

INSPIRING INNOVATIONS

The evolution of heavy-duty industrial connectors

Heavy-duty connectors are established in the market and used in applications where rugged plug-and-play solutions are required. Switch to HEAVYCON EVO now and save storage costs. With industrial plastic or metal connectors, you can save up to 70% compared against the housing versions that have been required until now.

Versatile

The plastic housings made from PA and the metal housing made from corrosion-resistant aluminum are tested according to IP66 protection and according to IK08 against shock. Fire protection add-ons according to UL94 V0 are guaranteed halogen-free.



The push-in connection technology, which has been proven a million times over with modular terminal blocks, offers easy and safe handling thanks to the convenient plug-in principle.

Easy seal

The supporting base elements in the EVO series have compression stops at the four screw connections for the corresponding flat gaskets. This enables improved tightness on uneven plate cutouts to be achieved.

Complete range

IP66-protected sleeve and coupling housings are available in B6, B10, B16, and B24 design as well as in D15 and D25 design with double and single locking latch. The associated supporting base elements are available as a panel mounting base and box mounting base with and without protective cover.

HEAVYCON EVO bayonet locking

The cable gland, which is separate from the housing, is securely locked with just a twist of the wrist thanks to the bayonet locking.



Integrated

marking options

easier identification.

The housings have marking grooves

on the sleeve housing and panel

mounting base as standard for

Improved cable routing

Thanks to the angled, asymmetrical cable outlet, narrower cable routing along the wall is possible when using the straight outlet.

Effortless mounting

When mounting the connectors, prior bending of the often unwieldy cable is not required. Thanks to the angled outlet, both outlet directions can be used conveniently.

Reduced part count

HEAVYCON EVO housing units reduce the variety of versions required, thereby cutting your storage costs by up to 70%.

Simply choose the orientation based on space requirements, and this is how it works:



Attach from the side, turn, and snap in...



...and you're done!



Attach straight on, turn, and snap in....

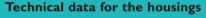


...and you're done!

For standard requirements -**HEAVYCON EVO plastic connectors**

The current trend is towards highperformance plastics. This is because plastic can be used to create solutions that are lighter, more resilient, and more environmentally friendly. In addition, in many industries, the use of plastic offers advantages over metal.

Keep track of developments and let yourself be inspired by the advantages of the HEAVYCON EVO plastic connectors.



- Inflammability class according to UL 94: V0
- · Degree of protection according to EN 60529: IP66
- · Degree of protection according to UL50e/NEMA: type 4/4x/12
- Strain relief according to: DIN EN 50262
- · Housing material: polyamide GF
- · Locking latch material: polyamide GF
- Seal material: NBR
- Ambient temperature (operation): -40°C ... +125°C
- · Ambient temperature for bayonet locking (operation): -40°C ... +100°C



Evolution:

Save costs by cutting the parts required by up to 70%.



Safe application

HEAVYCON EVO connectors made from fiberglass-reinforced polyamide meet all the requirements placed on heavy-duty industrial connectors made from aluminum. This reliability has been tested for numerous applications.





Fully compatible

The sleeve housing and supporting base element are mounting and plug-in compatible with aluminum housings from well-known manufacturers. All contact inserts in B series format as well as modular contact inserts can be used in the housings.



Locked with just a twist of the wrist

The bayonet locking is easy to lock by hand. You can select the outlet direction you require by turning the cable gland 90°.

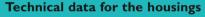


Safe insertion

Two metal inlays are used to hold the contact inserts and coding screws. They form the electrical bridge between the PE contacts, thereby ensuring compliance with standards. Capacitive PE contact is ensured even when connected at an angle.

For increased requirements -**HEAVYCON EVO metal connectors**

Certain sectors of industry are subjected to particularly harsh conditions. This means, for example, that the transmitted signals and data must be protected against electromagnetic influences. With our HEAVYCON EVO metal housing, we offer an economical solution for these applications. Benefit from the advantages of the HEAVYCON EVO connectors - now also for increased requirements.



- Inflammability class according to UL 94: V0
- · Degree of protection according to EN 60529: IP66
- · Degree of protection according to UL50e/NEMA: type 4/4x/12
- Strain relief according to: DIN EN 50262
- Housing material: corrosion-resistant die-cast aluminum
- · Locking latch material: polyamide GF
- · Seal material: NBR, conductive
- Ambient temperature (operation): -40°C ... +125°C
- · Ambient temperature for bayonet locking (operation): -40°C ... +100°C



You can also take advantage of up to 70% savings on housing versions with the HEAVYCON EVO metal connectors.



EMC protection

The new EMC series of HEAVYCON EVO heavy-duty connectors has been specifically developed for applications with increased requirements. Furthermore, the housing surfaces and all seals are constructed so as to be electrically conductive.





Fully compatible

The sleeve housing and supporting base element are mounting and plug-in compatible with the EVO plastic connectors and standard connectors from well-known manufacturers.



Easy closing operation

The bayonet locking designed specially for EVO applications ensures easy on-site assembly without tools.

For removal, a standard screwdriver is used to push down on the locking spring.



Reliable connection

A solid electrical connection is required between the housing and the cable gland for safety reasons. This is ensured by means of the inserted steel spring.

Plastic quality in every application

The quality of our products is our top priority. This is not tested subsequently on finished products, but is ensured responsibly during every step of production.

A process-oriented, integrated management system ensures that not only legislation and standards, but also customer requirements are taken into account in the manufacturing of our products.

HEAVYCON EVO plastic connectors are tested in accordance with numerous national and international standards and are suitable for many applications.

Mechanical test	Parameters
Shock resistance test	Freefalling hammer, 1.7 kg from 0.3 m
Test against static lateral load	At least 250 N per axis
Protection test	Jet water/dust/ice
Shocks from rough handling	50 cycles from 0.5 m
Vibration test	5g, 10 150 Hz, 2.5 hours per axis
Shock test	30g, 18 ms
Strain relief	According to DIN 50262

Aging test	
Cold	-40°C 24 hours with subsequent actuation
Heat	+125°C 168 hours with subsequent actuation
Durability test (locking latch actuation)	1000 cycles, open and close
Flexion tests (bayonet)	2000 bending operations at an angle greater than 45°



Machine building and systems manufacturing



Protection test: UL50e/NEMA 4/4X/12 and IP66 DIN 60529

Connector safety: DIN 61984

Shock resistance test: IK08 according to DIN 50102

Fluid contamination: DIN EN 60068-2-74

Offshore wind parks and energy technology



Vibration test/sinusoidal: DIN 60068-2-6

Endurance by sweeping

Corrosion test:

Cyclic salt spray, DIN EN 60068-2-55

Environmental influence:

Constant damp heat, DIN EN 60068-2-78

Shipbuilding



Vibration load/resonance range: DIN 60068-2-6 DIN test Fc, Table 3.16

Cyclic climatic storage: DIN EN 60068-2-30 (test Db)

Fire hazard testing: DIN EN 60695-11-5 (VDE 0471-11-5)

Environmental influence:

Cyclic salt spray, DIN EN 60068-2-52

Environmental influence: Cyclic damp heat, DIN EN 60068-2-30

IP protection test

DIN EN 60529

IP6X: protection of the contact inserts inside the housing against the ingress of dust in the presence of a slight vacuum. Parameters: vacuum: 20 mbar, test duration: 8 hours.

IPX6: protection against the harmful effects of the ingress of powerful jet

Parameters: jet nozzle: 12.5 mm, volumetric water flow: 100 l/min. minimum test duration: 3 minutes.

HEAVYCON EVO connectors meet the requirements of IP66 protection: no discernable, visible ingress of dust or water inside the housing.





let water test and dust test

Vibration test

IEC 60068-2-6

This test demonstrates the vibration resistance of an electrical connection. Harmonic, sinusoidal vibrations are applied to the test object to simulate rotating, pulsating or oscillating forces. Along all three axes (xyz), frequencies in the 10 to 2000 Hz range, for example, are successively applied at a rate of one octave per minute. The r.m.s. value of the acceleration is 50 m/s², for example.

There must be no damage to the test object that might impair further use or adversely affect the constant electrical values.

HEAVYCON EVO connectors meet these high requirements and are therefore suitable for applications on construction vehicles and machinery, for example.



Vibration test according to IEC 60068-2-6

Temperature shock test

IEC 60512-11-4, test 11d

In industrial applications, significant temperature differences resulting from the process may occur. In order to simulate such ambient conditions, a two-chamber procedure is used to move the test objects within the space of a few seconds between the lower and upper limit temperature (e.g., -50°C to +85°C) of the product and usually remain there for 45 minutes.

This must not result in damage that might impair further use.

Thanks to the use of high-quality materials, HEAVYCON EVO connectors are suitable for applications at an ambient temperature of -40°C to +100°C with constant temperature response.



HEAVYCON EVO connector in the climatic chamber at -50°C

IK08 shock resistance test

DIN EN 50102

During use, housings may be subjected to shock and impact, for example, from falling tools. Testing is carried out with a freefalling hammer weighing 1.7 kg, which is dropped onto the housing five times from a height of 0.3 meters. This is to ensure that no damage is caused which adversely affects function.

The plastic connectors have IK08 shock resistance, which is the same as that of aluminum connectors or aluminum control boxes, and therefore meet the mechanical requirements of heavy-duty industrial connectors.



Impact of falling hammer weighing 1.7 kg

Roll-over test

According to DIN IEC 62196-1

Housings that are removed during servicing or installation may be subjected to high stresses from moving loads such as heavy pallets or vehicles such as forklift trucks.

A special test is carried out on the EVO housing where a forklift truck weighing several tons is rolled over the housing.

HEAVYCON EVO housings withstand high stresses from heavy, moving loads without any adverse effect on function and are therefore ideal for use in industrial environments.



Extreme load due to roll-over with a forklift truck

Test against dynamic lateral load

According to DIN IEC 60512-5

During installation, the housings may be partially subjected to high static loads. In this test, a force of 200 N is applied to the cable in 50 cycles. The effect of the force on the locking mechanism and cable gland is particularly detrimental at an angle of 90°.

This test verifies that the HEAVYCON EVO bayonet locking and the double locking latch between the housing and panel mounting frame do not open independently or malfunction even in the case of extreme loads.



Lateral load of 200 N

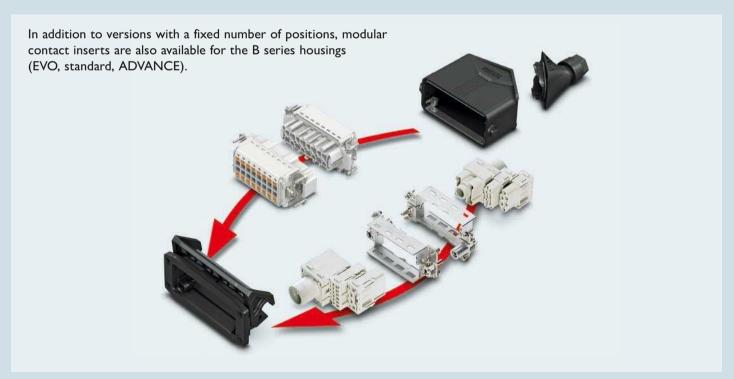
Ordering data for B design plastic housing with double locking latch

HEAVYCON EVO housings are equipped with a single locking latch or double locking latch. This ensures maximum possible flexibility depending on the application.

Housings with a double locking latch support particularly space-saving alignment sideways.

All box mounting bases and coupling housings are designed as a tall version.

	Height		B10	B16	B24
Sleeve housing					
For double locking late	h				
6	Low		1407628		
	Tall		1407629	1407643	1407657
With double locking latch					
	Low		1407630		
	Tall		1407631	1407644	1407658
	Screw	Cable for	ed-through	Tightening torque	Order
	connection		a-ciii ougii	torque	No.
Cable gland with bay	onet locking				
	M20	7 mm	13 mm	4 Nm	1407669
	M25	9 mm	17 mm	6 Nm	1407670
	M32	11 mm	. 21 mm	10 Nm	1407671
	M40	19 mm	. 28 mm	17 Nm	1407672



Screw B10 **B16 B24** connection Panel mounting base With double locking latch without cover 1407634 1407648 1407661

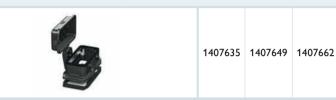
Connector sets with push-in connection

Size B10 with M25 screw connection



Order No. 1407711 HC-EVO-B10PT-BWD-HL-M25-PLRBK

For double locking latch with cover



Size B16 with M25 screw connection



Order No. 1407712 HC-EVO-B16PT-BWD-HH-M25-PLRBK

Box mounting base

With double locking latch without cover



2x M32	1407638		
2x M40		1407652	1407665

Size B24 with M32 screw connection



Order No. 1407713 HC-EVO-B24PT-BWD-HH-M32-PLRBK

For double locking latch with cover



2x M32	1407639		
2x M40		1407653	1407666











Coupling housing

With double locking latch



Possible combinations for housings with double locking latch

Left:

Sleeve housing with double locking latch, panel mounting base for double locking latch

Right:

Sleeve housing for double locking latch, panel mounting base with double locking latch

Ordering data for B design plastic housing with single locking latch

HEAVYCON EVO housings are equipped with a single locking latch or double locking latch. This ensures maximum possible flexibility depending on the application.

Housings with a single locking latch can be aligned right under one another.

All box mounting bases and coupling housings are designed as a tall version.

	Height	В6	B10	B16	B24	
Sleeve housing						
For single locking latch	1					
	Low	1407619	1407626			
	Tall	1407620	1407627	1407642	1407656	
	Screw connection	Cable fee	ed-through	Tightening torque	Order No.	
Cable gland with ba	Cable gland with bayonet locking					
	M20	7 mm	13 mm	4 Nm	1407669	
	M25	9 mm	17 mm	6 Nm	1407670	
A STATE OF THE PARTY OF THE PAR						

11 mm ... 21 mm

19 mm ... 28 mm

10 Nm

1407671

17 Nm 1407672

M32

M40



Screw В6 B10 B16 **B24** connection

Panel mounting base

With single locking latch without cover



1407621	1407632	1407646	1407659
1407621	1407632	1407646	1407659

Connector sets with push-in connection

Size B6 with M20 screw connection



Order No. 1407710 HC-EVO-B06PT-BWSC-HL-M20-PLRBK

With single locking latch with cover



1407622	1407633	1407647	1407660

Size B10 with M25 screw connection



Order No. 1408791 HC-EVO-B10PT-BWSC-HL-M25-PLRBK

Box mounting base

With single locking latch without cover



2x M32	1407623	1407636		
2x M40			1407650	1407664

Size B16 with M25 screw connection



Order No. 1408793 HC-EVO-B16PT-BWSC-HH-M25-PLRBK

With single locking latch with cover



2x M32	1407624	1407637		
2x M40			1407651	1407663

Size B24 with M32 screw connection



Order No. 1408794 HC-EVO-B24PT-BWSC-HH-M32-PLRBK

Coupling housing

With single locking latch



1407625	1407640	1407654	1407667	

Ordering data for B design metal housing with double locking latch

HEAVYCON EVO housings are equipped with a single locking latch or double locking latch. This ensures maximum possible flexibility depending on the application.

Housings with a double locking latch support particularly space-saving alignment sideways.

All coupling housings are designed as a tall version.

	Height		B10	B16	B24
Sleeve housing					
For double locking late	h				
	Low		1411455		
	Tall		1411451	1411460	1411472
With double locking latch					
	Low		1411457		
	Tall		1411454	1411462	1411474
	Screw connection	Cable fee	ed-through		Order No.
Cable gland with bay	onet locking				
_	M20	7 mm	13 mm		1411439
	M25	11 mm	16 mm		1411446
1	M32	14 mm	21 mm		1411440
7-0	M40	19 mm	27 mm		1411441

With the new EMC housings, a complete panel feed-through system is available for EMC applications.



B10 B16 **B24**

Panel mounting base

With double locking latch without cover



1411322	1411327	1411331

Connector sets with push-in connection

Size B10 with M25 screw connection



Order No. 1411488 HC-EVO-B10PT-BWD-HL-M25ELC-AL

For double locking latch with cover



1411323	1411328	1411332

Size B16 with M25 screw connection



Order No. 1411489 HC-EVO-B16PT-BWD-HH-M25ELC-AL

Coupling housing

With double locking latch



1411458	1411463	1411475	

Size B24 with M32 screw connection



Order No. 1411490 HC-EVO-B24PT-BWD-HH-M32ELC-AL



Possible combinations for housings with double locking latch

Left:

Sleeve housing with double locking latch, panel mounting base for double locking latch

Right:

Sleeve housing for double locking latch, panel mounting base with double locking latch

Ordering data for B design metal housing with single locking latch

HEAVYCON EVO housings are equipped with a single locking latch or double locking latch. This ensures maximum possible flexibility depending on the application.

Housings with a single locking latch can be aligned right under one another.

All coupling housings are designed as a tall version.

	Height	В6	B10	B16	B24		
Sleeve housing for single locking latch							
For single locking latch	ı						
	Low	1411448	1411456				
	Tall	1411447	1411453	1411461	1411473		

	Screw connection	Cable feed-through	Order No.
Cable gland with ba	yonet locking	:	
	M20	7 mm 13 mm	1411439
	M25	11 mm 16 mm	1411446
	M32	14 mm 21 mm	1411440
7-0	M40	19 mm 27 mm	1411441



В6 B10 B16 **B24**

Panel mounting base

With single locking latch without cover



1411210	1411320	1411224	1411220
1411318	1411320	1411324	1411329

Connector sets with push-in connection

Size B6 with M20 screw connection



Order No. 1411487 HC-EVO-B06PT-BWSC-HL-M20ELC-AL

With single locking latch with cover



1411319	1411321	1411325	1411330

Size B10 with M25 screw connection



Order No. 1411491 HC-EVO-B10PT-BWSC-HL-M25ELC-AL

Coupling housing

With single locking latch



1411450	1411459	1411464	1411476

Size B16 with M25 screw connection



Order No. 1411492 HC-EVO-B16PT-BWSC-HH-M25ELC-AL

Size B24 with M32 screw connection



Order No. 1411493 HC-EVO-B24PT-BWSC-HH-M32ELC-AL

Ordering data for D design plastic housing with single locking latch

Housings with a single locking latch can be aligned right under one another.

All box mounting bases and coupling housings are designed as a tall version.

		D15	D	25			
Sleeve housing							
For single locking latch							
		1411340	1411	1347			
	Screw connection	Cable feed-through	Tightening	Order No.			
Cable gland with ba			torque	110.			
8	M20 7 mm 13 mm 4 Nm 14113		1411350				
	M25	9 mm 17 mm	6 Nm	1411351			

	Screw connection	D15	D25
Panel mounting ba	ase		
With single locking I	atch without cov	er	
		1411336	1411344
With single locking I	atch with cover		
		1411337	1411345
Box mounting bas	e		
With single locking I	atch without cov	er	
	2x M25	1411341	1407636
With single locking I	atch with cover		
	2x M32	1411343	1411349
Coupling housing			
With single locking I	atch		
		1411338	1411346

Connector sets with screw connection

Size D15 with M20 screw connection without cover



Order No. 1411356 HC-EVO-A10UT-BWS-HH-M20-PLRBK

Size D15 with M20 screw connection with cover



Order No. 1411357 HC-EVO-A10UT-BWSC-HH-M20-PLRBK

Size D25 with M25 screw connection without cover



Order No. 1411358 HC-EVO-A16UT-BWS-HH-M25-PLRBK

Size D25 with M25 screw connection with cover



Order No. 1411359 HC-EVO-A16UT-BWSC-HH-M25-PLRBK

Ordering data for accessories

	Series	Connection	Connection cross section	Rated current	Rated voltage	No. of positions	В6	B10	B16	B24	B32	B48
Contact inse	erts wit	h a fixed nu	ımber of positi	ons with pu	ush-in conne	ection						
						Socket	1407727	1407729	1407731	1407735	1407731	1407735
	В	Push-in (PT)	0.14 - 2.5 mm ²	16 A	500 V	Socket	-	-	_	_	1407733	1407737
	В	rusii-iii (FT)	0.14 - 2.3 11111	16 A	300 V	Pin	1407728	1407730	1407732	1407736	1407732	1407736
						1111	-	-	_	-	1407734	1407738

Further contact inserts with a fixed number of positions and modular contact inserts can be found on the Phoenix Contact website.

	Cable Ø		Order No.
Metal gland			
	For EVO metal housing	g, not for EMC applicati	ons.
	7 mm 13 mm		1411442
	11 mm 16 mm		1411443
1	14 mm 21 mm		1411444
	19 mm 27 mm		1411445
	Cable Ø	Thread	Order No.
Plastic gland			
	Black, for cable diamet	er (mm).	
	5 mm 13 mm	M20	1411261
	8 mm 17 mm	M25	1411258
	12 mm 21 mm	M32	1407673
	16 mm 28 mm	M40	1407674
	Thread		Order No.
Plastic filler pl	ug		
	For metric screw open	ings.	
- marie	M25		1411245
	M32		1410754
	M40		1410767
	Thread		Order No.
Plastic thread	adapter		
	Enables the use of stan HEAVYCON EVO hou	dard cable glands with D	design
	M25		1411352
	PG16		1411353
	NPT		1411354

	Outside Ø	Ihread	Order No.		
Screw connection for plastic protective hoses					
	Screw connection, IP66	s, straight, with metric th	hread,		



for protective hose outside diameter.				
21.2 mm	M20	3241220		
28.5 mm	M25	3241221		
34.5 mm	M32	3241222		
42.5 mm	M40	3241223		

Outside/inside Ø	Static/dynamic	Order No.



Black, plastic, PA 6.6 HB.

21.2 mm/16.5 mm	45 mm/75 mm	3240683
28.5 mm/23 mm	55 mm/100 mm	3240684
34.5 mm/29 mm	65 mm/120 mm	3241088
42.5 mm/36 mm	90 mm/150 mm	3241089

Reduction Order No.

Plastic reducing adapter

Plastic protective hose



For metric screw openings.	
M32 to M25	1410712
M32 to M20	1410725
M40 to M32	1410738
M40 to M25	1410741

B6 B10 B16 B24

Cover plate



For HEAVYCON panel cutouts, height: 3.5 mm.

1660368 1660371 1660384 1660397

Replacement latch



Single locking latch, plastic, for HEAVYCON EVO plastic housing.

1407697 1407698 1407700 1407701

Double locking latch, plastic, for HEAVYCON EVO plastic housing.

1407696 1407696 1407696

Replacement flat gasket



Replacement flat gasket, for HEAVYCON EVO plastic panel mounting base.

1407702 1407703 1407704 1407705

Replacement EMC flat gasket



For HEAVYCON EVO metal panel mounting base.

1411483 1411484 1411485 1411486

Replacement profile gasket



Replacement profile gasket, for HEAVYCON EVO plastic supporting base element.

1407706 1407707 1407708 1407709

Replacement EMC profile gasket



For HEAVYCON EVO metal supporting base element.

1411477 1411479 1411480 1411482

Plastic protective cover

Protective cover, for panel mounting base, box mounting base, and coupling housing with single locking latch, with retaining cord, without seal.

B16

B24

B32

1660180 1660177 1660151 1660148

B10

Protective cover, for panel mounting base, box mounting base, and coupling housing with double locking latch, with retaining cord, without seal.

1772586 1772599 1772609 1646120

Protective cover, for sleeve housing without single locking latch, with retaining cord, with seal.

1678282 1678295 1678318 1678334

Protective cover, for sleeve housing without double locking latch, with retaining cord, with seal.

1678305 1678321 1678347

Protective cover, for sleeve housing with double locking latch, with retaining cord, with seal.

1687260 1687273 1687286

EVO housing marking label



Unmarked, UniSheet, 0.5 mm thick, 70-section, lettering field size: 20×9 mm, white.

0829439



Product range

- · Cables and wires
- Connectors
- Controllers
- Electronics housing
- Electronic switchgear and motor control
- Fieldbus components and systems
- Functional safety
- HMIs and industrial PCs
- I/O systems

- Industrial communication technology
- Industrial Ethernet
- · Installation and mounting material
- · Lighting and signaling
- Marking and labeling
- · Measurement and control technology
- Modular terminal blocks
- Monitoring
- PCB Terminal Blocks and PCB connectors

- Power supply units and UPS
- Protective devices
- Relay modules
- Sensor/actuator cabling
- Software
- Surge protection and interference filters
- System cabling for controllers
- Tools
- Wireless data communication

PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8 32825 Blomberg, Germany Phone: +49 (0) 52 35 3-00 Fax: +49 (0) 52 35 3-4 12 00

E-mail: info@phoenixcontact.com phoenixcontact.com

