



# Orbital Mekatronik Systems Pvt. Ltd.

AN ISO 9001:2015 CERTIFIED COMPANY



## PRODUCT CATALOGUE

[www.orbitalmekatronik.com](http://www.orbitalmekatronik.com)

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## Factory Tour



## About Orbital Mekatronik

Established in 1986 with a vision to offer international quality mechatronic products and automation solutions to the Indian Industry, **Orbital** is today a leading Indian industrial brand.

**Orbital** has tied up with several international partners to offer a range of mechatronic products at its state of the art manufacturing facility at Bhiwandi near Mumbai.

### Our Vision

To be recognized Globally  
As a  
**SAFETY AND INDUSTRIAL AUTOMATION**  
Solution provider known for  
Innovation, Quality, Reliability and Service.



Research & Development



Manufacturing



Distribution

### Our Core Values

- Customer Delight
- Constantly invest in R & D, Training and Infrastructure
- Highest levels of Corporate Governance

# Product Lineup

Orbital offers a complete range of safety products and elements for automation solutions for customers across a wide range of industries.



## Safety Solutions

We offer solutions for a safe workplace : safety light curtains, safety relays, safety controllers, safety mats, safety laser scanners and perimeter and area guarding sensors which comply to highest international safety standards.



## Automation Solutions

We offer elements for Precise positioning and distance measurement solutions including rotary and linear encoders, potentiometers, LVDT and laser sensors. Our range includes contact and non contact sensors : proximity , photoelectric, laser, colour mark , ultrasonic & magnetic sensors.



## Robotic Solutions

We offer desktop, cartesian and scara robots for dispensing, pick and place, screw tightening, inspection and other automation solutions.



## Conveyor Solutions


Orbital and Hellomoov offers smart conveyor solutions for the automotive, pharmaceutical, packaging, food and medical industries.



## Extreme Environment Solutions

We offer extreme environment stepper motor solutions for ultra high vacuum, extreme temperature, radiation and standard applications.

**Safety Light Curtain - Technical Specifications**

Operating Range	5000 mm	
Effective Angle	± 2.5° for TYPE - 4 / ± 5° for TYPE - 2	
Supply Voltage	24 VDC ± 20%	
Output	2 x PNP N/O	
Response Time	15 m sec	
Temperature	0 to 60°C	
Humidity	30 to 85% RH	
Emitting Element	Infra Red LED	
Peak Emission Wavelength	940 nm	
Output Load current	Max. 100 mA	
Vibration Resistance	10 to 55 Hz, 0.75mm Amplitude in X Y & Z Direction For 2 Hours each 30 msec <sup>2</sup> Acceleration (30 G approx.) in X, Y & Z direction for three time each	
Connection	Transmitter 2 Pin connector & Receiver 4 pin connector	
Dimension	31 mm (Width) x 41 mm (Breadth) x Total Height	

**Safety Light Curtain - 10 mm Pitch : TYPE 4**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
120	12	10	150	AC-3-C-1-B-4-C
200	20	10	230	AC-3-I-1-B-4-C
240	24	10	270	AC-3-E-1-B-4-C
320	32	10	350	AC-3-F-1-B-4-C
360	36	10	390	AC-3-H-1-B-4-C
480	48	10	510	AC-3-G-1-B-4-C
560	56	10	590	AC-3-J-1-B-4-C
600	60	10	630	AC-3-K-1-B-4-C
720	72	10	750	AC-3-L-1-B-4-C
840	84	10	870	AC-3-M-1-B-4-C
960	96	10	990	AC-3-N-1-B-4-C


**Safety Light Curtain - 18.37 mm Pitch : TYPE 4**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
147	8	18.37	177	AC-3-B-1-C-4-C
220	12	18.37	250	AC-3-C-1-C-4-C
294	16	18.37	324	AC-3-D-1-C-4-C
367	20	18.37	397	AC-3-I-1-C-4-C
441	24	18.37	471	AC-3-E-1-C-4-C
588	32	18.37	618	AC-3-F-1-C-4-C
661	36	18.37	691	AC-3-H-1-C-4-C
882	48	18.37	912	AC-3-G-1-C-4-C
1029	56	18.37	1059	AC-3-J-1-C-4-C
1102	60	18.37	1132	AC-3-K-1-C-4-C
1323	72	18.37	1353	AC-3-L-1-C-4-C
1543	84	18.37	1573	AC-3-M-1-C-4-C
1764	96	18.37	1794	AC-3-N-1-C-4-C



**Safety Light Curtain : NEW TYPE 4**



Power Supply (VDD)	24VDC + 15%
Emitter Elements	Infrared LED's, 880nm
Resolution	30mm/48mm
Ambient Light Immunity	3000 Lux at 5 deg angle of incidence
Response Time	15 milliseconds or less from interruption of light beam to safety outputs going to OFF-state.
Emitter/receiver Operating Range	Short-range models : 0.8m to 5m Long-range models : upto 50m
Safety Rating	Type 4 per IEC 61496-1, -2; Category 4
Performance level upto	e
Mission Time	20 yrs (EN ISO 13849)
Safety Outputs	Two PNP/NPN outputs (with short circuit protection), sourcing OSSD safety outputs. ON-Stage voltage : $\geq V_{in} - 1.5V$ dc OFF-Stage voltage : 0V dc
Maximum Output Current	100 mA for each output
Maximum Load Capacitance	100nF
Minimum Load Resistance	240 Ohm
Effective Aperture Angle (EAA)	Meets Type 4 requirements per IEC 61496-2:- $\pm 2.5$ deg @ 3m
Mechanical Protection	IEC IP 67
Minimum Load Resistance	240 Ohm
Reference Standard	IEC 61496-1, -2

**Safety Light Curtain - 18.375 mm Pitch : NEW TYPE 4**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
147	8	18.375	180	NAC-3-B-1-C-4-C
221	12	18.375	254	NAC-3-C-1-C-4-C
294	16	18.375	327	NAC-3-D-1-C-4-C
368	20	18.375	401	NAC-3-I-1-C-4-C
441	24	18.375	474	NAC-3-E-1-C-4-C
588	32	18.375	621	NAC-3-F-1-C-4-C
662	36	18.375	695	NAC-3-H-1-C-4-C
882	48	18.375	915	NAC-3-G-1-C-4-C
1029	56	18.375	1062	NAC-3-J-1-C-4-C
1103	60	18.375	1136	NAC-3-K-1-C-4-C
1323	72	18.375	1356	NAC-3-L-1-C-4-C
1544	84	18.375	1577	NAC-3-M-1-C-4-C
1764	96	18.375	1797	NAC-3-N-1-C-4-C

**Safety Light Curtain - 36.75 mm Pitch : NEW TYPE 4**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
294	8	36.75	327	NAC-3-B-1-D-4-C
441	12	36.75	474	NAC-3-C-1-D-4-C
588	16	36.75	621	NAC-3-D-1-D-4-C
735	20	36.75	768	NAC-3-I-1-D-4-C
882	24	36.75	915	NAC-3-E-1-D-4-C
1176	32	36.75	1209	NAC-3-F-1-D-4-C
1323	36	36.75	1356	NAC-3-H-1-D-4-C
1764	48	36.75	1797	NAC-3-G-1-D-4-C

**Safety Light Curtain - 18.25 mm Pitch : TYPE 2**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
145	8	18.25	220	CE-3-B-1-C-4-M
220	12	18.25	295	CE-3-C-1-C-4-M
290	16	18.25	365	CE-3-D-1-C-4-M
365	20	18.25	440	CE-3-I-1-C-4-M
440	24	18.25	515	CE-3-E-1-C-4-M
585	32	18.25	660	CE-3-F-1-C-4-M
660	36	18.25	735	CE-3-H-1-C-4-M
880	48	18.25	955	CE-3-G-1-C-4-M
1020	56	18.25	1095	CE-3-J-1-C-4-M
1095	60	18.25	1170	CE-3-K-1-C-4-M
1315	72	18.25	1390	CE-3-L-1-C-4-M
1535	84	18.25	1572	CE-3-M-1-C-4-M
1750	96	18.25	1825	CE-3-N-1-C-4-M


**Safety Light Curtain - 36.75 mm Pitch : TYPE 2**

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
294	8	36.75	324	CE-3-B-1-D-4-M
441	12	36.75	471	CE-3-C-1-D-4-M
588	16	36.75	618	CE-3-D-1-D-4-M
735	20	36.75	765	CE-3-I-1-D-4-M
882	24	36.75	912	CE-3-E-1-D-4-M
1176	32	36.75	1206	CE-3-F-1-D-4-M
1323	36	36.75	1353	CE-3-H-1-D-4-M
1764	48	36.75	1794	CE-3-G-1-D-4-M


**Safety Light Curtain - 18.375 mm Pitch : NEW TYPE 2**

Screen Height (mm)	No. of Channels	Dead Band (mm)	Actual Height (mm)	Product Code
147	8	0	147	NCE-3-B-1-C-4-C
221	12	0	221	NCE-3-C-1-C-4-C
294	16	0	294	NCE-3-D-1-C-4-C
368	20	0	368	NCE-3-I-1-C-4-C
441	24	0	441	NCE-3-E-1-C-4-C
588	32	0	588	NCE-3-F-1-C-4-C
662	36	0	662	NCE-3-H-1-C-4-C
882	48	0	882	NCE-3-G-1-C-4-C
1029	56	0	1029	NCE-3-J-1-C-4-C
1103	60	0	1103	NCE-3-K-1-C-4-C
1323	72	0	1323	NCE-3-L-1-C-4-C
1544	84	0	1544	NCE-3-C-1-C-4-C
1764	96	0	1764	NCE-3-N-1-C-4-C



**Safety Light Curtain - 36.75 mm Pitch : NEW TYPE 2**



No. of Channels	Screen Height (mm)	Total Height (mm)	Product Code
8	294	327	NCE-3-B-1-D-4-C
12	441	474	NCE-3-C-1-D-4-C
16	588	621	NCE-3-D-1-D-4-C
20	735	768	NCE-3-1-1-D-4-C
24	882	915	NCE-3-E-1-D-4-C
32	1176	1209	NCE-3-F-1-D-4-C
36	1323	1356	NCE-3-H-1-D-4-C
48	1764	1797	NCE-3-G-1-D-4-C

**Slimline Safety Light Curtain – 18.375 mm Pitch : TYPE 2**



Screen Height (mm)	No. of Channels	Dead Band (mm)	Actual Height (mm)	Product Code
147	8	0	147	SL-3-B-1-C-4-C
221	12	0	221	SL-3-C-1-C-4-C
294	16	0	294	SL-3-D-1-C-4-C
368	20	0	368	SL-3-1-1-C-4-C
441	24	0	441	SL-3-E-1-C-4-C
588	32	0	588	SL-3-F-1-C-4-C
662	36	0	662	SL-3-H-1-C-4-C
882	48	0	882	SL-3-G-1-C-4-C
1029	56	0	1029	SL-3-J-1-C-4-C
1103	60	0	1103	SL-3-K-1-C-4-C
1323	72	0	1323	SL-3-L-1-C-4-C
1544	84	0	1544	SL-3-M-1-C-4-C
1764	96	0	1764	SL-3-N-1-C-4-C

**Slimline Safety Light Curtain – 36.37 mm Pitch : TYPE 2**



No. of Channels	Screen Height (mm)	Actual Height (mm)	Product Code
8	294	326	SL-3-B-1-D-4-C
12	441	473	SL-3-C-1-D-4-C
16	588	620	SL-3-D-1-D-4-C
20	735	767	SL-3-I-1-D-4-C
24	882	914	SL-3-E-1-D-4-C
32	1176	1208	SL-3-F-1-D-4-C
36	1323	1355	SL-3-H-1-D-4-C
48	1764	1796	SL-3-G-1-D-4-C

**Light Curtain : Object and Profile**


Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
77.5	32	2.5	132.5	QL32/2.5-77.5
227.5	92	2.5	282.5	QL92/2.5-227.5
302.5	122	2.5	357.5	QL122/2.5-302.5

Screen Height (mm)	No. of Channels	Pitch (mm)	Total Height (mm)	Product Code
75	16	5	130	QL16/5-75
235	48	5	290	QL48/5-235
395	80	5	450	QL80/5-395

**Area Sensors**

Screen Height	Total Height	Model Number
120mm	175mm	AS-3-C-1-B-4-C
160mm	215mm	AS-3-D-1-B-4-C
Supply Specifications	Operating Voltage: 24VDC ± 10%    Wattage: 1Watt	
Protection Circuitry	Protected against Reverse polarity Protected against short circuit of the outputs	
Outputs	PNP/NPN Outputs PNP Output : Supply Voltage - 1.2 VDC (Without Load) NPN Output: GND + 0.6 VDC	
Indicators	Single Red LED to indicate Power ON/OFF Single Green LED to indicate Output ON/OFF LED band display indications for obstruction & external PLC I/P	
Beam Spacing	10mm	
Operating Range	4 meter Max	


**Programmable Bin Sensors**

Screen Height	Total Height
80mm	115mm
120mm	155mm
160mm	195mm
320mm	355mm
Supply Specifications	Operating Voltage: 24VDC ± 20%    Wattage: 1Watt
Supply Protection Circuitry	Protected against Reverse polarity
Outputs	PNP/NPN Outputs PNP Output: Supply Voltage - 1.2VDC NPN Output: GND + 0.6 VDC
Indicators	Single Red LED to indicate Power ON/OFF Single Green LED to indicate Output ON/OFF Flashing LED indications for obstruction and external PLC I/P
Pitch	10mm
Operating Range	Diffuse Mode : up to 400mm Retro reflective Mode: up to 3 meters. TEACH MODE is available in both Diffuse and retro Reflective Mode i.e. we can adjust the range as per our requirement using this mode.



## Smart Pick to Light Sensor

Screen Height	Total Height
120mm	175mm
160mm	215mm
Supply Specifications	Operating Voltage: 24VDC $\pm$ 10%    Wattage: 1Watt
Protection Circuitry	Protected against Reverse polarity
Outputs	PNP/NPN Outputs PNP Output: Supply Voltage - 1.2VDC NPN Output: GND + 0.6 VDC
Indicators	Single Red LED to indicate Power ON/OFF Single Green LED to indicate Output ON/OFF LED band display indications for obstruction & external PLC I/P
Beam Spacing	Infrared LED's, 880nm
Operating Range	Diffuse Mode: 400mm Reflective Mode: 1mtr using reflector - TEACH Function is available to adjust the range. - Self-adjustment feature is available, which requires no user adjustment



## Safety Laser Scanners



Light Source	Infrared laser(905nm)
Laser Safety Level	Class 1 (GB7247.1-2012, Eye-safe IEC)
Laser Spot Light Diameter	8mm
Laser Spot Light Scan Angle	12.5 mrad
Scanning Angle Range	300°
Scanning Frequency	25Hz
Scanning Angle Resolution	0.5°
Sensing Range	0.1m~20m
10% Reflectivity Range	10m
Outdoor Performance	Anti-dust, Anti-sunlight
Rain Fog and Smoke Penetration	Supported

## Application



AGV Obstacle Avoidance



Factory Area Operation  
Safety Protection



Service Robot Autonomous  
Obstacle Avoidance



Unmanned Near Field  
Obstacle Avoidance

**OX-W3 | The Safety Door Switch with Locking Function**

Model	OX-W3
Factory packaging	1 Safety Locking and 2 Keys accessories, cable
Lock material	Metal
Outputs	2 sets of gold plated contacts
Tensile strength when locked	Locking force 1300N
Contact type	6 contact combinations
Optional back unlocking function	Indicator light+emergency unlocking
Adapted to 7 types of operation keys	Certification: CE


**OX-D2/D3 | The Safety Door Switch with Locking Function**

Model	OX-D2&D3
Full range of gold-plated contacts	
Configure 5 contact structures	
Suitable for standard and small loads	
Adjust up to 8 directional key operation holes	
IEC/EN60947-5-1	
GB14048.5-2017	


**OX-W5 | The Safety Door Switch with Locking Function**

Model	OX-W5
Factory packaging	1 Safety Locking and 2 Keys accessories, cable
Lock material	Metal
Outputs	4 sets of gold plated contacts
Tensile strength when locked	Locking force 1300N
Contact type	6 contact combinations
Optional back unlocking function	Indicator light+emergency unlocking
Adapted to 7 types of operation keys	Certification: CE


**OX-W2 | The Safety Door Switch with Locking Function**

Model	OX-W2
Factory packaging	1 Safety Locking and 2 Keys accessories, cable
Lock material	Metal
Outputs	4 sets of gold plated contacts
Tensile strength when locked	Locking force 1300N
Contact type	14 contact combinations
Optional back unlocking function	Indicator light+emergency unlocking
Adapted to 7 types of operation keys	Certification: CE



## OX-D6 | The Safety Switch Devices with Locking Function



Model	OX-D6
Lock method	Mechanical lock/electromagnetic lock
Safety output	NPN*2/PNP*2
Response time	100ms (independent work)
Lock holding force Fzh	≥2000N
Mechanical durability	>1 million times (door operation speed 1m/s)
Output type	Transistor output x2
Operating voltage	DC24V±15%
Rated power	4.6W (no load)






## Safety Relay



<b>Power supply</b>	
Power supply	24V DC
Voltage tolerance	+10%/-20%
Power consumption	2.9 W
<b>Output</b>	
Relay safety output	3NO+1NC
Transistor signal output	<500mA 24V DC
<b>Relay contact capacity</b>	
AC-1	6A/250V AC/1500VA
AC-15	4A/240V AC
DG-1	6A/24V DC/150W
DG-13	4A/24V DC
Maximum switching capacity	12A(Assigned to all safety output contacts)
Contact resistance	<100mΩ
Minimum load	10mA/5V
Contact material	AgSnO2+0.2μmAu
<b>Conventional parameter</b>	
Output fuse (external)	5A gL/gG
Release response time	<30ms(From input to output)
Electrical life	80000 Time
Pollution level	2
Operating temperature	-25°C~ 85°C
Working humidity	35%-85%(No ice or condensation)
Impulse tolerance voltage	2.5kV
Protection class	The shell IP30 and the terminal IP20
Storage temperature	-40°C~ 105°C
Shell material	Flame retardant PA66
Installation mode	Standard 35mmDIN rail/spring buckle
Dimension	114.5mm×100.5mm×22.5mm
Weight	172g

**Emergency Stop Switches / Interlock Switches**

**Emergency Stop Switches**

<p><b>ø16 X6</b></p>  <p>Third-generation emergency stop switch with Reverse Energy Structure. Smallest in its class; only 19.5 mm depth behind the panel.</p>	<p><b>ø16 XA</b></p>  <p>Safety lock mechanism and direct opening action. Removable contact block and unibody models. Suitable for installing in spacelimited applications.</p>	<p><b>ø22 XW</b></p>  <p>Innovative Safe Break Action installed. A wide variety of models to choose from, including mechanical indicator and SEMI Emergency Off (EMO).</p>	<p><b>ø30 XN</b></p>  <p>Padlockable, flush bezel, 60 mm jumbo mushroom, illuminated, and LED push-on are available.</p>	<p><b>FB</b></p>  <p>IP65 lightweight, yellow plastic enclosures for installing emergency stop switch.</p>
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**Interlock Switches**

**Non-contact Interlock Switches**

<p><b>HS5L</b></p>  <p>Interlock switch with solenoid. 2-contact: ideal for use on food and injection molding machines. 4-contact: ideal for use on limited mounting spaces such as small</p>	<p><b>HS5D</b></p>  <p>Head removable detection function provides higher level of safety.</p>	<p><b>HS1L</b></p>  <p>3000N locking strength. Suitable for large and heavy doors that require high locking strength.</p>	<p><b>HS6E/6B</b></p>  <p>HS6E: Small and thinnest solenoid interlock switch with five poles and solenoid. HS6B: World-class compactness with three poles of contacts.</p>	<p><b>HS7A</b></p>  <p>Compact size and easy positioning.</p>
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**Safety Products**

**Non-contact Interlock Switches**

**Actuators**

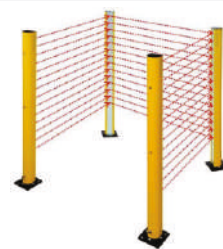
**Grip Style Enabling Switches**

**Safety Controllers**

<p><b>HS3A</b></p>  <p>RFID non-contact interlock switch, Category 4 and PLe compliant.</p>	<p><b>Door Handle</b></p>  <p>Locks rattling doors smoothly and securely.</p>	<p><b>Slide Handle</b></p>  <p>Shock-resistant metal slide handle actuators ensure safety of</p>	<p><b>HE2G</b></p>  <p>Small, lightweight grip style enabling switches with 3-position enabling switch embedded.</p>	<p><b>FS1A</b></p>  <p>No programming required—just turn on a logic switch to complete configuration of a safety circuit.</p>
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**Safety Relays / Safety Controllers**

**Safety Perimeter Protection Light Curtain**



## Rotary Encoders

E40 / E41



E520 / E521 E620 / E621



Profinet & Ethernet / IP



ISC38 Series



ISC50 Series



ISC58 Series



IHA60 Series



HTR - M2



HTR - W1



HTR - HB



HTR - HD



SEB



MSE 500 / MRE 520 / 620



### Features

- Miniature size, easy assembling
- 2 quadrature output channel (A&B) + index signal
- Resolution up to 36000 pulses

### Application

- Measure the distance, angle, position acceleration, automatic control, robot, X-Y table, printing, molding machine, packing machine etc.

### Technical Specification

PPR	2, 5, 10, 20, 25, 30, 40, 50, 60, 80, 100, 115, 125, 127, 150, 180, 200, 250, 360, 400, 500, 600, 750, 900, 1000, 1024, 1250, 1400, 1500, 1800, 2000, 2048, 2250, 2400, 2500, 3000, 3600, 4000, 4096, 4500, 4800, 5000, 5120, 6000, 6250, 7000, 7500, 9000, 10000, 10240, 11250, 12000, 12050, 14000, 15000, 18000, 20000, 24000, 25000, 36000.
Voltage	5 - 24 VDC
Output	PP / LD
Shaft Dia	6, 8, 9.52, 10 mm & as per client requirement

**Linear Wire Encoder With Spring Return Device**

Voltage	10-24 VDC, 5 VDC
Output	Push-Pull / LD
Resolution	1 / 0.5 / 0.2 / 0.1 / 0.05 mm
Protection	IP 64
Max. Speed	200 mm / sec
Measuring Length	1000, 2000, 3000, 4000, 5000mm .... 12000mm


**Linear Wire Potentiometer With Spring Return Device**

Resistance	5 Kohms + 5%
Linearity	0.3%
Max. Speed	1000 mm / sec.
Protection	IP 64
Wattage	1, 2, 7
Measuring Stroke	500, 750, 1000, 1250, 1500, 2000, 3000, 4000 mm..... 8000 mm


**Manual Pulse Generator**

Model	HPG
PPR	25, 100 PPR
Supply Voltage	5 VDC, 8 - 26 VDC
Output	AB Phase open collector or Line Driver


**Wire & Wireless Pendant Hand Held**

Model	HPG - A
PPR	25, 100 PPR
Supply Voltage	5 VDC, 8 - 26 VDC
Output	AB Phase open collector or Line Driver


**Angle Sensor WDA600 / WDA720**

Electrical Specifications		Mechanical Specifications	
Resistance	2X10KΩ / 2x20KΩ	Rotar number	500,000 cycles
Resistance Error	±20%	Mechanical Angle	126°
Electrical Angle	41.5* + 43.5*	Protection Class	IP50
Independent Linearity	0.5%	Torque	typ. 0.7cNm
Power Rating	0.5W		
Maximum Current	10mA		
Maximum Resistance of Wiper	500		
Insulation Resistance	10GΩ / 500VDC		
Withstand Voltage	1000VAC/1min		
Temperature Coefficient	50ppm/1°C		
Voltage Divider T. C.	10ppm/1°C		



## Digital Linear Transducer



Model	Stroke Length (mm)	Resolution after quadrupling
PD 100 without zero	60,120,170,200,220,255,280,360,440,520,650,750 mm	0.01 mm
PD 101 with zero	60,120,170,200,220,255,280,360,440,520,650,750 mm	0.01 mm
PD 500 without zero	60,120,170,200,220,255,280,360,440,520,650,750 mm	0.005 mm
PD 501 with zero	60,120,170,200,220,255,280,360,440,520,650,750 mm	0.005 mm
PE without zero	60,120,170,200,220,255,280,360,440,520,650,750,990 mm	0.05 mm
PE with zero	60,120,170,200,220,255,280,360,440,520,650,750,990 mm	0.05 mm

## Magnetic Transducer



### Reading Head :

Reading Resolution	0.1mm or 0.01 mm
Output	Push pull / Line driver
Voltage	5 VDC or 10- 30 VDC
Protection Degree	IP 67

### Magnetic Band :

Pole Pitch	2 + 2 mm
Precision	0.1 mm
Width	10 mm
Thickness	1.3 mm
Max. Length	50 mm

## Linear Potentiometer



Model	PLS	PL2S	PI231	PM
Stroke length (mm)	50, 100, 150, 200, 250, 300, 400, 500, 750, 950 mm	50, 100, 150, 200, 250, 300, 400, 500 mm	50, 100, 150, 200, 250, 300, 400, 500, 750 mm	25, 50, 75, 100, 150 mm
Linearity	0.075%	0.075%	0.075%	0.075%
Resistance	5K	5K	5K	5K
Max. Linear Speed	1 m/sec	1 m/sec	1 m/sec	1 m/sec

## Linear Potentiometer KPY2





### Electrical characteristics:

Model		10	25	50	75	100
Active Electrical Travel (A.E)	mm	10	25	50	75	100
Total Electrical Travel (T.E)	mm	AE+1				
Resistance	K Ω	1	1	5	5	5
Independent Linearity	±%	0.3	0.2	0.1	0.1	0.1
Mechanical Travel (M.T)	mm	AE+5				
Length of A	mm	AE+46				
Length of C	mm	118	148	198	253	297

**Linear Potentiometer KTM / Linear Potentiometer LTM / Linear Position Sensor PKM**


Model	Linear Potentiometer KTM	Linear Potentiometer LTM	Linear Position Sensor PKM
Stroke length (mm)	5, 10, 15, 25, 50, 75, 100, 150, 175, 200, 225, 250, 275, 300, 400 mm	50, 75, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 900, 1000 mm	50, 75, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 900, 1000, 1200 mm
Resistance	5K $\Omega$	Upto 500 mm 5K $\Omega$ and above 500 mm 10K $\Omega$	Upto 500 mm 5K $\Omega$ and above 500 mm 10K $\Omega$

**High Precision Digital Contact Displacement Sensor HK-S Series**

Type	HK-L10	HK-L12
Appearance		
Sensing range	0-12.5mm	0-12.5mm
Variable range	0-12.5mm	0-12.5mm
Detection accuracy	1 $\mu$ m	1 $\mu$ m
Resolution ratio	0.1 $\mu$ m	0.1 $\mu$ m
Power voltage	5V	5V
Measuring force	$\leq 1.5$ N	
Spring	1N	
Protection level	Ambient	IP40
	Sensor head	IP65
Mechanical life	More than ten million times	
Ambient temperature	Working: 0 to +50°C, storage: -10 to +60°C	
Ambient humidity	Working: 35 to 85%RH, No condensation	
Vibration resistance	10 to 55Hz, Single amplitude 0.35mm X,Y,Z axis, each direction 50 min	
Impact resistance	150m/s <sup>2</sup> 6 directions, each direction 3 times (Up, down, left, right, front, back)	
Connection method	cable connection	
Weight (with packing)	about 100g	
Shell material	Sensor head	Stainless steel
	Rubber sheath	Viton



## Digital Readout System



Specs / Model	DSC-801, 802, 803, 804	DSC-703EDM	
Display	Green FND 7 digits with "-" sign		
mm/inch	Direct Conversion		
Display Resolution	0.01mm/0.005mm/0.001mm (0.0004/0.0002/0.00004 inch)		
ABS	100 points	10 points	
Memory Backup	About 10 years without power		
Operation Temp.	-5°C ~45°C (23°F~113°F)		
Voltage Consumption	15 W		
Dimensions & Weight	mm.kg (inch,lb)	279(W)X70(D)X151(H), 1.6kg. (10.98(W)X2.76(D)X5.94(H),3.53lb)	279(W)X110(D)X151(H), 2.2kg. (10.98(W) X 2.76(D)X5.94(H), 4.86 lb)
Power Source	AC 50 ~ 265V, 50/60Hz. (Free Voltage)		
External Housing	AL. Diecasting		
Key Board	Membrane type		
Function Display	Red light		
Number of steps		4 steps	

## Optical Linear Scale

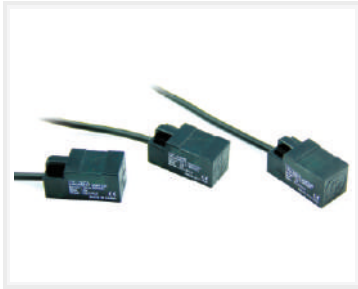


Specs / Model	JSS, JSM, JSN 1L	JSS, JSM, JSN 5L	JSS, JSM 1LF
Measurement Methods	By a 20µm grating pitch (0.0008 inch) chrome-graduated glass scale		
Accuracy	2+2L/1000mm	3+3L1000mm	2+2L/1000mm
Resolution	1m(0.0004")	5m(0.0002")	1m(0.00004")
Output Pulse	250 pulse / mm	50 pulse / mm	250 pulse / mm
Max. Traversing Speed	36m / min(120ft/min)	60m / min(200ft/min)	36m/min(120ft/min)
Reference Signal	A reference pulse every 25mm (0.98")		
Grating Period	0.02mm(0.0008")		
Max. Vibration	30m/sec <sup>2</sup> (3G)		
Moving Force	≤5N		
Working Ambient Temp	-5°C~45°C (23°F~113°F)		
Storage Temperature	-20°C~70°C (-4°F~128°F)		
Max. Cable length	25m cf) standard 3m (9.84ft)		
Supply Voltage	+5V, ±5%, 150mA		
Protective Design Grade	(1) Equivalent to Ip53, (2) improvement of the protective design grade		

**Proximity Sensors Including Metal Face & Weld Immune**



Eh2 Series Capacitive Sensor



P4F Series Proximity Sensor



P2S Series Proximity Sensor



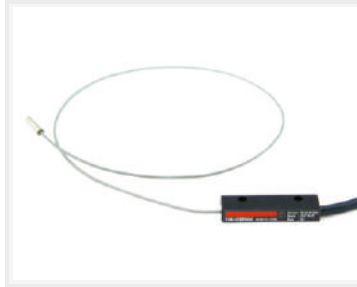
P3S Series Proximity Sensor



P2S Series Proximity Sensor



EA5 Proximity Sensor



EA6 Proximity Sensor



EA7 Series Proximity Sensor



EA3 Series Proximity Sensor



EA1 Series Proximity Sensor



EA1-A Series Proximity Sensor



Spatter Proof Proximity Sensors



Metal Face Proximity Sensors



Weld Immune Proximity Sensors

**Ultrasonic Sensors**



Ultrasonic Sensor

**Ring Sensors**



Pre-wired Inductive Sensor

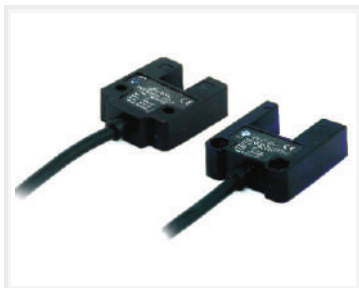


Connector Inductive Sensor

## Photoelectric Sensors



T6S Photoelectric Sensor



T2S Series Photoelectric Sensor



T3P Photoelectric Sensor



T3E Photoelectric Series Sensor



Square Type Photoelectric Sensor  
UL-D21 Series



Subminiature Laser Photoelectric Sensor  
UF-GD / GT Series



T5M Photoelectric Series Sensor



T3F Photoelectric Series Sensor



T7M Photoelectric Series Sensor



Laser Type Photoelectric Sensor  
ZL-G Series



T3V Photoelectric Series Sensor



Square Type Photo Electric Sensor  
ZL Series



Square Photoelectric Sensor  
ZL-D50 Series



Super Small photoelectric Sensor  
UF-F series



BGS Limited Reflective Photoelectric  
Sensors ZL-B05 Series



Digital Fiber Optic Sensor Series

## Laser Displacement Sensors



LC-S Series Laser Displacement Sensor



High Precision Contact Sensor  
HK-S01 Series



Color and Mark Sensor EB-S11 Series



RGB Color Sensor EB-C1 Series


## Color Mark Sensors

## Laser Displacement Sensor LC-S Series

- Small volume, small light spot and high precision.
- It has dual output of switching value and analog value at the same time.
- Multiple functions, multiple detection modes, applicable to many applications.
- Large output indicator light at the top, more beautiful
- White digital tube shows the distance value, clear and bright.
- Film button, easy operation
- Aluminum alloy shell, strong and durable



## Product Category

Type	Appearance	Model	Detection Distance	Output Mode	Repeatability
Short Distance Type		LC-S030N	30±5mm	Push-Pull / LD	Push-Pull / LD
		LC-S030MN	30±5mm	Push-Pull / LD	Push-Pull / LD
		LC-S030P	30±5mm	Push-Pull / LD	Push-Pull / LD
		LC-S030MP	30±5mm	Push-Pull / LD	Push-Pull / LD
Medium Distance Type		LC-S100N	100±35mm	Push-Pull / LD	Push-Pull / LD
		LC-S100MN	100±35mm	Push-Pull / LD	Push-Pull / LD
		LC-S100P	100±35mm	Push-Pull / LD	Push-Pull / LD
		LC-S100MP	100±35mm	Push-Pull / LD	Push-Pull / LD
Long Distance Type		LC-S400N	400±200mm	Push-Pull / LD	Push-Pull / LD
		LC-S400MN	400±200mm	Push-Pull / LD	Push-Pull / LD
		LC-S400P	400±200mm	Push-Pull / LD	Push-Pull / LD
		LC-S400MP	400±200mm	Push-Pull / LD	Push-Pull / LD

## Long Distance Laser Ranging Sensor GFL-F Series

- The detection distance is not affected by the color of the tested object
- Self developed phase measurement method;
- Quick and accurate measurement options;
- No need to connect to a computer to set up;
- Built in baud rate and station number selection, with a maximum of 255 units for networking;
- Can be used in conjunction with PLC or software;
- IP67 protection, dustproof and waterproof, with a metal body.



## Technical Parameters

Item	Model		
NPN+analog+485	GFL-F100NM-485	GFL-F200NM-485	GFL-F500NM-485
PNP+analog+485	GFL-F100PM-485	GFL-F200PM-485	GFL-F500PM-485
Measure distance	0.1-1m	0.1-2m	0.1-5m

Item	Model		
NPN+analog+485	GFL-FM10NM-485	GFL-FM20NM-485	GFL-FM50NM-485
PNP+analog+485	GFL-FM10PM-485	GFL-FM20PM-485	GFL-FM50PM-485
Measure distance	0.1-10m	0.1-20m	0.1-50m

**Colour Mark Sensors**



High Speed Color Mark Sensor  
EB-WC4 Series



High Precision Intelligent Digital RGB Color Sensor  
EB-C21 Series



Intelligent Digital RGB Color Sensor  
EB-C1 Series



Integrated Color Marker Sensor  
EB-S11 Series



White LED Light Source Long Distance Color  
Scale Sensor EB-W500



White LED Light Source Long Distance Color  
Scale Sensor EB-W70

**Application**



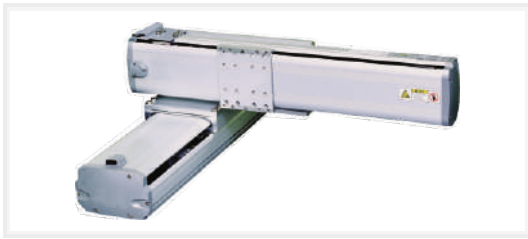
Detect cups of different colors



Detection of different color mark  
positioning points of material belt



Detect the front and back of  
the chip in the package embossing

**Cartesian Robot DRM / DRA Series**


Model	Type	Payload		Lead	Speed (mm/s)	Stroke length mm	Position Repeatability
		Horizontal Kg	Vertical Kg				
DRM series 50, 80, 115, 160,200,250	In Line/ Side Mounting	15,20,80, 120,150,170	9,30, 35, 40, 60, 80	L 05	500	100 -2000	+/- 0.02 mm

**Desktop Robot DTR - MU / DTR - SU Series (Servo Motor & Ball Screw)**


Model	Axis	Stroke (mm)				Pay Load Kg		Max Speed (mm/s)				Position Repeatability
		X	Y	Z	R	Work	Tool	X	Y	Z	R	
DTR2-3310S	2	300	300	--	--	15	15	500	500	--	--	+/-0.01mm
DTR3-3310S	3	300	300	100	--	15	7	500	500	250	--	+/-0.01mm
DTR4-3310S	4	300	300	100	360°	15	2	500	500	250	600°	+/-0.01mm
DTR2-4410S	2	400	400	--	--	15	15	500	500	--	--	+/-0.01mm
DTR3-4410S	3	400	400	100	--	15	7	500	500	250	--	+/-0.01mm
DTR4-3310S	4	400	400	100	360°	15	2	500	500	250	600°	+/-0.01mm

**Scara Robot DSA Series**


Model	Stroke		Speed	Payload
	Arm length	Z-Axis		
DSA-0500-SNN	500mm (250/250)	100mm, 150mm	A+B(4712mm/s), Z(960mm/s), R(1600°/s)	Rated (1kg), Maximum (3kg)
DSA-0600-SNN	600mm (350/250)	100mm, 150mm	A+B(5340mm/s), Z(960mm/s), R(1600°/s)	Rated (1kg), Maximum (3kg)

**Single Axis / Multi Axis Controller**

**Feature**

ImU series is characterized by high speed, high accuracy, and motion stability because it adopts high performance of a digital amplifier which is controlled by 16 and 32 bit DSP. It is designed to control from 2-axis robot to 8-axis robot or 8 single axes robot at once.

**1. Cost effective of all-in-One functions**

The ImU series controller combines the functions of motion control, servo drive, and PLC function into a compact unit. Therefore, im-S controller offers high performance with cost-effectiveness.

**2. Possible to control multi axes of Cartesian robots, Desktop robots, SCARA robots, and Linear servo motor Cartesian robots**

The ImU series are capable of controlling more number of 2 axes of the DRM, DRMC, DTR(Built-in), DSM and DLM series robots at the same time.

**3. Multitasking**

The ImU controller executes each different 4 robot motion programs with maximum 8axes, simultaneously and independently.

**4. Various options and extensive usage**

The ImU can connect touch screen, CCD camera, magnetic sensor, photo sensor, solenoid, MPG etc. It accommodates installation of extension board up to 8 axes and network options (CC-Link, ProfiBus) are selectable.

**5. User friendly software**

The ImU series has different types of software to use easy and enhance system performance. It provides the general purpose software, dispensing software, and screw tightening software, and also PC software.

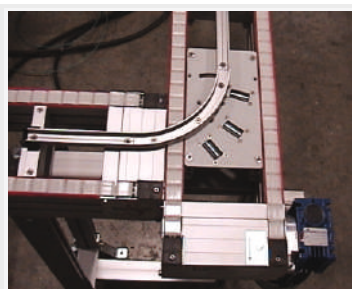
## TM Series

The TM Series Conveyor offers the highest level of safety, ergonomics, and assembly accessibility of any conveyor product on the market today. That coupled with very low maintenance costs makes the TM Series the best choice for your assembly line applications.



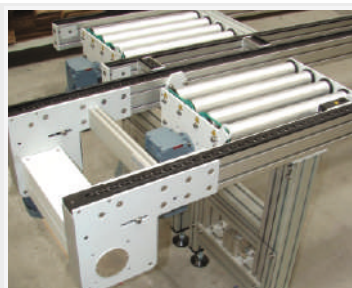
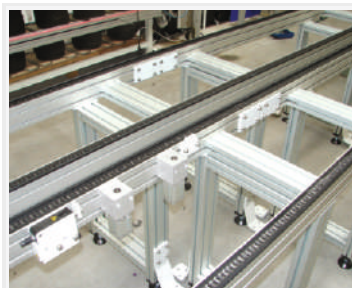
## TR Series

The TR Series conveyor provides flexible assembly line configurations that can be easily modified for future requirements. It also offers accurate pallet positioning for automated processes as well as simple pallet manipulations that reduce the cost of conveyor controls.



## TRM Series

The TRM Series is similar to the TR Series conveyor but built for heavier payloads. The TRM Series is ideal for asynchronous assembly applications.



## SLAT CHAIN CONVEYORS

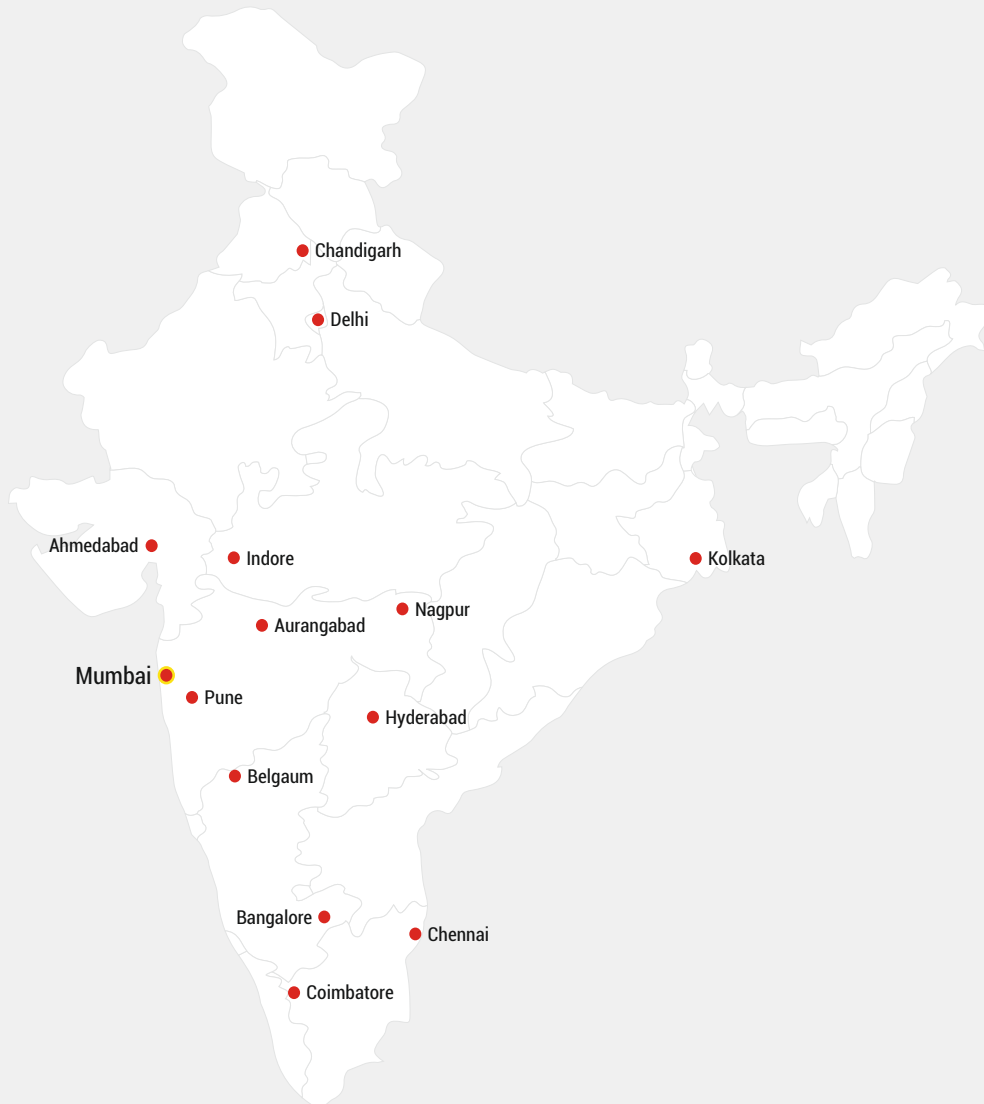
- Standard
- Economical
- Easily expandable
- Silent
- For transporting unitary products
- Widths 45 to 300 mm (aluminium structure) and 65 to 105 mm (Stainless steel structure)



# International Partners



## Our Network



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