

SP. No.

CATALOG LISTING

VCX-7 1 0 2 - 3 4 5

1 OPERATION TYPE, CIRCUIT DIAGRAM

Code	Operation type	Circuit diagram		
		C. C. W.	Free position	C. W.
0	Center neutral			
1	Simultaneous operation type			

2 ACTUATOR TYPE

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

5 ENVIRONMENT

Code	Seal material	Roller			Remarks
		Material	dia.	wide	
~	Silicone rubber	Nylon	17.4	6.4	~
H	Silicone rubber	Brass	17.4	7.1	For tropics
L	Silicone rubber	Nylon	17.4	6.4	For cold district

3 CONDUIT

Code	Conduit
J	Increased safety thread joint steel conduit type
R	Increased safety packing connector type

4 CONTACT MATERIAL AND ELECTRICAL RATING

Code	Contact material	Electrical rating
~	Silver	5A-250VAC 0.4A-125VDC 0.2A-250VDC
K	Gold alloy	0.1A-125VAC 0.1A-30VDC

7 00  
6 03  
5 06  
4 06  
3 05  
2 03  
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PAGE REV.

06	ECOPO9-2298	12,16,'09	K.URAKI	SATO	作成DR. SAKIYAMA 8, 24, '07 尺度 SCALE 記入のない公差 TOL. UNLESS NOTED 検図CHK. SATO 8, 24, '07 認可APPD SUDO 8, 24, '07 日付DATE 8,24, '07	形番 MODEL VCX-7***-*** 名称 NAME EXPLOSION PROOF SWITCH 図番 NO. AD15068E	改番REV. 06 1/7
05	ECOPO9-1805	10, 1,'09	SATO	H.SASAKI			
04	ECOPO9-1472	7,30,'09	SATO	H.SASAKI			
03	ECOPO9-0199	4, 15,'09	SAKIYAMA	SATO			
02	ECOPO8-1580	12,17,'08	SAKIYAMA	SATO			
01	ECOPO8-0467	8,22,'08	SAKIYAMA	SATO			
00	ECO08-0533	3, 6,'08	SAKIYAMA	SATO			
改番REV.	来歴RECORD	: 日付DATE	担当BY	検閲APPD.			

SP. No.

# Yamatake Corporation

## 製品仕様書 SPECIFICATIONS

### 1. STANDARDS

- ・Conform to: NECA C 4508
- ・Approved by: Explosion-protected electrical apparatus  
The Technology Institution of Industrial Safety  
Explosion-proof structure: Ex d e IIC T6  
Approved No. TC18291  
NEPSI certification  
Explosion-proof structure: Ex d e IIC T6  
Standard: GB3836.1-2000  
GB3836.2-2000  
GB3836.3-2000
- △<sub>01</sub> Approved No. GYJ081147
- △<sub>02</sub> NK certification  
Type approval No. 08T614



△<sub>03</sub> Hazardous area classification : Zone 1

### 2. STRUCTURE

- ・Type of contact: 2xSPDT
- ・Protective structure: IP67 (IEC 60529)  
(JIS C 0920)
- ・Shape of terminal: Screw (M3.5 pan head screw with square washer)
- ・Shape of contact: Silver contacts: Rivet  
Gold alloy contacts: Cross Point

### 3. ELECTRICAL CHARACTERISTICS

・Insulation resistance and dielectric strength:

Property	Insulation resistance (with 500Vdc megger)	Dielectric strength (50/60Hz, for 1 minute)
Parts measured		
Between terminals of same polarities	100 MΩ min.	600 Vac
Between terminals of different polarities	100 MΩ min.	2000 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.

△<sub>03</sub> Gold alloy 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

△<sub>03</sub> Gold alloy contacts: 10mA- 5V

作成DR. SAKIYAMA 8.24.'07		尺度 SCALE UN	記入のない公差 TOL. UNLESS NOTED ~
検図CHK. SATO 8.24.'07	形番 MODEL	VCX-7***-***	
認可APPD SUDO 8.24.'07	名称 NAME	EXPLOSION PROOF SWITCH	
日付 DATE 8.24.'07	図番 NO.	AD15068E	改番REV. 2/7

03	ADDED	4,15,'09	SAKIYAMA	SATO
02	ADDED	12,17,'08	SAKIYAMA	SATO
01	ADDED	8,22,'08	SAKIYAMA	SATO
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



### 6. ENVIRONMENTAL CHARACTERISTICS


- ・Operating temperature: -10 to +60 °C (no freezing)
- ・Operating humidity: 45 to 85 %RH
- ・Storage temperature: -10 to +60 °C Standard type  
                                   -10 to +100 °C H type  
                                   -40 to +60 °C L type
- 10 to +60 °C for storage with sealing plug
- ・Storage humidity: 98 %RH max. (stored with sealing plug)

### 7. RECOMMENDED TIGHTENING TORQUE

- For mounting the switch on a panel: 5 to 6 N·m (M5 hex. socket head cap screw)
- For mounting the lever on the switch: 4 to 5.2 N·m (M5 hex. socket head cap screw)
- For mounting the terminal on the switch: 0.8 to 1.2 N·m (M3.5 pan head screw with square washer)
- For mounting the cover on the housing: 5 to 6 N·m (M5 hex. socket head cap screw with spring lock washer)
- For mounting the head on the housing: 1.3 to 1.7 N·m (M4 pan head screw with spring lock washer)
- For tightening the inner earth terminal screw: 0.4 to 0.6 N·m (M3 binding head screw with toothed lock washer)
- For tightening the outer earth terminal screw: 1.3 to 1.7 N·m (M4 binding head screw with spring lock washer) 

### 8. APPLICABLE WIRE SIZE

- ・Terminal: Stranded 0.5 to 1.5mm<sup>2</sup> or Solid 0.5mm to 1.5mm<sup>2</sup>
- ・Inner earth terminal: Use insulated crimp terminal for M3 screw. 
- ・Outer earth terminal: Use crimp terminal for M4 screw, suitable for the wire of 4mm<sup>2</sup> max. 

					作成DR. SAKIYAMA 8.24.'07		尺度 SCALE UN	記入のない公差 TOL. UNLESS NOTED ~
					検図CHK. SATO 8.24.'07	形番 MODEL	VCX-7***-***	
					認可APPD SUDO 8.24.'07	名称 NAME	EXPLOSION PROOF SWITCH	
					日付DATE 8.24.'07	図番 NO.	AD15068E	改番REV. 4/7
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		06	CHANGED	12,16,'09	K.URAKI	SATO		
		05	~	10, 1,'09	SATO	H.SASAKI		
		02	CHANGE	12,17,'08	SAKIYAMA	SATO		

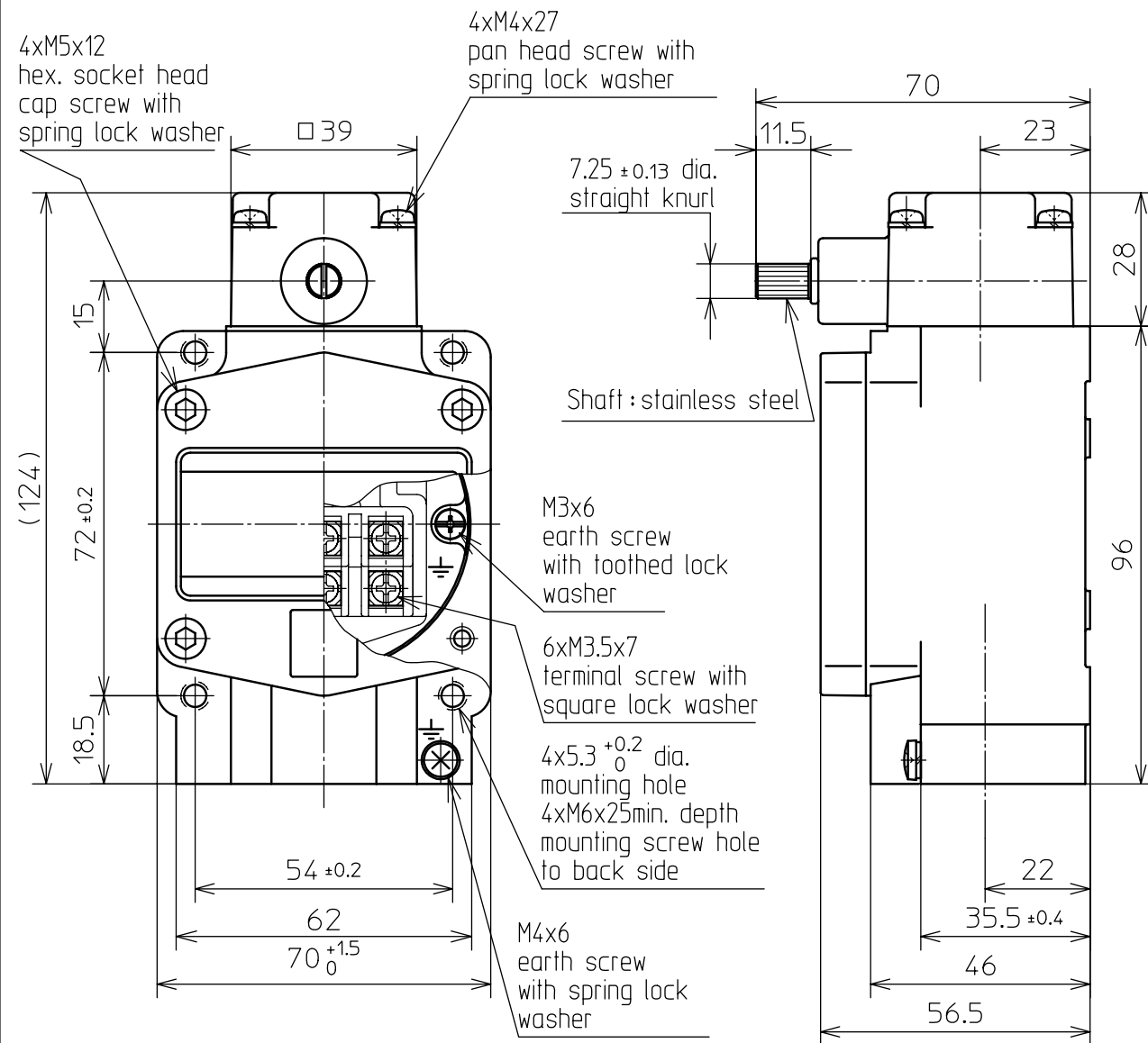


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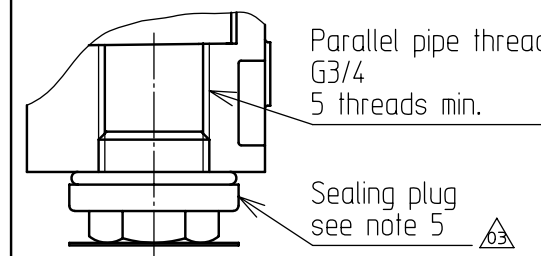
製品仕様書  
SPECIFICATIONS

EXTERNAL VIEW

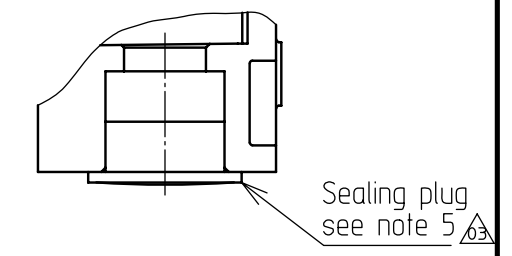


Conduit

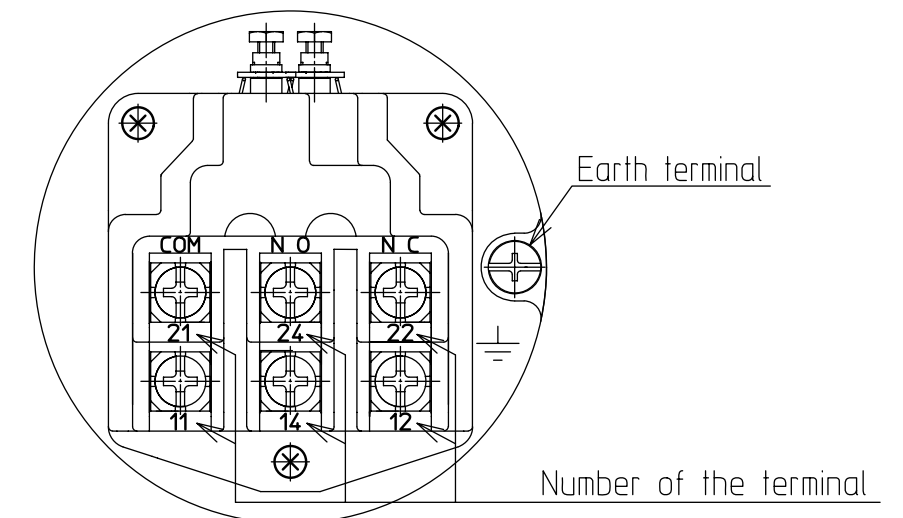
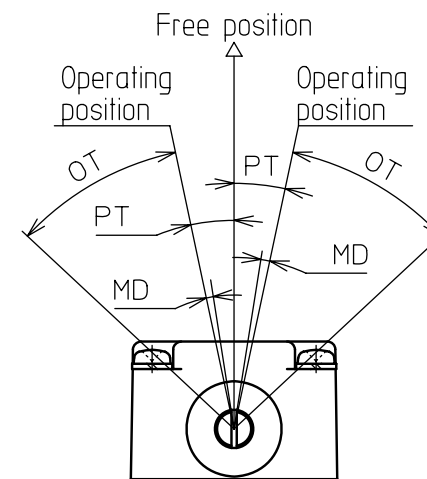
VCX-7\*\*\*-**J**\*\*  
(Increased safety thread)  
(joint steel conduit type)



VCX-7\*\*\*-**R**\*\*  
(Increased safety)  
(packing connector type)



Terminal details



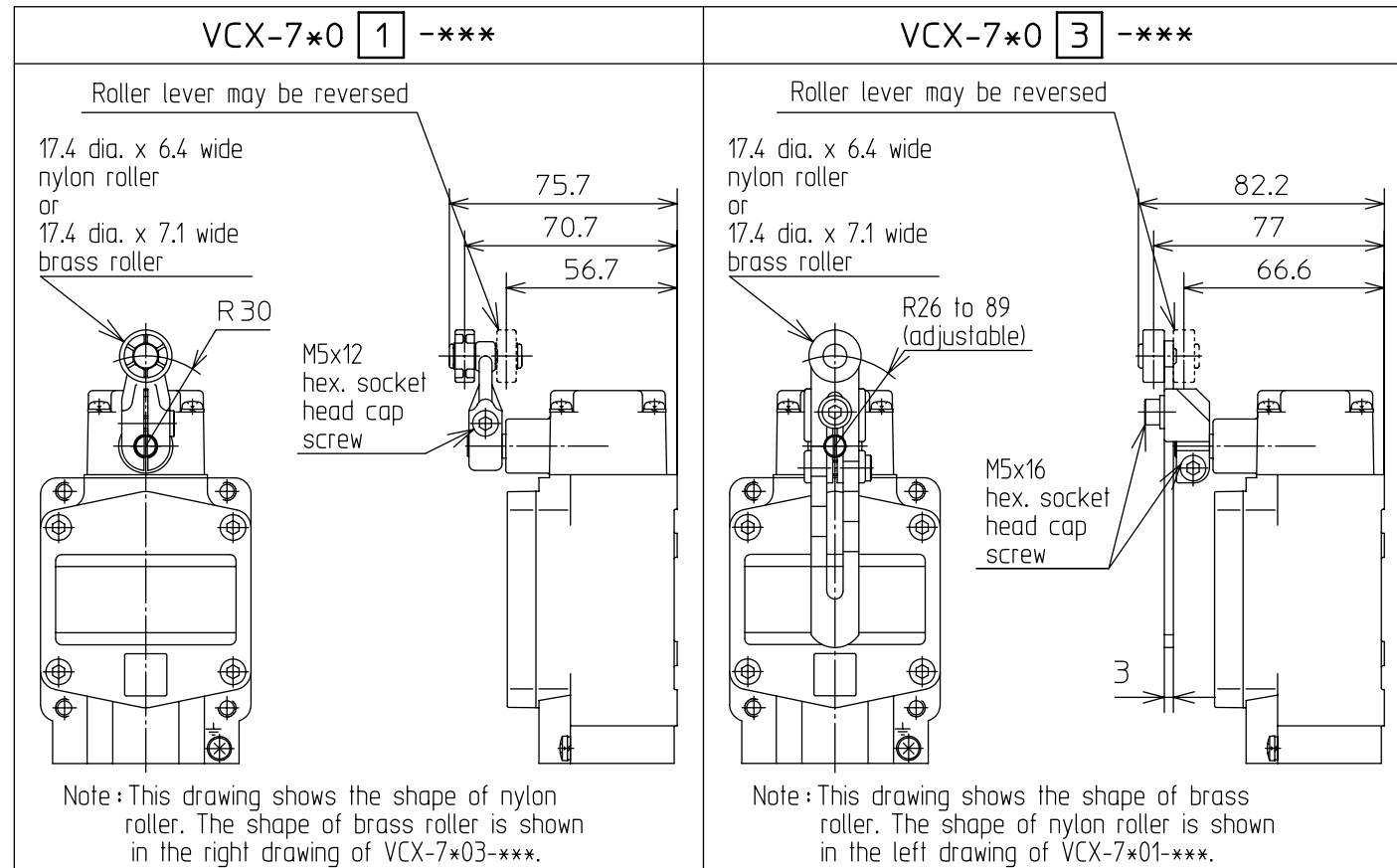
- Notes
1. This switch actuates in either direction.
  2. In the mechanical characteristics "OF" and "RF" are the characteristics at 30mm lever length.
  3. Housing, cover and head are made of aluminum alloy and finished with gray paint.
  4. External screws are made of stainless steel.
  5. Do not remove the plug until the wiring work.
  6. Do not use wire insulated with silicone rubber. Doing so might result in contact failure.
  7. As explosion-proof connector is not attached to switch, select and order separately 2PA-JEX1\*\*L series (protective tube size G1/2) or 2PA-JEX2\*\*L series (protective tube size G3/4).

Characteristics	Catalog listing	VCX-700*-***	VCX-710*-***
Operating force		15.7N max	15.7N max
Release force		2.2N min	2.2N min
Pretravel		10° max	12° max
Movement differential		3° max	3° max
Overtravel		35° min	35° min
Simultaneity of two switches		~	3° max

作成DR. SAKIYAMA 8.24.'07	検図CHK. SATO 8.24.'07	認可APPD SUDO 8.24.'07	日付DATE 8.24.'07	03	CHANGED, DELETED	4,15,'09	SAKIYAMA	SATO	改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.	尺度SCALE	記入のない公差 TOL. UNLESS NOTED	± 0.8	形番 MODEL	VCX-7***-***	名称 NAME	EXPLOSION PROOF SWITCH	図番 NO.	AD15068E	改番REV. 03	6/7
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作成DR. SAKIYAMA 8, 24, '07		尺度 SCALE UN	記入のない公差 TOL. UNLESS NOTED ± 0.8
検図CHK. SATO 8, 24, '07	形番 MODEL	VCX-7***-***	
認可APPD SUDO 8, 24, '07	名称 NAME	EXPLOSION PROOF SWITCH	
日付 DATE 8, 24, '07	図番 NO.	改番REV. 00	7/7

改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.
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SP. NO.	Yamatake Corporation		製品仕様書 SPECIFICATIONS			
	<b>Terms and Conditions</b>					
	<p>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.</p>					
	<p><b>1 Warranty period and warranty scope</b></p>					
	<p><b>1.1 Warranty period</b>          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.</p>					
	<p><b>1.2 Warranty scope</b>          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:</p>					
	<p>(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.);</p>					
	<p>(2) Failure caused for other reasons than Yamatake product;</p>					
	<p>(3) Failure caused by any modification or repair made by any person other than Yamatake or Yamatake's subcontractors;</p>					
	<p>(4) Failure caused by your use of Yamatake product in a manner not conforming to the intended usage of that product;</p>					
	<p>(5) Failure that the state-of-the-art at the time of Yamatake's shipment did not allow Yamatake to predict; or</p>					
	<p>(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.</p>					
	<p>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.</p>					
	<p><b>2 Ascertainment of suitability</b></p>					
	<p>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:</p>					
	<p>(1) Regulations and standards or laws that your Equipment is to comply with.</p>					
	<p>(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.</p>					
	<p>(3) Measures to be taken to secure the required level of the reliability and safety of your Equipment in your use</p>					
	<p>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.</p>					
	<p><b>3 Precautions and restrictions on application</b></p>					
	<p>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.</p>					
	<p>(1) For use under such conditions or in such environments as not stated in technical documents, including catalogs, specification, and instruction manuals</p>					
	<p>(2) For use of specific purposes, such as:</p>					
	<p>* Nuclear energy/radiation related facilities          [For use outside nuclear energy controlled areas]          [For use of Yamatake Limit Switch For Nuclear Energy]</p>					
	<p>* Machinery or equipment for space/sea bottom</p>					
	<p>* Transportation equipment          [Railway, aircraft, vessels, vehicle equipment, etc.]</p>					
	<p>* Antidisaster/crime-prevention equipment</p>					
	<p>* Burning appliances</p>					
	<p>* Electrothermal equipment</p>					
	<p>* Amusement facilities</p>					
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