



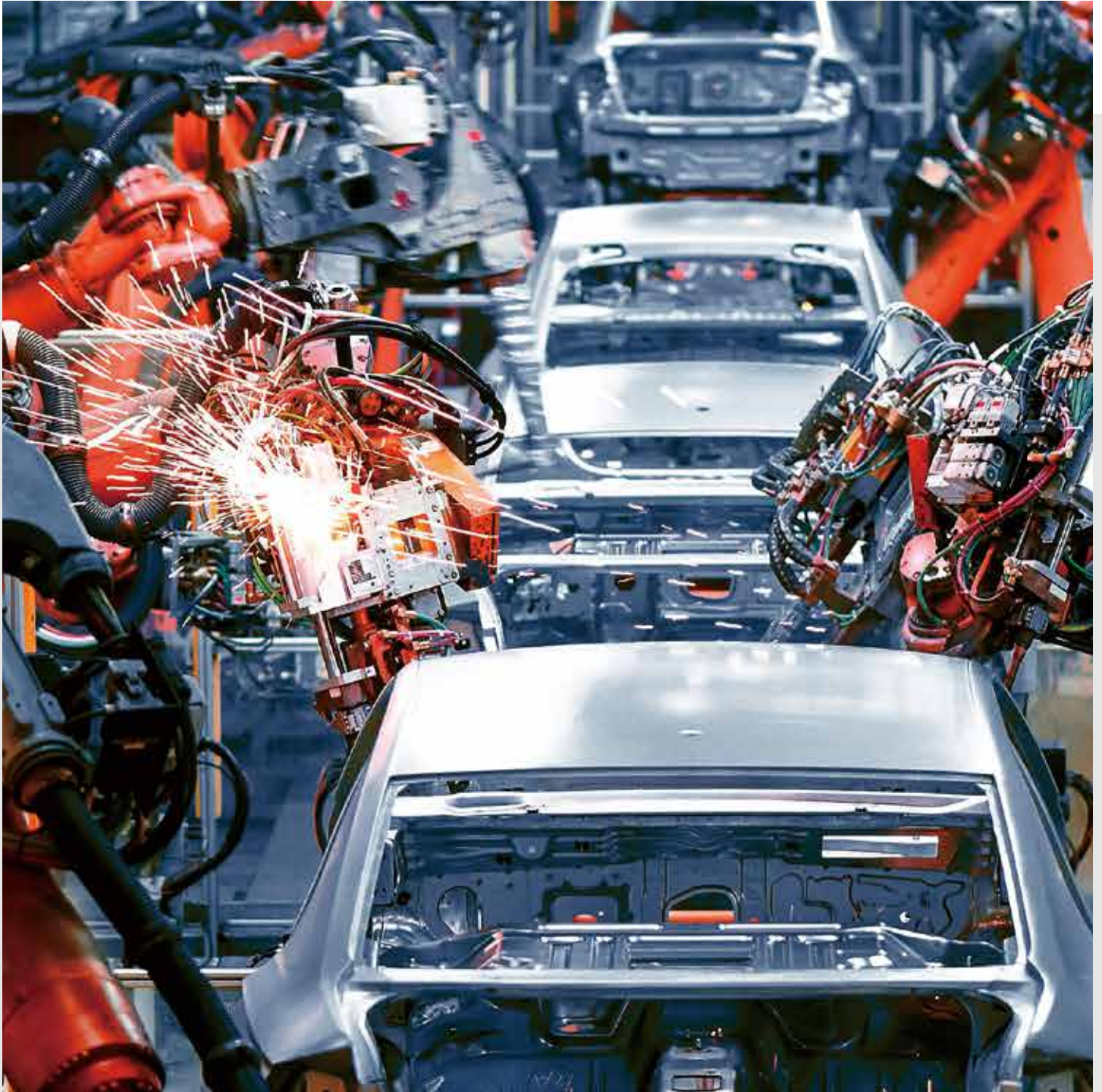
Think Automation and beyond...



AUTOMOTIVE

Industry Solutions

IDEC CORPORATION



AUTOMOTIVE INDUSTRY

In automotive and auto-parts manufacturing, both productivity and safety are essential. As a steadfast supplier to the automotive industry, IDEC combines both its technology achievements and customer experience insights to develop the most reliable products. For decades, IDEC has provided a variety of product solutions that meet the diverse demands of our customers. As the auto industry continues to evolve at an accelerated pace, we will embrace new challenges and offer more products that can deliver added value to our customers.

IDEC's Commitment to the Automotive Industry

ENHANCING PRODUCTIVITY AND SAFETY

The IDEC Group has spent many years examining trends and solving challenges in the automotive industry. We supply a variety of product groups required in manufacturing processes, from press to bodies, engines, and transmissions. We thoroughly observe all safety procedures, especially in environments where people and machines coexist. As a company aiming to pursue the most advanced safety and security technologies in the world, IDEC will continue to contribute to improving the safety and productivity of workers.

FOR SAFER AUTOMOTIVE MANUFACTURING NEXT-GENERATION CONCEPT "SAFETY2.0"

As the era of collaboration between people, machines, and robots is in full swing for automotive manufacturing equipment, the IDEC Group is promoting the next generation safety concept Safety2.0. Until now, we have increased the level of safety by making machines safe and eliminating areas where people and machines coexist. However, with Safety 2.0, people, things, and the environment are instead coordinated in order to maintain a high level of safety in areas where people and machines coexist. Building on the concept of Safety2.0, the IDEC Group will continue to provide higher value-added services to customers, including proposing flexible, safe, and highly productive automotive manufacturing systems, and consulting on safety measures for collaborative robot systems.

SERVING AUTOMOTIVE PRODUCTION PLANTS AND MANUFACTURING FACILITIES AROUND THE WORLD

In addition to delivering unique products to automotive production plants and manufacturing facilities around the world in a timely manner, IDEC provides local in-person and online support in multiple languages to our customers in all regions.



Innovative solutions for the evolving automotive industry

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1 Miniature Photoelectric Switches
SA2E



1 Tablet-Mount Safety Device
Safety Commander™



1 Smart RFID Reader
KW2D

Safety products to ensure safety of workers



1 Safety Light Curtains
SE4D-C

* SE4D is shown as image.



4 Flush Mount Silhouette Switches
LB/LBW Series



6 Surface Mount Indicators
LH1D



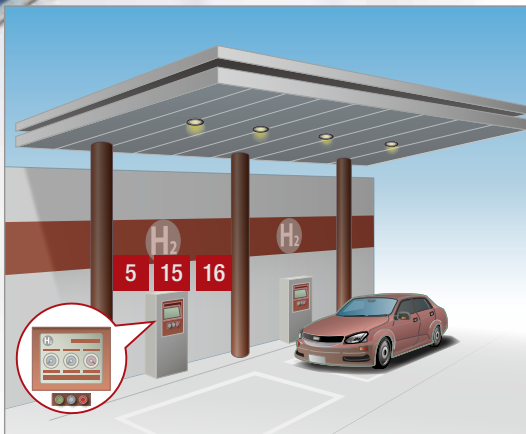
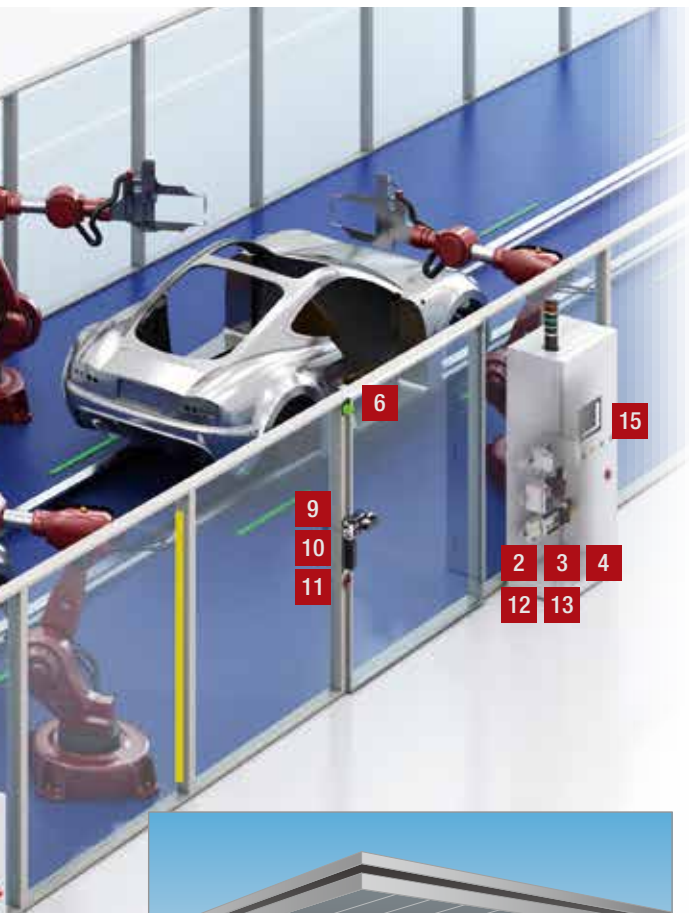
10 Door Handle Actuator for HS5 Series
Actuator



11 Non-Contact Interlock Switches
HS3A



12 Safety Controller
FS1A



Push-in connection products to save maintenance time



1



Safety Relay Module
HR6S

2



Push-In Switches &
Pilot Lights
HW/CW Series

3



Relays/
Push-In Relay Sockets
RU/RJ/RN/SU/SJ Series

Charging equipment for use in various environments

5



Metal Switches
AV Series

15



Operator Interfaces
HG Series

16



Safety Relay Barriers
(Intrinsically Safe Explosion-Proof Structure)
EB3N

7



Emergency Stop Switches
X Series

8



Safety Laser Scanners
SE2L

9



Interlock Switches/Interlock Switches
with Solenoids
HS5D/HS5L

13



Force Guided Relays
RF1/RF2

14



Operator Interface Handheld Model
HG1P

New



Safety Commander™

Tablet Mount Safety Device

Safety features (emergency stop switch / enabling switch) made available to commercially available tablets for use as a remote controller or teaching pendants

- The device can hold **8 to 11-inch** tablets with flexible mounting depending on the required display size.
- Emergency stop switch located in an easy-to-operate position. Pivoting mechanism allows the tablet to be used **vertically** or **horizontally**.
- Ergonomic grip design ideal for long and **fatigue-free** operation.



*) The above image shows the device mounted on a commercially available tablet.
 *) The tablet must be purchased by the user.

Product Name	Operating Temperature	Operating Humidity	Degree of Protection	Supported Tablet Size	Supported Tablet Thickness	Switches
Safety Commander	-20 to +55°C, (-20 to +35°C (*1))	45 to 85% RH	IP54	8 to 11 inches	Up to 24mm	Emergency stop switch: XA1E-LV302Q4R Enabling switch: HE5B-M2PY

• The data above does include tablets.
 *1) USB power supply

Safety added to tablets for robot operation

BEFORE

No access to safety controls when tablets are used.

AFTER

Reliable safety control is readily available, making teaching safer in hazardous areas.

Emergency stop switch and enabling switch are easily accessible while holding the tablet with one hand.



New Products



Coming Soon

SE4D-C

Safety Light Curtain

High performance safety light curtains with lightweight plastic housing

- Approximately 36% **smaller** (cross-section) and 45% **lighter** than conventional models.
- Compact size fits on a 20 × 20mm **aluminum frame**, enabling downsizing of equipment.
- Large operation indicators** indicates the presence of the light curtain and prevent downtime due to inadvertent shading.
- Equipped with a **variety of functions** such as muting control for each optical axis.

* SE4D is shown as image.



New

HR6S

Safety Relay Module

Advanced diagnostic functions that meet the needs of the IoT era

- IEDEC safety relay modules, including HR5S category 2 relay modules, cover all safety requirements from categories **1** to **4**.
- Diagnostic functions for approx. 20 items and status output available using pulse signals.
- Supports variety of input devices that were not available on conventional models.



Coming Soon

SA2E

Miniature Photoelectric Switches

Standard size with full range of functions in a compact package

- Industry standard **25.4mm**-size for installation.
- Light On / Dark On** switching available to reduce maintenance parts inventory and make on-site setting changes possible.
- 3 diffuse reflective models available according to distance (**1000mm**, **500mm**, **100mm**) for flexible installation.
- QR codes are printed on the products, enabling easy access to **operating instructions** from smartphones.



New



KW2D



Smart RFID Reader

Smart user authority control and log management with RFID

- Standard $\varnothing 22$ mm 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 IO-Link) allows **easy and flexible integration**.
- Suitable for **battery production lines** (copper-free products) (*1)



*1 Condition: Material used on the surface of the product does not contain copper. (Does not apply to the inside of the product)
Contact IDEC for details.

Product Name	Model	Rated Input Voltage Power Consumption	Operating Temperature	Degree of Protection	RFID Interface Specifications	Supported Tags	
						Card	KEYFOB
KW2D	Without holder: KW2D-R100Q4E With holder: KW2D-RH100Q4E	24V DC 2.4W max.	-25 to +55°C	Front unit: IP65F/67F 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

Recordkeeping and authorization management for operators

BEFORE

Do not know when and who was involved in the production process



AFTER

History log of operators enables detailed authorization management.

An RFID reader is mounted on an operation panel with $\varnothing 22$ mm panel cut-out. The reader is then used to register workers and authenticate their ID.





HW/CW Series

Push-In Switches & Pilot Lights

S³
CONNECT

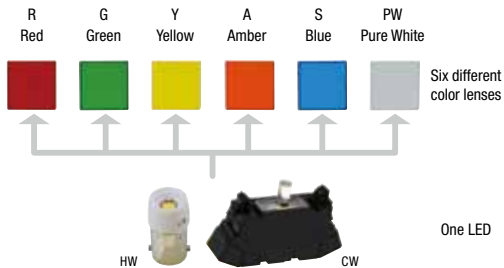
Push-in terminal reduces wiring time Single LED reduces spare parts

- **Push-in** terminals enable easy wiring without special skills.
- Up to **55%** less wiring time compared to conventional screw terminals. Reduces downtime during manufacturing and maintenance (*1).
- A single LED light source for **6 colors**, reducing **spare part count**.
- Suitable for **battery production lines** (copper-free products) (*2).



*1 Based on IDEC research.
*2 Excluding key selector switches.
Condition: Material used on the surface of the product does not contain copper. (Does not apply to the inside of the product)
Contact IDEC for details.

Six different colors with a single LED



Time saving & efficient

Reduces wiring time

Connecting



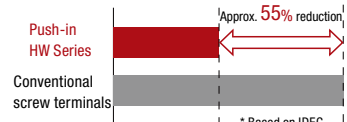
Push the wire straight in as far as it will go.



Connection is completed. Pull lightly to make sure it is firmly in place.

Wiring process

Push-in connections are made simple by inserting the wire, reducing wiring time by approximately 55% compared to conventional screw terminals.



Product Name	Mounting Hole Size (mm)	Bezel Size (mm)	Terminal Style		IP Rating	Contact Rating	International Standards				
			Screw	Push-in			UL	CSA	TÜV	CCC	CE
HW	Ø22	Ø30	●	●	IP65 (*1)	Rated insulation voltage: 600V Rated current: 10A	●	●	●	●	●
CW	Ø22	Ø30	●	●	IP65	Rated insulation voltage: 300V Rated current: 10A	●	●	●	●	●

*1 Dual pushbuttons: IP40

Application: Operation panels

Using push-in technology to improve the efficiency of wiring work





RU/RJ/SU/SJ Series

3
CONNECT
Relays/ Push-In Relay Sockets

Relays & relay sockets for high performance and usability

- Push-in connections reduce wiring time by **55%** (*1).
- RJ relays with high contact current and **Slim** design (12.7mm) achieve downsizing of control panels.
- Push-in connections **eliminate** tightening of screws during maintenance.

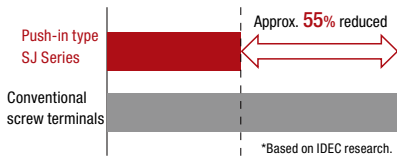


*1 Compared to conventional screw terminals (Based on IDEC research).

Time Saving & Efficient

Save up to 55% in wiring time

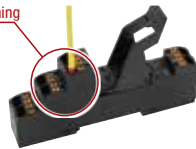
Wiring time greatly reduced compared with conventional screw terminals.



Reduce maintenance work

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

No retightening



Safe & easy

Equipped with release lever

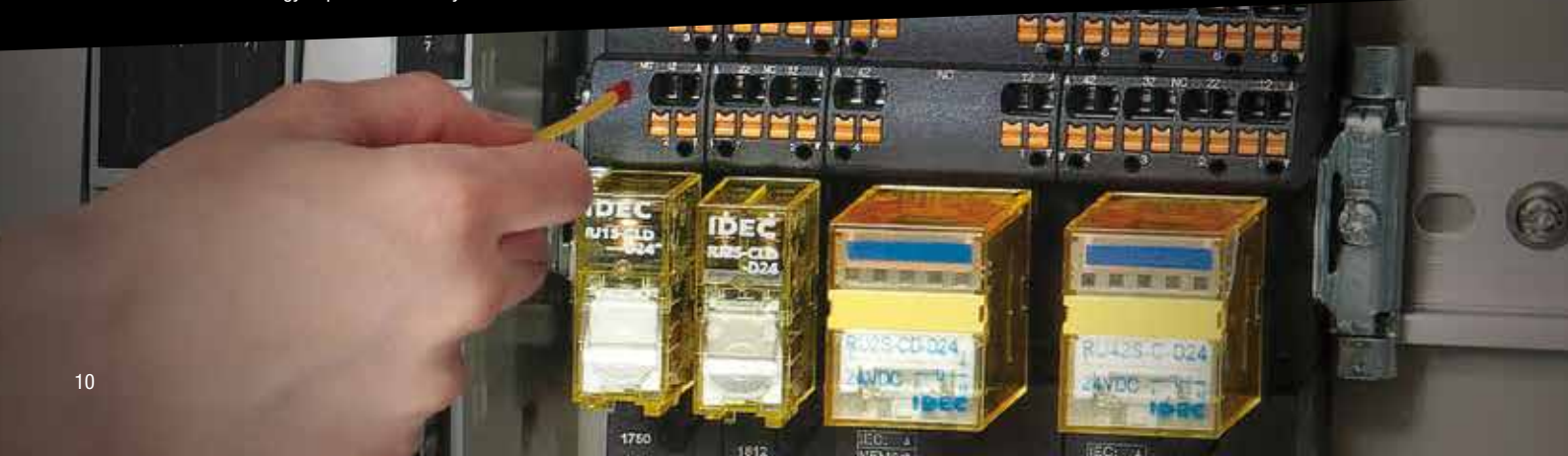
The release lever easily holds and removes the relay.



Product Name	Allowable Contact Current	Contact Material	Push-in	Compatible Sockets		International Standards				
				Screw (standard type)	Screw (Finger-safe protection)	UL	CSA	TÜV (VDE)	CE	
RJ	RJ1S (1-pole)	12A	AgNi	SJ1S-21L	SJ1S-05B	SJ1S-07L	●	●	●	●
	RJ2S (2-pole)	8A	AgNi	SJ2S-21L	SJ2S-05B	SJ2S-07L	●	●	●	●
RU	RU2 (2-pole)	10A	Ag alloy	SU2S-21L	SN2S-05D	SM2S-05DF	●	●	●	●
	RU4 (4-pole)	6A	Ag (Au clad)	SU4S-21L	SN4S-05D	SY4S-05DF	●	●	●	●
	RU42 (4-pole) (bifurcated contacts)	3A	AgNi (Au clad)	SU4S-21L	SN4S-05D	SY4S-05DF	●	●	●	●

Application: Control panels

Push-in technology improves efficiency



LB/LBW Series

Ø18/Ø22mm Flush Mount Silhouette Switches
 Ø16 Switches & Pilot Lights


Flush Mount Silhouette switches suitable for operation panels in small operation spaces

- Stylish design with **2mm-height bezels**.
- Removable contact block** makes **single board mounting** possible.
- Short body enables downsizing of operation panels.
- Suitable for **battery production lines** (copper-free products) (*1).



*1 Excluding key selector switches.
 Condition: Material used on the surface of the product that does not contain copper. (Does not apply to the inside of the product). Contact IDEC for details.

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

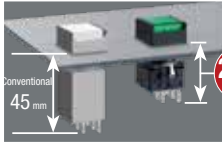


LB Series Flush Mount Silhouette Switches
 Slim 2mm-thick bezel for stylish operation panels.

LBW Series Flush Mount Silhouette Switches
 Sleek appearance with large surface for secure operation.


Ø16mm LB Series switches & pilot lights

Short body for space-saving installation.




Flush Mount Silhouette & control unit

Removable contact block / Single board mounting
 Removable contacts enable easy wiring.
 Single board mounting saves labor and prevents incorrect wiring.



UP Series

Short body
 Depth of only 27.9mm behind panel.
 Reduces the size of machines and control panels.



UP series LED has the same depth as LB/LBW series. Mounts on the same panel. (Flush bezel: 34.9mm, standard bezel: 27.9mm)

Product Name	Bezel Diameter	Mechanical Durability	Electrical Durability	Contact Rating	International Standards				
					UL	CSA	TÜV	CCC	CE
LB	Ø22/ □22 mm	Momentary: 2 million operations min. Maintained: 250,000 operations min. Selector switch/key selector switch: 250,000 operations min.	50,000 or 100,000 operations min. (*1) (*2)	Rated insulation voltage: 250V Rated current: 5A (silver contact) 3A (gold contact)	●	●	●	●	●
LBW	Ø26/ □26 mm	Momentary: 2 million operations min. Maintained: 250,000 operations min. Selector switch/key selector switch: 250,000 operations min.	50,000 or 100,000 operations min. (*1) (*2)	Rated insulation voltage: 250V Rated current: 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 panels

Stylish operation panels





Metal Switches

Excellent design and robust structure withstands drastic temperature changes

- **Robust, durable, and stylish** metal switches.
- Low profile ideal for machine surfaces. **Stainless** steel structure prevents corrosion.
- Operating/storage temperature of **-30 to +85°C**, suitable for harsh environment.



Product Name	Mounting Hole Size (mm)	Output	Electrical Durability	Mechanical Durability	IP Rating
AV	ø16 to ø30	Contact	500,000 operations	1 million operations	IP65/IP67/IP69K

Application: Battery charging equipment

Stylish and robust design

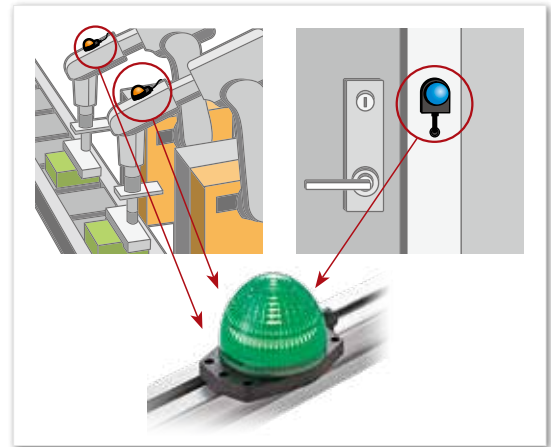


LH1D

Surface Mount Indicators

LED indicators for flexible mounting

- **Mounts** on robots, AGVs, and various processing equipment.
- Available in a **wide selection** of variations, such as flat, dome, ø66mm dome, 2-color switching, and 3-color switching.
- **IP67** protection for use in harsh environments.



Product Name	Color Variations	Cable Length	Rated Voltage	IP Rating	International Standards			
					UL	CSA	TÜV	CE
LH1D	Single color/ 2-color switching/ 3-color switching (*1)	Cable type: 1m, 3m, 5m M12 connector type (*1): 30cm	Cable type: 24V AC/DC M12 connector type(*1): 24V DC	IP67	●	●	●	●

*1 Large dome type only

Application: Status displays on various machines and collaborative robots

Achieves high visibility





X Series

Emergency Stop Switches

Ergonomic emergency stop switches for staying one step ahead to ensure safety

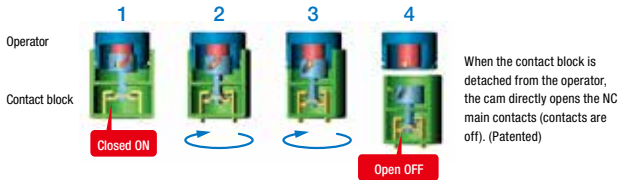


- Reverse energy structure and Safe Break Action minimize the possibility of safety failures.
- E-stops can be reset by turn reset or pull reset, preventing failure caused by incorrect reset operation.
- Padlockable e-stop available for XN Series, providing workers with the next level safety.
- Suitable for battery production lines (copper-free products) (*1).

*1 Does not include XN series flush bezel or padlock type.
Copper-free types available for XN Series padlock type.
Condition: Material used on the surface of the product does not contain copper. (Does not apply to the inside of the product)
Contact IDEC for details.

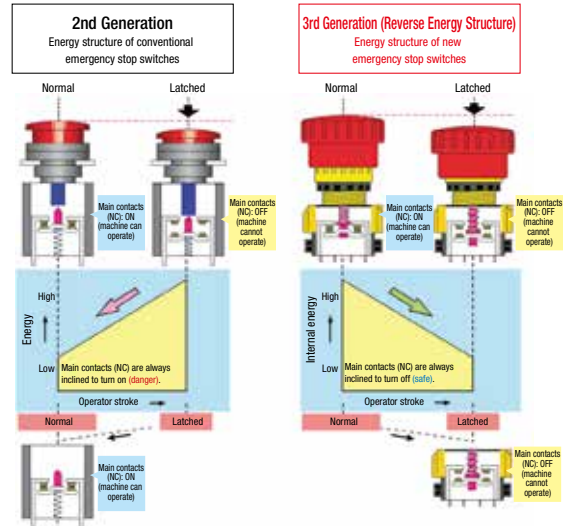
Safe Break Action

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



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).



Product Name	Mounting Hole Size (mm)	Head Size (mm)	Terminal Type				IP Rating	Rated Current	International Standards					
			Solder	Solder/tab	PC Board	M3 Screw			Connector	UL	CSA	TÜV	CCC	CE
XN	ø30.5	ø40 ø44 ø60				●		IP65	Gold plated silver/crossbar contacts: 5A (30V DC/125V AC/250V AC)	●	●	●	●	●
XW	ø22.3	ø40 ø60	●		●	●	●	IP65 IP67	Gold plated silver/crossbar contacts: 5A (30V DC/125V AC/250V AC)(Connector type: 2.5A)	●	●	●	●	●
XA (removable contact block)	ø16.2	ø30 ø40	●		●			IP65	Gold plated silver/crossbar contacts: 5A (30V DC/125V AC/250V AC)	●	●	●	●	●
X6	ø16.2	ø30 ø40	●	●				IP65	Gold plated silver/crossbar contacts: 5A (30V DC/125V AC/250V AC)	●	●	●	●	●

Application: Operation panels

Next level of safety with padlockable e-stops



SE2L

Safety Laser Scanner

Compact safety sensors for collaborative robots

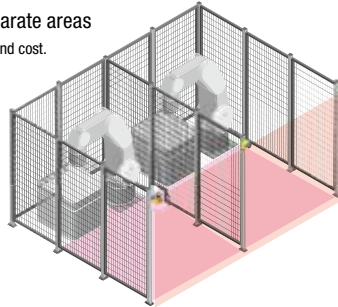
- **Area protection** and **access protection** functions enable flexible construction of a safe robot system.
- Low-speed and stop areas can be configured individually to achieve **productivity** and **safety**.
- SE9Z-* connection box reduces **maintenance time** and **wiring** (*1).



SE9Z connection box

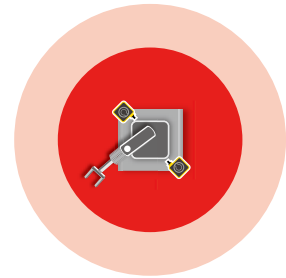
*1 Available soon.

- One scanner can monitor two separate areas
Dual protection function reduces maintenance and cost.



- Ideal for collaborative robots

Two warning zones, in addition to a safety zone, can be configured to achieve slow speed areas.



Product Name	Safety Category	Performance Level	Detection Characteristics	Power Supply Voltage	International Standards			
					UL	CSA	TÜV	CE
SE2L	Type 3 (IEC61496-1, IEC61496-3)	PL=d, SIL3	Protected area: Max. 5m Detection angle: 270°	24V DC ±10%: When using converter power supply 24V DC -30%/+20%: When using battery	●	●	●	●

Application: Safety measures for robot equipment, conveyor lines, AGVs, and collaborative robots

Safety laser scanner prevents injuries





HS5D/HS5L

Interlock Switches/Interlock Switches with Solenoids

Compact and robust interlock switches

- **Compact design** for flexible mounting.
- **Head removal detection function** detects contact signals even when the head comes off when actuated to ensure safety.
- **Lock monitoring** supports a variety of circuits with a small number of contacts (HS5L)
- Select according to application: without lock (HS5D) and with lock (HS5L)
- Suitable for **battery production lines** (copper-free products) (*1).



*1 Condition: Material used on the surface of the product does not contain copper. (Does not apply to the inside of the product)
Contact IDEC for details.

Product Name	Mechanical Durability	Terminal Style	IP Rating	International Standards				
				UL	CSA	TÜV	CCC	CE
HS5D	1 million operations min.	Screw	IP67	●	●	●	●	●
HS5L	2 million operations min. (Operation frequency of 900 operations/hour, actuator insertion/removal, solenoid operation) When using HS9Z-SH5/EH5L/DH5, 100,000 operations min. (actuator insertion/removal)	Spring clamp	IP67	●	●	●	●	●

Application: Interlocks for machine tools and safety fences

Achieving reliable safety





Door Handle Actuator/ Slide Handle Actuator for HS5 Series

Actuators

Shock-resistant metal handle actuator to ensure a safe work environment

- Locks firmly and easily on rattling doors (door handle actuator).
- Mounts on **sliding doors/hinged doors/double doors**.
- **Interlock mechanism with two-step action** prevents failure (sliding handle actuator).



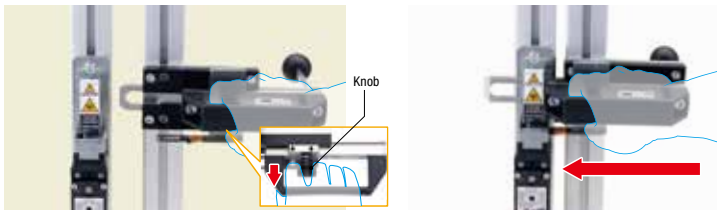
Door handle actuator



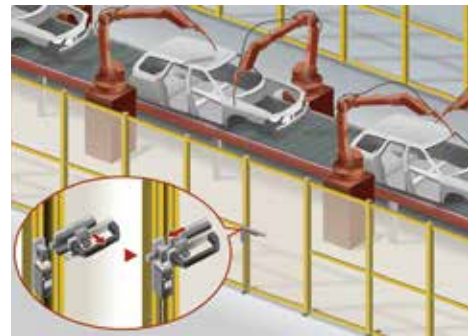
Slide handle actuator

Two-step action prevents inadvertent operation

Failure caused by inadvertent operation and rattling doors can be prevented by the interlock switch and actuator.



- 1 Grab the handle and pull the knob to unlatch
- 2 Slide the handle and insert the actuator to close the door



Product Name	Applicable Models (*1)	Standard Specifications	Mechanical Durability	Fit Padlock Shackle Diameter
Door handle actuator for HS5 Series	Without lock: HS5D interlock switch With lock: HSSL interlock switch with solenoid HS5E-K interlock switch with key	Operating temperature: -25 to +70°C (no freezing)	100,000 operations min.	ø6 to 7.5
Sliding handle actuator for HS5 Series	Without lock: HS5D interlock switch With lock: HSSL interlock switch with solenoid HS5E-K interlock switch with key	Operating temperature: -30 to +70°C (no freezing)	100,000 operations min.	ø6 to 13

*1 For HSSL/HS5E-K/HS5E, use the rear lock release button model.

Application: Interlocks for safety fences

Prevent downtime caused by door interlock failures





HS3A

Non-Contact Interlock Switches

RFID non-contact interlock switches

- Built-in safety function. Compliant with up to **PLe, Category 4**, and **SIL CL3** regardless of use with specific modules.
- **RFID** feature ensures reliable detection even when mounted on rattling doors.
- **IP67** rated (**IP67** and **IP69K** for actuators).
- Sensor head section can be changed in **5** directions allowing flexible mounting.

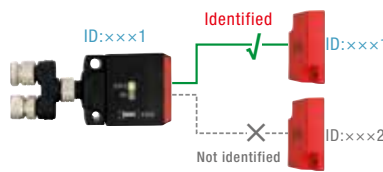


Identification

RFID eliminates buildup of metal residue in keyed interlock switches

■ Prevents tampering (unicode model)

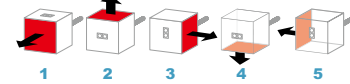
An actuator with an electronic code is assigned to a sensor head. This prevents tampering by using an unassigned spare actuator.



Mounting

Can be installed in five directions

■ The interlock switch can be installed in five directions, allowing for flexible installation.



Product Name	Safety Category	Performance Level	Type	Terminal Style	IP Rating	International Standards
HS3A	Category 4	PLe	"Type 4" or levels of coding "high"	M12 connector	Body: IP67, Actuator: IP67, IP69K	EN60947-5-3 (IFA approval) EN954-1, EN ISO13849-1, EN62061 GS-ET-14 (IFA approval) UL508 (UL listed) CSA C22.2 No.14 (c-UL listed)

Application: Interlocks for machine tools and safety fences

Reliable safety



FS1A

Safety Controller

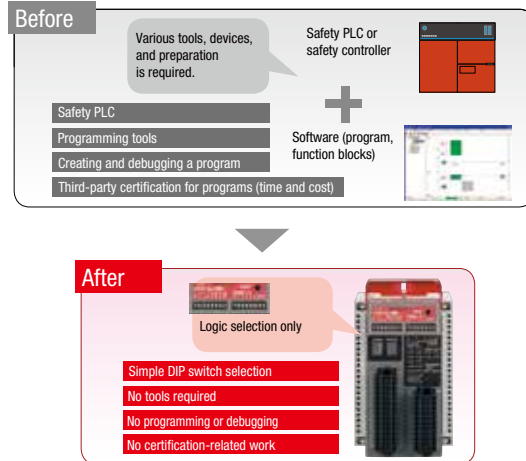
Pre-programmed to easily build a safety system

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



Product Name	SIL / PL / Category	Operating Voltage	Power Consumption	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 inputs: 14 Safety outputs: 4	●	●	●	●

Application: Safety measures for small devices

Reduce total cost and simplify system wiring



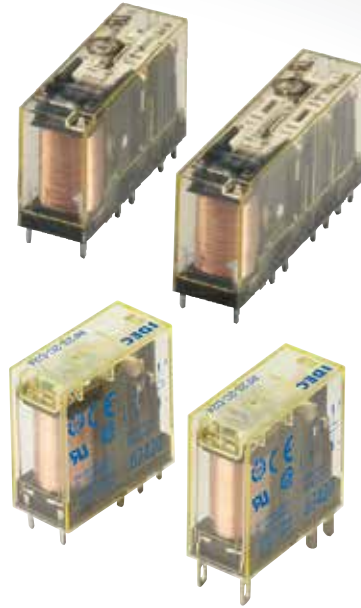


RF1/RF2

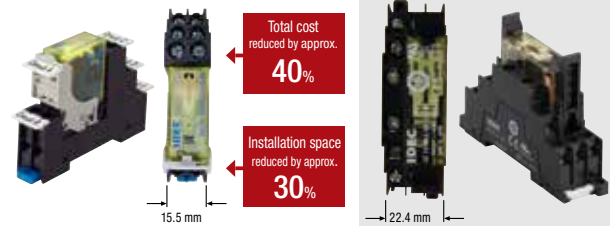
Force Guided Relays

Compact forced guided relays help reduce installation space

- Force guided contact mechanism (EN50205 Type A TÜV certification)
- Pioneering **2-pole** force guided relay ^(*).
- Multiple contact configurations available for various circuit design.
 - 4-pole (2NO-2NC, 3NO-1NC)
 - 6-pole (4NO2NC, 5NO1NC, 3NO3NC) ^(*)
 - 2-pole (SPST-NO+SPST-NC, DPDT) ^(*)
- Shock resistance exceeds **200m/s²**.
- DIN rail sockets with **finger-safe protection**, and PC board sockets available.



■ Using RF2S-1A1BLD1-D24 & DIN rail socket



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

*1) RF2 *2) RF1

Product Name	Contact Rating	Power Consumption	Electrical Durability	Mechanical Durability	International Standards			
					UL	CSA	TÜV	CE
RF1	Rated load: 250V AC/6A, 30V DC/6A Allowable contact power: 1,500VA AC, 180W DC (30V DC max.) 85W DC (30V DC to 125V DC max.) Allowable contact voltage: 250V AC, 125V DC Allowable contact current: 6A	Approx. 0.36W (4 poles) Approx. 0.50W (6 poles)	100,000 operations min. at 250V AC/6A resistance load 100,000 operations min. at 30V DC/6A resistance load (operating frequency: 1200 operations/hour)	10 million operations min. (operating frequency 10,800 operations/hour)	●	●	●	
RF2	Rated load: NO contact: 240V AC/6A, 24V DC/6A NC contact: 240V AC/3A, 24V DC/3A Allowable contact power: NO contact: 1440VA/144W NC contact: 720VA/72W Allowable contact voltage: 250V AC, 125V DC Allowable contact current: 6A	Approx. 0.7W	NO contact: 100,000 operations min. (operating frequency 1800 operations/hour) at 240V AC/6A resistance load or 2A inductive load (power factor: 0.4) 100,000 operations min. (operating frequency 1800 operations/hour) with 24V DC/6A resistance load or 1A inductive load (time constant: 48ms)	10 million operations or more (operating frequency 18,000 operations/hour)	●	●	●	●

Application: Designing interlock control circuits for equipment

Flexible support for designing safety circuits in equipment



HG1P

Operator Interface Handheld Model

Teaching or control for small dedicated devices and robots



- Lightweight and compact, weighs only 500g. Robust and drop resistant up to **1.5m** to avoid damage when accidentally dropped.
- Ergonomic design ideal for long and fatigue-free operation. **1.5** seconds fast start-up time.
- **High resolution 4.3-inch TFT color LCD** display. Clear and informative display enables intuitive operation.
- **Removable cable** enables cables to be detached easily when damaged. Saves downtime and cost.
- Easy maintenance with a USB memory.

■ Visualize teaching operation on the screen



Product Name	Rated Voltage	Power Consumption	Electrostatic Discharge	Display	Color/ Shade	Display Resolution	Bright-ness	View Angle	Backlight Life	User Memory Capacity	International Standards		
											UL	CSA	CE
HG1P	24V DC	3W max. (2W when USB2 is not used)	In air: 8kV Contact: 4kV	TFT color LCD	65,536 colors	480 (W) x 272 (H) pixels	400 cd/m ²	Left / right: 80°, top: 65°, bottom: 55°	Standard 30,000 hours minimum	12MB	●	●	●

Application: Teaching for small dedicated devices and robots

IDEC solution for easy use



HG Series

Operator Interfaces

Excellent visibility and durability providing superior performance for machine operators

- **IP66F/IP67F** rated, oil resistant ^(*) with optional protective sheet to protect from UV light ^(**).
- WEB server function enables **remote** monitoring and operation using a PC, tablet, or smartphone.
- Data inside operator interfaces can be sent by CSV file or screenshot using the email function allowing **tracing** of devices, **data analysis**, and sending **alerts** to operators.
- **Remote maintenance** is possible by using the FTP server and client function to transfer project data and read history data.
- Engineered for various applications in cold and warm environment ^(***).

*1 Operation not guaranteed when used with certain types of oils.
 **2 Does not guarantee use in direct sunlight although UV protection material is used.
 ***3 Can be used within a temperature range of -20 to +55°C (HG1G), and -20 to +60°C (other models).



Product Name	Screen 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 colors	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 colors	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 or 8.4-inch	TFT color LCD	65,536 colors	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 colors	1024 (W) × 768 (H) pixels	600cd/m ²	24V DC	25W max.	●	●	●
HG5G-V	15-inch	TFT color LCD	65,536 colors	1024 (W) × 768 (H) pixels	650cd/m ²	24V DC	27W max.	●	●	●

Application: Operation panels / EV charging stations

Stylish and robust design



EB3N

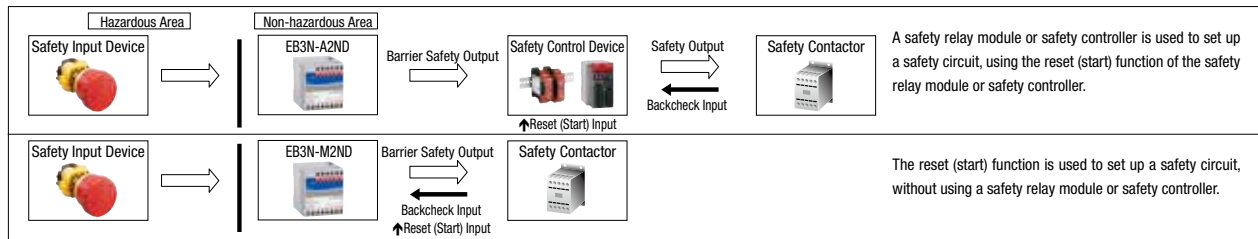
Safety Relay Barrier (Intrinsically Safe Explosion-Proof Structure)

Used in battery production lines, alloy wheel manufacturing and painting applications

- Achieves **Explosion-proof safety** and **machine safety** in an explosive atmosphere.
- ISO13849-1 Category 4, Performance Level e** machine safety systems can be constructed in an **explosive atmosphere**.
- Connected safety input devices can be used under **all explosive gases** and **hazardous areas**.
- Global standards
Explosion Proof Safety Certification
China: Ex-CCC, Japan: TIIS, International: PTB (IEC Ex),
EU: PTB (ATEX), US: UL
Machine Safety Certification = TÜV Rheinland



1:1 connection with a safety input device, compliant with Category 4



Product Name	Safety Category	Performance Level (PL)	Safety Input	Safety Output	Rated Voltage	International Standards	Explosion-Proof Performance
EB3N	4	e	2	2NO	24V DC	Ex-CCC	[Exia] II C
						IEC-Ex	[Exia] II C, [Exia D]
						ATEX	II (1) G [Exia] II C, II (1) D [Exia D]
						UL	Class I, Zone 0, [AExia] II C Class I, II, III, Div. 1, Groups A, B, C, D, E, F and G
						TIIS	[Exia] II C

Application: Painting lines, secondary battery production lines

Explosion-proof solutions backed by decades of experience





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