

Vertical Explosion-Proof Switches

LX5000 Series

Vertical, compact gas/steam explosion-proof and pressure-resistant limit switches for outdoor use.



- Case and covers are made of die-cast aluminum to ensure a light and robust structure
- Die-cast surfaces have been treated against rust and bake-finished for outstanding corrosion resistance and weatherproofing
- Switches are available in two convenient cable lead-in types, conduit type and pressure-resistant packing type
- External screws are stainless steel for outstanding corrosion resistance
- Wide variety of actuators

Certifying	Explosion-proof structure	Approval No.
The Technology Institution of Industrial Safety (TIIS)	d2G4	1LX:T59979
		2LX:T58036
		5LX:T58036
Nippon Kaiji Kyokai (NK)	d2G4	1LX:05T601
		2LX:~
		5LX:~

ORDER GUIDE

Switches

Catalog listing	Actuator shape	Max. O.F. (operating force)	Max. P.T. (pretravel)	Max. M.D. (movement differential)
1LX5001		12.8N	15°	7°
1LX5001-R				
1LX5003		12.8N	15°	7°
1LX5003-R				
2LX5001		26.7N	1.65mm	0.51mm
2LX5001-R				
5LX5001		26.7N	1.65mm	0.51mm
5LX5001-R				

Pressure-Resistant Packing Connector (use in combination with □LX500□-R)

Appearance	Catalog listing	Protective pipe size	Compatible cable dia.	Catalog listing	Protective pipe size	Compatible cable dia.
	2PA-JEX108	G 1/2	7.5 to 8.5mm dia.	2PA-JEX208	G 3/4	7.5 to 8.5mm dia.
	2PA-JEX109		8.5 to 9.5mm dia.	2PA-JEX209		8.5 to 9.5mm dia.
	2PA-JEX110		9.5 to 10.5mm dia.	2PA-JEX210		9.5 to 10.5mm dia.
	2PA-JEX111		10.5 to 11.5mm dia.	2PA-JEX211		10.5 to 11.5mm dia.
	2PA-JEX112		11.5 to 12.5mm dia.	2PA-JEX212		11.5 to 12.5mm dia.
	2PA-JEX113		12.5 to 13.5mm dia.	2PA-JEX213		12.5 to 13.5mm dia.

Auxiliary Actuators

Type	Shape	Catalog listing	Roller material	Lever tightening method
Roller lever		6PA-J63	Black nylon	Hexagon socket head bolt
		6PA-J105		
Adjustable roller lever		6PA-J79	Black nylon	Hexagon socket head bolt
		6PA-J119	Brass	

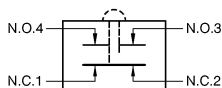
Note: When combining actuators, use combinations made of non-ignitable materials.

PERFORMANCE

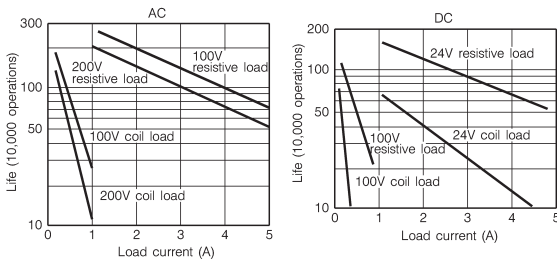
Catalog listing	1LX5001	2LX5001	5LX5001
Actuator	Roller lever	Plunger	Roller plunger
Standards	NECA C 4508, Factory Electrical Facilities Explosion-Proofing Guidelines (1979)		
Structure	Compliance	2-circuit double break	
	Contact form	Pure silver rivet	
	Terminal type	Screw (M4 binding head machine screw with toothed washer)	
	Protective structure	IP67(IEC 60529, JIS C 0920)	
	Pressure-resistant explosion-proof structure	d2G4	
Electrical performance	Electrical rating	See Table 1.	
	Dielectric strength	Between non-continuous terminals: 1,000V, 50/60Hz for 1 minute	
		Between each terminal and non-live metal part: 2,000V, 50/60Hz for 1 minute	
		Between each terminal and ground: 2,000V, 50/60Hz for 1 minute	
	Insulation resistance	Min. 100M Ω (by 500Vdc megger)	
	Initial contact resistance	Max. 50m Ω (6 to 8Vdc, thermal current 1A, measured by voltage drop method)	
Recommended min. contact operating voltage/current	24Vac/dc 10mA, 12Vac/dc 20mA		
Mechanical performance	Actuator strength	Withstands load 5 times O.F. (operating direction for 1 minute)	
	Terminal strength	Withstands tightening torque of 1.5N·m for 1 minute	
	Impact resistance*	200m/s ²	
	Vibration resistance (2 continuous hours)	Contacts open for 1ms max. in free position and total travel position	
		1.5mm peak-to-peak amplitude, frequency 10 to 55Hz	
	Allowable operating speed*	Contacts open for 1ms max. in free position and total travel position	
		1mm/s to 0.5m/s	
Operating frequency	At min. speed, unstable state of contacts lasts for 0.1s max. At max. speed, actuator is not damaged. Max. 120 operations/minute		
Life	Mechanical Min.	4 million operations (with overtravel at 1/3 to 2/3 of rated value)	
	Electrical Min.	500,000 operations, 250Vac 5A, resistive load	
Environment	Operating temperature	- 10 to +60°C(no freezing allowed)	
	Environment class	Explosion-proof structure for outdoor use, satisfies d2G4.	
Recommended tightening torque	Body	5 to 6N·m (M5 hexagon socket head bolt)	
	Cover	5 to 6N·m (M5 hexagon socket head bolt)	
	Actuator	4 to 5.2N·m (M5 hexagon socket head bolt)	
	Terminals	1.3 to 1.7N·m (M4 binding head machine screw)	

* Asterisked values apply to the listed models only. Values for unmarked items apply to all LX Series models.

● Table 1. Electrical rating and circuit configuration

Item	Rating
Contact form	
Electrical rating	125, 250Vac 5A 125Vdc 0.8A 250Vdc 0.4A

ELECTRICAL LIFE VS. LOAD CURRENT

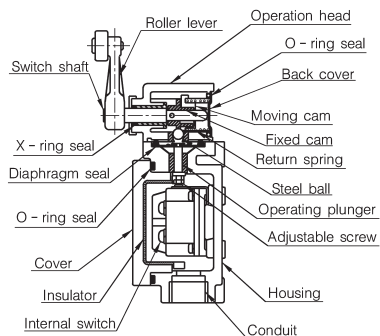


Load details

	AC	DC
Coil load	A1*	D1*
Resistive load	A2*	D3*

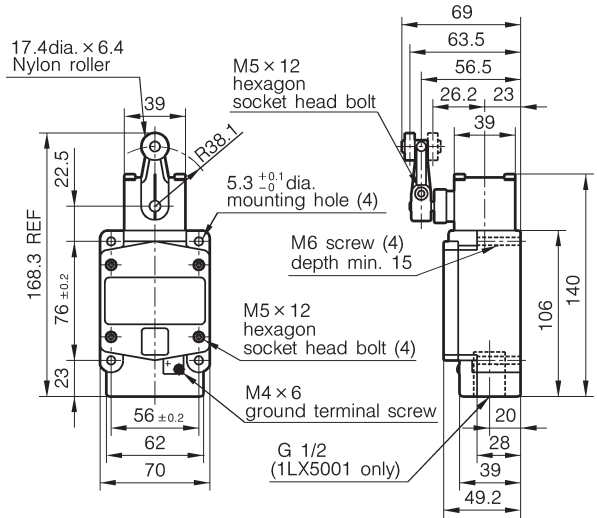
※Operating frequency of 1,800 operations/hour. * Complies with JEM1230-1969.

STRUCTURAL DIAGRAM



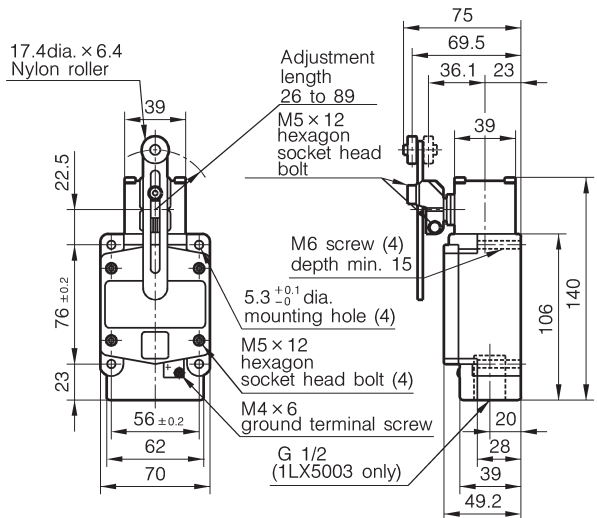
Roller lever type

Catalog listing	Conduit Pressure-resistant packing	1LX5001
O.F.	(Max. N)	12.8
R.F.	(Min. N)	1.1
P.T.	(Max. °)	15
M.D.	(Max. °)	7
O.T.	(Min. °)	55



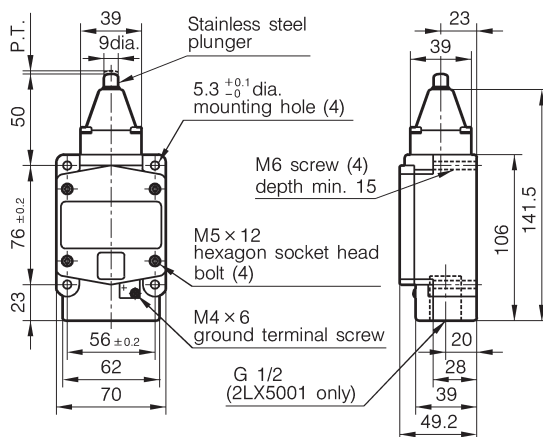
Adjustable roller lever type

Catalog listing	Conduit Pressure-resistant packing	1LX5003
O.F.	(Max. N)	12.8
R.F.	(Min. N)	1.1
P.T.	(Max. °)	15
M.D.	(Max. °)	7
O.T.	(Min. °)	55



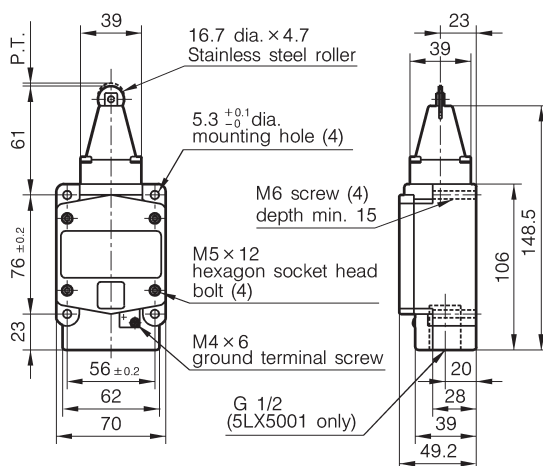
Plunger type

Catalog listing	Conduit Pressure-resistant packing	2LX5001
O.F.	(Max. N)	26.7
R.F.	(Min. N)	8.9
P.T.	(Max. °)	1.65
M.D.	(Max. °)	0.51
T.T.	(Min. mm)	7

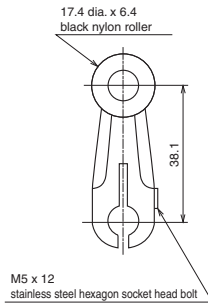


Roller plunger type

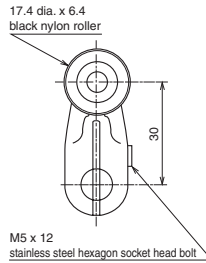
Catalog listing	Conduit Pressure-resistant packing	5LX5001
O.F.	(Max. N)	26.7
R.F.	(Min. N)	8.9
P.T.	(Max. °)	1.65
M.D.	(Max. °)	0.51
T.T.	(Min. mm)	7



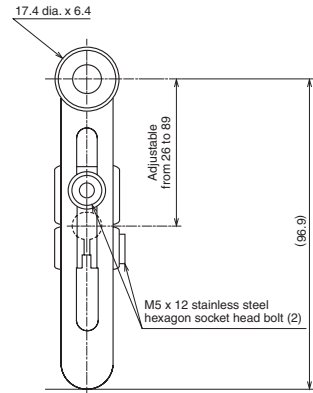
6PA-J63
(black nylon roller)



6PA-J105



6PA-J79 (black nylon roller)
6PA-J119 (brass roller)



Note: about conduit sections in dimension drawings

On conduit type switches, the conduit section has a G1/2 screw thread, and a blind stopper is inserted to seal the conduit before wiring. On switches with pressure-resistant packing lead-in, there is no screw thread because a special connector (sold separately) is used. Remove the stopper before attaching the connector.

■ PRESSURE-RESISTANT PACKING CONNECTOR

The pressure-resistant packing connector is a special connector that is used in combination with the pressure-resistant lead-in system of the explosion-proof switch.

Exploded view of pressure-resistant packing connector

Shape	Catalog listing	Protective pipe dimensions	Compatible cable diameter
	2PA-JEX108	G 1/2	7.5 to 8.5mm dia.
	2PA-JEX109		8.5 to 9.5mm dia.
	2PA-JEX110		9.5 to 10.5mm dia.
	2PA-JEX111		10.5 to 11.5mm dia.
	2PA-JEX112		11.5 to 12.5mm dia.
	2PA-JEX113		12.5 to 13.5mm dia.
	2PA-JEX208	G 3/4	7.5 to 8.5mm dia.
	2PA-JEX209		8.5 to 9.5mm dia.
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	2PA-JEX211		10.5 to 11.5mm dia.
	2PA-JEX212		11.5 to 12.5mm dia.
	2PA-JEX213		12.5 to 13.5mm dia.

