

**ATEX-approved products for potentially explosive atmospheres**

- ⌘ Exe, Ex ia and Ex e'ia terminal boxes made from polyester and aluminium
- ⌘ Ex d limit switches, cable pull switches and foot switches
- ⌘ Ex mb/Ex tD magnetic switches



Services, training, system solutions, project- and customer-specific solutions.


**Terminal boxes and empty enclosures**

Only materials that correspond to the temperature range T6 required for Ex enclosures are used in these enclosures and components.

The minimum type of protection rating of all enclosures and screw connections is IP 64, other protection classes available on request.

The latching devices on the enclosures are optionally available as captive screw connections.

Various CA versions are available with flange plates.

All built-in components must conform to the relevant approvals.

**BERNSTEIN-ATEX experts' services:**

- Approval of a stainless steel enclosure with freely definable dimensions
- Approvals assistance for plant operators
- Approval of switching and control elements in all enclosures
- Approval of plug-in devices in all enclosures
- Component mounting and wiring of enclosures according to customer specifications
- Training courses for planners and plant operators
- Cross-product system solutions
- Customer-specific development and project management on request
- GOST (Russia) and NEC (North America) approvals on request


**Momentary contact, cable pull and footswitches**

An Ex d-certified switching element lies at the core of these Ex-approved switches.

It is mounted in the corresponding switch enclosures. The mechanical actuator and its installation are certified separately.

The approval of additional actuators and switch enclosures from other series is possible on request.

All switches and momentary contact switches feature one NO contact and one NC contact.


**Magnetic switches**

The magnetic switches are fitted at the factory with an up to 7 m long connection cable.

The cable is permanently connected to the enclosure and is part of the approval.

All sensors are certified for a maximum ambient temperature of +80°C.

II2G	Ex	ia	IIC	T6	TÜV	2008	ATEX	1234	-	
Type approval in accordance RAL 94/9/EG	Application	Explosion protection	Type of protection	Device group	Temperature class	Inspection authority	Year	As per Directive 94/9/EG	Consecutive number	Additional conditions
<b>Types of protection for gas-explosion hazardous areas</b>										
Symbol		Type of protection							Standard	
	Ex „d“	Flameproof encapsulation Switching devices, motors, transformers etc.							IEC60079-1	
	Ex „p“	Pressurised encapsulation Control cabinets px = Use in Zone 1, 2 py = Use in Zone 1, 2 pz = Use in Zone 2							IEC60079-2	
	Ex „q“	Powder-filled encapsulation Transformers, capacitors							IEC60079-5	
	Ex „o“	Oil immersion encapsulation Transformers, load resistors							IEC60079-6	
	Ex „e“	Increased safety Terminal boxes, control cabinets, enclosures for installing devices of other protection class							IEC60079-7	
	Ex „i“	Intrinsically safe Terminal boxes, control cabinets, sensors, measurement and control equipment ia = Use in Zone 0, 1, 2 ib = Use in Zone 1, 2							IEC60079-11	
		Intrinsically safe systems							IEC60079-25	
	Ex „n“	Non sparking Systems that, due to their design, cannot spark							IEC60079-15	
	Ex „m“	Encapsulation Command and signalling devices, sensors, display/indicator devices ma = Use in Zone 0, 1, 2 mb = Use in Zone 1, 2							IEC60079-18	
	Ex „op“	Optical radiation op is = Intrinsically safe optical radiation op pr = Protected optical radiation op sh = Shutdown optical radiation							IEC60079-28	
<b>IP Protection Classes</b>										
IP 1 <sup>st</sup> digit	Contact	Foreign bodies		IP 2 <sup>nd</sup> digit	Water		Max. permissible surface temperature	Temperature classes for gases		
0	No protection	No protection		0	No protection					
1	Large body parts	Solid object > 50 mm		1	Water dripping vertically					
2	Finger	Solid object > 12.5 mm		2	Water dripping at angle up to 15°		450°	T1		
3	Tool > 2.5 mm	Solid object > 2.5 mm		3	Water sprayed at an angle up to 60°		300°	T2		
4	Tool > 1 mm	Solid object > 1 mm		4	Sprayed water 360°		200°	T3		
5	Complete protection	Dust accumulation		5	Water jet 360°		135°	T4		
6	Complete protection	Dust infiltration		6	Strong water jet 360°		100°	T5		
				7	Temporary submersion		85°	T6		
(see Page 19 for further information on IP Classes)				8	Submersion		<b>Explosion groups for gases</b>			
<b>Device group I Mining</b>							Group	Typical gas	Ignition energy	
I M1	Safety provided by 2 safety measures, 2 faults						I	Methane	280 µJ	
I M2	Shutdown on occurrence of explosive atmosphere						IIA	Propane	> 180 µJ	
<b>Device group II All potentially explosive atmospheres except mining</b>							IIB	Ethylene	60...180 µJ	
II 1	Zone 0	Zone 20	Safety provided by 2 safety measures, 2 faults				IIC	Hydrogen	< 60 µJ	
II 2	Zone 1	Zone 21	Safety in the event of frequent equipment malfunctions, 1 fault							
II 3	Zone 2	Zone 22	Safety in trouble-free operation				<b>Additional conditions</b>			
<b>Zone categories, device group II</b>							-	No restriction		
Hazard		Gas as per IEC		Dust as per IEC		X	Special conditions			
Permanent or frequent		Zone 0		Zone 20						
Occasional		Zone 1		Zone 21						
Rare, temporary no longer than 30 min per year		Zone 2		Zone 22		U	Component certification, parts certification			

## ATEX-U certified standard aluminium CA enclosures

BERNSTEIN CA enclosures have been tested by an internationally recognised and certified inspection authority and certified through type approval testing for use in areas with potentially explosive dust and gas atmospheres. Used as terminal and control enclosures, the aluminium pressure die-cast enclosures are designed to accept corresponding mechanical and electrical equipment. The enclosures come with operating instructions, type identification plate, EU Type Approval Certificate and CE Declaration of Conformity. Either an EPDM or silicone seal can be used. The enclosures can be fitted at the factory with external hinges.

External dimensions		Type	Art. No. with silicone seal	Art. No. with EPDM seal
in mm	in inches			
58 x 64 x 36	2.3" x 2.5" x 1.4"	CA-060	1064005000	1064000000
98 x 64 x 36	3.9" x 2.5" x 1.4"	CA-080	1084005000	1084000000
150 x 64 x 36	5.9" x 2.5" x 1.4"	CA-100	1104005000	1104000000
75 x 80 x 57	3.0" x 3.1" x 2.2"	CA-130	1134005000	1134000000
75 x 80 x 57	3.0" x 3.1" x 2.2"	CA-140	1144005000	1144000000
125 x 80 x 57	4.9" x 3.1" x 2.2"	CA-150	1154005000	1154000000
125 x 80 x 57	4.9" x 3.1" x 2.2"	CA-160	1164005000	1164000000
175 x 80 x 57	6.9" x 3.1" x 2.2"	CA-170	1174005000	1174000000
175 x 80 x 57	6.9" x 3.1" x 2.2"	CA-180	1184005000	1184000000
250 x 80 x 57	9.8" x 3.1" x 2.2"	CA-190	1194005000	1194000000
122 x 122 x 80	4.8" x 4.8" x 3.1"	CA-210	1214005000	1214000000
122 x 122 x 90	4.8" x 4.8" x 3.5"	CA-215	1214005050	1214000050
122 x 122 x 80	4.8" x 4.8" x 3.1"	CA-220	1224005000	1224000000
220 x 122 x 80	8.7" x 4.8" x 3.1"	CA-230	1234005000	1234000000
220 x 122 x 90	8.7" x 4.8" x 3.5"	CA-235	1234005050	1234000050
220 x 122 x 80	8.7" x 4.8" x 3.1"	CA-240	1244005000	1244000000
360 x 122 x 80	14.2" x 4.8" x 3.1"	CA-250	1254005000	1254000000
160 x 160 x 90	6.3" x 6.3" x 3.5"	CA-270	1274005000	1274000000
160 x 160 x 90	6.3" x 6.3" x 3.5"	CA-280	1284005000	1284000000
260 x 160 x 90	10.2" x 6.3" x 3.5"	CA-290	1294005000	1294000000
260 x 160 x 90	10.2" x 6.3" x 3.5"	CA-300	1304005000	1304000000
360 x 160 x 90	14.2" x 6.3" x 3.5"	CA-310	1314005000	1314000000
560 x 160 x 90	22.0" x 6.3" x 3.5"	CA-330	1334005000	1334000000
200 x 230 x 110	7.9" x 9.1" x 4.3"	CA-350	1354005000	1354000000
200 x 230 x 180	7.9" x 9.1" x 7.1"	CA-360	1364005000	1364000000
280 x 230 x 110	11.0" x 9.1" x 4.3"	CA-370	1374005000	1374000000
330 x 230 x 110	13.0" x 9.1" x 4.3"	CA-380	1384005000	1384000000
330 x 230 x 180	13.0" x 9.1" x 7.1"	CA-390	1394005000	1394000000
400 x 230 x 110	15.7" x 9.1" x 4.3"	CA-400	1404005000	1404000000
600 x 230 x 110	23.6" x 9.1" x 4.3"	CA-420	1424005000	1424000000
402,5 x 310 x 110	15.8" x 12.2" x 4.3"	CA-450	1454005000	1454000000
402,5 x 310 x 180	15.8" x 12.2" x 7.1"	CA-460	1464005000	1464000000
600 x 310 x 110	23.6" x 12.2" x 4.3"	CA-470	1474005000	1474000000
600 x 310 x 180	23.6" x 12.2" x 7.1"	CA-480	1484005000	1484000000

### Technical Data:

- Protection class depending on type of seal IP 66 to IEC 60529
- Identification  
Ex II G Ex e II  
Ex II D Ex tD A21 IP 65
- Impact strength > 7 Joules
- Enclosure colour RAL 7001 (silver grey)
- Powder-coating corrosion protection

## ATEX-U certified standard polyester CP enclosures

BERNSTEIN CPG and CPS enclosures have been tested by an internationally recognised and certified inspection authority and certified through type approval testing for use in areas with potentially explosive dust and gas atmospheres. Used as terminal and control enclosures, the glass-fibre reinforced polyester enclosures are designed to accept corresponding mechanical and electrical equipment. The enclosures come with operating instructions, type identification plate, EU Type Approval Certificate and CE Declaration of Conformity. Either an EPDM or silicone seal can be used. The enclosures can be fitted at the factory with external hinges.

External dimensions		Type (Grey)	Art. No. with silic one seal	Art. No. with EPDM seal	Type (Black)	Art. No. with silicone seal	Art. No. with EPDM seal
in mm	in inches						
80 x 75 x 55	3.1" x 3.0" x 2.2"	CP-140	4144005000	4144000000	CPS-140	5144005000	5144000000
80 x 75 x 75	3.1" x 3.0" x 3.0"	CP-145	4144005050	4144000050	CPS-145	5144005050	5144000050
110 x 75 x 55	4.3" x 3.0" x 2.2"	CP-150	4154005000	4154000000	CPS-150	5154005000	5154000000
110 x 75 x 75	4.3" x 3.0" x 3.0"	CP-155	4154005050	4154000050	CPS-155	5154005050	5154000050
160 x 75 x 55	6.3" x 3.0" x 2.2"	CP-170	4174005000	4174000000	CPS-170	5174005000	5174000000
160 x 75 x 75	6.3" x 3.0" x 3.0"	CP-175	4174005050	4174000050	CPS-175	5174005050	5174000050
190 x 75 x 55	7.5" x 3.0" x 2.2"	CP-190	4194005000	4194000000	CPS-190	5194005000	5194000000
190 x 75 x 75	7.5" x 3.0" x 3.0"	CP-195	4194005050	4194000050	CPS-195	5194005050	5194000050
122 x 120 x 90	4.8" x 4.7" x 3.5"	CP-220	4224005000	4224000000	CPS-220	5224005000	5224000000
220 x 120 x 90	8.7" x 4.7" x 3.5"	CP-240	4244005000	4244000000	CPS-240	5244005000	5244000000
160 x 160 x 90	6.3" x 6.3" x 3.5"	CP-280	4284005000	4284000000	CPS-280	5284005000	5284000000
260 x 160 x 90	10.2" x 6.3" x 3.5"	CP-300	4304005000	4304000000	CPS-300	5304005000	5304000000
360 x 160 x 90	14.2" x 6.3" x 3.5"	CP-320	4324005000	4324000000	CPS-320	5324005000	5324000000
360 x 160 x 90	14.2" x 6.3" x 3.5"	CP-320 with external articulated hinge	4324006000	4324001000	CP-320 with external articulated hinge	5324006000	5324001000
560 x 160 x 90	22.0" x 6.3" x 3.5"	CP-330	4334005000	4334000000	CPS-330	5334005000	5334000000
560 x 160 x 90	22.0" x 6.3" x 3.5"	CP-330 with external articulated hinge	4334006000	4334001000	CP-330 with external articulated hinge	5334006000	5334001000
255 x 250 x 120	10.0" x 9.8" x 4.7"	CP-370	4374005000	4374000000	CPS-370	5374005000	5374000000
400 x 250 x 120	15.7" x 9.8" x 4.7"	CP-400	4404005000	4404000000	CPS-400	5404005000	5404000000
400 x 250 x 120	15.7" x 9.8" x 4.7"	CP-400 with external articulated hinge	4404006000	4404001000	CP-400 with external articulated hinge	5404006000	5404001000
400 x 405 x 120	15.7" x 15.9" x 4.7"	CP-450	4454005000	4454000000	CPS-450	5454005000	5454000000
400 x 405 x 120	15.7" x 15.9" x 4.7"	CP-450 with external articulated hinge	4454006000	4454001000	CP-450 with external articulated hinge	5454006000	5454001000
400 x 405 x 165	15.7" x 15.9" x 6.5"	CP-460	4464005000	4464000000	CPS-460	5464005000	5464000000
400 x 405 x 165	15.7" x 15.9" x 6.5"	CP-460 with external articulated hinge	4464006000	4464001000	CP-460 with external articulated hinge	5464006000	5464001000

### Technical Data:

- Protection class depending on type of seal IP 66 to IEC 60529
- Identification  
Ex II 2 G Ex e II  
Ex II D Ex tD A21 IP 64
- Up to CP 230 tested at 4 Joules
- As from CP 240 tested at 7 Joules
- Operating temperature depending on type of seal -55 °C to +100 °C
- Enclosure colour RAL 7000 (squirrel grey) CPG
- Enclosure colour RAL 9005 (jet black) CPS