

MR. No.

Azbil Corporation

製品仕様書
SPECIFICATIONS

CATALOG CODING

LJS-TE 1 2 1 21 TYPE OF CONTACT

CODE	TYPE OF CONTACT
5	N/C+N/O+N/O SLOW ACTION
7	N/C+N/C+N/O SLOW ACTION

2 TYPE OF INTERLOCKING

CODE	TYPE OF INTERLOCKING
3	LOCKING ON DE-ENERGISATION
5	UNLOCKING ON ENERGISATION

1. STANDARDS

· Conform to:

Products IEC 60947-5-1
EN 60947-5-1Machine assemblies IEC 60204-1
EN 60204-1
EN 1088· Approved by:  UL, CSA

2. STRUCTURE

· Protective Structure:

IP67 (JIS C 0920)
(IEC 60529)

· Degree of protection against electrical shock: Class II (IEC 60536)

 Type of lock ~~Locking on de-energisation~~

3. ELECTRICAL CHARACTERISTICS

LIMIT SWITCH

· Electrical rating:

AC-15 : B300
(Ue=240V, Ie=1.5A or Ue=120V, Ie=3A)
DC-13 : Q300
(Ue=250V, Ie=0.27A or Ue=125V, Ie=0.55A)

· Conventional free air thermal current (Ith): 6A

· Rated insulation voltage (Ui): 500V IEC 60947-5-1, 300V UL/CSA 

· Rated impulse withstand voltage(Uimp): 4000V

· Conditional short-circuit current: 1000A

· Short circuit protective device: 10A cartridge fuse type gG (gl)

ELECTROMAGNET

· Load factor:

100%

· Rated operational voltage:

AC/DC 24V

· Voltage limit:

Of the rated operational voltage(including ripple)
IEC/EN60947-1 · Service life: 

20,000 hours

· Consumption:

max 10VA 

7 01

6 01

5 01

4 01

3 01

2 01

頁改番
PAGE REV.改番
REV.来歴
RECORD: 日付
DATE担当
BY検閲
APPD.作成DR.
YANASE
9, 14, '01

尺度 SCALE

記入のない公差 TOL. UNLESS NOTED

検図CHK.
SUDO
10, 16, '01形番
MODEL

LJS-TE**12

認可APPD
NOGUCHI
10, 16, '01名称
NAMESAFETY SWITCH WITH
LOCKING BY ELECTROMAGNET日付DATE
10, 16, '01図番
NO.

AD53632E

改番REV.
02

1/7

MR. No.

Azbil Corporation

製品仕様書 SPECIFICATIONS

4. MECHANICAL CHARACTERISTICS

- Shock: **100** m/s² (11ms) IEC 60068-2-27
- Vibration: **50** m/s² (10 to 500 Hz) IEC 60068-2-6
- Operating key Speed; **0.01** mm/s to **0.5** m/s
- Mechanical Operating Frequency; **10** cycles/minute
- Clamp capacity: **min. 1#20AWG** (1×0.5mm²)
max. 2#16AWG (2×1.5mm²)

5. LIFE

- Mechanical Life; **1000k** cycles min.
- Electrical Life; **1000k** cycles min.

6. ENVIRONMENTAL CHARACTERISTICS

- Operating Temperature: **-25** to **+60** °C (at no freezing)
- Storage Temperature: **-40** to **+70** °C
- Operating Humidity : **85** %RH max.

7. MOUNTING

- Recommended Tightening Torque
 - For mounting the switch to panel: **0.49 to 0.69 N·m** (M4 cap screw)
 - For mounting the head to housing: **0.5 N·m** (M3)
 - For mounting the cover to housing: **0.5 N·m** (M3)
 - For mounting the terminal to switch safety switch; **0.8 N·m** (M3.5) 
 - electromagnet, auxiliary switch; **0.5 N·m** (M3) 

作成 DR. YANASE 9, 14, '01		尺度 SCALE ~	記入のない公差 TOL. UNLESS NOTED ~
検図 CHK. SUDO 10, 16, '01	形 番 MODEL	LJS-TE**12	
認可 APPD NOGUCHI 10, 16, '01	名 称 NAME	SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET	
日付 DATE 10, 16, '01	図 番 NO.	AD53632E	改番 REV. 2/7

01	ADD TO "LJS-TE*512" etc.	7,22,'02	TATSUHARA	NAKAMURA		
頁 PAGE	改番 REV.	改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

MR. No.

Azbil Corporation

製品仕様書
SPECIFICATIONS

PRECAUTIONS

(1) MOUNTING

・TIGHTEN EACH PORTION OF LIMIT SWITCH AT REASONABLE TORQUE SPECIFIED IN THIS SPECIFICATION.

OVER-TIGHTENING MAY DAMAGE THE SCREW OR OTHER PARTS. LOOSE-TIGHTENING MAY CAUSE POOR SEALING OF SWITCH AND DECREASE IN VARIOUS PERFORMANCE.

△ DO NOT USE THE SAFETY SWITCH AS A DOOR STOP ON ANY TYPE OF DOORS. INSTALL MECHANICAL DOOR STOPS ON THE DOOR ENDS TO PROTECT THE SAFETY SWITCH FROM EXCESSIVE FORCE.

△ WHEN THE DOOR IS OPENED AND CLOSED, MAKE SURE THAT EXCESSIVE SHOCKS ARE NOT APPLIED TO THE SAFETY SWITCH.

THE EXCESSIVE SHOCK APPLIED TO THE SAFETY SWITCH MAY CAUSE FAILURE.

△ IF THE OPERATING ATMOSPHERE IS CONTAMINATED, USE A PROTECTIVE COVER TO PREVENT THE ENTRY OF FOREIGN OBJECTS INTO THE SWITCH THROUGH THE ACTUATOR ENTRY SLOTS.

△ ENTRY OF A CONSIDERABLE AMOUNT OF FOREIGN OBJECTS INTO THE SWITCH MAY AFFECT THE MECHANISM OF THE SWITCH AND CAUSE A BREAKDOWN.

△ (2) ACTUATOR

・BE SURE TO USE THE DEDICATED ACTUATOR OR ONLY, AND DO NOT OPERATE THE SAFETY SWITCH WITH ANYTHING OTHER THAN THE DEDICATED ACTUATOR.

OTHERWISE, THE SAFETY OF THE SYSTEM MAY NOT BE MAINTAINED.

・MOUNT THE ACTUATOR SO THAT IT WILL NOT HIT THE OPERATOR WHEN THE DOOR IS OPEN. INJURY MAY BE CAUSED.

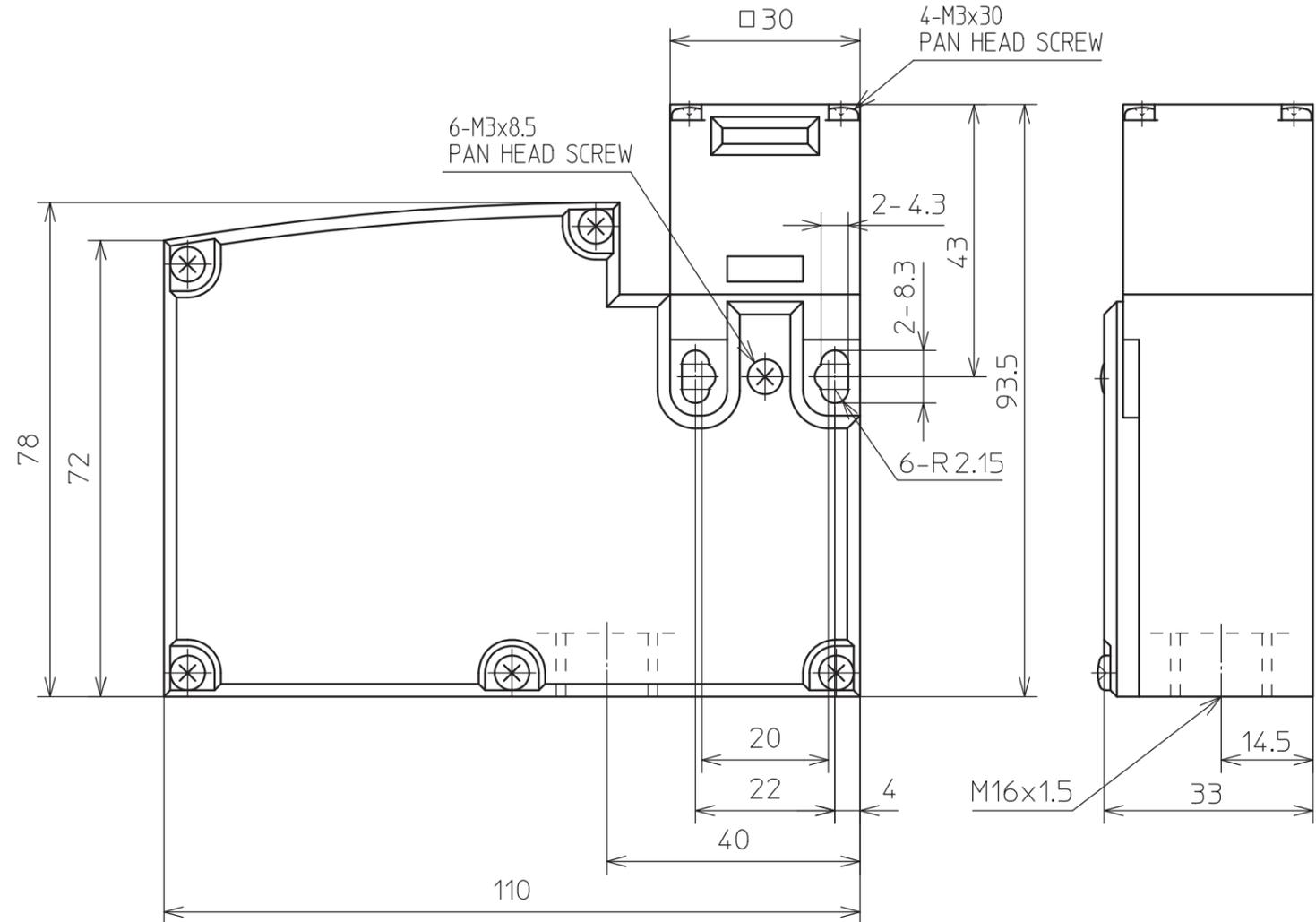
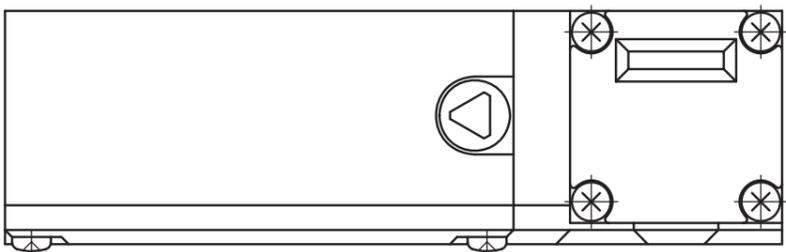
作成 DR. YANASE 9, 14, '01		尺度 SCALE ~	記入のない公差 TOL. UNLESS NOTED ~
検図 CHK. SUDO 10, 16, '01	形 番 MODEL	LJS-TE**12	
認可 APPD NOGUCHI 10, 16, '01	名 称 NAME	SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET	
日付 DATE 10, 16, '01	図 番 NO.	AD53632E	改番 REV. 3/7

頁 PAGE	改番 REV.	改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.
		01	ADDITION	7,22,'02	TATSUHARA	NAKAMURA

SP. No.

Azbil Corporation

製品仕様書
SPECIFICATIONS



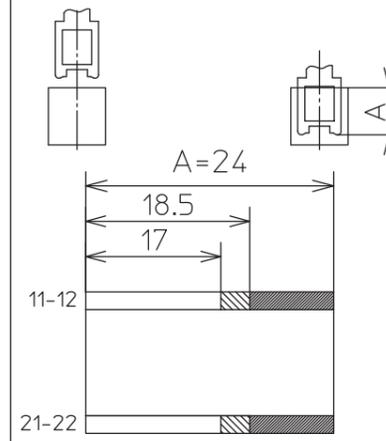
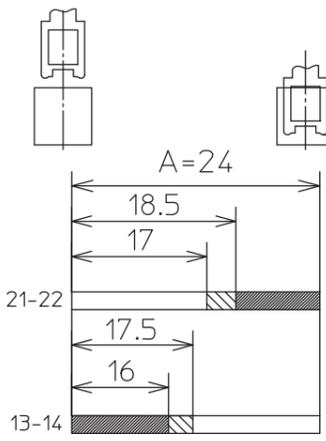
CATALOG LISTING

LJS-TE5312
LJS-TE5512 \triangle

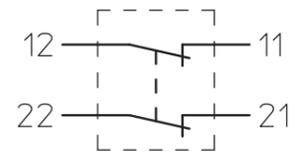
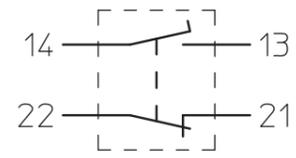
LJS-TE7312
LJS-TE7512 \triangle

FUNCTION DIAGRAM

- CONTACT CLOSED
- CONTACT OPEN
- ▨ UNSTABLE



CIRCUIT DIAGRAM



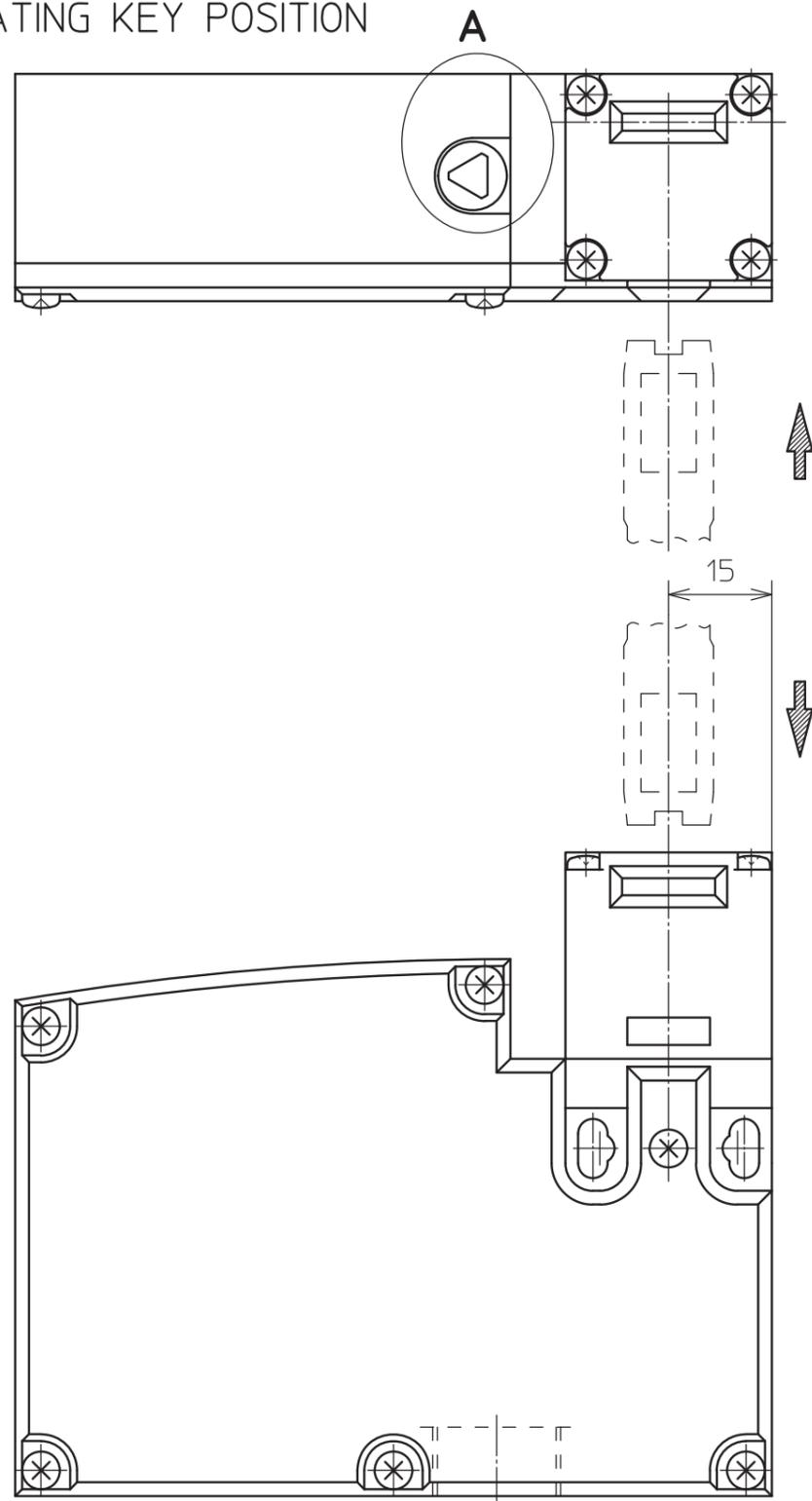
NOTES 1. HOUSING IS MADE OF POLYAMIDE RESIN.
2. ACUTUATOR HEAD MOUNTS IN ANY OF FOUR POSITIONS.

MECHANICAL CHARACTERISTICS	
RESISTANCE TO FORCIBLE KEY WITHDRAWAL (AT CONDITION OF LOCK)	500N
MINIMUM FORCE FOR POSITIVE OPENING	15N

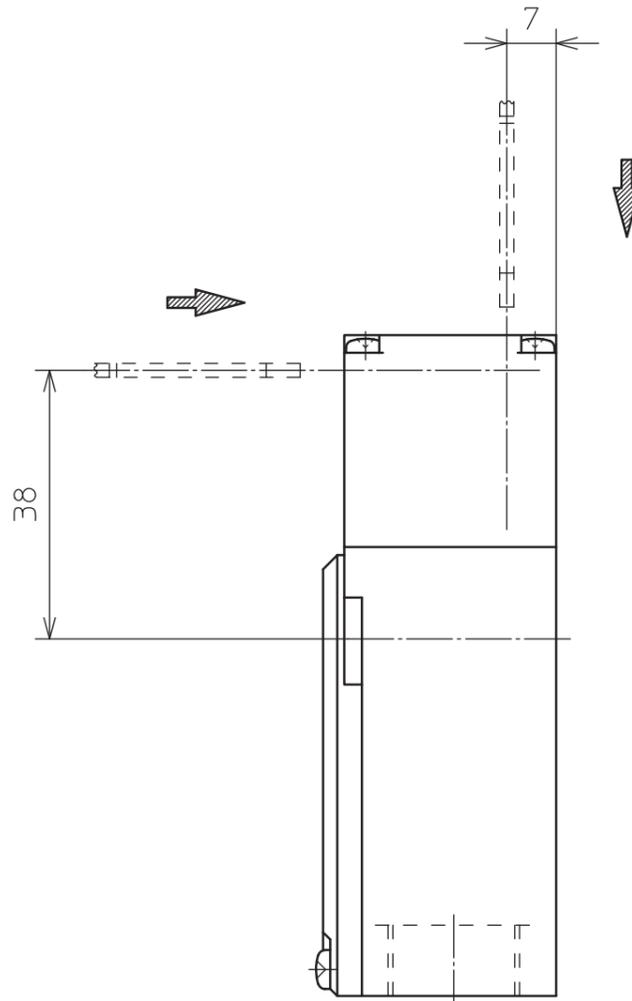
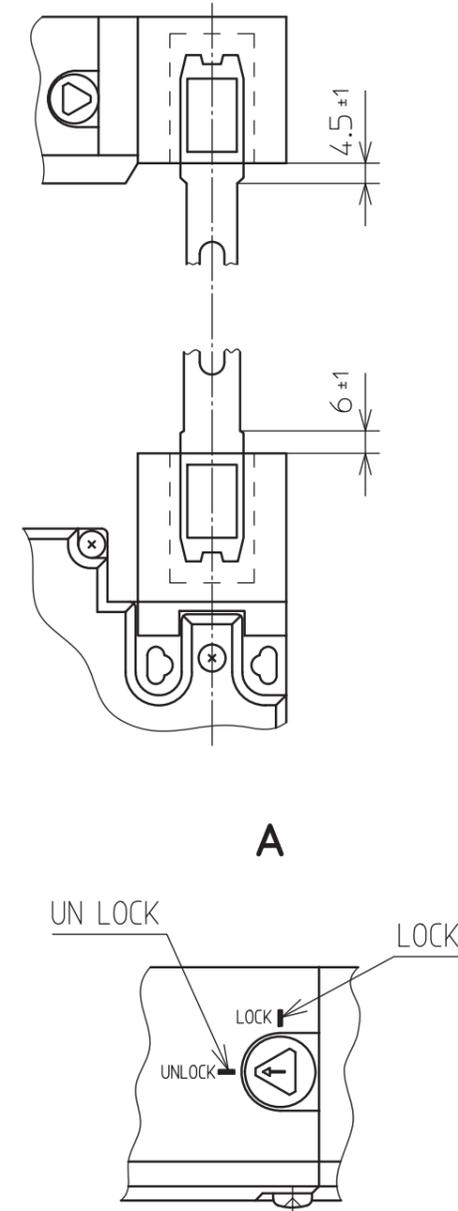
01	ADDITION	7.22,'02	TATSUHARA	NAKAMURA
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

作成 DR. YANASE 9.14,'01	検図 CHK. SUDO 10.16,'01	認可 APPD NOGUCHI 10.16,'01	日付 DATE 10.16,'01	形番 MODEL LJS-TE**12	名称 NAME SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET	尺度 SCALE 1:1	記入のない公差 TOL. UNLESS NOTED ~
頁 PAGE	改番 REV.	箱番 NO.	改番 REV. 01	4/7			

OPERATING KEY POSITION



OPERATING KEY INSERT POSITION

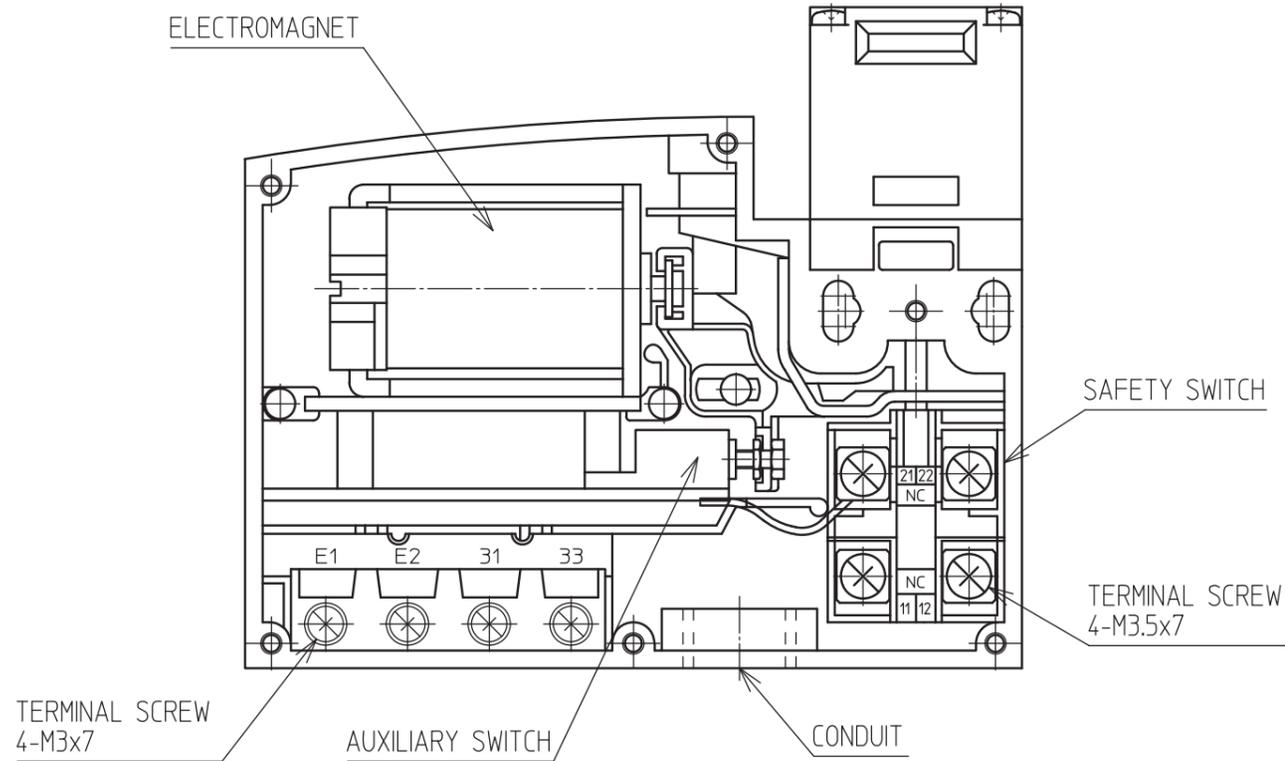


- NOTES 1. THIS SWITCH MUST NOT BE USED AS A MECHANICAL STOP FOR THE MOVING GUARD.
2. SELECT "LJS-Z11", "LJS-Z12" OR "LJS-Z13" AS OPERATING KEY.

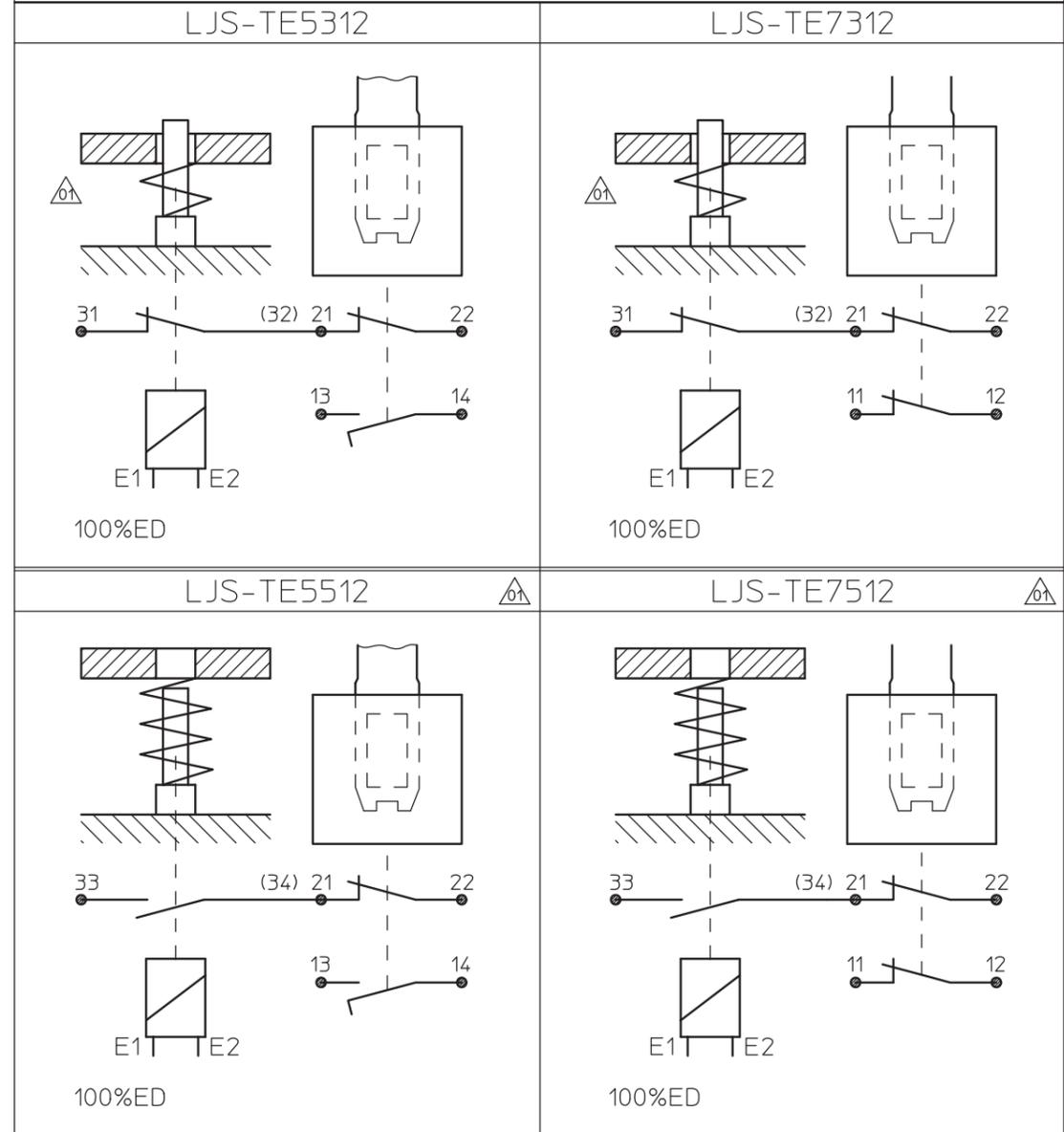
01	ADD TO "LJS-TE*512" 7.22,'02	TATSUHARA	NAKAMURA
改番 REV.	来歴 RECORD	日付 DATE	担当 検閱 BY APPD.

作成 DR. YANASE 9. 14. '01	検図 CHK. SUDO 10. 16. '01	認可 APPD NOGUCHI 10. 16. '01	日付 DATE 10. 16. '01	尺度 SCALE 1:1	記入のない公差 TOL. UNLESS NOTED
形番 MODEL	LJS-TE**12				
名称 NAME	SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET				
番 NO.	AD53632E	改番 REV. 01	5/7		

CONSTRUCTION



CIRCUIT DIAGRAM

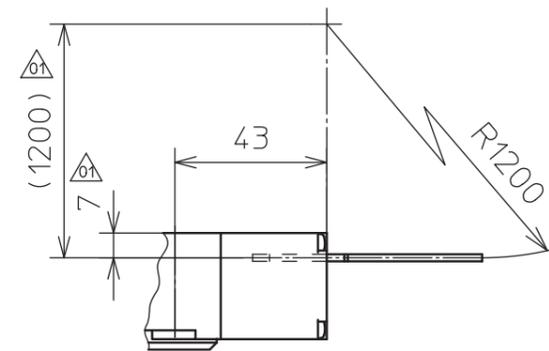
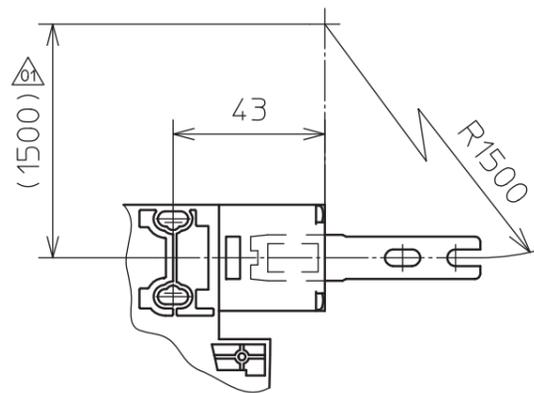
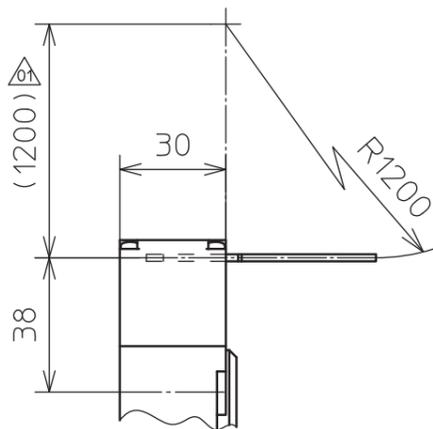
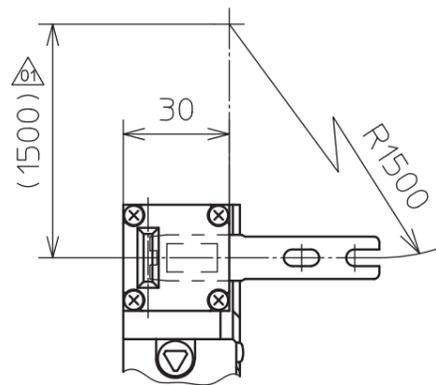


01	ADD TO "LJS-TE*512" etc.	7.22,'02	TATSUHARA	NAKAMURA
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

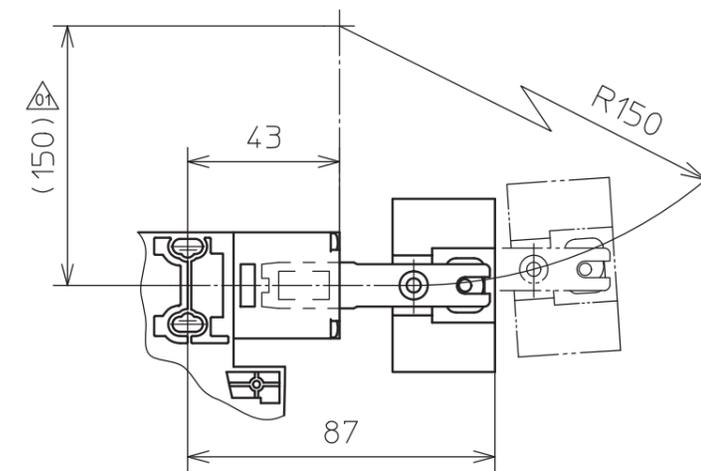
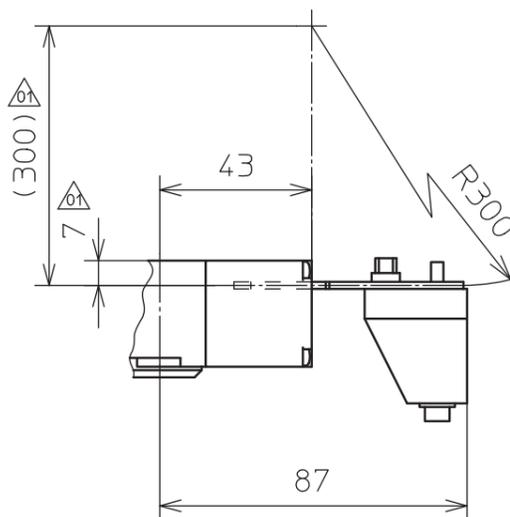
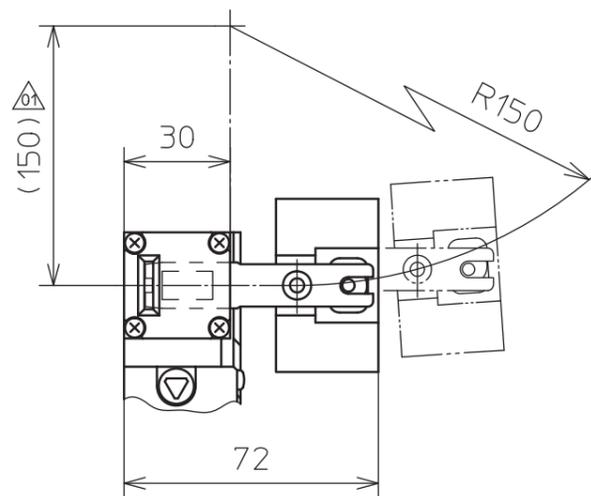
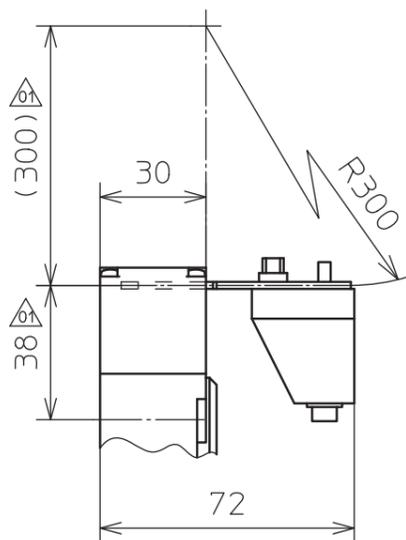
作成 DR. YANASE 9, 14, '01	検図 CHK. SUDO 10, 16, '01	認可 APPD NOGUCHI 10, 16, '01	日付 DATE 10, 16, '01	形番 MODEL LJS-TE**12	名称 NAME SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET	尺度 SCALE 1:1	記入のない公差 TOL. UNLESS NOTED
			改番 REV. 01	番 NO. AD53632E		6/7	

OPERATING RADIUS REQUIRED FOR OPERATING KEY

LJS-Z11/Z12



LJS-Z13



01	ADD TO "LJS-TE*512" etc.	7.22.'02	TATSUHARA	NAKAMURA
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

作成 DR. YANASE 9.14.'01	検図 CHK. SUDO 10.16.'01	認可 APPD NOGUCHI 10.16.'01	日付 DATE 10.16.'01	形番 MODEL LJS-TE**12	名称 NAME SAFETY SWITCH WITH LOCKING BY ELECTROMAGNET	尺度 SCALE 記入のない公差 TOL. UNLESS NOTED UN	改番 REV. 01	7/7
			日付 DATE 10.16.'01	箱番 NO. AD53632E				

SP.NO.	Azbil Corporation		製品仕様書 SPECIFICATIONS			
	Terms and Conditions					
	<p>We would like to express our appreciation for your purchase and use of Azbil Corporation's products. You are required to acknowledge and agree upon the following terms and conditions for your purchase of Azbil Corporation's products (system 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>1 Warranty period and warranty scope</p>					
	<p>1.1 Warranty period</p> <p>Azbil Corporation's 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>1.2 Warranty scope</p> <p>In the event that Azbil Corporation's product has any failure attributable to azbil during the aforementioned warranty period, Azbil Corporation 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.</p> <p>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 azbil 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 Azbil Corporation's product;</p> <p>(3) Failure caused by any modification or repair made by any person other than Azbil Corporation or Azbil Corporation's subcontractors;</p> <p>(4) Failure caused by your use of Azbil Corporation's 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 Azbil Corporation's shipment did not allow Azbil Corporation to predict; or</p> <p>(6) Failure that arose from any reason not attributable to Azbil Corporation, 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 Azbil Corporation shall not be liable for any damages, including direct, indirect, special, incidental or consequential damages in connection with or arising out of Azbil Corporation's products.</p>					
	<p>2 Ascertainment of suitability</p> <p>You are required to ascertain the suitability of Azbil Corporation's 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 Azbil Corporation 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 azbil is constantly making efforts to improve the quality and reliability of Azbil Corporation's products, there exists a possibility that parts and machinery may break down.</p> <p>You are required to provide your Equipment with safety design such as fool-proof design, *1 and fail-safe design *2 (anti-flame propagation design, etc.), whereby preventing any occurrence of physical injuries, fires, significant damage, and so forth. Furthermore, fault avoidance, *3 fault tolerance, *4 or the like should be incorporated so that the said Equipment can satisfy the level of reliability and safety required for your use.</p> <p>*1. A design that is safe even if the user makes an error. *2. A design that is safe even if the device fails. *3. Avoidance of device failure by using highly reliable components, etc. *4. The use of redundancy.</p>					
	<p>3 Precautions and restrictions on application</p> <p>Azbil Corporation's products other than those explicitly specified as applicable (e.g. azbil Limit Switch For Nuclear Energy) shall not be used in a nuclear energy controlled area (radiation controlled area).</p> <p>Any Azbil Corporation's products shall not be used for/with medical equipment.</p> <p>The products are for industrial use. Do not allow general consumers to install or use any Azbil Corporation's product. However, azbil products can be incorporated into products used by general consumers. If you intend to use a product for that purpose, please contact one of our sales representatives.</p> <p>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 azbil product for any purposes specified in (1) through (6) below.</p> <p>Moreover, you are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design, fault avoidance, fault tolerance, and other kinds of protection/safety circuit design on your own responsibility to ensure reliability and safety, whereby preventing problems caused by failure or nonconformity.</p>					
頁	改番	改番	来歴	日付	担当	照査
	REV.		RECORD	DATE	BY	CHK.

SP. NO.	Azbil Corporation		製品仕様書 SPECIFICATIONS			
			<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> <ul style="list-style-type: none"> * Nuclear energy/radiation related facilities [For use outside nuclear energy controlled areas] [For use of Azbil Corporation's 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 * Facilities/applications associated directly with billing <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 Azbil Corporation's 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 Azbil Corporation's 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 Azbil Corporation's 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 Azbil Corporation's products every 5 to 10 years unless otherwise specified in specifications or instruction manuals.</p> <p>System products, 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. 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 Azbil Corporation's 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 Azbil Corporation's 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 azbil 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 Azbil Corporation's 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. For system products, field instruments, we may not be able to undertake parts replacement for similar reasons.</p> <p>9 Scope of services</p> <p>Prices of Azbil Corporation's 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>			
頁	改番	改番 REV.	来歴 RECORD	日付 DATE	担当 BY	照査 CHK.

AAS-511A-014-04