

SR. No.

Yamatake Corporation

製品仕様書
SPECIFICATIONS

CATALOG LISTING 1 L S [1] - J [2] G [3]

↳ With earth screw

1 ACTUATOR TYPE

Code	Actuator Type
1	Standard roller lever
2	Without lever
3	Adjustable. roller lever

2 INTERNAL SWITCH

Code	Switch
~	General use silver contact
S	General use silver contact Seal type
K	Gold plated contact for low current load
KS	Gold plated contact for low current load Seal type

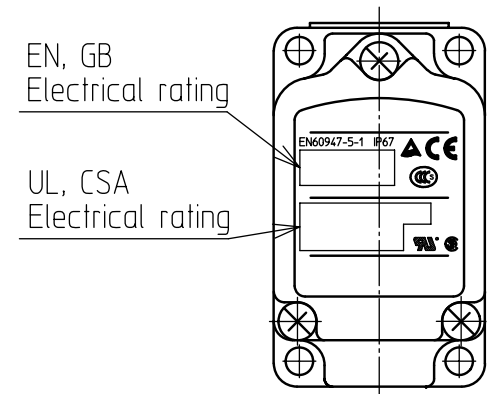
3 CONDUIT

Code	Conduit
~	Parallel pipe thread G1/2, 3.5 threads min.
B	Pipe threads (INCH) 1/2-14 NPT
D	Screw threads for rigid metal conduits and fittings Pg13.5, 5 threads min. (DIN40430)

Catalog listings and electrical ratings covered by this drawing are as in the below table.

Catalog listing			Electrical rating	
			UL, CSA	EN, GB
1LS1-JG 1LS2-JG 1LS3-JG	1LS1-JGB 1LS2-JGB 1LS3-JGB	1LS1-JGD 1LS2-JGD 1LS3-JGD	 10A-125,250 OR 480VAC 1/2HP-125VAC : 1HP-250VAC 0.8A-125VDC 0.4A-250VDC *Y16*	EN60947-5-1 IP67 3A-240VAC AC-15 0.4A-30VDC DC-12 *Y209*
1LS1-JSG 1LS2-JSG 1LS3-JSG	1LS1-JSGB 1LS2-JSGB 1LS3-JSGB	1LS1-JSGD 1LS2-JSGD 1LS3-JSGD	 5A-125 OR 250VAC 1/8HP-125VAC : 1/4HP-250VAC 0.8A-125VDC 0.4A-250VDC *Y101*	
1LS1-JKG 1LS2-JKG 1LS3-JKG	1LS1-JKGB 1LS2-JKGB 1LS3-JKGB	1LS1-JKGD 1LS2-JKGD 1LS3-JKGD	 0.1A-125VAC 0.1A- 30VDC *Y93*	EN60947-5-1 IP67 0.1A-125VAC AC-12 0.1A-30VDC DC-12 *Y93*
1LS1-JKSG 1LS2-JKSG 1LS3-JKSG	1LS1-JKSGB 1LS2-JKSGB 1LS3-JKSGB	1LS1-JKSGD 1LS2-JKSGD 1LS3-JKSGD	 0.1A-125VAC 0.1A- 30VDC *Y93*	

ELECTRICAL RATING LOCATION



CATALOG LISTINGS OF INTERNAL SWITCH

Catalog listings	Catalog listings internal switch
1LS*-J [~] G*	2MN1-J
1LS*-J [S] G*	2MN1-JS
1LS*-J [K] G*	2MN-J3
1LS*-J [KS] G*	2MN-J26

06	ECOP09-0208	2, 9,'09	SERIZAWA	RO	作成DR. TATSUHARA 4, 27, '98		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
05	ECO06-2726	2,27,'07	SAKIYAMA	TOMITA	検図CHK. ARAI 5, 6, '98	形番 MODEL	1LS*-J**G*	~
04	JE004-1297	6,30,'04	TATSUHARA	SUDO	認可APPD ANDO 5, 8, '98	名称 NAME	LIMIT SWITCH	
03	JE003-1420	12, 4,'03	TATSUHARA	TOMITA	日付DATE 5, 8, '98	図番 NO.	AD53152E	改番REV. 06
02	JE001-1413	11, 2,'01	TATSUHARA	MATSUNO				1/6
01	JE099-1280	6,30,'99	TATSUHARA	TOMITA				
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.				

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
製品仕様書 SPECIFICATIONS

1. STANDARDS

- ・Conforms to: NECA C 4508 △₀₂△₀₅
- IEC 60947-5-1 △₀₆
- JIS C 8201-5-1 △₀₅
- ・Approved by: EN60947-5-1 △₀₂
- TUV No. : R 9451261
- △₀₅ UL 1054
- △₀₃ UL No. : E37559
- △₀₅ CSA C22.2 No.55
- △₀₅ CSA No. : LR61643
- △₀₃ GB14048.5 : 2001
- CQC No. : 2003010305083775

2. STRUCTURE

- ・Type of contact: Two-circuit double-break △₀₅
- ・Shape of contact: Rivet
- ・Protective structure: IP67 (IEC 60529) △₀₂△₀₃
(JIS C 0920)
- ・Shape of terminal: Screw (M4 binding head screw with toothed lock washer)
- ・Environment pollution degree: Degree 3 △₀₃

06	ADDITION	2, 9,'09	SERIZAWA	RO	作成DR. TATSUHARA 4, 27, '98		尺度 SCALE	記入のない公差 TOL. UNLESS NOTED
05	UL	2,27,'07	SAKIYAMA	TOMITA	検図CHK. ARAI 5, 6, '98	形 番 MODEL	1LS*-J**G*	記入のない公差 TOL. UNLESS NOTED
04	UNIFIED	6,30,'04	TATSUHARA	SODO				
03	UNIFIED	12, 4,'03	TATSUHARA	TOMITA	認可APPD ANDO 5, 8, '98	名 称 NAME	LIMIT SWITCH	記入のない公差 TOL. UNLESS NOTED
02	Quick cutting fuse 15A 100A (at resistive load) etc	11, 2,'01	TATSUHARA	MATSUNO				
01	ADDITION	6,30,'99	TATSUHARA	TOMITA	日付DATE 5, 8, '98	図 番 NO.	AD53152E	改番REV. 06 / 6
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3. ELECTRICAL CHARACTERISTICS

(1) GENERAL PERFORMANCE

• Insulation resistance and dielectric strength:

Property Parts measured	Insulation resistance (with 500Vdc megger)	Dielectric strength (50/60Hz, for 1 minute)
Between terminals of same polarities	100 MΩ min.	1000 Vac
Between each terminal and non-live metal part	100 MΩ min.	2000 Vac
Between each terminal and earth	100 MΩ min.	2000 Vac

• Contact resistance

Silver contacts:

50 mΩ max. (initial) Measured by the voltage drop method at 6 to 8 Vdc 1A.

Gold plated contacts:

100 mΩ max. (initial) Measured by the voltage drop method at 6 to 8 Vdc 0.1A.

• Minimum contact operating current

Silver contacts: 10mA - 24V, 20mA - 12V

Gold plated contacts: 10mA - 5V

(2) PERFORMANCE PER EN60947-5-1, IEC 60947-5-1 AND GB14048.5:2001

• Rated operational voltages: 240Vac, 30Vdc

• The value of the rated frequency: 45 to 65Hz and "dc"

• Rated insulation voltage (Ui): 250 Vac

• Rated impulse withstand voltage (Uimp):

Between each terminal and earth: 2500V

Between terminals of different polarities: 2500V

• Conventional free air thermal current (Ith)

Silver contacts: 10A

Gold plated contacts: 1A

• Short circuit protective device:

F10A (IEC 60127 fuse, TÜV)

15A(CQC) (cartridge fuse)

• Conditional short-circuit current:

1000A

• Switching overvoltage:

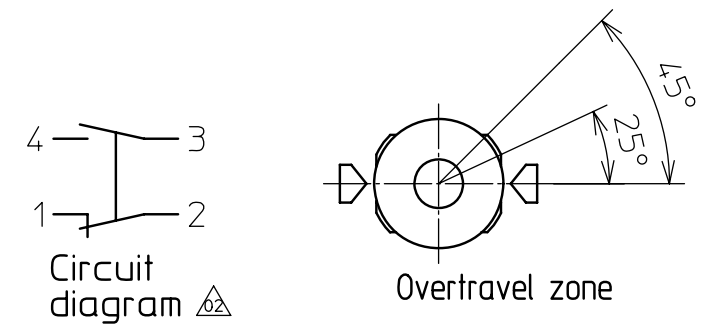
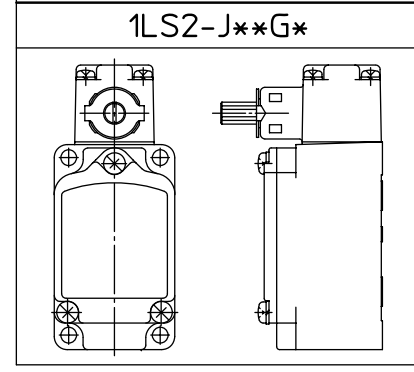
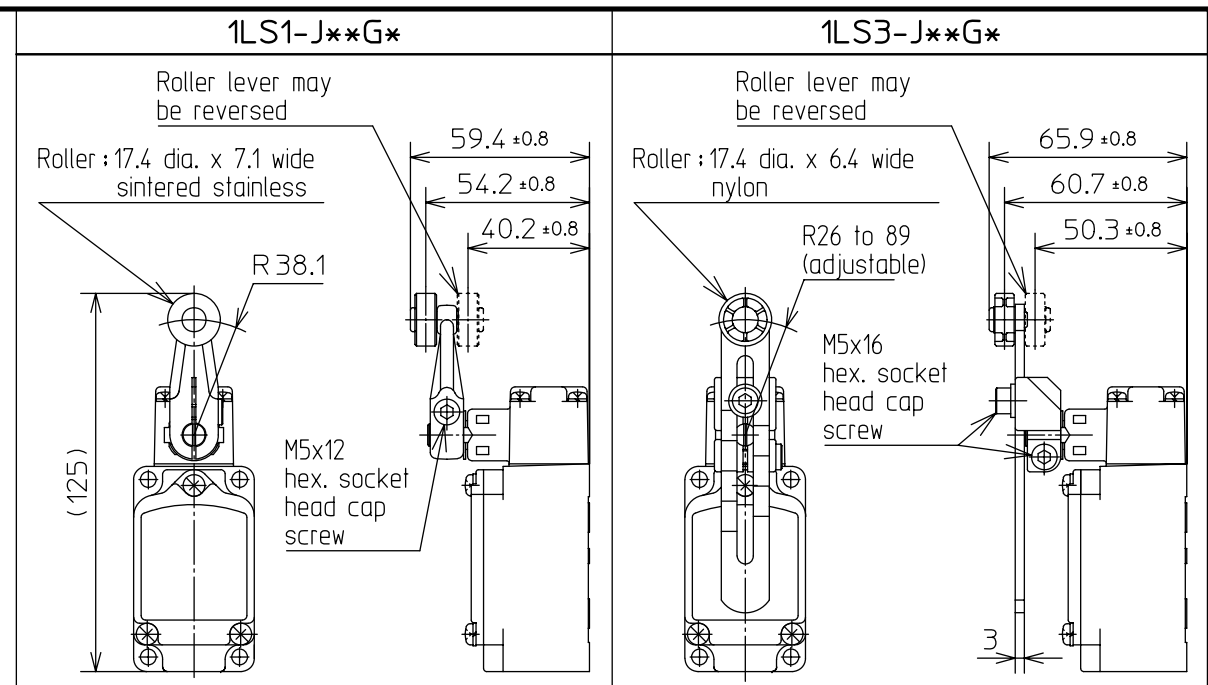
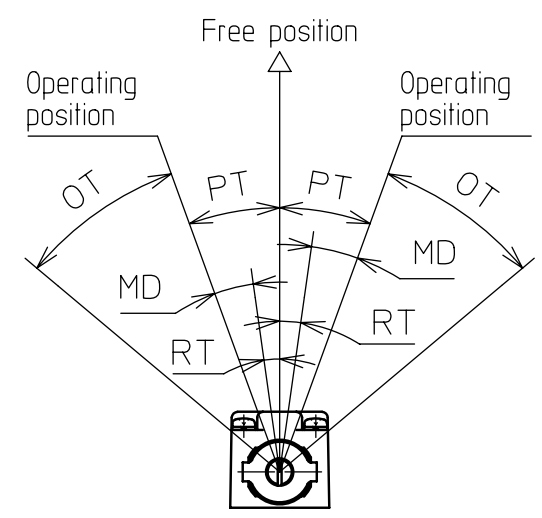
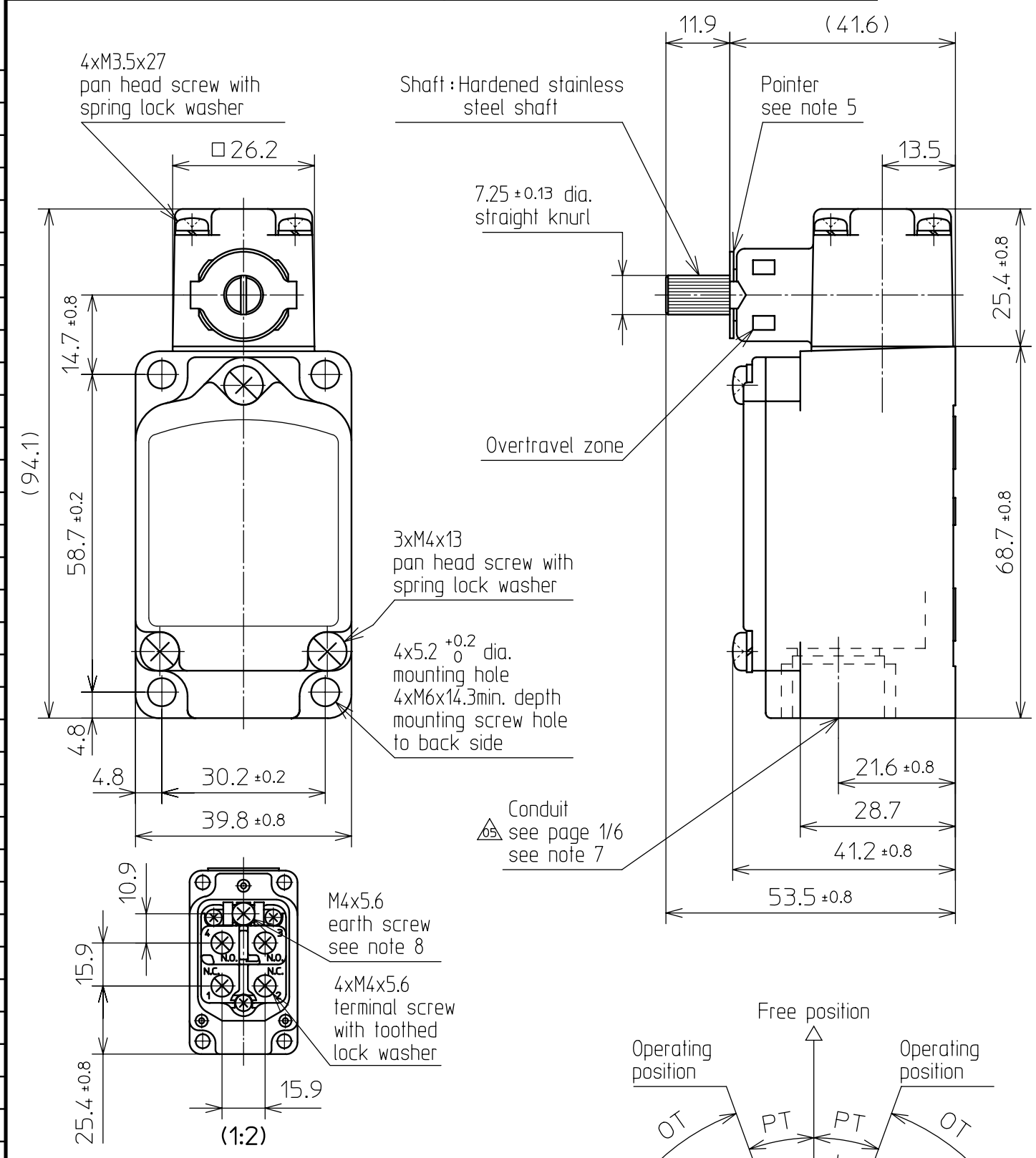
Category III (IEC 60204-1)

		作成DR. TATSUHARA 4, 27, '98				尺度 SCALE		記入のない公差 TOL. UNLESS NOTED ~	
05	UNIFIED	2,27,'07	SAKIYAMA	TOMITA	形番 MODEL		1LS*-J**G*		
04	UNIFIED	6,30,'04	TATSUHARA	SODO	検図CHK. ARAI 5, 6, '98		名称 NAME		
03	UNIFIED	12, 4,'03	TATSUHARA	TOMITA	認可APPD. ANDO 5, 8, '98		LIMIT SWITCH		
02	Quick cutting fuse 15A 100A (at resistive load) etc	11, 2,'01	TATSUHARA	MATSUNO	日付DATE 5, 8, '98		図番 NO.		AD53152E
01	ADDITION	6,30,'99	TATSUHARA	TOMITA	改番REV. 05		3/6		
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- Notes
- Switch may be adjusted to actuate in a clockwise direction only, counterclockwise only, or in both directions.
 - To convert switch for actuation in either clockwise direction only or counterclockwise only. Remove actuator head rotate notched plunger 90° to left for clockwise actuation or 90° to right for counterclockwise actuation.
 - Aluminum alloy housing, cover and head are finished with glossy aclyic resin baking paint (Light beige, Munsell 4Y7.18/1.27).
 - Actuator head mounts in any of four positions. When the direction of the actuator head has been changed, also change the direction of the internal plunger at the same time.
 - Set lever shaft so that pointer tip can meet setting mark at overtravel zone.
 - Roller lever may be locked in any position through 360°.
 - Before using this switch, be sure the conduit is sealed.
 - Earth screw must be connected. Use a lead wire whose cross section is from 0.75 to 2.5mm² to the diameter.
 - When connect lead wires, use round-shape of Y-shape crimp style terminal.
 - Values given for O.F. and R.F. (among the mechanical characteristics) are for a lever length of 38.1mm.

Characteristics		△
Operating force	13.4N max.	△
Release force	2.2N min.	△
Pretravel	20' max.	
Movement differential	12' max.	
Overtravel	30' min.	
Release travel	5' min.	

作成DR. TATSUHARA 4.27.'98	検図CHK. ARAI 5.6.'98	認可APPD ANDO 5.8.'98	日付DATE 5.8.'98	改番REV.	来歴RECORD	日付DATE	担当BY	検閲APPD.	作成DR. TATSUHARA 4.27.'98	検図CHK. ARAI 5.6.'98	認可APPD ANDO 5.8.'98	日付DATE 5.8.'98	改番REV. 06/6
				形番MODEL	1LS*-J**G*				名称NAME	LIMIT SWITCH			
				図番NO.	AD53152E								

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Terms and Conditions

We would like to express our appreciation for your purchase and use of Yamatake products.

You are required to acknowledge and agree upon the following terms and conditions for your purchase of Yamatake products (field instruments, control valves, and control products), unless otherwise stated in any separate document, including, without limitation, estimation sheets, written agreements, catalogs, specifications and instruction manuals.

1 Warranty period and warranty scope

1.1 Warranty period

Yamatake products shall be warranted for one (1) year from the date of your purchase of the said products or the delivery of the said products to a place designated by you.

1.2 Warranty scope

In the event that Yamatake product has any failure attributable to Yamatake during the aforementioned warranty period, Yamatake shall, without charge, deliver a replacement for the said product to the place where you purchased, or repair the said product and deliver it to the aforementioned place.

Notwithstanding the foregoing, any failure falling under one of the following shall not be covered under this warranty:

- (1) Failure caused by your improper use of Yamatake product
(noncompliance with conditions, environment of use, precautions, etc. set forth in catalogs, specifications, instruction manuals, etc.);
- (2) Failure caused for other reasons than Yamatake product;
- (3) Failure caused by any modification or repair made by any person other than Yamatake or Yamatake's subcontractors;
- (4) Failure caused by your use of Yamatake product in a manner not conforming to the intended usage of that product;
- (5) Failure that the state-of-the-art at the time of Yamatake's shipment did not allow Yamatake to predict; or
- (6) Failure that arose from any reason not attributable to Yamatake, including, without limitation, acts of God, disasters, and actions taken by a third party.

Please note that the term "warranty" as used herein refers to equipment-only-warranty, and Yamatake shall not be liable for any damages, including direct, indirect, special, incidental or consequential damages in connection with or arising out of Yamatake products.

2 Ascertainment of suitability

You are required to ascertain the suitability of Yamatake product in case of your use of the same with your machinery, equipment, etc. (hereinafter referred to as "Equipment") on your own responsibility, taking the following matters into consideration:

- (1) Regulations and standards or laws that your Equipment is to comply with.
- (2) Examples of application described in any documents provided by Yamatake are for your reference purpose only, and you are required to check the functions and safety of your Equipment prior to your use.
- (3) Measures to be taken to secure the required level of the reliability and safety of your Equipment in your use

Although Yamatake is constantly making efforts to improve the quality and reliability of Yamatake products, there exists a possibility that parts and machinery may break down.

You are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design, safety design, or the like so that the said Equipment may satisfy the level of the reliability and safety required in your use, whereby preventing any occurrence of physical injuries, fires, significant damage, and so forth.

3 Precautions and restrictions on application

Yamatake products other than those explicitly specified as applicable (e.g. Yamatake Limit Switch For Nuclear Energy) shall not be used in a nuclear energy controlled area (radiation controlled area).

Any Yamatake products shall not be used for/with medical equipment.

In addition,

you are required to conduct a consultation with our sales representative and understand detail specifications, cautions for operation, and so forth by reference to catalogs, specifications, instruction manual, etc. in case that you intend to use Yamatake product for any purposes specified in (1) through (6) below.

Moreover, you are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design and other designs of protection/safety circuit on your own responsibility to ensure the reliability and safety, whereby preventing problems caused by failure or nonconformity.

- (1) For use under such conditions or in such environments as not stated in technical documents, including catalogs, specification, and instruction manuals
- (2) For use of specific purposes, such as:
 - * Nuclear energy/radiation related facilities
[For use outside nuclear energy controlled areas]
[For use of Yamatake Limit Switch For Nuclear Energy]
 - * Machinery or equipment for space/sea bottom
 - * Transportation equipment
[Railway, aircraft, vessels, vehicle equipment, etc.]
 - * Antidisaster/crime-prevention equipment
 - * Burning appliances
 - * Electrothermal equipment
 - * Amusement facilities

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		<p>(3) Supply systems such as electricity/gas/water supply systems, large-scale communication systems, and traffic/air traffic control systems requiring high reliability</p> <p>(4) Facilities that are to comply with regulations of governmental/public agencies or specific industries</p> <p>(5) Machinery or equipment that may affect human lives, human bodies or properties</p> <p>(6) Other machinery or equipment equivalent to those set forth in items (1) to (5) above which require high reliability and safety</p>			
		<p>4 Precautions against long-term use</p> <p>Use of Yamatake products, including switches, which contain electronic components, over a prolonged period may degrade insulation or increase contact-resistance and may result in heat generation or any other similar problem causing such product or switch to develop safety hazards such as smoking, ignition, and electrification.</p> <p>Although acceleration of the above situation varies depending on the conditions or environment of use of the products, you are required not to use any Yamatake products for a period exceeding ten (10) years unless otherwise stated in specifications or instruction manuals.</p>			
		<p>5 Recommendation for renewal</p> <p>Mechanical components, such as relays and switches, used for Yamatake products will reach the end of their life due to wear by repetitious open/close operations.</p> <p>In addition, electronic components such as electrolytic capacitors will reach the end of their life due to aged deterioration based on the conditions or environment in which such electronic components are used.</p> <p>Although acceleration of the above situation varies depending on the conditions or environment of use, the number of open/close operations of relays, etc. as prescribed in specifications or instruction manuals, or depending on the design margin of your machine or equipment, you are required to renew any Yamatake products every 5 to 10 years unless otherwise specified in specifications or instruction manuals.</p> <p>Field instruments (sensors such as pressure/flow/level sensors, regulating valves, etc.) will reach the end of their life due to aged deterioration of parts.</p> <p>For those parts that will reach the end of their life due to aged deterioration, recommended replacement cycles are prescribed. You are required to replace parts based on such recommended replacement cycles.</p>			
		<p>6 Other precautions</p> <p>Prior to your use of Yamatake products, you are required to understand and comply with specifications (e.g., conditions and environment of use), precautions, warnings/cautions/notices as set forth in the technical documents prepared for individual Yamatake products, such as catalogs, specifications, and instruction manuals to ensure the quality, reliability, and safety of those products.</p>			
		<p>7 Changes to specifications</p> <p>Please note that the descriptions contained in any documents provided by Yamatake are subject to change without notice for improvement or for any other reason.</p> <p>For inquires or information on specifications as you may need to check, please contact our branch offices or sales offices, or your local sales agents.</p>			
		<p>8 Discontinuance of the supply of products/parts</p> <p>Please note that the production of any Yamatake product may be discontinued without notice.</p> <p>For repairable products, we will, in principle, undertake repairs for five (5) years after the discontinuance of those products. In some cases, however, we cannot undertake such repairs for reasons, such as the absence of repair parts.</p> <p>For field instruments, we may not be able to undertake parts replacement for similar reasons.</p>			
		<p>9 Scope of services</p> <p>Prices of Yamatake products do not include any charges for services such as engineer dispatch service. Accordingly, a separate fee will be charged in any of the following cases:</p> <ol style="list-style-type: none"> (1) Installation, adjustment, guidance, and attendance at a test run (2) Maintenance, inspection, adjustment, and repair (3) Technical guidance and technical education (4) Special test or special inspection of a product under the conditions specified by you <p>Please note that we cannot provide any services as set forth above in a nuclear energy controlled area (radiation controlled area) or at a place where the level of exposure to radiation is equivalent to that in a nuclear energy controlled area.</p>			
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					APPD.