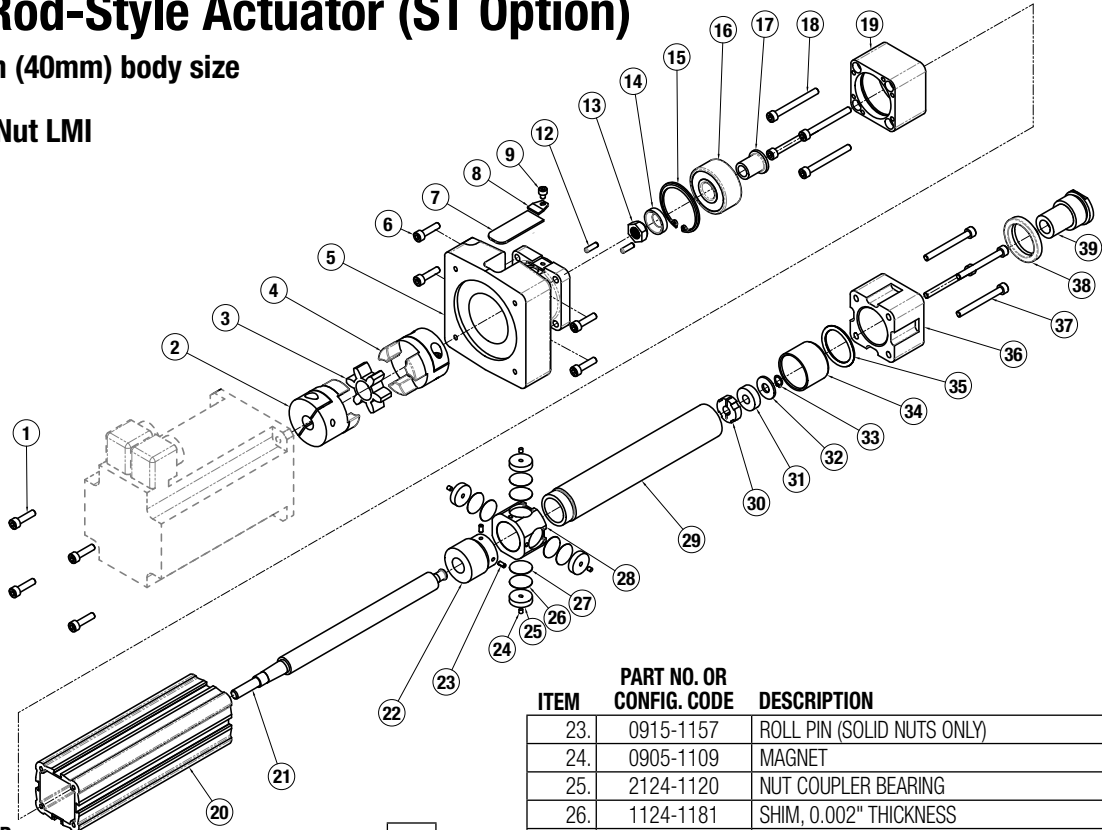


### Electric Rod-Style Actuator (ST Option)

RSA24 1.5-inch (40mm) body size

**Solid Nut, Ball Nut LMI**  
(Inline motor mount)



ITEM	PART NO. OR CONFIG. CODE	DESCRIPTION	QTY
1.	CONFIGURED	MOTOR FASTENERS	4
2.	3600-6196	COUPLER HALF	1
3.	CONFIGURED	SPIDER	1
4.	CONFIGURED	ACTUATOR COUPLER HALF	1
5.	CONFIGURED	MOTOR SPACER	1
6.	CONFIGURED	MOTOR SPACER FASTENERS	4
7.	CONFIGURED	MOTOR SPACER COVER	1
8.	1906-1022	COVER CLAMP	1
9.	1124-1159	COVER FASTENER	1
12.	1930-1024	DOWEL PIN	2
*13.	1124-1082	SPHERICAL NUT	1
*14.	1124-1092	SPHERICAL WASHER	1
15.	2100-1010	RETAINING RING	1
16.	3420-1222	BEARING	1
17.	1124-1044	LEADSCREW SLEEVE	1
18.	2212-1095	BEARING PLATE FASTENER	4
19.	1124-1037	BEARING PLATE (US CONV.)	1
	1124-1037	BEARING PLATE (METRIC)	1
20.	RTBRSA24__	CYLINDER BODY	1
21.	RLSRSA24__	LEADSCREW	1
22.	2115-1013	SN02 SOLID NUT	1
	2115-1012	SN04 SOLID NUT	1
	2115-1011	SN08 SOLID NUT	1
	0515-1076	BN02 BALLNUT	1
	0915-1276	BN05 BALLNUT	1
	2100-1061	BNM05 BALLNUT	1
	2192-1096	BNM10 BALLNUT	1
	2124-1032	BZ10 BRONZE NUT	1

ITEM	PART NO. OR CONFIG. CODE	DESCRIPTION	QTY
23.	0915-1157	ROLL PIN (SOLID NUTS ONLY)	1
24.	0905-1109	MAGNET	4
25.	2124-1120	NUT COUPLER BEARING	4
26.	1124-1181	SHIM, 0.002" THICKNESS	AR
27.	1124-1182	SHIM, 0.005" THICKNESS	AR
28.	2124-1115	NUT COUPLER, BN02 & BN05 BALLNUT	1
	1124-1566	NUT COUPLER, BNM05 & BNM10 BALL NUT	1
	2124-1116	NUT COUPLER, SOLID & BRONZE NUT	1
29.	TRARSA24__	THRUST ROD	1
*30.	1124-1315	BUSHING	1
31.	2124-1091	BUMPER	1
32.	2120-1018	WASHER	1
33.	0910-1198	RETAINING RING	1
34.	2115-1023	FRONT BUSHING	1
35.	2115-1020	O-RING	1
36.	1124-1002	FRONT HEAD (US CONV.)	1
	2115-1002	FRONT HEAD (METRIC)	1
37.	0601-1144	FRONT HEAD FASTENER	4
38.	2115-1030	WIPER	1
39.	1124-1006	ROD END (US CONV.)	1
	2115-1006	ROD END (METRIC)	1

\* These parts are not compatible with actuators manufactured before January 2003.

\*\* Parts revised on October 21, 2005, when ordering a new nut assembly kit, #1124-9051 must be ordered. (Kit includes 4 magnets #0905-1109 and 4 coupler/nut bearings #2124-1120)

♦ Part number varies depending on YMH (Your Motor Here). Contact help@tolomatic.com for replacement part number.

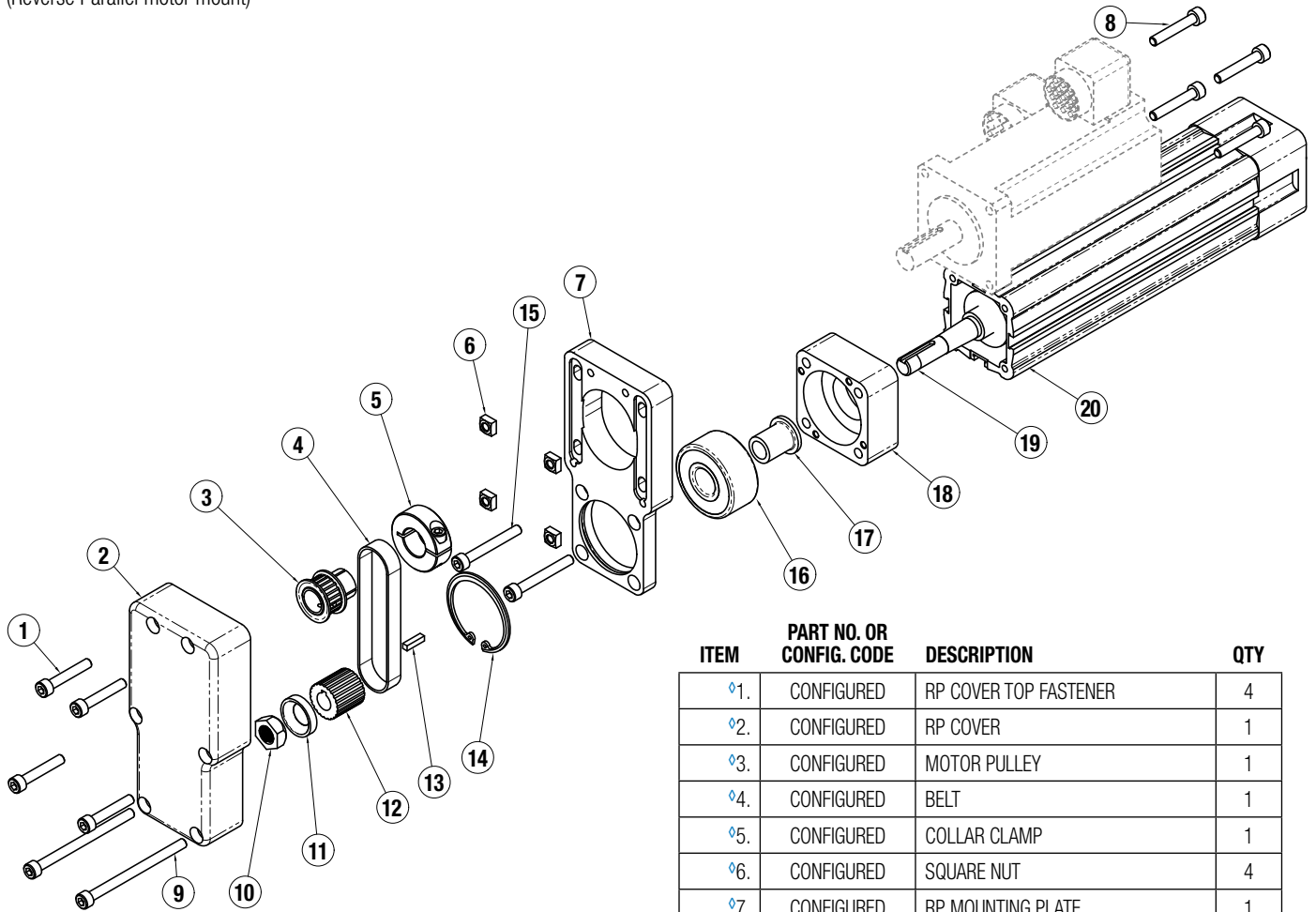
† Replacement ordering method: **RLS** **RSA24** **4** **SK** **21** **25** **YM**

EXAMPLE: **RLS** **RSA24** **SN01** **SK21** **25** **YM**

Replacement Lead Screw \_\_\_\_\_  
Model & Size \_\_\_\_\_ Nut Style & Size \_\_\_\_\_ Stroke Length \_\_\_\_\_ Motor Code \_\_\_\_\_

# Solid Nut, Ball Nut RP

(Reverse Parallel motor mount)



ITEM	PART NO. OR CONFIG. CODE	DESCRIPTION	QTY
♦1.	CONFIGURED	RP COVER TOP FASTENER	4
♦2.	CONFIGURED	RP COVER	1
♦3.	CONFIGURED	MOTOR PULLEY	1
♦4.	CONFIGURED	BELT	1
♦5.	CONFIGURED	COLLAR CLAMP	1
♦6.	CONFIGURED	SQUARE NUT	4
♦7.	CONFIGURED	RP MOUNTING PLATE	1
♦8.	CONFIGURED	MOTOR FASTENER	4
♦9.	CONFIGURED	RP COVER BOTTOM FASTENER	2
*10.	1124-1082	SPHERICAL LOCK NUT	1
*11.	1124-1092	SPHERICAL WASHER	1
♦12.	CONFIGURED	ACTUATOR PULLEY	1
♦13.	CONFIGURED	KEY	1
14.	2100-1010	RETAINING RING	1
15.	0601-1144	RP MOUNTING PLATE FASTENER	2
16.	3420-1222	BEARING	1
17.	1124-1044	LEADSCREW SLEEVE	1
18.	1124-1037	BEARING PLATE (US CONV.)	1
	2124-1037	BEARING PLATE (METRIC)	1
† 19.	RLRSA24 __	LEADSCREW	1
† 20.	RTBRSA24 __	CYLINDER BODY	1

\*These parts are not compatible with actuators manufactured before January 2003.

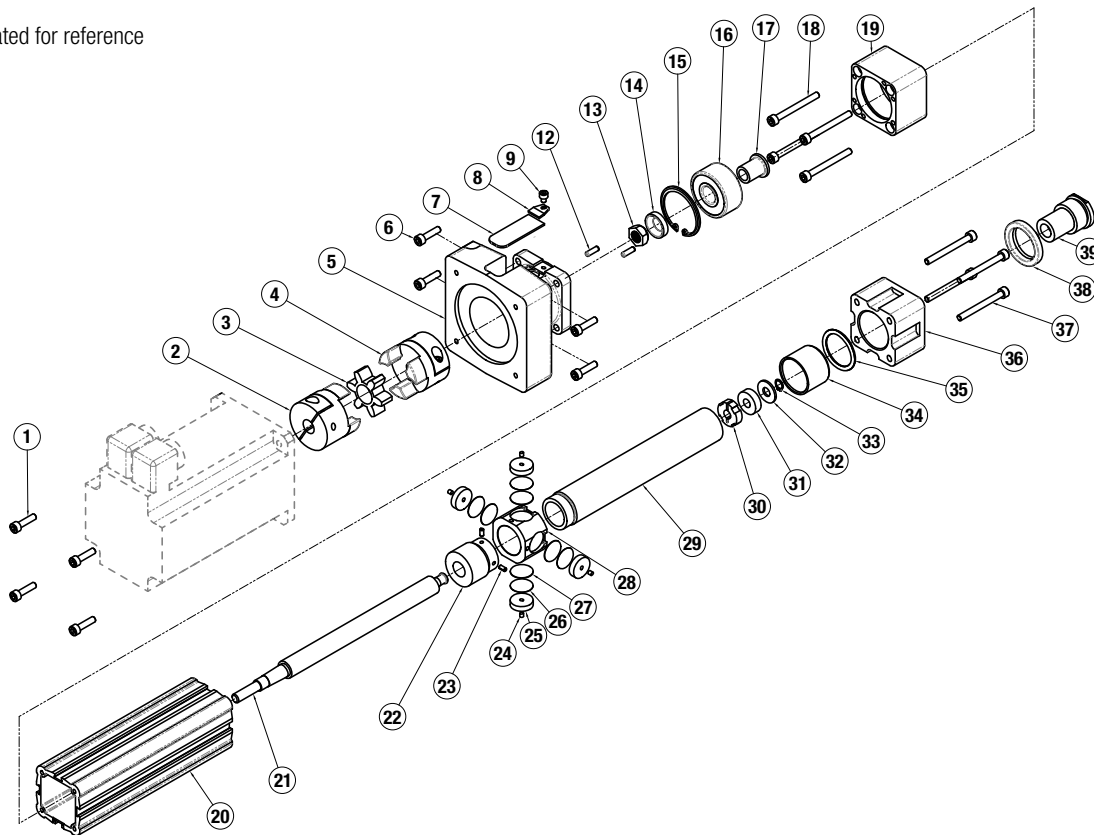
♦ Part number varies depending on YMH (Your Motor Here). Contact help@tolomatic.com for replacement part number.

† Replacement ordering method: **RLS RSA24**     **SK**      **YM**

**EXAMPLE:** **RLS RSA24 SN01 SK21-25 YM**

Replacement Lead Screw \_\_\_\_\_  
 Model & Size \_\_\_\_\_ Nut Style & Size \_\_\_\_\_ Stroke Length \_\_\_\_\_ Motor Code \_\_\_\_\_

Drawing repeated for reference



### DISASSEMBLY INSTRUCTIONS

Begin with a clean work area. Be sure all replacement parts are present and have no visual damage or defects. The following tools are recommended for proper disassembly and assembly.

- Allen wrench set
- Socket wrench & socket set
- Retaining ring pliers

#### 1. Remove motor and motor mounting hardware:

**LMI, Solid Nut/Ball Nut:** (Note: Reference parts list from page 1, 2.) Remove components in the following order:

- 1) Remove Motor Spacer Cover (7) by loosening Cover Fastener (9).
- 2) Loosen the coupler screw closest to the actuator.
- 3) Remove Motor Mount Fasteners (1) and Motor/Coupler Assembly (2, 3, 4)
- 4) Remove Motor Spacer Fasteners (6) and Motor Spacer (5)

**RP, Solid Nut/Ball Nut:** (Note: Reference parts list from page 2 whenever instructions refer to RP with Solid Nut/Ball Nut.) Disassemble the RP [Reverse Parallel] assembly in the following order:

- 1) Loosen the Motor Mount Fasteners (8) to remove belt tension,
- 2) Remove RP Cover (2) by removing the six Socket Head Cap Screws (1,9),
- 3) Remove Belt (4),
- 4) Remove the motor by removing the Motor Mount Fasteners (8) and the Square Nuts (6).
- 5) Remove the RP Plate (7) by removing two Socket Head Cap Screws (15).  
Note: the Retaining Ring (14) is part of the RP Plate. A portion of the Bearing (16) will be protruding from the Bearing Plate (18). The Bearing Plate (18) is no longer secured to the actuator body.

#### 2. Separate Cylinder Body (20) from Bearing Plate (19):

**LMI, All Nuts:** Remove the 4 Bearing Plate Fasteners (18) that hold the Bearing Plate (19) to the Cylinder Body (20).

**RP, Solid Nut/Ball Nut:** (Note: Reference parts list from page 2 whenever instructions refer to RP with Solid Nut/Ball Nut.) There are no screws to remove the Bearing Plate (18) since the screws were removed during RP motor and motor mount hardware removal.

**LMI, RP, All Nuts:** Slide the Cylinder Body (20) away from Bearing Plate (19) and off of the Nut Coupler (28) /Thrust Rod (29) assembly.

**Caution:** Mark the location of the 4 Nut Coupler Bearings (25) and Shims (26,27) relative to the Cylinder Body (20). These Nut Coupler Bearings (25) and Shims (26,27) are fitted at the factory and their orientation is critical when re-assembling the actuator.

If needed, the Front Head (36) can also be removed from the Cylinder Body (20) by removing the 4 Front Head Fasteners (37).

#### 3. Remove the Thrust Rod (29) from the Nut Coupler (28):

**The Thrust Rod (29) is threaded to the Nut Coupler (28) and held in place with Loctite.** To remove the Thrust Rod (29), slide the O-Ring (35) off the end of the Thrust Rod (29), then apply heat at the interface between the Nut Coupler (28) and Thrust Rod (29), until Loctite becomes pliable enough to release the threads. Place a wrench on the flats of the machined Rod End (39) and turn counterclockwise to unscrew the Thrust Rod (29) from the Nut Coupler (28). To remove the Rod End (39) from the Thrust Rod (29), place Thrust Rod (29) into vise, apply heat to the threaded joint to make Loctite pliable then use wrench on flats of Rod End (39) to remove.

#### 4. Remove the Leadscrew (21) from the Nut (22) assembly:

**Solid Nut/Ball Nut:** Remove the Front Bushing (34) from the Leadscrew (21).

**Ball Nut:** \*Caution is required if removal of the Nut (22) or Leadscrew (21) is required. Contact the factory for available parts and procedures.

**Solid Nut:** The Leadscrew (21) can be threaded out of the Nut (22) at this point. The leadscrew Nut (22) and Nut Coupler (28) are pinned and secured with Loctite at the factory. If leadscrew Nut (22) is worn, a new Nut Assembly (22-28) must be ordered.

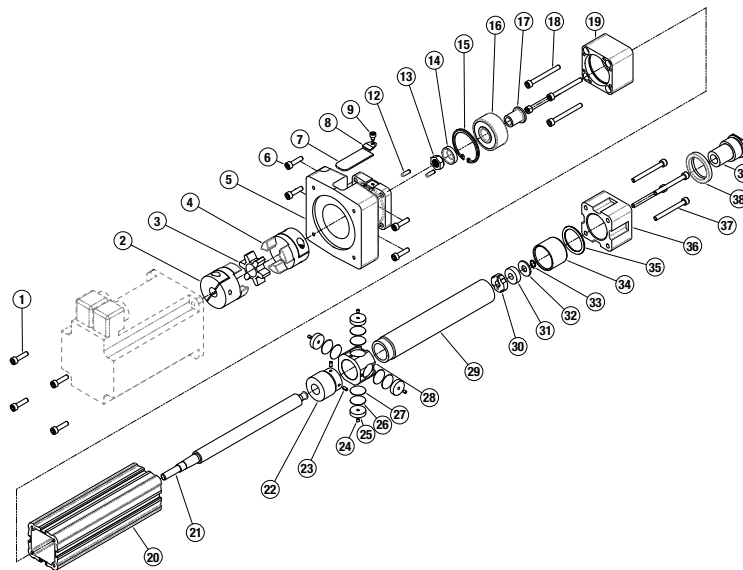
#### 5. Remove the Leadscrew (21) from the Bearing Plate (19):

Secure the body of the Leadscrew (21) in a machinist vice or equivalent smooth jaw vice then remove the Spherical Nut (13). NOTE: Spherical Nut (13) for the Leadscrew (21) requires special tooling for removal. For a Leadscrew (21), remove the Spherical Washer (14). Support the inner race of Bearing (16) and press the Leadscrew (21) out of the Leadscrew Sleeve (17). There is a mating taper interface between the Leadscrew Sleeve (17) and the Leadscrew (21).

#### 6. Remove Bearing (16) from the Bearing Plate (19):

**Solid Nut/Ball Nut:** Remove the Retaining Ring (15) and press the Bearing (16) out of the Bearing Plate (19) as it is secured in place with retaining compound.

Drawing repeated for reference



### ASSEMBLY INSTRUCTIONS

- Sub-assembly Wiper (38) and Front Bushing (34) into Front Head (36):  
Install Wiper (38) with the lip on inside diameter facing outward into the groove in the Front Head (36). Press the Front Bushing (34) from opposite end of Front Head (36) until it is flush to surface of Front Head (36).
- Sub-assemble the Bearing (16) into Bearing Plate (19):  
**Solid Nut/Ball Nut:** Press Leadscrew Sleeve (17) into main Bearing (16). Apply Loctite 641 retaining compound to OD of the Bearing (16) and ID of the Bearing Plate (19) and install Bearing (16) into the Bearing Plate (19). LMI only, install the Retaining Ring (15).
- Install Bearing Plate (19) assembly onto leadscrew/nut:  
**LMI, Solid Nut/Ball Nut:** Install Leadscrew (21) into the Leadscrew Sleeve (17) in Bearing Plate (19) assembly. Apply Loctite 242 to the threads of the Leadscrew (21) then locate Spherical Washer (14) and Spherical Nut (13) over Leadscrew (21). Torque the Spherical Nut (13) to 200 in-lbs, hold Leadscrew (21) in machinist vice as necessary.  
**RP, Solid Nut/Ball Nut:** (Note: Reference parts list from page 2 whenever instructions refer to RP with Solid Nut/Ball Nut.) Install Leadscrew (21) into the Leadscrew Sleeve (17) and apply Loctite 242 to the threads of the Leadscrew (21). Place Key (13) onto Leadscrew (21) and install the Pulley (12), Washer (11), and Spherical Nut (10) over Leadscrew (21). Torque Spherical Nut (10) to 200 in-lbs. Hold Leadscrew (21) in machinist vice as necessary.
- Install nut with Nut Coupler (28) onto leadscrew/nut:  
**Solid Nut/Ball Nut:** Thread the Nut (22) assembled to the Nut Coupler (28) onto the Leadscrew (21). Threaded end of the Nut Coupler (28) is away from motor end of the Leadscrew (21).
- Assemble Bushing (30) onto non-motor end of leadscrew/nut:  
**Solid Nut/Ball Nut:** Slide the leadscrew Bushing (30), Bumper (31), Washer (32) onto non-motor end of the Leadscrew (21) and secure using Retaining Ring (33).
- Grease leadscrew/nut and ID of the Thrust Rod (29) with the following grease:  
  - **Ballnut Units:** Mobilith SHC220 grease
  - **Bronze Nut Units:** Chevron SRI NLG12 grease
  - **Solid Nut Units:** RheoGel TEK 664 grease
 For special lubrication option grease, email help@tolomatic.com
- Install Thrust Rod (29) onto Nut Coupler (28):**  
Apply Loctite 270 to OD threads on Thrust Rod (29) and assemble Thrust Rod (29) to Nut Coupler (28).
- Grease ID of Cylinder Body (20) with a coating of appropriate grease, and install leadscrew/nut assembly into the Cylinder Body (20). \*Make sure to orient Nut Coupler Bearing (25) with respect to tube the same as were removed.
- Attach Front Head (36) and Bearing Plate (19) assembly to the Cylinder Body (20) and align prior to tightening:  
**LMI, Solid Nut/Ball Nut:**  
  - Align motor end Bearing Plate (19) assembly to Cylinder Body (20) with Thrust Rod (29) retracted, and then tighten Bearing Plate Fasteners (18).
  - Align non-motor end Front Head (36) to Cylinder Body (20) with Thrust Rod (29) extended, and then tighten Front Head Fasteners (37).

### RP, Solid Nut/Ball Nut:

**A.** (Note: Reference parts list from page 2 whenever instructions refer to RP with Solid Nut/Ball Nut.) Install the RP Plate (7) through Bearing Plate Fasteners (18) to Cylinder Body (20) with Thrust Rod (29) retracted, and then tightening two Socket Head Cap Screws (15) into the top two holes in the RP Plate (7). Install Retaining Ring (14).

**B.** (See page 1, 2 parts list for this step.) Align non-motor end Front Head (36) to Cylinder Body (20) with Thrust Rod (29) extended, and then tighten Front Head Fasteners (37).

- Install Rod End (39) into Thrust Rod (29):

**Solid Nut/Ball Nut:** Apply Loctite 271 to threads of the Rod End (39), install and tighten to the Thrust Rod (29).

### LMI MOTOR ASSEMBLY INSTRUCTIONS

- Attach Actuator Coupler Half (4) onto leadscrew/nut then insert Spider (3) into Actuator Coupler Half (4). Insert the other Coupler Half (2) into the Spider (3).
- Install motor to Motor Spacer (5) using Motor Mount Fasteners (1). Motor shaft should fit into the ID bore of the Coupler Half (2). Tighten the Coupler Half (2) onto the motor shaft through access hole in Motor Spacer (5).
- Place Motor Spacer Cover (7) onto Motor Spacer (5) to cover the access hole. Secure Motor Spacer Cover (7) using Clamp Cover (8) and Cover Fastener (9).

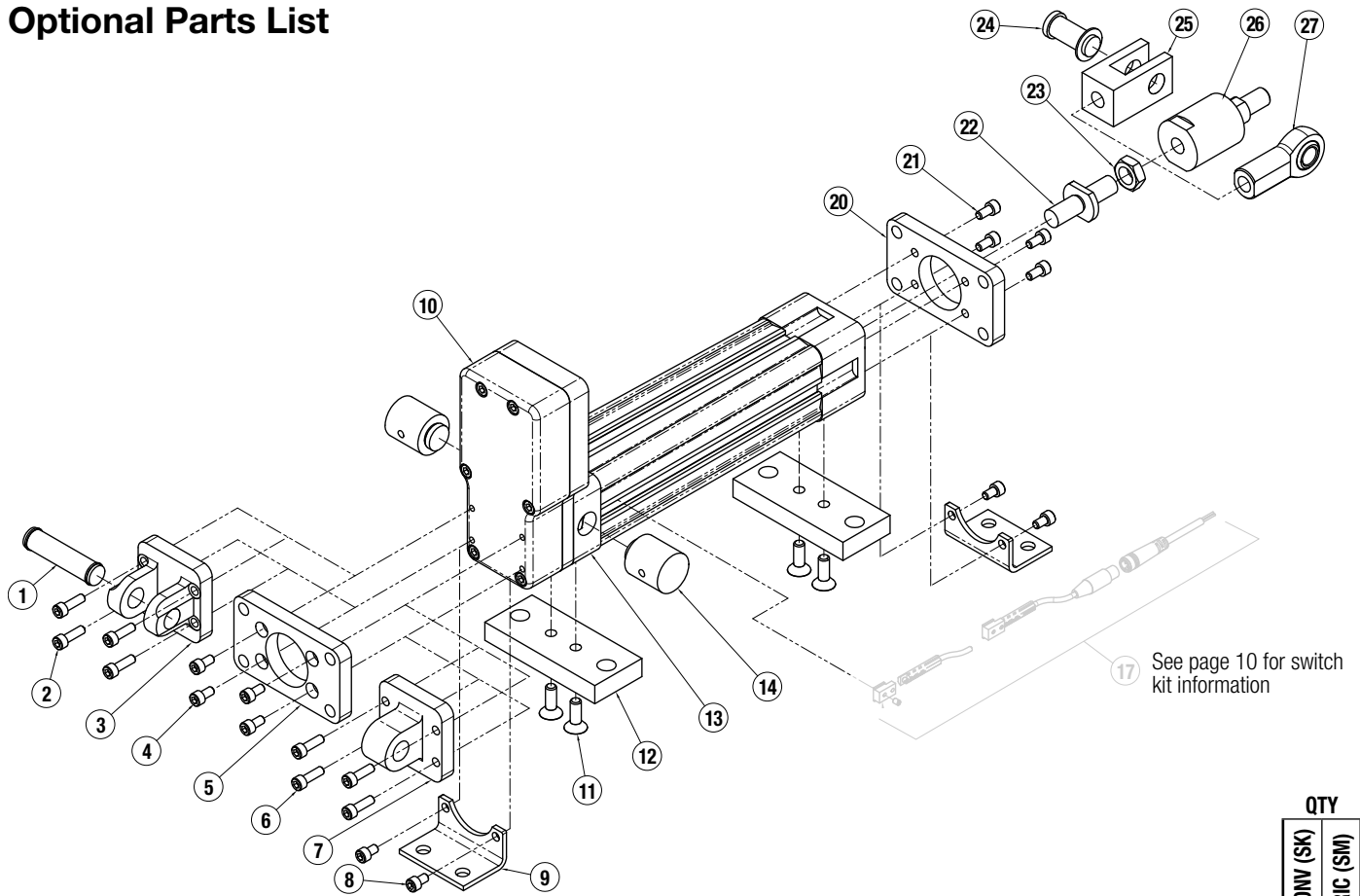
### RSA24ST REVERSE PARALLEL MOTOR ASSEMBLY INSTRUCTIONS

(Note: Reference parts list from page 2 whenever instructions refer to RP with Solid Nut/Ball Nut.)

- Align motor with slots RP Plate (7). Install four Motor Mount Fasteners (8) through motor and RP Plate (7) then into the four Square Nuts (6). The Square Nuts (6) must seat into the pockets of the RP Plate (7). Tighten enough so motor is not drooping but able to move vertically.
- Align the Collar Clamp (5) with the Motor Pulley (3) and install the Motor Pulley (3) onto the motor shaft by tightening the Collar Clamp (5) fastener. Align motor pulley with the actuator pulley (12).
- Slide belt (4) over motor pulley (3) and actuator pulley (12).
- Attach RP cover (2) to RP plate (7):  
**Solid Nut/Ball Nut:** Install RP cover (2) using two long fasteners (9) through the RP cover, RP plate and bearing plate (18) and into cylinder body (20). Install the remaining four fasteners (1) into the RP plate.
- Tension the belt following the procedures for the correct model number found listed in [RP Belt Tensioning 3600-4212](#).

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### Optional Parts List

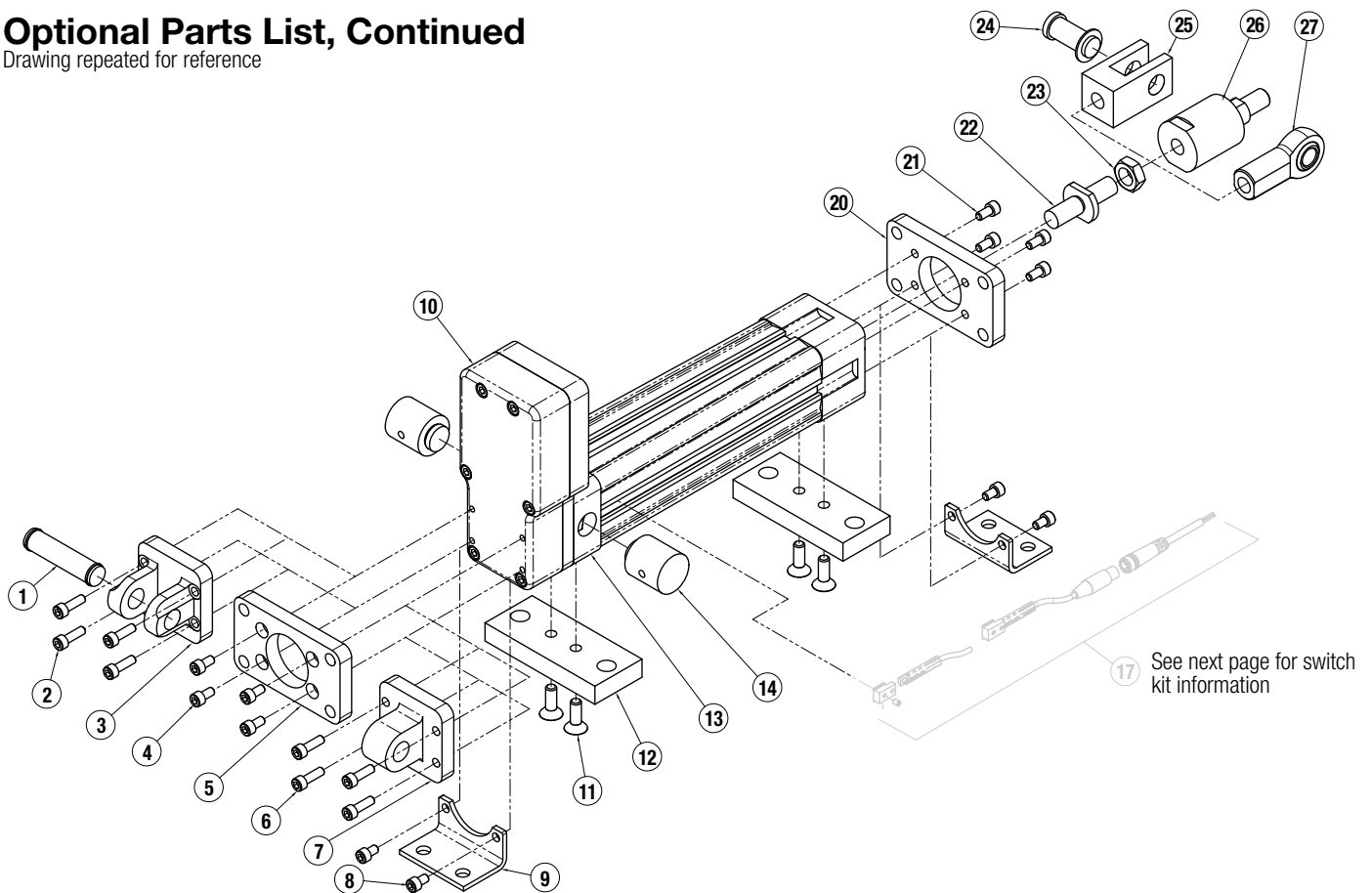


ITEM	PART NO.	DESCRIPTION	QTY	
			US CONV (SK)	METRIC (SM)
<b>CLEVIS MOUNT (PCD)</b>				
	1124-9025	CLEVIS MOUNT KIT (INCH)	1	
	2124-9035	CLEVIS MOUNT KIT (METRIC)		1
1.	1124-1056	CLEVIS PIN	1	
	2124-1066	CLEVIS PIN		1
2.	2309-1057	SOCKET HEAD CAP SCREW	4	
	2212-1097	SOCKET HEAD CAP SCREW		4
3.	1124-1055	CLEVIS	1	
	2124-1065	CLEVIS		1
10.	1124-1329	RP COVER (23 FRAME)	1	
	1124-1365	RP COVER (23 FRAME)		1
	1124-1471	RP COVER (23 FRAME ROLLER)	1	
	1124-1371	RP COVER (23 FRAME ROLLER)		1
	1124-1332	RP COVER (34 FRAME)	1	
	1124-1368	RP COVER (34 FRAME)		1
<b>BACK FLANGE (BFG)</b>				
	1124-9022	BACK FLANGE KIT (INCH)	1	
	2124-9032	BACK FLANGE KIT (METRIC)		1
4.	3410-1397	SOCKET HEAD CAP SCREW	4	
	0603-1016	SOCKET HEAD CAP SCREW		4
5.	1124-1052	FLANGE PLATE	1	
	2124-1062	FLANGE PLATE		1
10.	1124-1329	RP COVER (23 FRAME)	1	
	1124-1365	RP COVER (23 FRAME)		1
	1124-1471	RP COVER (23 FRAME ROLLER)	1	
	1124-1371	RP COVER (23 FRAME ROLLER)		1
	1124-1332	RP COVER (34 FRAME)	1	
	1124-1368	RP COVER (34 FRAME)		1

ITEM	PART NO.	DESCRIPTION	QTY	
			US CONV (SK)	METRIC (SM)
<b>EYE MOUNT (PCS)</b>				
	1124-9024	EYE MOUNT KIT	1	
	2124-9034	EYE MOUNT KIT		1
6.	2309-1057	SOCKET HEAD CAP SCREW	4	
	2212-1097	SOCKET HEAD CAP SCREW		4
7.	1124-1054	EYE BRACKET	1	
	2124-1064	EYE BRACKET		1
10.	1124-1329	RP COVER (23 FRAME)	1	
	1124-1365	RP COVER (23 FRAME)		1
	1124-1471	RP COVER (23 FRAME ROLLER)	1	
	1124-1371	RP COVER (23 FRAME ROLLER)		1
	1124-1332	RP COVER (34 FRAME)	1	
	1124-1368	RP COVER (34 FRAME)		1
<b>FOOT MOUNT (FM2)</b>				
	1124-9020	FOOT MOUNT KIT	1	
	2124-9030	FOOT MOUNT KIT		1
8.	1150-1007	SOCKET HEAD CAP SCREW	4	
	2150-1102	SOCKET HEAD CAP SCREW		4
9.	1124-1050	FOOT MOUNT BRACKET	2	
	2124-1060	FOOT MOUNT BRACKET		2
10.	1124-1331	RP COVER (23 FRAME)	1	
	1124-1367	RP COVER (23 FRAME)		1
	1124-1473	RP COVER (23 FRAME ROLLER)	1	
	1124-1373	RP COVER (23 FRAME ROLLER)		1
	1124-1334	RP COVER (34 FRAME)	1	
	1124-1370	RP COVER (34 FRAME)		1
<b>MOUNTING PLATE (MP2)</b>				
	1124-9023	MOUNTING PLATE KIT	1	
	2124-9033	MOUNTING PLATE KIT		1
11.	2212-1010	FLAT HEAD CAP SCREW	4	
	3212-1010	FLAT HEAD CAP SCREW		4
12.	1124-1053	MOUNTING PLATE BRACKET	2	
	2124-1063	MOUNTING PLATE BRACKET		2

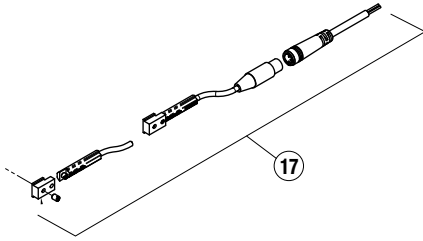
### Optional Parts List, Continued

Drawing repeated for reference



ITEM	PART NO.	DESCRIPTION	QTY	
			US CONV (SK)	METRIC (SM)
<b>TRUNNION MOUNT (TRR)</b>				
13.	1124-1355	BEARING PLATE	1	
	2124-1355	BEARING PLATE		1
	1124-1316	BEARING PLATE (ROLLER)	1	
	2124-1316	BEARING PLATE (ROLLER)		1
14.	1124-1051	TRUNNION PIVOT PIN	2	
	2124-1061	TRUNNION PIVOT PIN		2
<b>FRONT FLANGE (FFG)</b>				
	1124-9022	FRONT FLANGE KIT	1	
	2124-9032	FRONT FLANGE KIT		1
20.	3410-1397	SOCKET HEAD CAP SCREW	4	
	0603-1016	SOCKET HEAD CAP SCREW		4
21.	1124-1052	FLANGE PLATE	1	
	2124-1062	FLANGE PLATE		1
<b>EXTERNALLY THREADED ROD END (MET)</b>				
22.	1124-1057	THREADED ROD	1	
	2124-1067	THREADED ROD		1

ITEM	PART NO.	DESCRIPTION	QTY	
			US CONV (SK)	METRIC (SM)
<b>ROD END CLEVIS (CLV)</b>				
	1124-9029	ROD END CLEVIS KIT	1	
	2124-9039	ROD END CLEVIS KIT		1
22.	1124-1057	THREADED ROD	1	
	2124-1067	THREADED ROD		1
23.	2124-1017	HEX JAM NUT	1	
	2124-1021	HEX JAM NUT		1
24.	1124-1061	CLEVIS PIN (ENGLISH ONLY)	1	
	1124-1059	CLEVIS	1	
	2124-1069	CLEVIS		1
<b>ALIGNMENT COUPLER (ALC)</b>				
	1124-9004	ALIGNMENT COUPLER KIT (ENGLISH ONLY)	1	
23.	2124-1017	HEX JAM NUT (ENGLISH ONLY)	1	
26.	1124-1060	ALIGNMENT COUPLER	1	
	2124-1070	ALIGNMENT COUPLER		1
<b>SPHERICAL ROD EYE (SRE)</b>				
	1124-9028	SPHERICAL ROD EYE KIT	1	
	2124-9038	SPHERICAL ROD EYE KIT		1
22.	1124-1057	THREADED ROD	1	
	2124-1067	THREADED ROD		1
23.	2124-1017	HEX JAM NUT	1	
	2124-1021	HEX JAM NUT		1
27.	1124-1058	ROD END BEARING	1	
	2124-1068	ROD END BEARING		1



To order switch kits use configuration code for switch preceded by SW and actuator code.

**EXAMPLE:** **SWRS A12KK3**

KIT	ACTUATOR	SIZE	SWITCH CODE	QUANTITY
SW	RS	A12	KK	3

The example is for 3 Solid State NPN, Normally Open Switches with Quick-disconnect couplers. Each switch is complete with Bracket, Set Screw, Switch and mating QD cable. Note that the bracket/switch size is common and may be used on any size RSA.

ITEM	ORDER CODE	LEAD	SENSOR TYPE	SWITCHING LOGIC	POWER LED	SIGNAL LED	OPERATING VOLTAGE	**POWER RATING (WATTS)	SWITCHING CURRENT (MA MAX)	CURRENT CONSUMPTION	VOLTAGE DROP	LEAKAGE CURRENT	TEMP. RANGE	SHOCK / VIBRATION							
17.	<b>RY</b>	5M	REED	SPST NORMALLY OPEN	—	RED	5 - 240 AC/DC	**10.0	100MA	—	3.0 V MAX.	—	14 TO 158°F [-10 TO 70°C]	50 G / 9 G							
	<b>RK</b>	QD*																			
	<b>NY</b>	5M		SPST NORMALLY CLOSED	—	YELLOW	5 - 110 AC/DC														
	<b>NK</b>	QD*																			
	<b>TY</b>	5M	SOLID STATE	PNP (SOURCING) NORMALLY OPEN	GREEN	YELLOW	10 - 30 VDC	**3.0	100MA	20 MA @ 24V	2.0 V MAX.	0.05 MA MAX.									
	<b>TK</b>	QD*																			
	<b>KY</b>	5M		NPN (SINKING) NORMALLY OPEN	GREEN	RED															
	<b>KK</b>	QD*																			
	<b>PY</b>	5M		PNP (SOURCING) NORMALLY CLOSED	GREEN	YELLOW															
	<b>PK</b>	QD*																			
	<b>HY</b>	5M		NPN (SINKING) NORMALLY CLOSED	GREEN	RED															
	<b>HK</b>	QD*																			
SWITCH BRACKET, SET SCREW & MATING QD CABLE IS INCLUDED																					

\*QD = Quick-disconnect      Enclosure classification IEC 529 IP67 (NEMA 6)      CABLES: Robotic grade, oil resistant polyurethane jacket, PVC insulation

**⚠** \*\*WARNING: Do not exceed power rating (Watt = Voltage x Amperage). Permanent damage to sensor will occur.

### SWITCH INSTALLATION

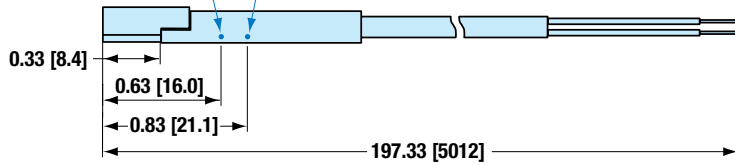


Place switch bracket into one of the four slots that run the length of the extruded tube. Note that there is a cut-out on the actuator head (RSA) or tube (GSA) to allow insertion of the bracket. Insert the switch with the word "Tolomatic" facing up and slide it under the bracket. Position the bracket with the switch to the exact location desired, then lock them securely into place by tightening both set screws on the bracket.

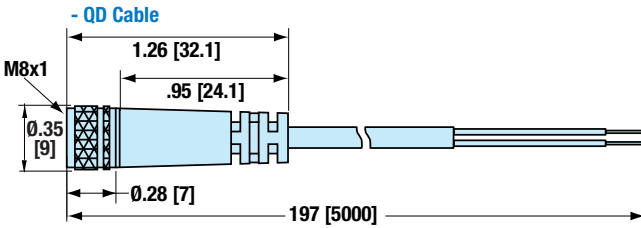
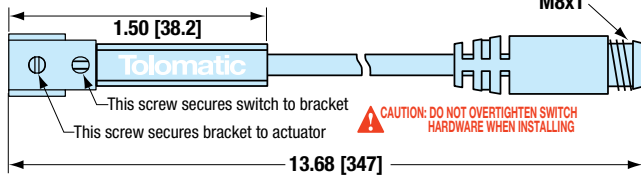
**SWITCH DIMENSIONS**

- direct connect

DETECTION POINT SOLID STATE  
DETECTION POINT REED

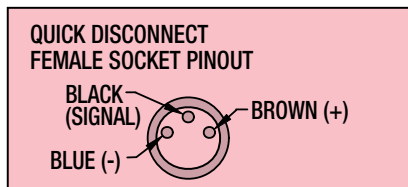
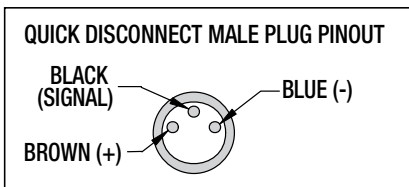
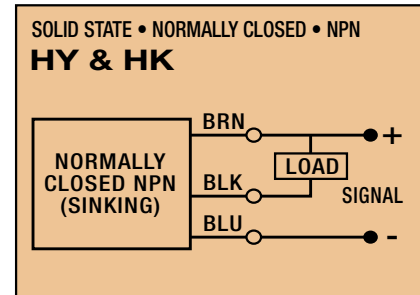
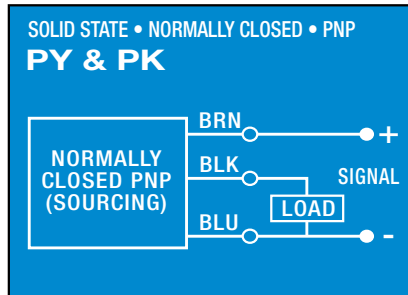
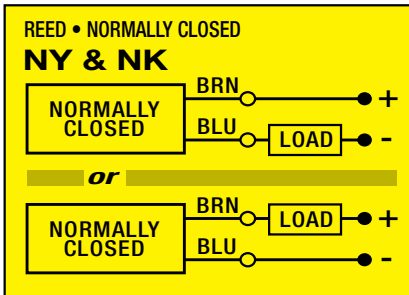
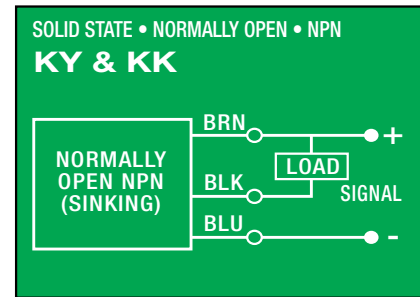
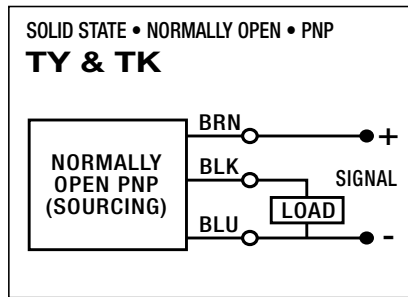
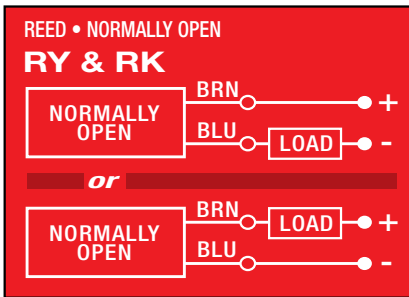


- QD (Quick-disconnect) switch



Dimensions in inches [brackets indicate dimensions in millimeters]

**SWITCH WIRING DIAGRAMS AND LABEL COLOR CODING (CE and RoHS Compliant)**



- Switches:
- Include retained mounting hardware
  - In slot, sit below extrusion profile
  - Same for all sizes



3800 County Road 116, Hamel, MN 55340 USA  
<http://www.Tolomatic.com> • Email: [Help@Tolomatic.com](mailto:Help@Tolomatic.com)  
 Phone: (763) 478-8000 • Fax: (763) 478-8080 • Toll Free: 1-800-328-2174

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