



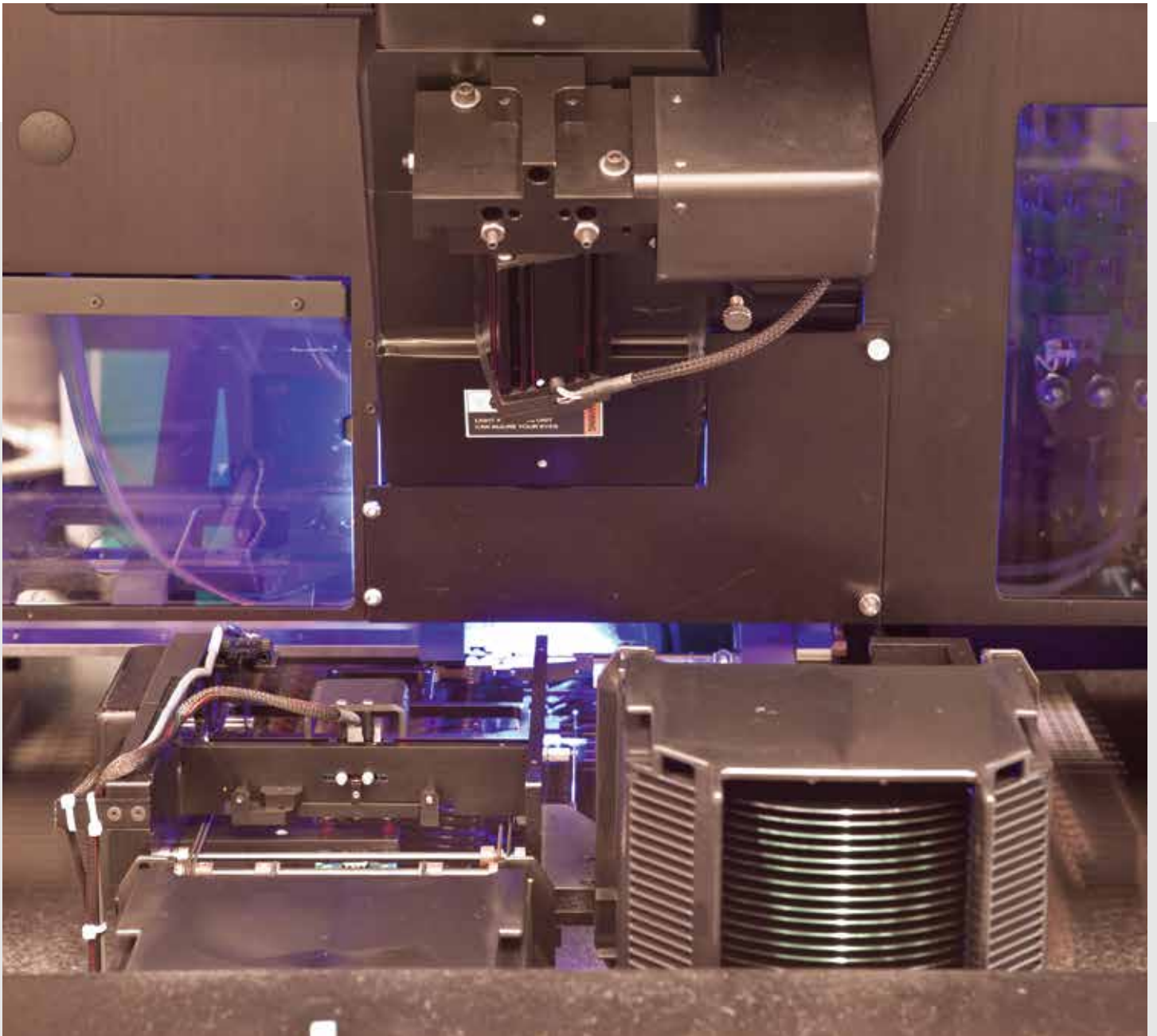
Think Automation and beyond...



SEMICONDUCTOR

Industry Solutions

IDEC CORPORATION



Semiconductor Manufacturing Equipment Industry

With semiconductors now intrinsic in an increasing range of areas from IoT and 5G to cloud computing, autonomous driving, imaging, and sensors, the market scale for semiconductor manufacturing equipment also continues to grow, accompanied by huge advances in miniaturization and stacking. In these circumstances, our customers need us to help boost reliability for high throughput in semiconductor manufacturing equipment components, downsize for a reduced footprint, and ensure safety and peace of mind. IDEC will continue to offer the solutions that help reduce COO (cost of ownership).

Semiconductor Manufacturing Equipment and IDEC

MORE PRODUCTS FOR BETTER EQUIPMENT PERFORMANCE

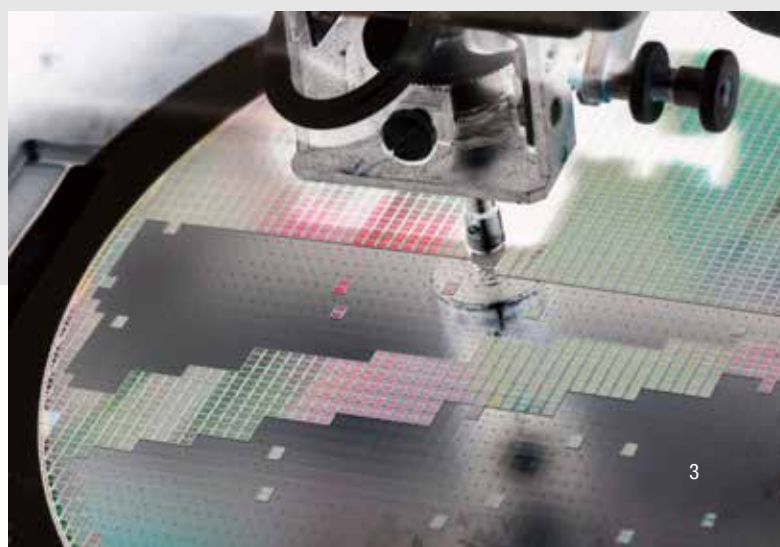
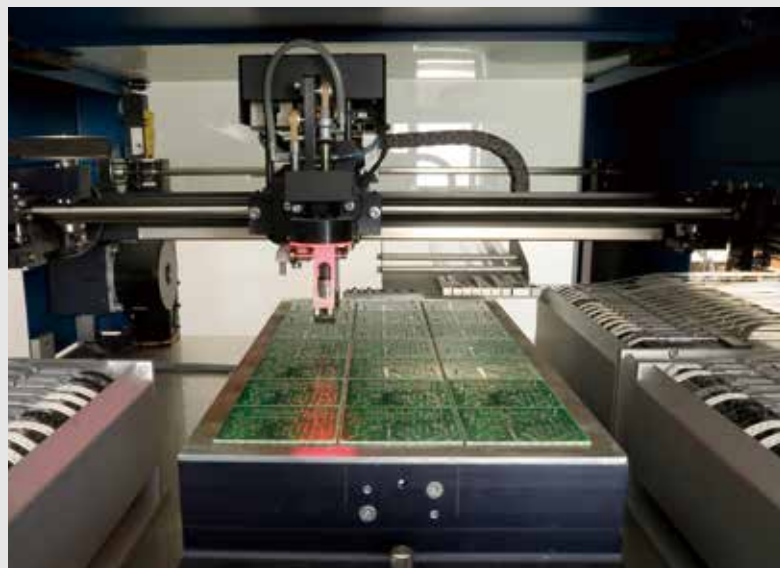
IDEC supplies a wide range of products for semiconductor manufacturing equipment, including front-end, back-end, and inspection processes. From start-up switches and bar code scanners for FOUNDRY and tool information management to slim relays and push-in terminals that reduce installation space and wiring time, EMO switches, safety switches, safe laser scanners, and enabling switches, our products ensure operator safety while avoiding equipment damage. IDEC's vast array of products helps achieve the best performance from customers' equipment.

PURSUING 24-HOUR OPERATION

Downtime caused by unnecessary semiconductor manufacturing equipment stoppages means huge losses not only for semiconductor manufacturers (fabs) but also for semiconductor manufacturing equipment manufacturers. Reliability and ease of use are key to avoiding that downtime and its consequences. IDEC will continue to help improve COO and the cost of consumables by prioritizing both reliability and ease of use so that semiconductor manufacturing equipment and plants can operate 24 hours a day with no downtime.

ASSISTING GLOBAL DEPLOYMENT

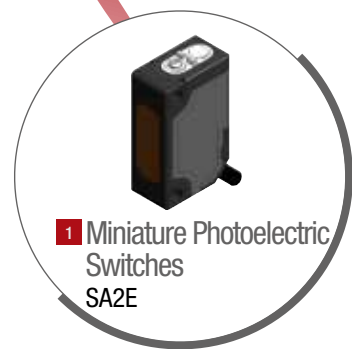
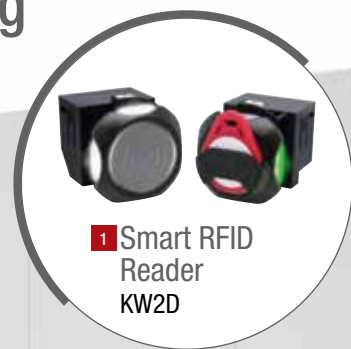
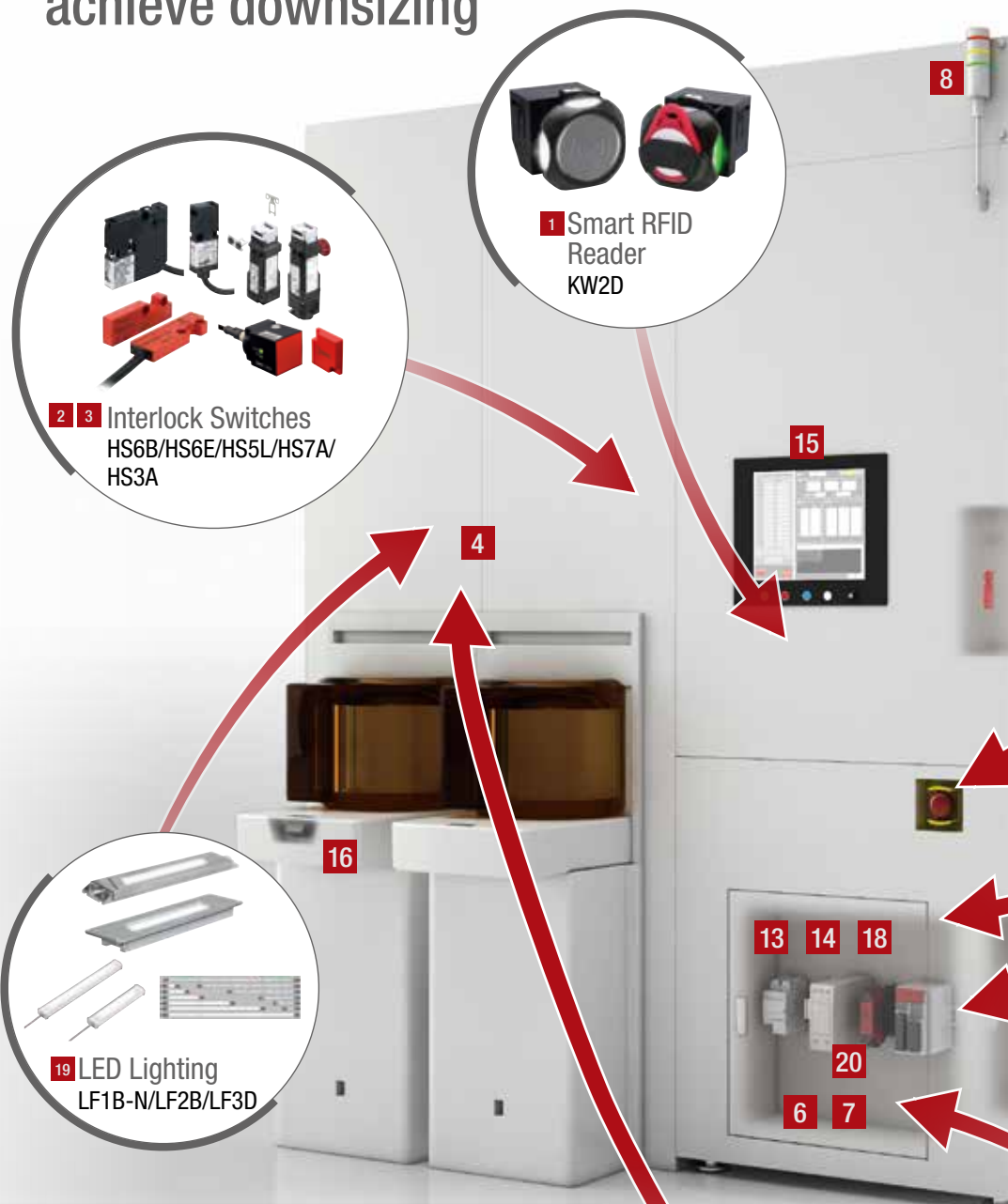
SEMI standards bring consistency across the semiconductor industry. Safety is no exception, SEMI standards leading the way ahead of other industries. Because safety is in IDEC's DNA, we have a strong record of SEMI standard compliance, including EMO switches and guards. IDEC will continue to help firms deploy semiconductor manufacturing equipment and plants globally with a close eye on changes in the semiconductor industry and its standardization developments.



New proposals to comply with SEMI standards and achieve downsizing

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Safety products to ensure safety to workers



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Safety Laser Scanners
SE2L



6
Force Guided Relays
RF1/RF2



7
Safety Controllers
FS1A



8
LED SignalLight
Towers
LD6A



9 Emergency Stop Switches
XA/XW/HW series



1 Safety Relay Module
HR6S



5 Safety Relay Modules
HR5S



1 Ethernet Switches
SX5E

Small footprint and labor saving inside panel products

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Slim Relays/Universal Relays
RU/RJ/RV8

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Controllers
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Operator Interfaces
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Barcode Scanners
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Programmable
Controller
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Circuit Protectors
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Power Supplies
PS5R-V/PS6R

Front of panel products compliant with SEMI S2 and other standards

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Push-in Switches &
Pilot Lights
HW series

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Flush Silhouette Switches
CW series

12



Flush Silhouette Switches
LB/LBW series

New



KW2D



Smart RFID Reader

User authority and log control with RFID

- **Flat** design prevents dust and other particles from accumulating.
- Standard **ø22mm** panel cut-out enables easy installation.
- Device equipped with **verification function**. Easy tag registration using a software program.
- Ethernet communication (Modbus TCP, EtherNet/IP, and CC-Link IE Field Basic) allows **easy communication** with existing devices such as touch panels and PLCs.



Series	Model	Rated Input Voltage Power Consumption	Operating Temperature	Storage Temperature	RFID Interface Specification	Supported Tags	
						Card	KEYFOB
KW2D	Without holder: KW2D-R100Q4E With holder: KW2D-RH100Q4E	24V DC 2.4W max.	-25 to +55°C	Front unit: IP65/67 Back unit: IP20	ISO/IEC14443 Type A (Type A), ISO/IEC18092 (Type F), JIS X6319-4 (Type F), ISO/IEC 15693 (Type V)	ISO/IEC14443 Type A, ISO/IEC18092, JIS X6319-4, ISO/IEC15693	ISO/IEC14443 Type A

Strengthening security of production recipes and parameters

BEFORE

Password might not be enough.
(Security issues)

AFTER

Unauthorized and inadvertent
access to devices are prevented.
Security for recipes and
parameters is enhanced.

An RFID reader is mounted on an operation
panel with ø22mm panel cut-out. The
reader is then used to register workers and
authenticate their ID cards.





New

HR6S



Safety Relay Module

Full range of diagnostic functions reduce downtime for semiconductor manufacturing equipment

- Diagnostic results are **coded** and output as a pulse signal for easy and detailed monitoring of the safety system.
- Dial switching allows connection to **various input devices** and **selection of numerous start modes**, eliminating the need to use a different module with a different function.
- IDEC safety relay modules, including HR5S category 2 relay modules, cover all safety requirements from **categories 1 to 4**. Can be used for various safety applications.



Coming Soon

SA2E

Miniature Photoelectric Switches

De facto standard size with a full range of functions

- 11 × 31 × 20mm** (W×H×D), de facto standard size.
- Light On / Dark On** switching available to reduce maintenance parts inventory and make on-site setting changes possible.
- Operating instructions** are printed on the packaging and laser marked on the body, reducing the use of paper in consideration for the environment.
- QR** codes are printed on the products, enabling easy access to operating instructions from smartphones.



New



SX5E

(8- port model)

Ethernet Switches

Unmanaged switch available with 5-port or 8-port

- High impact resistance** equivalent to PLC enables high reliability and stable operation.
- Robust metal housing** for superior environmental resistance.
- Compliant with **Fast Ethernet** standards for high-speed communication.
- Equipped with various functions such as **QoS** (8-port model only) and redundant power input (2 power systems).



8-port

5-port



HS6B/HS6E/HS5L

Interlock Switches / Solenoid Interlock Switches

Slim and compact interlock switches



- Compact and built-in with **3 poles of contacts**, easy mounting is possible on limited spaces as on chamber doors. (*1)
- Solenoid switches ensure reliable safety by locking, with a thickness of only **15 mm**. (*2)
- Integrated cable design minimizes **wiring time**. (*3)
- **Head removal detection function** prevents malfunctions due to loosening of the head after changing the actuator insertion direction. (*4)
- Complete with 2 models: spring lock and solenoid lock. (*5)

*1) HS6B *2) HS6E *3) HS6B, HS6E
*4) HS5L spring lock model *5) HS6E, HS5L



Series	Contact Ratings	Mechanical Durability	Electrical Durability	Solenoid Unit	International Standard				
					UL	CSA	TÜV	CCC	CE
HS6B	Rated insulation voltage: 300V Rated continuous voltage: 2.5A	1 million times min. (GS-ET-15)	100,000 times min. (AC-12 250V 1.5A, DC-12 250V 0.2A) 1 million times (24V AC/DC 100mA) (Operating frequency: 1200 operations/h)	—	●	●	●	●	●
HS6E	Rated insulation voltage: 30V to 300V Rated continuous voltage 0.5A to 2.5A	1 million times min. (GS-ET-19)	100,000 times min. (AC-12 250V 6A) 1 million times (24V AC/DC 100mA) (Operating frequency: 900 operations/h)	Rated voltage: 24V DC Rated current: 110mA	●	●	●	●	●
HS5L	Rated insulation voltage: 250V Rated continuous voltage: 2.5A	2 million times min.	100,000 times (operating frequency: 900 operations/h) 2 million times min. (24V AC/DC, 100mA)	Rated voltage: 24V DC Rated current: 200mA	●	●	●	●	●

Application: Interlock for protection covers on chambers

Compact size contributes to small footprint





HS7A/HS3A

Non-Contact Interlock Switches

Compact size^(*) for stable detection even on rattling doors^(*)

- Compact **reed switches** for easy mounting on chamber doors. ^(*)
- Satisfies safety requirements up to **Category 4** when used with a safety relay module. ^(*)
- Compliant with up to **PLe, Category 4, and SIL CL3** regardless of use with specific modules. ^(*)
- Maximum number of connections: **36^(*), 20^(*)**. Interlock switches can be integrated on multiple chamber doors.
- **RFID** feature ensures reliable detection even when mounted on rattling doors. ^(*)

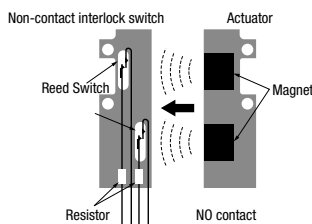
*1) HS7A *2) HS3A



Operation Principle (Reed Switch)

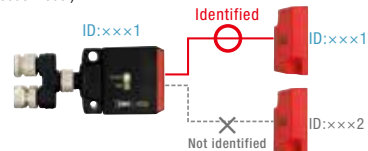
As the actuator equipped with magnets approaches the non-contact interlock switch, the reed switch inside the interlock switch turns on (NO contact) or turns off (NC contact).

Because multiple magnets are embedded, the interlock switch cannot be defeated by using other magnets or metal chips.



Identification Characteristics

Tamper-proof (unicode model)



An actuator with an electronic code is assigned to a sensor head. This prevents tampering by using an unassigned spare actuator.

Series	Rated Voltage	Rated Current	Electrical Durability	Minimum Operation Distance when Safety Output is ON (Sao)	Minimum Operation Distance when Safety Output is OFF (Sar)	International Standards
HS7A	24V DC	100mA	1.2 million operations min. (HS7A-DMP)	5mm (HS7A-DMC) 8mm (HS7A-DMP)	15mm (HS7A-DMC) 20mm (HS7A-DMP)	EN60947-5-1 (IFA approval) EN ISO 13849-1 EN62061 UL508 (UL listed) CSA C22.2 No.14 (c-UL listed)
HS3A	24V DC ±15%	80mA (at no load)	—	13mm	58mm	EN60947-5-3 (IFA approval) EN954-1 EN ISO 13849-1 EN62061 GS-ET-14 (IFA approval) UL508 (UL listed) CSA C22.2 No.14 (c-UL listed)

Application: Interlock for protective cover on chambers

Compact size and RFID feature enables easy installation



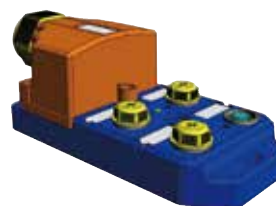
SE2L

Safety Laser Scanner

Compact safety laser scanner suitable for semiconductor manufacturing equipment

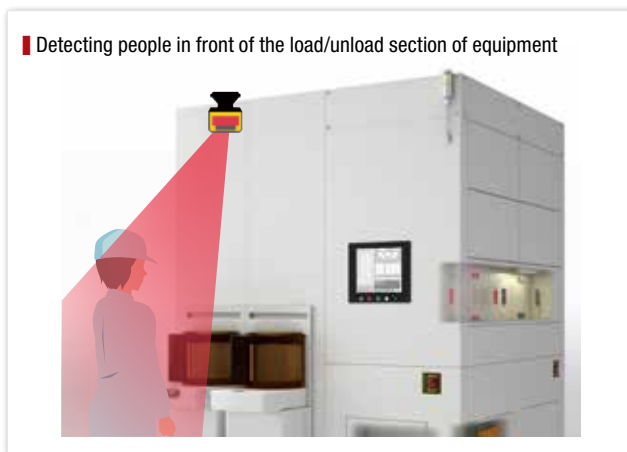
- Compact size suitable for installation near and integration with equipment. (85 × 85 × 95mm)
- Using a configuration software and **teaching** function enables automatic area configuration by referring to walls and pillars.
- Troubleshooting is easy by displaying errors and detection logs on the unit or by connecting a PC.
- SE9Z-* connection box ^(*) equipped with a safety relay reduces **maintenance** time and **wiring**.

*1 Available soon



SE9Z-* connection box

■ Detecting people in front of the load/unload section of equipment



Series	Performance Level	SIL	Response Speed	Power Voltage	Power Consumption	International Standards			
						UL	CSA	TUV	CE
SE2L	PL=d	SIL 2	ON → OFF: 60 to 510ms OFF → ON: 270 to 510ms	24V DC ± 10%: When using converter power supply 24V DC -30%/+20%: When using battery	Without Output Load: 6W Maximum (without output load): 50W	●	●	●	●

Application: Detecting people in front of the load/unload area, intrusion detection

Non-contact, long-distance detection and compact size allow flexible mounting without affecting footprint





HR5S



Safety relay module

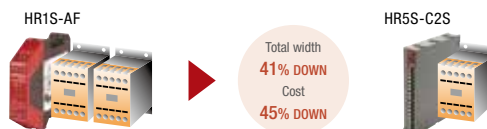


Easy implementation of Category 2 configuration, reducing installation time and cost

- Non-redundant safety system compliant with international standards.
- Reduces cost and installation space for safety control parts.
- The size of off-delay models reduced to **half** compared to conventional models.
- When emergency off switches or interlock switches are turned off, an alarm can be output in case of failure (**Category 2** requirement). Therefore, machines with low-risk can operate without stopping.

Performance of Category 2 system

■ System that eliminates short-circuit fault detection when wiring from an input device



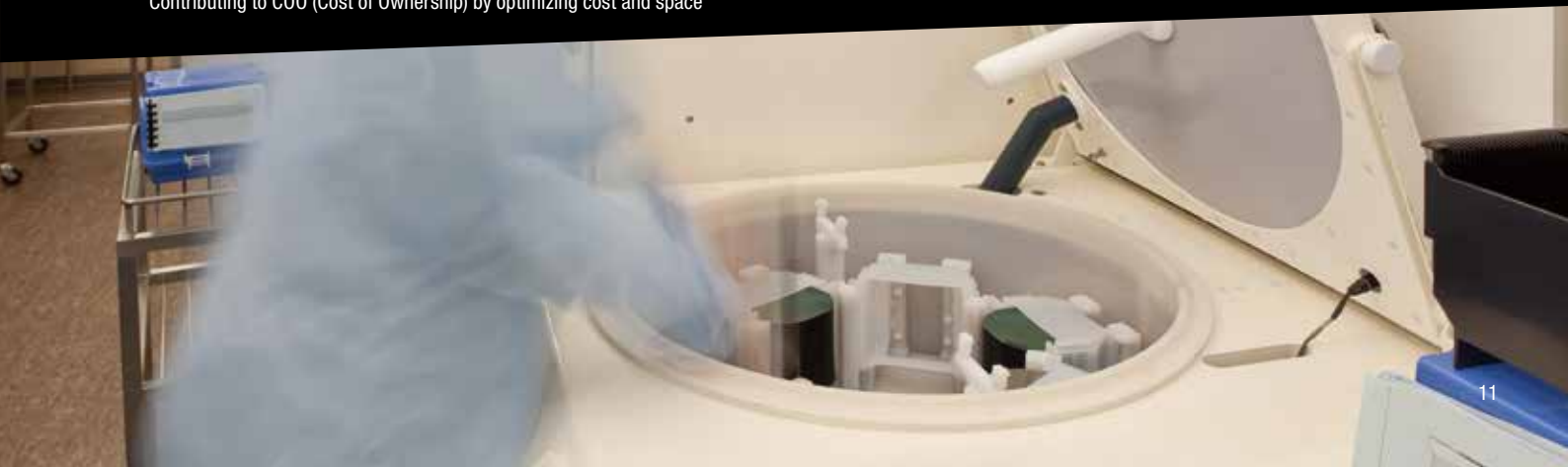
■ System with off-delay control system



Series	Model	Performance Level (PL)	Contact Configuration	Reaction time		International Standards				
				Output without OFF-delay	Output with OFF-delay	UL	CSA	TÜV	CCC	CE
HR5S-C2S	Simple model	PL=c	2NO (Without OFF-delay): Safety output	0.02s max.	-					
HR5S-C2B	Standard model	PL=d								
HR5S-C2D-T□□□	Off-delay model			1NO (Without OFF-delay): Auxiliary output + 1NO (With OFF-delay): Safety output	0.02s max.	0.25, 0.5, 1, 2, 4 sec				

Application: Building an interlock control circuit for equipment

Contributing to COO (Cost of Ownership) by optimizing cost and space



RF1/RF2

Force Guided Relay

Compact force guided relays help reduce installation space

- Force guided contact mechanism (EN50205 Type A TÜV approved).
- Pioneering **2-pole** force guided relays.^(*)
- Contact configuration can be selected according to the circuit.
 - 4-pole (2NO-2NC, 3NO-1NC),
 - 6-pole type (4NO2NC, 5NO1NC, 3NO3NC)^(*)
 - 2-pole type (SPST-NO+SPST-NC, DPDT)^(*)
- Shock resistance exceeding **200m/s²**.
- DIN-rail mount sockets with **finger protection** and PC board sockets available.

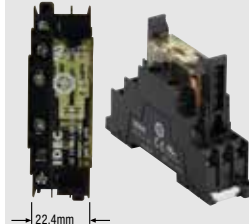
*1) RF2 *2) RF1



■ When Using RF2S-1A1BLD1-D24 & DIN Rail Socket



When using a 4-pole force guided relay with LED indicator & DIN rail socket



* Compared to IDEC products. Total cost refers to the cost for relays and sockets.

Series	Contact Rating	Power Consumption	Electrical Life	Mechanical Life	International Standards			
					UL	CSA	TÜV	CE
RF1	Rated load: 250V AC 6A, 30V DC 6A Allowable Switching Power: 1500 VA, 180W DC (30V DC max.) 85W DC (30V to 125V DC max.) Allowable Switching Voltage: 250V AC, 125V DC Allowable Switching Current: 6A	Approx. 0.36 (4-pole) Approx. 0.50W (6-pole)	250V AC 6A resistive load: 100,000 operations min. 30V DC 6A resistive load: 100,000 operations min. (operating frequency 1200 per hour)	10 million operations min. (operating frequency 10,800 per hour)	●	●	●	
RF2	Rated load NO contact: 240V AC 6A / 24V DC 6A NC contact: 240V AC 3A / 24V DC 3A Allowable Switching Power: NO contact: 1440VA/144W NC contact: 720VA / 72W Allowable Switching Voltage: 250V AC, 125V DC Allowable Switching Current: 6A	Approx. 0.7W	NO contact: 100,000 operations minimum (operating frequency 1,800 per hour) at 240V AC / 6A resistive load or 2A inductive load (power factor 0.4) 100,000 operations minimum (operating frequency 1,800 per hour) at 24V DC / 6A resistive load or 1A inductive load (time constant 48ms)	10 million operations min. (operating frequency 18,000 per hour)	●	●	●	●

Application: Building interlock circuit for equipment

Flexible construction of safety circuits in equipment



FS1A

Safety Controller

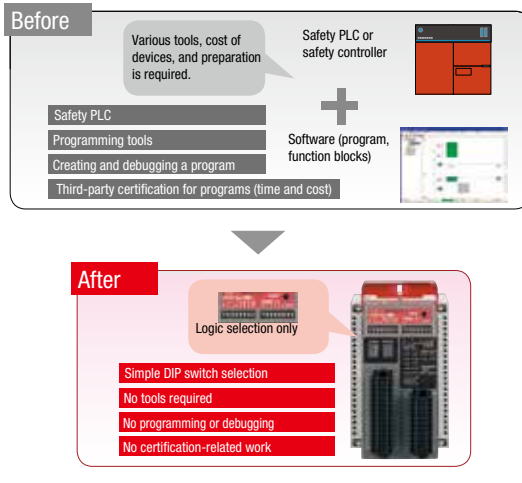
Pre-programmed to easily build a safety system

- Equipped with **35** safety circuit logics for immediate use.
- Compliant with ISO13849-1 **PLe**.
- No need for programming; simply use a switch to **select** a built-in **logic**.
- Complies with **international safety standards** when connected to safety input/output device.
- Various functions integrated into one device.



■ Selecting a logic—that's all you need!

SafetyOne lets you configure a system without any programming. Complies with international safety standards when connected to safety input/output device.



Series	SIL / PL / Category	Operating Voltage	Consumption Power	Safety Input/Output Points	International Standards			
					UL	CSA	TÜV	CE
FS1A	IEC61508 Safety Integrity Level 3, ISO13849-1 Performance Level e, ISO13849-1 Category 4	24V DC	48W	Safety input: 14 Safety output: 4	●	●	●	●

Application: Building interlock control circuits for equipment

Reduced total cost, simplified system wiring





LD6A

LED SignalLight Towers

Stylish design with ergonomic visibility

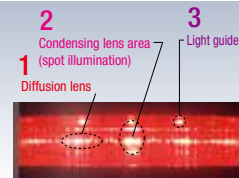
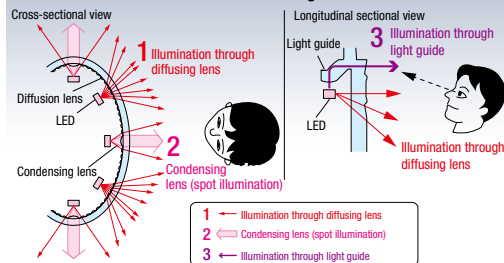
- Universal design with oval shape and striped design enhances **visibility**.
- Variety of mounting patterns, easily replaceable LED units, and **plug-in** terminals.
- Steady / flashing (flashing cycle compliant with **IEC** standards / alarm types available).
- Unique powerful design with 360-degree sound field. **Two alarm** sound patterns available.
- Lens design for high visibility.



■ Unique lens offers high visibility

Three different illumination methods and a unique lens shape enable high visibility from all directions.

■ Characteristics of the lenses and light



By combining a diffusing lens, which diffuses the light broadly, with a condensing lens, a super bright area is created enabling high visibility. Also, the illumination through the light guide enhances the visibility when the SignalLight is viewed from below.



Series	Rated Voltage	Power Consumption (LED)	Power Consumption (Buzzer)	Flashing Cycle (IEC60073)	LED Life	Alarm Volume	International Standards		
							UL	CSA	CE
LD6A	24V AC/DC	LED 0.6W (R,Y) 0.75W (S, G) 0.5W (W)	110mA max.	Approx. 105 flashes per minute (1.75Hz)	Approx. 30,000 hours	70 to 90 dB, at 1m (volume adjustable)	●	●	●

Application: Warning alert

Stylish design for devices



XA/XW/HW series

EMO Switches

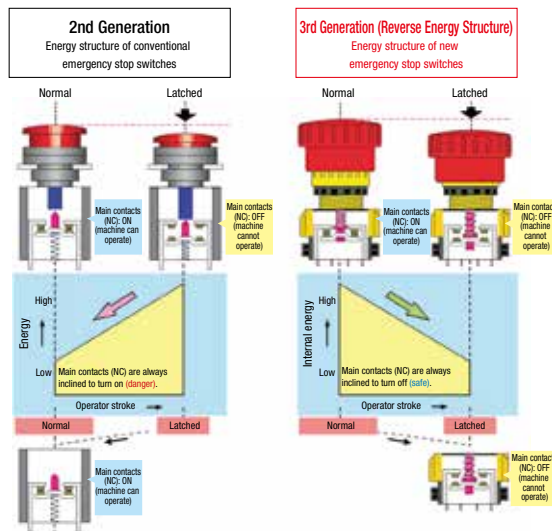


Emergency Off (EMO) switches in compliance with SEMI standard S2

- **Direct opening action** function.
- IDEC Safe Break Action and reverse energy structure (XA/XW) satisfies the requirements of **international safety standards**.
- The switch guard is compliant with **TÜV Rheinland** when used with suitable SEMI S2 and SEMATECH products.

Reverse Energy Structure

With X series, the potential energy level of the latched status is lower than that of normal status. In the event the switch is damaged due to excessive shocks, the NC contacts will turn off, thus stopping the machine (patented design)



Safe Break Action

When the contact block is detached from the operator, the NC contact opens (OFF).



When the contact block is detached from the operator, the cam directly opens the NC main contacts (contacts are off). (Patented)

Series	Hole Size (mm)	Head Size (mm)	Terminal Style					IP Rating	Contact Ratings	International Standards				
			Solder	Solder/Tab	PC Board	M3 Screw	Connector			UL	CSA	TÜV	CCC	CE
XW	ø22.3	ø40				●		IP65 IP67	Rated insulation voltage: 250V Rated continuous voltage: 5A	●	●	●	●	●
XA (Removable contact)	ø16.2	ø40	●					IP65	Rated insulation voltage: 300V Rated continuous voltage: 5A	●	●	●	●	●
HW	ø16.2	ø40				●		IP65	Rated insulation voltage: 600V Rated continuous voltage: 10A	●	●	●	●	●

Application: Emergency shut down when abnormality occurs in a device

Suitable for section 12.1 of SEMI standard (S2 0706) EMO Circuit





HW series



Push-in Switches & Pilot Lights

ø22mm switches & pilot lights with enhanced collecting mounting compared to ø30mm and ø25mm, while ensuring the same operability as ø30mm.

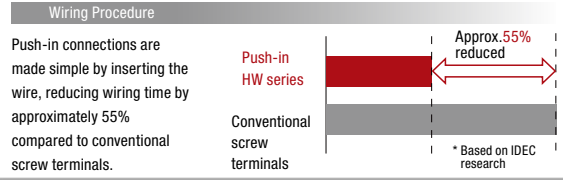
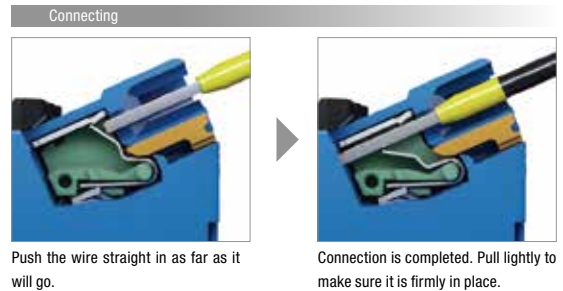


- **Push-in** terminals enable easy wiring and little skill is required.
- Approximately **55%** less work time and improved efficiency compared to conventional screw terminals. Reduces downtime during manufacturing and maintenance. (*1)
- Because screws are not used, re-tightening of screws is not required, eliminating anti-vibration measures for semiconductor manufacturing equipment.
- Terminals with finger-safe protection enable safe maintenance and prevents accidents such as electrical shocks.

*1 Based on IDEC research

Time saving & efficient

Reduce wiring time



Series	Applicable Wires	Applicable Wire Size	Mechanical Durability	Electrical Durability (*4)	Contact Ratings	International Standards				
						UL	CSA	TÜV	CCC	CE
HW	UL1007 H05V,H07V JIS 3307(IV) JIS 3316(KIV)	0.25 to 1.5mm ² (AWG16 to 24)	<ul style="list-style-type: none"> · Pushbuttons, illuminated pushbuttons Momentary: 5,000,000 operations min. Maintained: 500,000 operations min. · Selector switch: 500,000 operations min. · Key selector switch (disc tumbler): 500,000 operations min. · Key selector switch (pin tumbler): 100,000 operations min. 	<ul style="list-style-type: none"> · Pushbuttons Momentary: 500,000 operations min. (*1) Maintained: 500,000 operations min. (*3) · Selector switch: 500,000 operations min. (*2) · Key selector switch (disc tumbler): 500,000 operations min. (*2) · Key selector switch (pin tumbler): 100,000 times min. (*2) 	Silver contacts Rated Insulation Voltage: 600V Rated operating Current: 10A	●	●	●	●	●

*1) Depends on rated operating current *2) Operating frequency 1200 operations/h, duty ratio 40% *3) Switching frequency 900 operations/h, duty ratio 40% *4) Load condition 220V AC, 3A (AC-15)

Application: Operation panel for devices

ø22 size and reduction of labor and wiring work contribute to COO and CoC(Cost of Consumables)





CW series



Flush Silhouette Switches

Flush mount switches with sleek design & Push-in technology

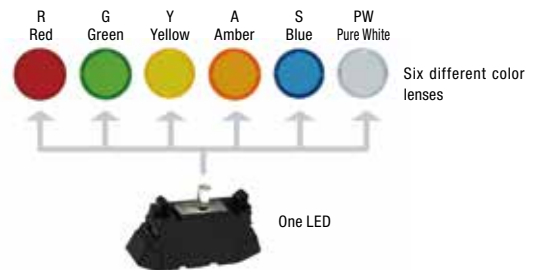


- Flush design with **2.5mm** thick bezel prevents particles and contaminants from accumulating.
- Push-in** terminals and **screw** terminal styles available.
- Screw terminal models have a **short body** in depth behind the panel, reducing installation space.
- A single LED supports 6 colors. When color changes are required, only the lens needs to be replaced. Eliminates the need to stock replacement LEDs in variety of colors.
- Approximately **55%** less work time and improved efficiency compared to conventional screw terminals. Reduces downtime during manufacturing and maintenance.

*1 Based on IEC research

Six different colors with a single LED

Previously, 5 different color LEDs were required but with the new illuminated unit, only a single LED is needed. Only the lens needs to be replaced to change the illumination color. The new LED reduces maintenance time, makes stock control easier, and is environmentally friendly.



Series	Applicable Wires	Applicable Wire Size	Mechanical Durability	Electrical Durability	Contact Ratings	International Standards				
						UL	CSA	TÜV	CCC	CE
CW	UL1007 H05V,H07V JIS 3307(IV) JIS 3316(KIV)	0.25 to 1.5mm ² (AWG16 to 24)	Pushbuttons, illuminated pushbuttons Momentary: 2 million operations min. (when single contact block is used) Maintained: 250,000 operations min. (when single contact block is used) Selector switches: 250,000 operations min. (when single contact block is used) Key selector switches: 250,000 operations min. (when single contact block is used)	50,000 operations min. or 100,000 operations min. (*1) (*2)	Rated insulated voltage: 300V Rated continuous current: 10A	●	●	●	●	●

*1) Depends on rated operating current

**2) Operating frequency 1800 operations/h momentary, operating frequency 900 operations/h maintained

Application: Operation panel for devices

Flush Silhouette prevents contaminants and particles from accumulating, reducing maintenance work



LB/LBW series

Flush Silhouette Switches

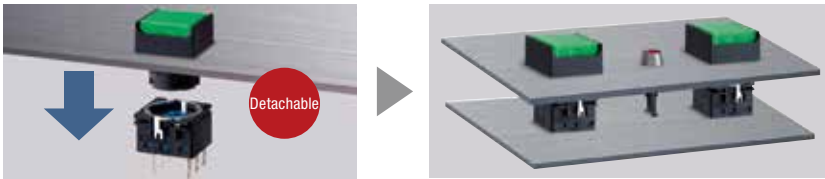
Flush mount switches with sleek design

- Stylish design with 2mm-thick bezel prevents particles and contaminants from accumulating.
- Removable contact block / single board mounting available. Switches with guard available to prevent misoperation.



Removable Contact Block /Single Board Mounting

Removable contacts enable easy wiring / Single board mounting for space-saving installation.



Flush Silhouette

Projects only 2mm from the panel surface. For sleek and refined style.



Series	Mechanical Durability	Electrical Durability	Contact Ratings	International Standards				
				UL	CSA	TÜV	CCC	CE
LB	Momentary: 2,000,000 operations min. Maintained: 250,000 operations min. Selector/key selector sw: 250,000 operations min.	50,000 or 100,000 operations min. (*1) (*2)	Rated Insulation Voltage: 250V Rated Operating Current: 5A (silver contact) 3A (gold contact)	●	●	●	●	●
LBW	Momentary: 2,000,000 operations min. Maintained : 250,000 operations min. Selector/key selector sw: 250,000 operations min.	50,000 or 100,000 operations min. (*1) (*2)	Rated Insulation Voltage: 250V Rated Operating Voltage: 5A (silver contact) 3A (gold contact)	●	●	●	●	●

*1) Depends on rated operating current *2) Switching frequency - 1800 operations/h: momentary 1200 operations/h: maintained including selector switches and key selector switches

Application: Operation panel for devices

Flush silhouette switches prevent contaminants and particles from accumulating and reduces maintenance work

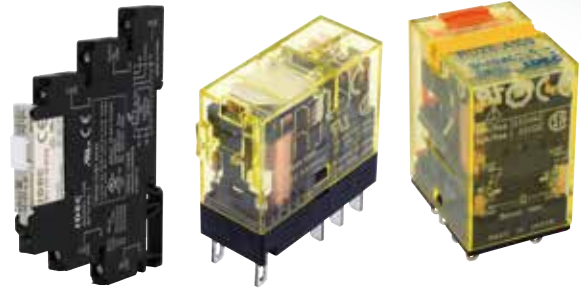




RU/RJ/RV8

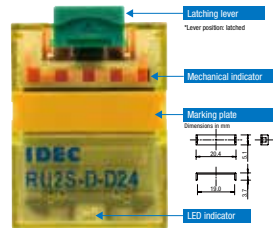
Slim Relays / Universal Relays

**Slim, compact relays
save installation space**



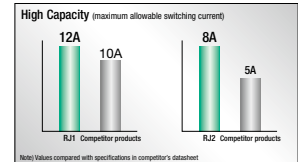
- **Compact** size with excellent durability and high allowable contact current.
- Circuit check can be performed without energizing the coil, enabling check up **before applying power** to the relay. (RU)
- The release lever easily holds and removes the relay and push-in terminals, reducing **wiring time**. (RU, RJ)
- Space-saving **6mm** ideal for high density mounting. (RV8)
- Only **70mm** from the DIN rail. Suitable for slim control panels and low-profile AGVs. (RV8)

Time Saving & Efficient



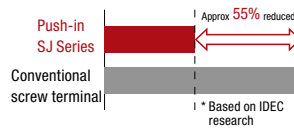
Large Switching Capacity

Highly conductive materials ensure stable electric conduction of current.



Save up to 55% in wiring time

Wiring time reduced greatly compared with conventional screw terminals. (Compared with IDEC products)



Reduce maintenance work

Push-in terminals eliminate the need for torque maintenance such as tightening of screws because screws are not used.



Series	Allowable Contact Current	Contact Material	Electrical Life	Mechanical Life	International Standards			
					UL	CSA	TÜV	CE
RJ	1-pole: 12A 2-pole: 8A 2-pole (bifurcated contacts): 1A	AgNi (*1) AgNi (Au clad) (*2)	•AC: 200,000 operations min. DC: 100,000 operations min. Operation frequency 1800 operations/h (*1) •AC: 100,000 operations min. DC: 200,000 operations min. Operation frequency 1800 operations/h (*2)	•AC: 30,000,000 operations min. DC: 50,000,000 operations min. Operation frequency 18,000 operations/h (*1) •AC: 10,000,000 operations min. DC: 20,000,000 operations min. Operation frequency 18,000 operations/h (*2)	●	●	● (VDE)	●
RU	2-pole (RU2): 10A 4-pole (RU4): 6A 4-pole (RU42 bifurcated contacts): 3A	2-pole (RU2): Ag alloy 4-pole (RU4): Ag (Au-clad) 4-pole (RU42 bifurcated contacts): Ag-Ni (Au-clad)	2-pole (RU2): 100,000 operations min. (250V AC, 10A/resistive load) 500,000 operations min. (250V AC, 5A/resistive load) 4-pole (RU4): 50,000 operations min. (250V AC, 6A/resistive load) 4-pole (RU42 bifurcated contacts): 100,000 operations min. (250V AC, 3A/resistive load)	2-pole (RU2) / 4-pole (RU4): AC: 50,000,000 operations min. DC: 100,000,000 operations min. 4-pole (RU42 bifurcated contacts): 50,000,000 operations min.	●	●	●	●
RV8	6A	AgNi+Au plated	30,000 operations min. (NO contact) 10,000 operations min. (NC contact) (*3)	10,000,000 operations min. (Operation frequency 18,000 operations/h)	●	●	● (VDE) (*4)	●

*1) 1-pole, 2-pole *2) 2-pole (bifurcated contacts)

*3) 250V / DC30V AC, 6A resistive load, operation frequency 1800 operations/h

*4) RV1H only

Application: Building control circuit for equipment

Compact size with small footprints





FT1A

Small Controller

Powerful controller with integrated I/O for optimal control

- Touch, Pro, and Lite: **3 models** available to provide flexibility for a variety of applications.
- **Touch panel + controller** (Touch) reduces installation space and wiring work by integrating the touchscreen unit and control unit.
- **Ethernet, USB, and RS232C** interfaces available for various host communication.
- Independent dual-axes is possible using **2 pulse outputs** (only Pro/Lite models with pulse output).
- **Relay output** and **transistor output** for applications with frequent switching.



Series	Built-in Output Points (*1)						International Standards			
	No. of Inputs		No. of Digital Outputs				No. of Analog Output Points	UL	CSA	CE
	Digital	Analog	Relay Output		Transistor (Sink Output)	Transistor (Source Output)				
			10A Relay	2A Relay						
FT1A Touch	6 points	2 points	4 points	–	4 points	4 points	2 points			
FT1A Pro	6 to 30 points	2 to 8 points	4 points	4 to 12 points	4 to 18 points	4 to 18 points	–	●	●	●
FT1A Lite	6 to 30 points	2 to 8 points	4 points	4 to 12 points	4 to 18 points	4 to 18 points	–			

*1) Combination of I/O points differs depending on the part no.

Application: Building a control circuit for equipment and peripheral devices

Suitable for simple control and integrated functions, achieve small footprint



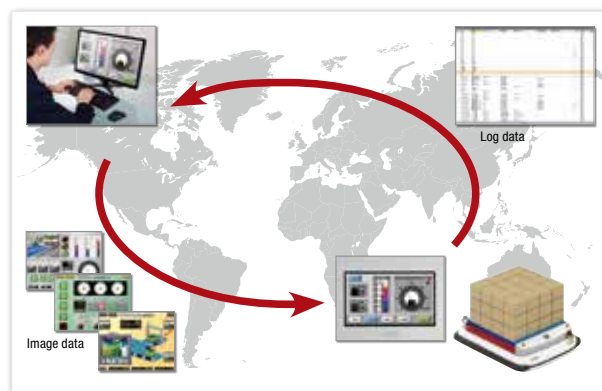


HG series

Operator Interfaces

Excellent visibility and usability with key features built for reliable operations

- With the WEB server function, location of AGVs and status of automated warehouses can be checked, and **remote** monitoring and operating of equipment is possible using a PC, tablet, or smartphone.
- Data inside operator interfaces can be sent in CSV file or screenshot using the email function allowing tracing of devices, data analysis, and sending early alerts to operators.
- Remote maintenance** is possible by using the FTP server and client function to transfer project data and read history data.
- Maintenance time can be reduced with a long-life, high-performance LED backlight, reducing operation **costs**.
- Stress-free **1.5**-second startup allows quick access to devices.



Series	Display Size	Display	Color/ Shade	Display Resolution	Brightness	Rated Voltage	Power Consumption	International Standards		
								UL	CSA	CE
HG1G	4.3 inch	TFT color LCD	65,536	480 (W)×272 (H) pixels	800cd/m ²	12 / 24V DC	8W max.	●	●	●
HG2G-V HG2G-5T	5.7 inch	TFT color LCD	65,536	640 (W)×480 (H) pixels 320 (W)×240 (H) pixels	800cd/m ² (V) 500cd/m ² (5T)	12 / 24V DC	18W max. (V) 8W max. (5T)	●	●	●
HG3G-VA / V8	10.4 / 8.4 inch	TFT color LCD	65,536	1024 (W)×768 (H) pixels	700cd/m ² (VA) 800cd/m ² (V8)	24V DC	25W max. (VA) 22W max. (V8)	●	●	●
HG4G-V	12.1 inch	TFT color LCD	65,536	1024 (W)×768 (H) pixels	600cd/m ²	24V DC	25W max.	●	●	●
HG5G-V	15 inch	TFT color LCD	65,536	1024 (W)×768 (H) pixels	650cd/m ²	24V DC	27W max.	●	●	●

Application: Operation and monitoring of devices

Fast, visible, and easy with various communication protocols





WB1F/WB2F

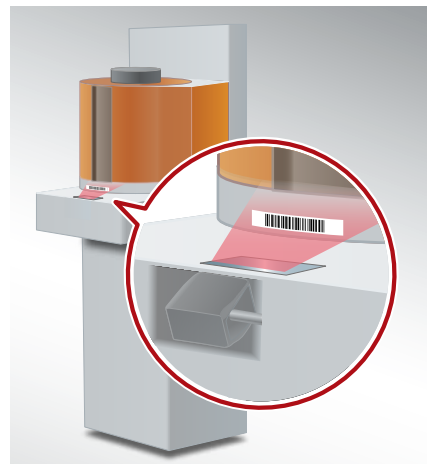
Fixed Barcode Scanner

Compact size suitable for downsizing of equipment



- Wide viewing angle and wide reading depth.
- **CCD** (WB1F) and **C-MOS** image sensors (WB2F).
- Maintenance costs are reduced as there are no moving parts.
- Images are acquired when they are scanned, making it possible to distinguish reading errors such as disturbance of ambient light.

■ Reading of FOUF information as defined by SEMI E15.1



Series	Rated Voltage	Consumption Current	Reading Distance	Number of Digits to be Read	Symbols to be read	International Standards	
						UL	CE
WB1F	5V DC \pm 0.25V (*1) USB Buspower (5V DC) (*2)	200mA maximum	35 \pm 10mm	64 digits maximum	EAN13/8 (including add-on), UPC-A/E/E1 (including add-on), CODE39, Codabar (=NW7), Interleaved 2 of 5 (=ITF), Standard 2 of 5 (=Industrial 2 of 5), Matrix 2 of 5, Chinese Post Matrix, COOP 2 of 5, SCODE, Code93, Code128, GS1-128 (formerly: EAN-128), MSI/Plessey, Italian Pharmacy (=Code32), CIP39, Tri-Optic, TELEPEN, Code11, GS1 DataBar (formerly: RSS) (*3)	●	●
WB2F	5V \pm 0.25V DC	500mA maximum	Barcode: 50 to 180mm 2D code: 50 to 150mm	Barcode: 64 digits maximum 2D code: 7,089 digits maximum	Barcode: EAN-13/8 (including add-on), UPC-A/E0/E1, (including add-on), CODE39, Codabar (=NW7), Interleaved 2of5 (=ITF), Standard 2of5 (=Industrial 2of5), Matrix 2of5, Chinese Post Matrix, COOP 2of5, SCODE, Code93, Code128, GS1-128 (formerly: EAN-128), MSI/Plessey, Italian Pharmacy (=Code32), CIP39, Tri-Optic, TELEPEN, Code11, GS1 Databar (formerly: RSS) (Omni-directional, Truncated, Limitrd, Expanded), IATA 2of5 2D code: QR Code/GS1 QR Code, Micro QR Code, DataMatrix (Data Code)/GS1 DataMatrix, PDF417, Micro PDF417, GS1 composite (CC-A, CC-B, CC-C), Japan Postal	●	●

*1) RS-232 type *2) USB type *3) Omni-directional, Truncated, Limited, Expanded

Application: Scanning ID Information such as FOUF ID on load ports

Reduces maintenance costs, compatible with SEMI E15.1 (WB2F)





FC6A



Programmable Controller

PLC suitable for the IoT era

- WEB server function allows easy construction of a **remote monitoring** system.
- Data can be sent by CSV file or screenshot using the email function allowing **tracing** of devices, **factor analysis**, and sending **early alerts** to operators.
- **Remote maintenance** can be performed by using the FTP server and client function to transfer project data and read historical data.
- Supports standard communication protocols for the industry on CPU modules, communication modules, and communication cartridges. The communication monitoring function **reduces debugging time** and allows smooth communication with peripheral devices.
- Removable terminal blocks are labor-saving and maintenance-friendly, reducing equipment downtime.



Series	Program Size	M ax. I/O Points
FC6A	FC6A All-in-one: 640KB maximum (80,000 steps) FC6A Plus: 800KB maximum (100,000 steps)	FC6A All-in-one: 520 points maximum FC6A Plus: 2060 points maximum (including 511 analog points)

Application: Automated warehouse control, remote operation/monitoring

Compact PLC achieves on-site control and remote operation





NC1V

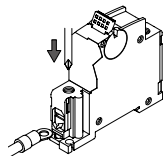
Circuit Protectors

Circuit protector for usability and safety

- The flat handle fits in the main body to **prevent misoperation** due to contact.
- Safe trip-free mechanism ensures that the circuit is cut-off even if the handle is operated immediately after an accident, in order to avoid an **sudden restart**.
- Integrated terminal covers achieve **IP20** finger protection and prevent electric shock.
- AC / DC common models available. Reduces **stock** control.



- Finger-safe, spring-up terminal reduces wiring time. Ring terminal tabs can be installed easily, and screws are held captive.



Padlock Attachment

Locks the retractable actuator in the off position to prevent NC1V from being switched on inadvertently.



- Main circuit terminals are finger-safe (IP20)

Spring-up, finger-safe structure requires no terminal cover.



- Auxiliary/Alarm contact terminals are equipped with a terminal cover

Voltage coil terminals on the relay trip version are also equipped with a terminal cover as standard.

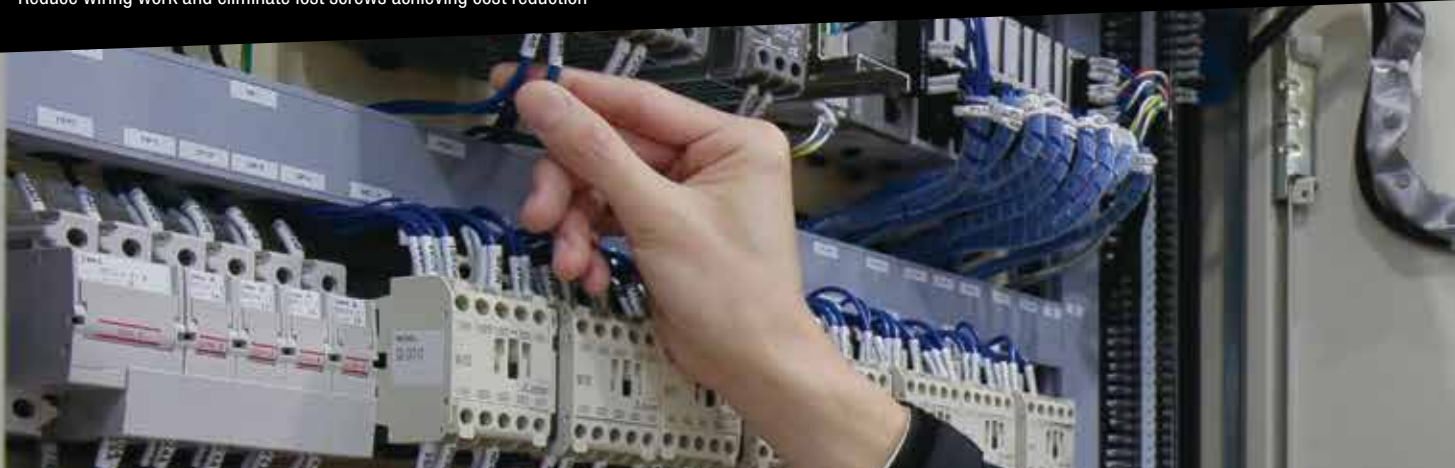


Series	Rated Voltage (AC, DC) (*1)	Rated Short-circuit Capacity	Series Trip Trip Characteristics	Dimensions (width)	International Standards				
					UL	CSA	TÜV	CCC	CE
NC1V	1-pole: 250V AC 50/60Hz, 65V DC 2-pole: 250V AC 50/60Hz, 125V DC 3-pole: 250V AC, 50/60Hz	2,500A	Curve M (slow) Curve A (medium) Curve S (instantaneous)	1-pole: 17.5mm 2-pole: 35.0mm 3-pole: 52.5mm	●	●	●	●	●

*1) 3-pole type is for AC voltage only.

Application: Protection from damage due to overload and short circuit in devices and circuits in equipment

Reduce wiring work and eliminate lost screws achieving cost reduction



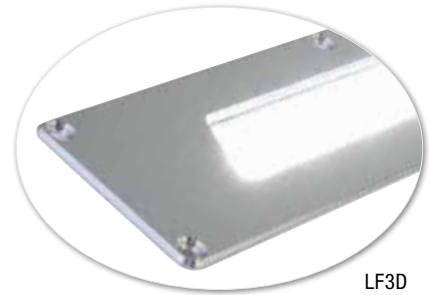


LF1B-N/LF2B/LF3D

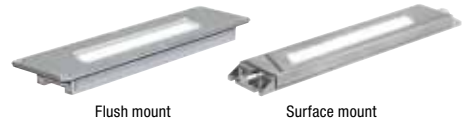
LED Lighting

Compact LEDs for a wide variety of applications

- Available in 2 cover types, 6 colors, and 6 lengths. (LF1B-N)
- Yellow for LF1B-N uses wavelength band that is **not sensitive to resist** material.
- AC universal input** for global use. (LF2B).
- Slim** compared to conventional IDEC products. (LF3D)
- Excellent wide light distribution characteristics, with dimmer function. (LF3D)



LF3D

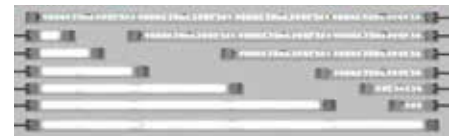


Flush mount

Surface mount

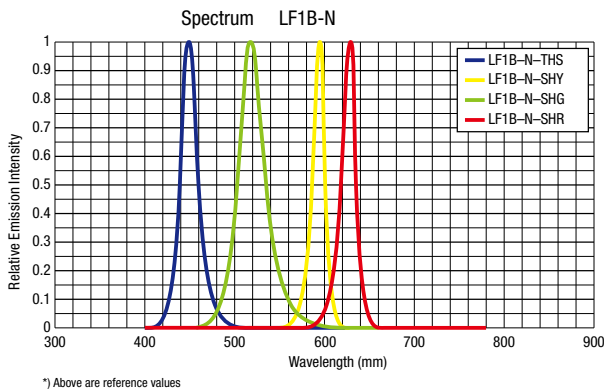


LF2B



LF1B-N

IDEC's yellow uses only short wavelength. Therefore, the LED can be used for many years without concern of change in wavelength.

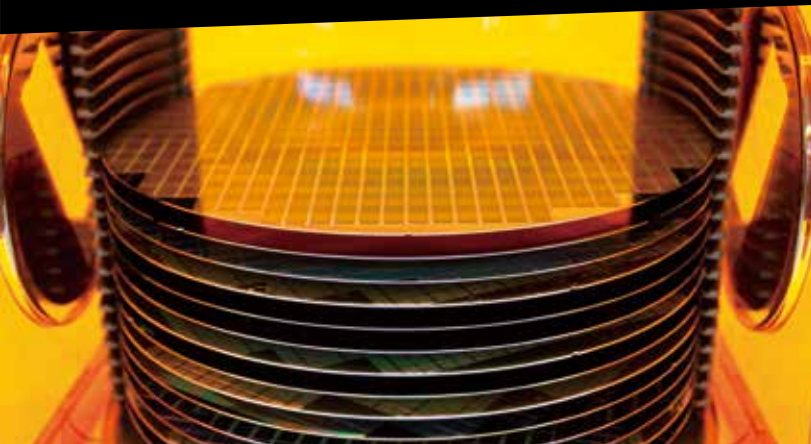


Series	Rated Voltage	Power Consumption	Reference Illuminance	Life	Illumination Color	International Standards		
						UL	CSA	CE
LF1B-N	24V DC	1.0 to 17.3W	9lx to 1350lx	40,000 hours	Daylight, warm white, yellow, red, green, blue	●	●	●
LF2B	24V DC 100 to 240V AC	100 to 240V AC: 2.2 to 15.9W 12V/24V DC: 2.6 to 10.6W	265 lx to 1520lx	40,000 hours	Daylight	● (1)	● (1)	●

*1) DC type only

Application: Lighting for various equipment such as that used for maintenance purposes

Suitable for SEMI S8 requirements





PS5R-V PS6R

Switching Power Supplies

Compact power supply easily mountable on DIN rails

- Efficient conversion of **93%**. (PS6R, 230V AC input)
- **Compact 10W DC-DC converter** allows various uses. (PS6R)
- IDEC's **SS terminal**^(*) enables ease of use and safety.
- EN61204-3 compliant (DC power supply **EMC Standard Class B**)
- Long-term **5-year** warranty (PS6R: 3 years) reduces maintenance costs.

^{*}1) SS terminal (save & safety terminal): The screw keeps in a spring-up state, so there is no need to loosen or remove the screw. This also prevents the screw from falling off, improving work efficiency.



Series	Rated Input Voltage	Output Capacity	Rated Voltage / Current	Dimensions (Width)	Efficiency (TYP. (rated output) ^(*))	International Standards			
						UL	CSA	TÜV	CE
PS5R-V	100 to 240V AC	10 to 240W	PS5R-VB : 5V/2.0A, 12V/1.3A, 24V/0.65A PS5R-VC : 12V/2.5A, 24V/1.3A PS5R-VD : 24V/2.5A PS5R-VE : 24V/3.75A PS5R-VF : 24V/5A PS5R-VG : 24V/10A	22.5 to 60mm	77 to 89% (100V AC) 73 to 90% (230V AC)	●	●	●	●
PS6R	100 to 240V AC	120 to 480W	PS6R-F : 24V/5A PS6R-G : 24V/10A PS6R-J : 24V/20A	37 to 85mm	90 to 91% (100V AC) 90 to 93% (230V AC)	●	●	●	●

^{*}1) When in a stable state at the rated value.

Application: Supplying power to various devices mounted on equipment

Compliant with SEMI-F47 standard certified for an input voltage of 208V AC



We make the point of contact, where people interface with machines, easy, safe and secure. We create new possibilities.

One of our corporate principles is to conduct business with consideration for social responsibilities. Since its founding, IDEC has developed and introduced the world to numerous products and services centered on its control technology. Today, our products are used not only in factories, but in a wide range of settings in people's everyday lives where customers desire safety, ease of use, reliability and a smaller environmental footprint.



IDEC CORPORATION

 www.idec.com

Head Office

6-64, Nishi-Miyahara-2-Chome, Yodogawa-ku, Osaka 532-0004, Japan

USA	IDEC Corporation	Tel: +1-408-747-0550	opencontact@idec.com	Hong Kong	IDEC Izumi (H.K.) Co., Ltd.	Tel: +852-2803-8989	info@hk.idec.com
Germany	APEM GmbH	Tel: +49-40-25 30 54-0	service@eu.idec.com	China	IDEC (Shanghai) Corporation	Tel: +86-21-6135-1515	idec@cn.idec.com
Singapore	IDEC Izumi Asia Pte. Ltd.	Tel: +65-6746-1155	info@sg.idec.com		Beijing Branch	Tel: +86-10-6581-6131	idec@cn.idec.com
Thailand	IDEC Asia (Thailand) Co., Ltd	Tel: +66-2-392-9765	sales@th.idec.com		Guangzhou Branch	Tel: +86-20-8362-2394	idec@cn.idec.com
India	IDEC Controls India Private Limited	Tel: +91-80679-35328	info_india@idec.com	Japan	IDEC Corporation	Tel: +81-6-6398-2527	jp_marketing@idec.com
Taiwan	IDEC Taiwan Corporation	Tel: +886-2-2577-6938	service@tw.idec.com				

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EV1118-0-U

