Glide-Line™
255 Schoolhouse Road
Souderton, Pennsylvania 18964

Phone: 215-721-1900
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www.glide-line.com
V1.1

LRU:

The Lift and Rotate Unit

The Device:

The Lift and Rotate Unit (LRU) is designed to turn pallets 90° or 180° in a clockwise or counterclockwise direction. The unit operates through the use of pneumatics (lift portion) and a servo motor (rotating portion) for smooth rotational motion and acceleration. The servo motor is completely customizable for special applications that demand continuous rotational motion, such as winding operations or visual inspection requiring multiple view angles. It can also act as a lift-and-bypass unit, lifting pallets and placing them on a shelf so other pallets can pass through.

The LRU can be conveyor mounted or station mounted. The unit can be optionally outfitted with a 5mm proximity sensor to engage a built in homing routine. The default operation of the unit allows the LRU to home to its original setup position. Guarding for the bottom actuator and motor is available.

Basic Order of Operation:

1. Pallet is conveyed to device
2. Pallet is stopped directly over device by stop (not included)
3. Lift actuates and rises, with the top plate engaging the Work Piece Pallet's internal bumpers
4. Lift runs to end of stroke
5. Rotation initiates to final location.
6. Lift Deactivates and lowers, disengaging plate from pallet
7. Pallet Stop Drops
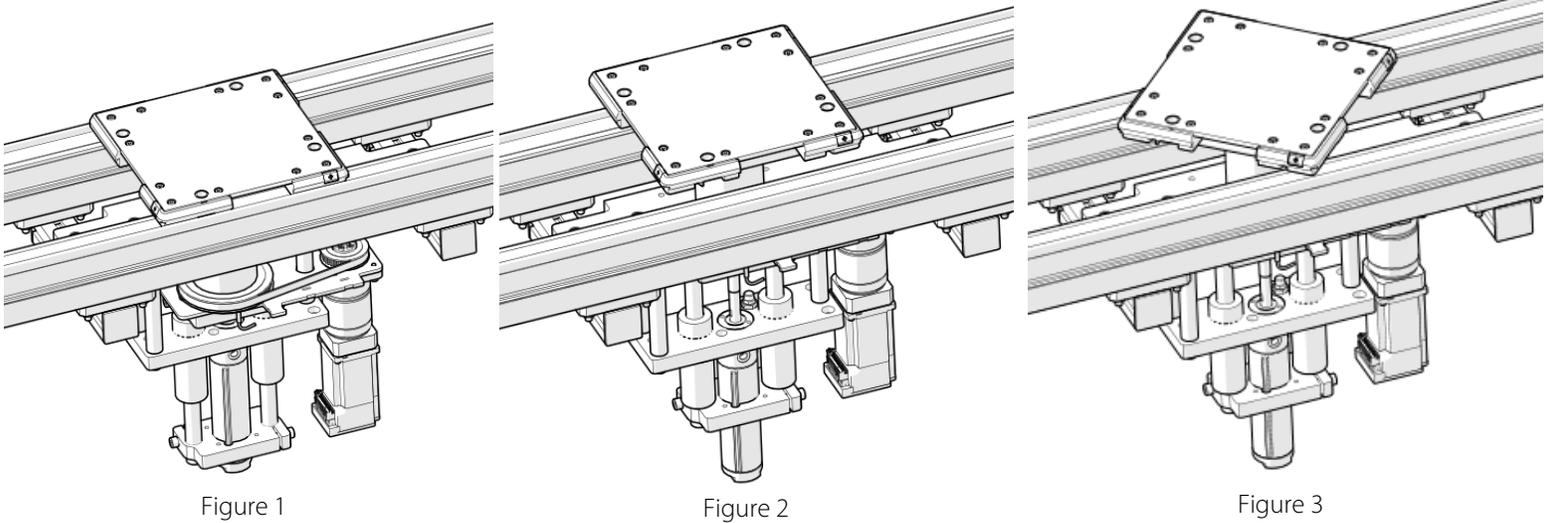8. Pallet Conveyed out of work area
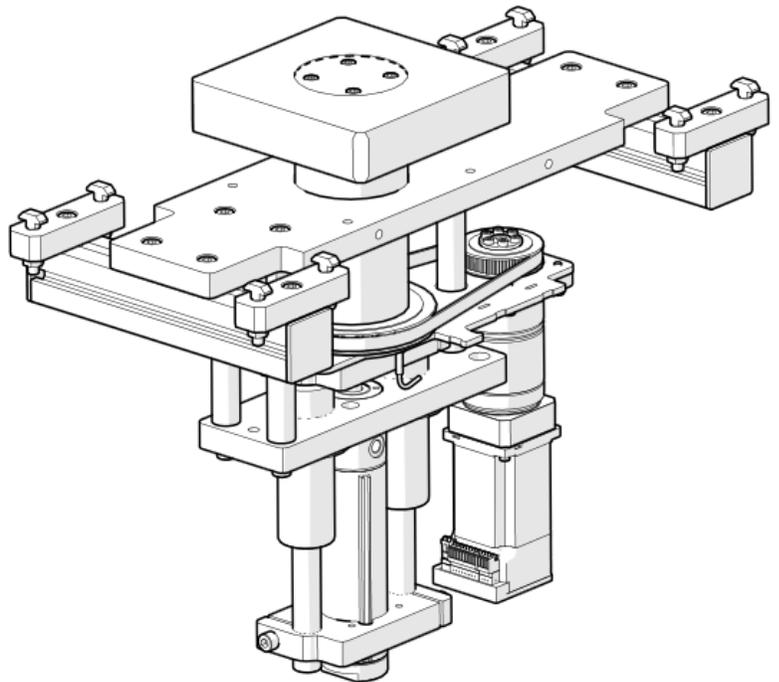
Part Number:
LRU-(A)-(B)-IP(C)-(D)-(E)

A　　　= Pallet Width Range 160mm to 1040mm
B　　　= Pallet Length Range 160mm to 1040mm
C　　　= IP Rating, **20** and **65** available
D　　　= **CM** for Conveyor Mounted, **SM** for Station Mount
E　　　= **G** for Guarded, **NG** for No Guard

Technical Specifications:

Lift range:	1.5mm to 75mm.
Lift height fine adjustment:	+/- 10mm
Lift cylinder bore:	40mm
Lift capacity:	150 Lbs. @ 80 psi.
Pallet length range:	160mm to 1040mm in 1mm increments
Pallet width range:	160mm to 1040mm in 1mm increments
Pneumatic ports:	G1/8

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Figure 1

Figure 2

Figure 3

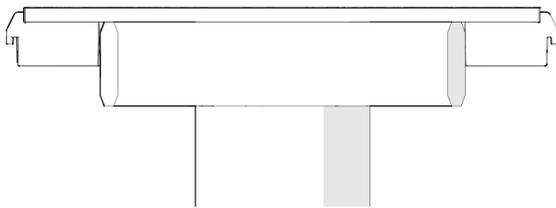Pallet is conveyed to LRU, lifted, and then rotated to the desired orientation

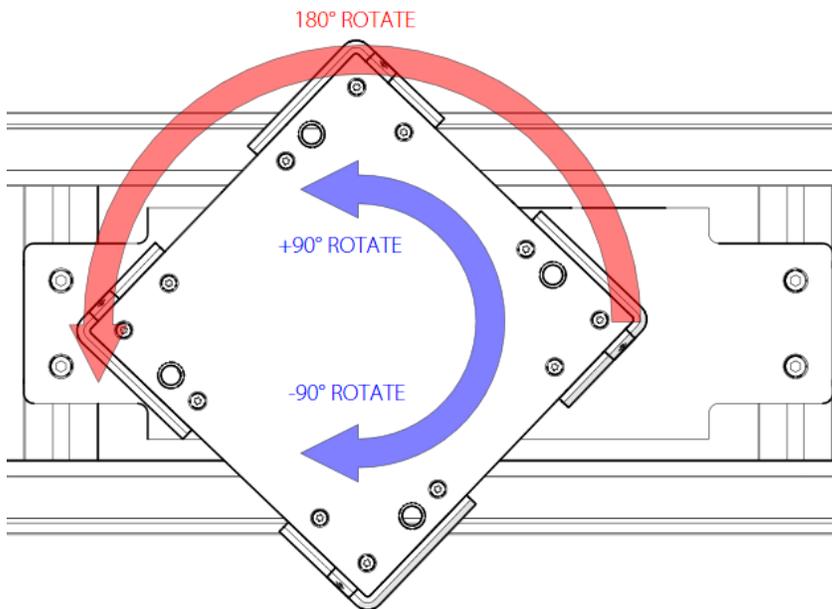Figure 4: Rotator top plate engages between the inside of pallet bumpers

Figure 5: Basic rotate operations

Basic Commands:

The Glide-Line™ LRU supports a great deal of functionality out of the box. Basic commands are achieved by sending voltage to pins 1, 2, or 3 and then combine with pin 5 to enable the move. The combinations available are listed in the table below. Speed of rotation is set by the factory, but can be modified in the on-board program. Software for the LRU Servo is available free from Nanotec, and can be customized to suit any application. Contact your Glide-Line™ representative for more details.

Connections:

X1 OUTPUT 3: An Open-Drain output. Max 24V 100mA. This output turns on once the move is complete.

X2 PIN 1: The input for the proximity probe as well as the 90 deg turn signal.
X2 PIN 2: The input for the -90 deg turn signal.
X2 PIN 3: The input for the 180 or -180 deg turn.
X2 PIN 5: The input for the enable signal.

X3 PIN 1: The 24VDC power.
X3 PIN 2: The Ground / 0VDC.

Optional Homing:

Programed into the LRU is the option to add a homing proximity sensor, allowing for the unit to be homed upon command. This is not required for basic applications, as by default the unit will home to its original position at startup.

Recommended Pneumatic Schematic:
*Fittings and Valves not included

NOT INCLUDED
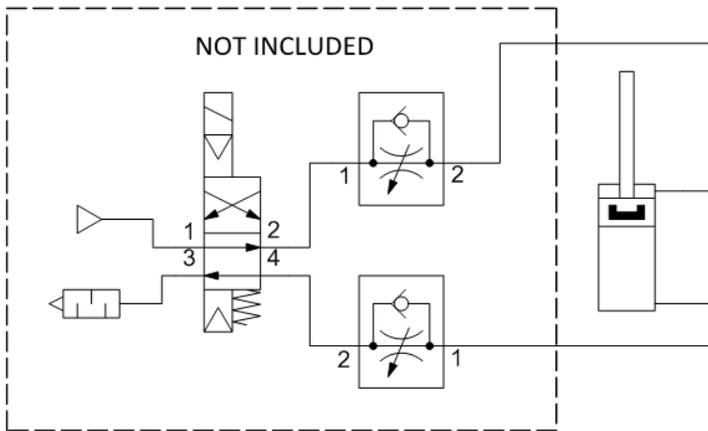
Sensor Rail Dimensions:

[3.07mm] .12in

[2.12mm] R.08in
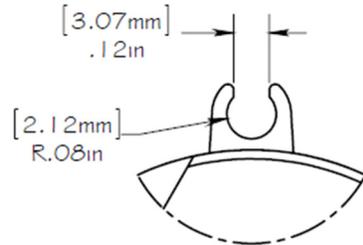
Recommended Sensor Package:
Comparable to Canfield #9C10-000-031

Optional Recommended Homing Sensor:
Comparable to Pepperl-Fuchs 053491

Recommended Wiring Schematic:

OPTIONAL: NOT INCLUDED

SERVO HOME PROX

SERVO MOTOR

x1		
O1	GND	
O2	ANALOG INPUT	
O3	OUTPUT 3	MOVE COMPLETE OUT
O4	12VDC OUTPUT	

x2

O1	24VDC INPUT 1	+90 DEG TURN
O2	24VDC INPUT 2	-90 DEG TURN
O3	24VDC INPUT 3	180 DEG TURN
O4	DISABLE	
O5	ENABLE	EXECUTE MOVE
O6	COUNTER CLOCKWISE	
O7	CLOCKWISE	
O8	-CLOCK	
O9	CLOCK	
O10	GND	

x3

| O1 | 24V | 24VDC |
| O2 | 0V | 0VDC |