Cover: Cast aluminum alloy (AC4C-T6) Antenna cover: Polycarbonate												
Cable Gland		JAPAN SAFETY SYSTEM INC: CGW-16 Tightening torque: Approx. 8 N·m												
Weight		16.3 kg (36 lb)												
Dimensions		 The flamepath dimensions of the cylindrical joints for the enclosures, as detailed in the table below, are greater than the relevant minimum or maximum specified in UL60079-1, Table 1. <table><tr><th>Location</th><th>Flamepath Type</th><th>Max. Gap (mm (in))</th><th>Min. Length (mm (in))</th></tr><tr><td>Cover to Body</td><td>Cylindrical</td><td>0.15</td><td>27 (1 1/16)</td></tr><tr><td>Window to Window Frame</td><td>Cylindrical</td><td>(0.0059)</td><td>26 (1 1/32)</td></tr></table>	Location	Flamepath Type	Max. Gap (mm (in))	Min. Length (mm (in))	Cover to Body	Cylindrical	0.15	27 (1 1/16)	Window to Window Frame	Cylindrical	(0.0059)	26 (1 1/32)
Location	Flamepath Type	Max. Gap (mm (in))	Min. Length (mm (in))											
Cover to Body	Cylindrical	0.15	27 (1 1/16)											
Window to Window Frame	Cylindrical	(0.0059)	26 (1 1/32)											
Contact TLV for details on explosion-proof connectors.														

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

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