

Overview

The FAQs about Pos-E-Kon interconnects

ABB interconnects adhere to international standards and are used worldwide to provide a high degree of reliability in electrical wiring.

Why?

Rectangular circuit interconnections

- Best use of space for multiple contacts in heavy-duty housings
- Easy to assemble with many different insert options
- Best fit for easy access in panels, machinery and enclosures
- Sealed connector with quick disconnect handles
- Wide variety of circuit possibilities from standard items
- Solid or stranded wire in fixed or portable use

Who?

- Machine tool OEMs
- Material handling equipment OEMs
- Robotics systems OEMs and installations
- Packaging machinery OEMs and facilities
- Control panels and PLC systems
- Molding, assembly or line machinery OEMs and facilities
- Construction, mining and welding apparatus
- Carnival applications

What?

- Servo controls
- Sensing and feedback loops
- Conveyor and process controls
- Low power, DC or logic systems
- Combination power, system and other circuits
- Modular controls including fiber-optic connections

Where?

Worldwide agency approvals and applications

- DIN VDE 0627/86, 0110/02.79, and 0110-1/04.97
- IEC 60.664-1, DIN/IEC 512
- UL® recognized (E215386) and CSA certified
- Protection classes IP44 through IP65 per IEC 529
- Component use in CE marked equipment OK per IEC
- Council Directive July 1999, 73/23/EEC
- Available from ABB – Pos-E-Kon authorized distributors
- ABB sales representatives and agents worldwide

DIN standard configurations

- Most inserts and housings are interface compatible with other DIN standard lines. Verify physical application before selecting cross reference.
- Pos-E-Kon construction includes standard NPT conduit adapters for hoods and bases, with many options available. DIN standard Hoods and Bases may have “Euro Style” PG fittings (or none) included unless specially ordered.

The basic system: build an application

- Step 1** – Maximum voltage and amperage requirements (300 V or 600 V classes, 10–80 A).
- Step 2** – Number of contacts or circuits needed.
- Step 3** – Choose wire terminations style; screw terminal or crimp contacts. Select series from charts.
- Step 4** – Base (or coupler) and hood construction/ mating selection per series (single or double levers).



01

- 01 Hood
- 02 Base housing (or coupler hood)

Step 1

Hood:

- Separable housing for inserts
- Top or side conduit/wire entry
- Standard locking posts, dual or single
- Locks to panel base, box base or inline coupler hood



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Step 2

Base housing (or coupler hood):

- Surface wall-mount box base (shown)
- Panel base for through-panel access
- Coupler hood mating for portable use
- Single or dual “lever” locking



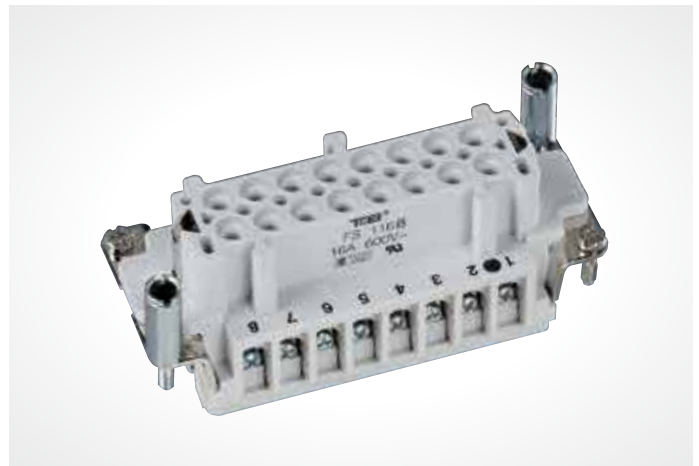
03

- 03 Male insert
- 04 Female insert

Step 3

Male insert:

- Male contact carrier body
- Screw terminal contacts (pins with wire protection saddles) or crimp terminated pins



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Step 4

Female insert:

- Female contact carrier
- Screw terminal contacts (sleeves with wire protection saddles) or crimp terminated sleeves


Overview

Pos-E-Kon insert selector chart

S – Screw terminals **C** – Crimp contacts
F – Fiber optic (POF) **A** – Terminal block wiring adapter



Select the number of contacts – All inserts have separate ground contacts

Amps	Volts	Series	3	4	6	7	8	10	12	15	16	20	24	25	26	32	40	42	48	50-216	
10	50	D	-	-	-	-	C, F	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	600	A	S	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	600	A	-	-	-	-	-	S, C	-	-	S, C	-	-	-	-	S, C	-	-	-	-	
16	600	B	-	-	S, C, A	-	-	S, C, A	-	-	S, C, A	-	-	-	-	S, C	-	-	S, C	-	
35	600	C	-	-	S	-	-	-	S	-	-	-	-	-	-	-	-	-	-	-	
10	600	D	-	-	-	C, F	-	-	-	C, F	-	-	-	C, F	-	-	C, F, A	-	-	C, F, A (64)	
10	600	DD	-	-	-	-	-	-	-	-	-	-	C, F	-	-	-	-	C, F	-	C, F	
80/16	600	K	-	S	-	-	S	4 or 8 Power (80 A alone or with 8 or 16 control (16 A) combination inserts)													
16-T	600	T	-	-	S	-	-	S	-	-	S	-	S	High temp (200 °C)							
316-V	600	V	S, C	-	S, C	-	-	S, C	-	-	S, C	S, C	-	-	S, C	S, C	Includes 2 pilot contacts				

10-16 A A, B, V, T	35 A C	10-80 A K
		







Screw terminal/Insert types (Integral contacts)

Screw termination is used for ease of assembly plus ease of maintenance. No tooling beyond a screwdriver and wire strippers is required.

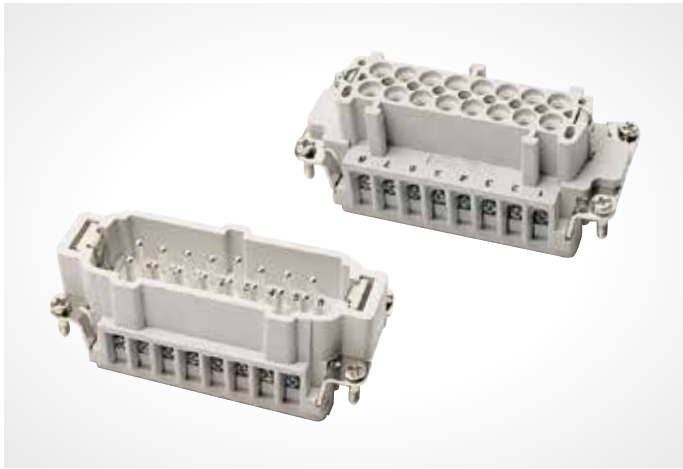
10 A D & DD	16 A A & B
	

Crimp terminal/insert types (Crimp contacts)

Crimp terminals offer solid, thermally cool vibration-resistant terminations for OEM equipment and critical applications. Better for smaller AWG sizes also. Crimp tools are noted in each section.

10-16 A A, B	10 A D & DD	POF D
		
		

All crimp types represented require contacts ordered separately. Each section contains hand crimp tool selection notes



01

- 01 Screw terminal inserts
- 02 Crimp terminal inserts
- 03 Terminal block wiring adapters

Screw terminal inserts*

- Integral screw terminal contacts provide for easy terminal wiring and fast assembly
- Standard wire protection saddles prevent cutting of strands during assembly



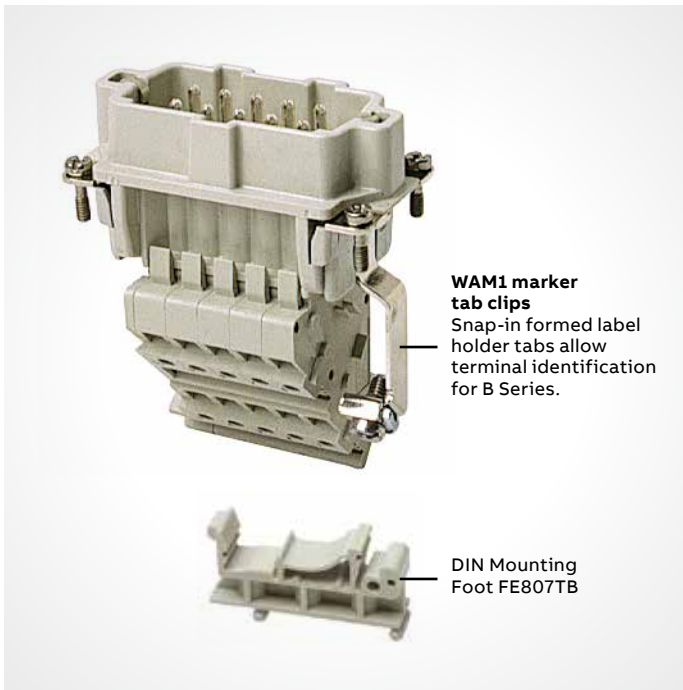
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Crimp terminal inserts*

- Provides reliable connections for long-term configurations
- Contact sizes accommodate wiring from 12-20 AWG

* Note:

- Made of durable glass fiber-filled thermoplastic
- Contact numbers clearly marked for easy identification
- Easily installed (male or female) in either hoods or bases using captive mounting screws



03

* Made of durable glass fiber-filled thermoplastic
 Contact numbers clearly marked for easy identification
 Easily installed (male or female) in either hoods or bases using captive mounting screws

—
 WAR, right ground strap
 WAL, left ground strap

Terminal block wiring adapters

- Allows for measuring of circuit while in operation
- Provide easy connections in panel mounting configurations
- Labels available for easy identification of circuits
- Can be mounted on DIN rails by using snap-on mounting feet
- Used in switch cabinets, panel enclosures or mounted in panel base housings – see B and D series

Insert strip blank – WAM1B
Insert strip numbers 1–64 – WAM1N64
Insert strip letters A–Z – WAM1AZ

Overview

Hood and base housings

- 01 Box base
- 02 Top cable entry
- 03 Panel base
- 04 Side cable entry
- 05 Box base housing with single lever and spring cover. Metal spring covers available for B series, where noted.

- Rugged cast aluminum hoods and bases: Maximum performance in many operating conditions
- Various hood heights available: Easier assembly and wiring with low, high and standard profiles
- Corrosion-resistant finishes: Optional special materials extend life in corrosive conditions
- Locking possibilities include single locking system and double locking system
- Complete selection: Flexible product designs (see Hood/Base cross reference below)
- Dust covers and more: See adapters (page 10) and covers (page 10) or bases with covers available in most series (accessories, pages 58–62)
- Custom configurations: Multiple conduit entry/ sizes and other configurations available to spec



— 01



— 02



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— 03



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Cross reference – Inserts

Amps	Volts	Series	A4	A10	A16	AA32	B6	B10	B16	B24	B32	B48
Series application			Standard hood/base housing									
10	50	D	D8	–	–	–	–	–	–	–	–	–
10	600	A	A3, A4	–	–	–	–	–	–	–	–	–
16	600	A	–	A10	A16	A32	–	–	–	–	–	–
16	600	B	–	–	–	–	B6	B10	B16	B24	B32	B48
35	600	C	–	–	–	–	–	–	C6	–	C12	–
10	600	D	D7	D15	D25	D50	–	–	D40	D64	D80	D128
10	600	DD	–	–	–	–	DD24	DD42	DD72	DD108	DD144	DD216
80/16	600	K	–	–	–	–	–	–	–	K4/8	–	K8/16
Series application			Special series hood/base housing									
16-T*	600	T	–	–	–	–	T6	T10	T16	T24	–	–
16-V**	600	V	–	–	–	–	–	V3	V6	V10	–	V32

* Special high-temperature series in copper-free aluminum with special green epoxy powder coat, Viton® seals.†

** Special isolation design allows additional control circuit capability.

† Viton is a trademark of DuPont Performance Elastomers.

Overview

- 1) Select size (number of contacts) from each series' section left-hand page chart (selected inserts), then look at corresponding right-hand page columns.
- 2) Vertical columns note single or double locking systems available (double locking usually preferable).
- 3) Select base housings for mounting and/or function: conduit/cable entry, thru-panel access, inline coupler or reversed locking as shown. (Note profile height options.)
- 4) Select side or top entry hoods as shown. (Note profile height options.)
- 5) Review conduit and cable entry options (standard NPT adapter sizes for each series).

Note: M Series (layout) groups interior options, followed by base selection options.

Each right-hand page shows:		
	Standard bases	BASE TO HOOD
	Standard hoods	
	Portable service Coupler hoods	HOOD TO COUPLER
	Reverse locking Lever hoods	BASE TO HOOD
	Post bases	

Overview

— 01 Sub-miniature (DB) adapter plates

— 02 B24 insert mounting adapter plates

— 03 Dust covers (thermoplastic) & hinged covers (thermoplastic or metal)



— 01

Sub-miniature (DB) adapter plates

- Connect test and diagnostic equipment to control circuits
- Panel base, box housing base or any hood installation (ribbon cable – entry hoods available)
- Industry standard sizes
- Dust covers for protection recommended
- 9, 15, 25, 37 and 50 series



— 02

B24 insert mounting adapter plates

- Allows housing standardization for multiple applications
- B24 footprint fit to single B6, B10, B16 inserts
- Rugged thermoplastic
- Fits standard B24 hoods and bases

B24 insert mounting adapter plates

- Allows custom connections for drill-and-install work
- Blank plate for expansion
- All standard hood/base sizes supported



— 03

Dust covers (thermoplastic) and hinged covers (thermoplastic or metal)

- Separate covers or fixed-mount hinged types
- Metal fixed-mount hinged covers for B series bases available in select sizes
- Separate or fixed covers protect contacts when not in use or while unmated
- Refer to p. 58

Overview

Wire and cable entry options



01

- 01 Cable compression seal fitting
- 02 Euro gland seal
- 03 Standard NPT conduit adapters
- 04 Cord grip fittings
- 05 Pos-E-Kon advantages



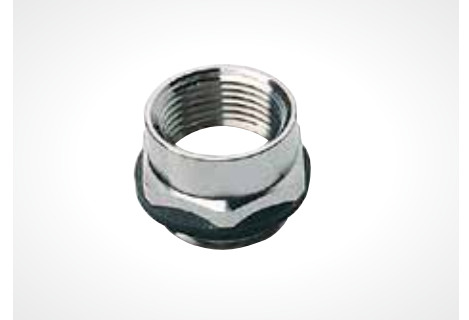
02

Portable service cord

- Sheathed industrial multi-conductor cables usage
- Options cover many installation needs
- Special constructions available for retrofit or original specification
- Hoods and bases may be specified (in bulk volumes)
- Euro standard gland seal also available
- Refer to p. 61

Cord grip fittings

- Both NPT and PG thread styles
- Thermoplastic sealing glands in NPT, PG and ISO threads – for retrofit or original specification
- More options than shown are available (shown in gray; black also available)
- Refer to p. 62



03

Standard NPT conduit adapters

- Euro PG to NPT thread adapters (PG male to NPT female)
- Standard on all Pos-E-Kon hoods and bases
- Available separately for MRO
- Sizes from PG11 to 1/2" through PG48 to 1 1/2" NPT
- Refer to p. 61

Pos-E-Kon advantages

- Feature: Ergonomic thermoplastic levers for "B" series double-lever housings B10–B24
- Benefits: Non-slip comfortable grip for easier locking and unlocking
- Feature: Laser-etched labeling for all metal housings and hot-stamped labeling on contact carrier inserts
- Benefits: Permanent marking with all data combined in external marking vs. internal label



04



05

Overview

Easy-to-use catalogue number selection

Hoods

- TH – Top entry hood with NPT fitting
- SH – Side entry hood with NPT fitting

Wiring entry options

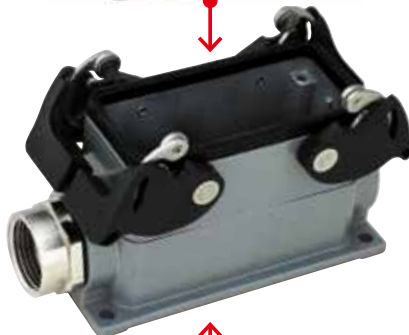
- Cord or conduit adapter fittings
- Ribbon cable and Euro cable entry
- Housings without fittings
- Custom assemblies

Male and female terminal block wiring adapters

- MS or FSxxxWAR/WAL
(right/left ground) options for panel base installations



PB – Panel base housing
Panel face or bulkhead mounting with rear wiring access



BB – Box base housing surface
Mount with NPT conduit entry (1 or 2) fittings (standard)



Double posts (front/back) for double-lever locking (single-side posts/lever also).

Male and female inserts

- Same installation to any hood or base orientation
- MS – Male screw terminal insert (shown)
- FS – Female screw terminal insert (shown)

OR

- MC – Male crimp Insert
- FC – Female crimp insert
 - Use MP – Male and FP – Female pins



CH – Coupler hood
Inline portable connection

Locking

- Single lever/single posts or double lever/double posts locking
- “Reversed locking” (levers on hoods) available

Overview

Series locator

Series locator

Type	Series	Features	Contacts + G	Page
	A Series 10 A: 3, 4 16 A: All others	Small, compact size screw terminal	3, 4, 10, 16, 32	16
	B Series 16 A	Standard size screw terminal	6, 10, 16, 24, 32, 48	18
	C Series 35 A	High-current screw terminal	6 or 12	22
	D Series 10 A	High-density crimp contacts or fiber optic contacts	7, 8, 15, 25, 40, 50, 64, 80, 128	24
	DD Series 10 A	Very high-density crimp contacts	24, 42, 72, 108, 144, 216	28
	K Series 16 A/80 A	Combo, high-current/ Std. current screw terminals	16 A: 8 + 4 80 A: 16 + 8	32
	V Series 16 A	Control circuit contacts and B style screw terminals	3, 6, 20, 26, 32	34
	T Series 16 A	B Style at high-temp 200 °C screw terminals	6, 10, 16, 24	38
Reference and accessories		Specs, dimensions, components and fiber optics		40

SUSTAINABLE DEVELOPMENT

Innovation, operational excellence and sustainable development are central to everything we do, reducing our environmental footprint and improving our communities.

