

FOLDER

# Industrial plugs and sockets

For demanding use



# Industrial plugs and sockets

## A perfect choice

ABB's industrial plugs and sockets are a part of the comprehensive ABB program of high quality low voltage products for demanding users.

The design and materials of our plugs and sockets has continuously been improved during the over 60 years that we have been in this business. The range covers products up to 125 A and 690 V, and are certified for applicable IEC standards by external certification bodies.

We aim to meet customers' requirements while taking environmental aspects into consideration.

ABB's industrial plugs and sockets are the right choice in applications with high demand for safety, durability, reliability and cost saving for the end user.

- Safety - tested and approved by third party certification bodies
- Durability - materials chosen for high resistance to most chemicals, to UV light and to impact
- Reliability - high quality self-cleaning and calibrated contacts ensure reliability
- Cost saving - designed for easy installation and long time use

ABB is a complete supplier of industrial plugs and sockets, with worldwide availability.

### Perfect for the job

Different applications and environments require different products. To make your choice easier, we have categorized our range into three groups. All groups have however one feature in common - safety.

### Perfect performance

Our plugs and sockets comply with high quality standards requested when there is demand for reliability and safety. Some are made of heavy-duty plastic (PBT), others of metal. Some have advanced features while others have a straight forward functionality. Perfect for demanding customers.

### Perfect productivity

The reliability of our plugs and sockets will help you maintain high up-time in operations. You will avoid unwanted interruptions, local fuses will give you short stops and you will have a high degree of flexibility.

### Perfect safety

Safety is always important. By choosing ABB's plugs and sockets you minimize the risk of short circuits. You ensure maximum personal safety for anyone being near your equipment.

### ABB's industrial plugs and sockets – a complete offer

- Approved according to IEC 60 309-1, -2, -4
- Ranging from 16 A up to 125 A
- In compliance with IP44 (splashproof) and IP67 (watertight)
- With contacts that are self cleaning and calibrated, to maintain the accurate contact pressure, quality and performance over time
- For devices in the Critical & Safe and Tough & Safe range, all external screws are made of stainless steel
- With clear terminal markings inside and at the front of devices
- Included switched interlocked socket-outlets for vertical or horizontal mounting

The structure of our main catalog is also based on these groups. Look for the symbols to make your choice.



**CRITICAL  
& SAFE**

- Select Critical & Safe products for the highest safety in fixed installations



**EASY  
& SAFE**

- Select Easy & Safe products for adequate functionality and ergonomic design



**TOUGH  
& SAFE**

- Select Tough & Safe products for best performance in demanding and heavy-duty applications



**FAST  
& SAFE**

- Fast & Safe - Like Easy & Safe but faster

## Critical & Safe



Switched mechanical interlocked socket outlets 16-63 A, horizontal mounting, plastic housing (PBT) Available both as IP44 and IP67



Type MHS, 16 A, IP67



Type MHS, 32 A, IP67



Type MHS, 63 A, IP67

Switched mechanical interlocked socket outlets 16-125 A, vertical mounting, aluminium alloy housing, IP44.



Type MM, 16-32 A, IP44



Type MM, 63 A, IP44



Type MM, 125 A, IP44

Switched mechanical interlocked socket outlets 16-125 A, vertical mounting, plastic housing (PBT), IP67/IP69



Type MVS heavy-duty, 16-32 A, IP67/69



Type MVS heavy-duty, 63-125 A, IP67/69

### Critical & Safe

Critical & Safe is the range for applications with high demands on safety, durability and performance. It is perfect for applications with frequent connection and disconnection, and for use in public areas. The housing is made of PBT or aluminium.

PBT is a tough plastic material that withstands heavy-duty usage and most chemicals found in industrial environments. The aluminium housings are die-casted, made of an alloy called silumin. Silumin has excellent resistance to corrosion, impact and UV light.

### Features

- IP67 watertight or IP44 splashproof
- 16-125 A, 50-690 VAC
- IEC 60 309-1, -2, -4
- All external screws are made of stainless steel

### Use Critical & Safe for

- Reliability
- Personal safety (interlocked to prevent access to live parts)
  - Interlocked for installation in locations where children have access
  - In public parks, arenas, fairs, hospitals, schools, etc.
- Frequent connection and disconnection of portable equipment
  - E.g fans, pumps, generators, lighting
  - In industries mines, airports, hospitals, arenas, fairs etc.
- Increased productivity
  - Local sectioning for selective tripping, limited to only one outlet
  - Local sectioning, resettable at the outlet
- Enhanced safety
  - Individual residual current devices and/or miniature circuit breakers in outlet
- Hazardous environments (not Ex classified)
  - In farms, chemical industry etc.

## Tough & Safe



Plugs, 16-125 A,  
plastic housing (PBT)



Type P, 16 A, IP67/IP69



Type P, 32 A, IP67/IP69



Type P, 63 A, IP67/IP69



Type P, 125 A, IP67/IP69

Connectors, 16-125 A,  
plastic housing (PBT), IP67.



Type C, 16 A, IP67/IP69



Type C, 32 A, IP67/IP69



Type C, 63 A, IP67/IP69



Type C, 125 A, IP67/IP69

### Tough & Safe

Tough & Safe is the range for applications in environments with high demands on reliability and safety. The housings have very robust design and are made of heavy-duty PBT plastic. The range Tough & Safe is available as watertight (IP67, 16-125 A) and splashproof (IP44, 63 A). The 125 A products are equipped with double connection screws on each terminal.

### Features

- IP67/IP69 watertight
- 16-125 A, 50-690 VAC
- IEC 60 309-1, -2
- All external screws are made of stainless steel

### Use Tough & Safe for

- Reliability
- Demanding environments
- 16 A to 125 A applications
- In reefer containers, harbors, airports, train stations, construction sites, mines, industries, workshops, fairs, arenas, on portable equipment etc.

## Easy & Safe



Plugs, 16-32 A,  
plastic housing (PA)



Type EP, 16 A, IP44



Type EP...W, 32 A, IP67

Connectors, 16-32 A,  
plastic housing (PA)



Type EC, 16 A, IP44



Type EC...W, 32 A, IP67

Surface inlets for wall mounting, 16-32 A,  
plastic housing (PA)



Type BS, 16 A, IP44



Type EBS...W, 32 A, IP67

Surface socket outlets for wall mounting, 16-32 A,  
plastic housing (PA)



Type RS, 16 A, IP44



Type ERS...W, 32 A, IP67

Panel mounted socket outlets, 16-32 A with straight flange,  
plastic housing (PA),



Type R, 16 A, IP44



Type RU, 32 A, IP44



Type ERU...W, 32 A, IP67

Panel mounted socket outlets, 16-32 A with angled flange,  
plastic housing (PA)



Type RAM, 32 A, IP44



Type RAU, 32 A, IP44

### Easy & Safe

Without compromising quality, Easy & Safe is our basic range. The plugs and connectors have a combined gland and cable clamp for easy tightening of the strain relief with the gland nut. The products have a unique design and are full of small practical features. Clear terminal markings make the installation easy and safe. When the cables are connected, the housing is easily closed by a twist. The plastic material PA is used to provide a device that meet requirements of quality and safety.

### Use Easy & Safe for

- General use indoor and outdoor
  - In building sites, industries, workshops, restaurants, supermarkets, train stations, sports arenas, fairs, etc.
  - At machines, lighting, heating, pumps, fans, motors, portable equipment etc.

Panel mounted inlets, 16-32 A with straight flange,  
plastic housing (PA), IP44 and IP67



Type B, 16 A, IP44



Type BU, 32 A, IP44



Type EBU...W, 32 A, IP67

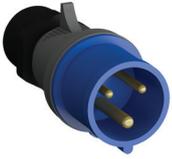
### Features

- IP44 and IP67
- 16-32 A, 50-690 VAC
- IEC 60 309-1, -2
- PA6 plastic housing

## Fast & Safe



Plugs, 16-32 A, plastic housing (PA)



Type QP, 16 A, IP44



Type QP...W, 32 A, IP67

Connectors, 16-32 A, plastic housing (PA)



Type QC, 16 A, IP44



Type EC...W, 32 A, IP67

Surface inlets for wall mounting, 16-32 A, plastic housing (PA)



Type QBS, 16 A, IP44



Type QBS...W, 32 A, IP67

Surface socket outlets for wall mounting, 16-32 A, plastic housing (PA)



Type QRS, 16 A, IP44



Type QRS...W, 32 A, IP67

Panel mounted socket outlets, 16-32 A with straight flange, plastic housing (PA)



Type QRM..., 16 A, IP44, QR...16 A, IP44



Type QR...W 32 A, IP67

Panel mounted socket outlets, 16-32 A with angled flange, plastic housing (PA)



Type QRA, 16 A, IP44



Type QRA...W 32 A, IP67

### Fast & Safe

Fast & Safe is our latest addition. The products and applications are similar as Easy & Safe but the terminals have screwless connections. Screwless connections saves up to 60% in installation time. The smart design of the Quick & Safe terminals ensures that terminal are always closed when the housing is assembled.

### Use Fast & Safe for

- General use indoor and outdoor
  - In building sites, industries, workshops, restaurants, supermarkets, train stations, sports arenas, fairs, etc.
  - At machines, lighting, heating, pumps, fans, motors, portable equipment etc.

Panel mounted inlets, 16-32 A with straight flange, plastic housing (PA)



Type QBM..., 16 A, IP44, QB...16 A, IP44



Type QBA...W, 32 A, IP67

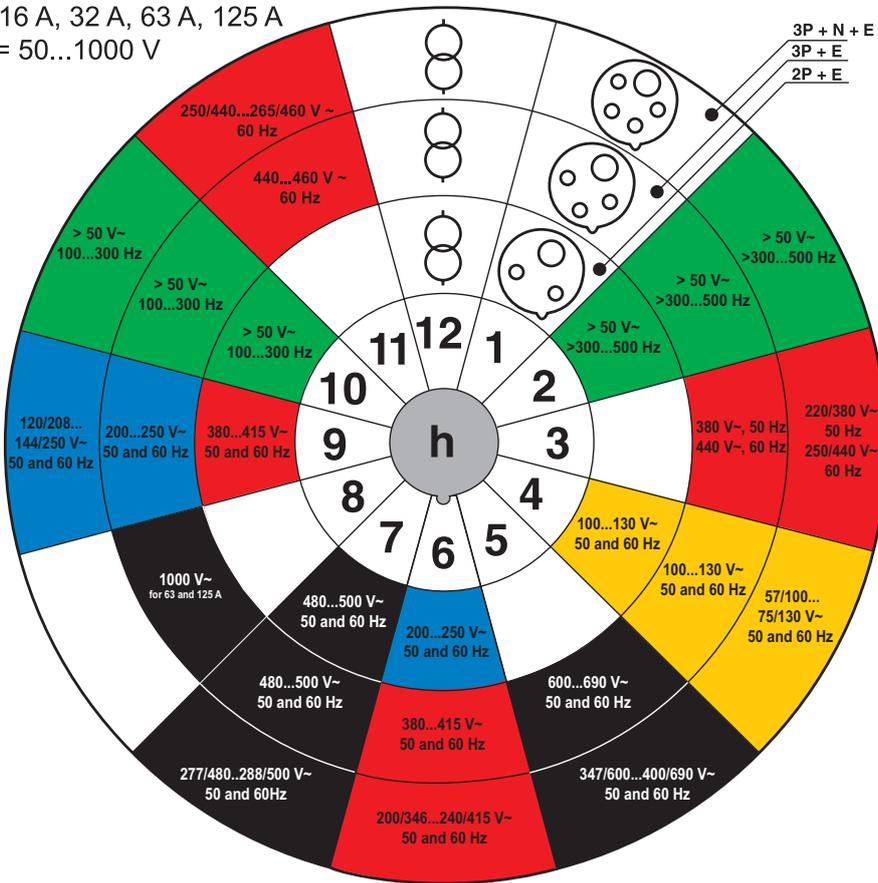
### Features

- IP44 and IP67
- 16-32 A, 50-690 VAC
- IEC 60 309-1, -2
- PA6 plastic housing

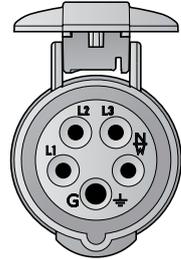
# Industrial plugs and sockets

## IEC 60 309-2 "clock"

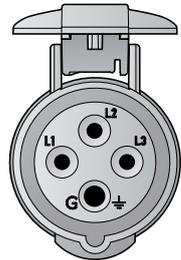
$I_e = 16 \text{ A}, 32 \text{ A}, 63 \text{ A}, 125 \text{ A}$   
 $U_e = 50 \dots 1000 \text{ V}$



— Type 416-C6 (for 3P+N+E)



— Type 316-C6 (for 3P+E)



— Type 216-C6 (for 2P+E)



The CEE/IEC standard states that it must be impossible to connect apparatus with different numbers of poles, different voltages, frequencies or current ratings. This clock diagram shows how this is achieved. The position of the earthing sleeve relative to the keyway differs for different voltages and frequencies. The keyway of the outlet is always at the 6 o'clock position.

In addition, color coding is used to make it easier to tell the difference between devices for different voltages and frequencies. Dimensions also vary with current rating. Under the CEE/IEC system, pins and sleeves must be differently spaced in devices with different numbers of poles, and the earthing pin and earthing sleeve are larger than the other pins and sleeves.

### Explanation of type code

Example: **416P6W**: 4 = Number of poles, 16 = Ampere, P = Type, 6 = Position of earthing according to "clock", W = Degree of protection.

<b>Number of poles</b>	2	2P+E	<b>Type</b>		<b>Degree of protection</b>
	3	3P+E	P	Plug	blank
	4	3P+N+E	C	Connector	W
			RS	Surface socket outlet	WH
<b>Ampere</b>	16	16 A	R	Panel mounting socket outlet,	
	32	32 A	BS	Surface inlets	
	63	63 A	B	Inlets for panel mounting	
	125	125 A			

For a complete list of types, see our main catalog.

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