

Enclosures EJB* / EJBX* Tapping and Drilling Instructions

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Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.

Reference to Further Documentation

Observe laws, standards, and directives applicable to the intended use and the operating location.

The corresponding datasheets, manuals, declarations of conformity, EC-type-examination certificates, certificates, and control drawings if applicable (see datasheet) are an integral part of this document. You can find this information under www.pepperl-fuchs.com.

Intended Use

The enclosure series EJB forms the optimal basis for the application-specific configuration of terminal boxes, control stations as well as control and distribution panels. The enclosures are certified Ex d IIB+H₂ and Ex tb as well as „explosion-proof“. They are available in many sizes, a wide range of operating elements and monitoring functions can be integrated.

They are manufactured from copper-free aluminum with increased corrosion resistance or from high-quality stainless steel. This durability as well as the flexible customization options cover the requirements of many industries including offshore and marine applications.

A choice of windows allows viewing of integrated monitoring functions. Electrical components can be integrated as per customer specification.

Permitted Thread Types	
Type	Minimum Fitting Engagement
Standard NPT conforming to ANSI B1.20.1	5 complete threads
Metric conforming to ISO 262 with tolerance fit 6H/6g in accordance with ISO 965	7 complete threads

Permitted Threaded Hole Sizes	
NPT	Metric
1/4"-18	12x1.5
3/8"-18	16x1.5
1/2"-14	20x1.5
3/4"-14	25x1.5
1"-11 1/2	32x1.5
1 1/4"-11 1/2	50x1.5
1 1/2"-11 1/2	63x1.5
	75x1.5

Holes sizes in between the noted sizes are also permitted, but in no cases may exceed the maximum values shown.

Hole Spacing Requirements

Refer to tables and drawings overleaf.

All dimensions are shown in [mm].

In the case of holes with different diameters the worst case must be considered.

All distances are minimum spacings.

Maximum material removal is total area permitted for each face. Each case must be considered.

The internal grounding terminal shall be used as the primary equipment ground. The external terminal is only a supplemental bonding connection where local authorities permit or require such a connection.

If a window is included in the cover any holes must be spaced a minimum of 65 mm from window edge to hole edge.

General Installation Instructions

Only use cable glands that are suitably certified for the application.

Only use cable glands with a temperature range appropriate for the application.

Ensure that the cable gland environmental rating is equal to or exceeds the marked enclosure rating.

Close all unused holes with stopping plugs appropriate for the application.

The enclosure lid is heavy. In order to avoid personal injuries or property damage make appropriate provisions for the mounting procedure.

Do not damage the flamepath surfaces between enclosure body and enclosure cover during the opening of the enclosure.

If one of the flamepath surfaces is damaged, exchange the enclosure body and enclosure cover.

Before fixing the enclosure cover to the enclosure body protect the flamepath surfaces with a thin layer of protective grease – Greasil MS4 or NEVER SEEZ Marine Grade.

Ensure that all cover screws are present.

Ensure that all cover screws are fully tightened per the table below. The screws should be tightened in a criss-cross pattern moving around the sides.

Tightening Torques				
Enclosure	EJB Minimum Torque in-lb [Nm]	EJBX Minimum Torque in-lb [Nm]	Screw Size	Screw Quantity
EJB(X)0*	14.8 [20]	18.5 [25]	M6	6
EJBX3A*	-	18.5 [25]	M6	10
EJB(X)4A	22.1 [30]	29.6 [40]	M8	10
EJBX6A	-	29.6 [40]	M8	10
EJB(X)8A	22.1 [30]	29.6 [40]	M8	14
EJB(X)8B	22.1 [30]	29.6 [40]	M8	14
EJB(X)10A	22.1 [30]	29.6 [40]	M8	16
EJB(X)10B	22.1 [30]	29.6 [40]	M8	16
EJB(x)11A	29.6 [40]	36.9 [50]	M10	22
EJB(X)11B	29.6 [40]	36.9 [50]	M10	22
EJB(X)15A	29.6 [40]	36.9 [50]	M10	20
EJB(X)17Q	40.6 [55]	44.3 [65]	M12	24
EJB(X)18A	40.6 [55]	44.3 [65]	M12	24
EJB(X)18B	40.6 [55]	44.3 [65]	M12	24

All cover screws must have a minimum tensile strength of 100000 psi (700 N/mm²).

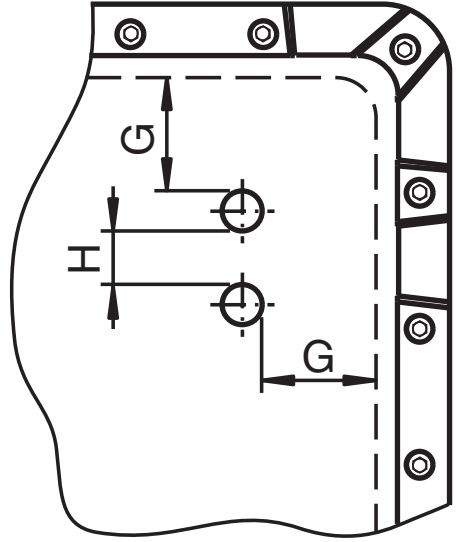
* EJBX0 and EJBX3 require cover screws with a minimum tensile strength of 160000 psi (1100 N/mm²).

Type Code / Model Number

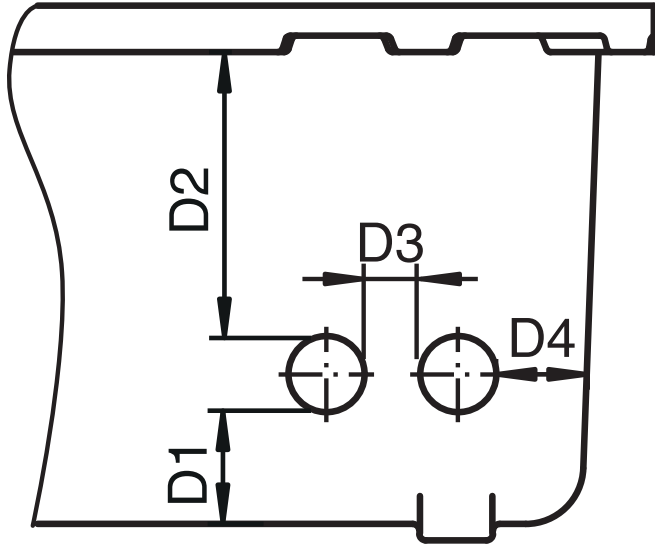
Enclosure type						
EJB	enclosure Ex d IIB+H ₂					
	Material					
		copper-free aluminum				
	X	stainless steel				
		Enclosure size				
		0 ... 20A	see dimensions data table			
		Window				
			no window			
	W ...		rectangular window with type indication			
	WG ...		circular window with type indication			
		Electrical circuits				
		D	without intrinsically safe circuits			
		I	intrinsically safe circuits integrated			
		Type of application				
		U	empty enclosure			
		T	terminal box			
		CP	control panel			
		CS	control station			
		DB	distribution board			
		DMT	electronic earthing system			
		MS	motor starter			
		PS	power switching			
		RIO	remote I/O field unit			
		IFS	interface solution			
		FJB	fieldbus solution			
		OS	optical solution			
		Q40	engineered solution per customer specification (Q40)			
		Variant number				
			-Yxxxxxx			

EJB		17Q	.W1	.D	.CP	-Yxxxxxx
Example: Control panel EJB size 17Q in aluminum, rectangular window type 1, without intrinsically safe circuits						

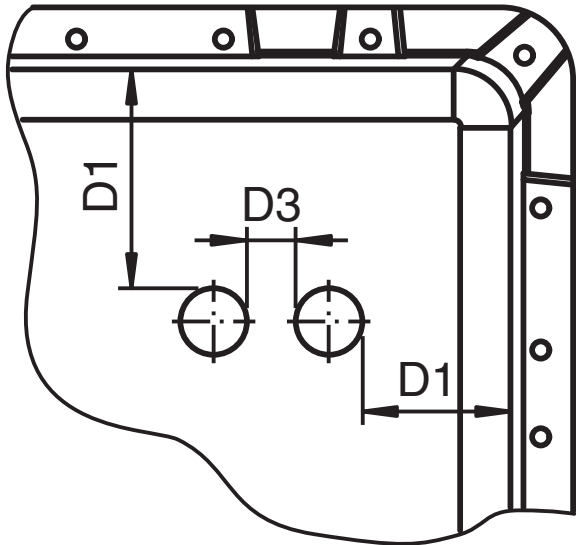
Cover Drillings - Figure 1



Side Drillings - Figure 2



Back Drillings - Figure 3



Hole Spacing Requirements per Size: EJB* Aluminum

Type	Cover - Figure 1					Sides - Figure 2							Back - Figure 3			
	H	H	H	G	max. Material Removal [mm ²]	D3	D3	D2	D4	D1	max. Material Removal [mm ²]	max. Material Removal [mm ²]	D3	D3	D1	max. Material Removal [mm ²]
	Hole to Hole [mm]			Hole to Flange [mm]		Hole to Hole [mm]		Hole to Flange [mm]	Hole to Side [mm]	Hole to Rear [mm]	max. Material Removal [mm ²]	max. Material Removal [mm ²]	Hole to Hole [mm]		Hole to Wall [mm]	max. Material Removal [mm ²]
	≤ M20	M25	M32	all		≤ M32	M50	all	all	all	Short Side	Long Side	≤ M32	M50	all	
	≤ 1/2" NPT	3/4" NPT	1" NPT	all		≤ 1" NPT	1.5" NPT	all	all	all			≤ 1" NPT	1.5" NPT	all	
EJB0*	20	20	20	10	1118	20	30	15	15	25	804	1660	30	45	25	981
EJB4A*	20	20	20	10	6431	20	30	15	20	25	3925	3790	30	45	25	1608
EJB8A*	25	30	30	10	4019	20	30	15	20	25	3925	7715	30	45	25	2412
EJB8B*	25	30	30	10	4019	20	30	15	20	25	7850	7715	30	45	25	2412
EJB10A*	25	30	30	10	6431	20	30	15	25	25	3925	5753	30	45	25	3925
EJB10B*	25	30	30	10	6431	20	30	15	25	25	5888	11640	30	45	25	3925
EJB11A*	25	30	30	10	11254	20	30	15	25	25	3925	5753	30	45	25	3925
EJB11B*	25	30	30	10	11254	20	30	15	25	25	5888	11640	30	45	25	3925
EJB15A*	25	30	30	10	16077	20	30	15	25	25	3925	7715	30	45	25	3925
EJB17Q*	25	30	30	10	19292	30	45	15	30	25	3925	7715	30	45	25	3925
EJB18A*	30	40	40	10	19292	30	45	15	30	25	9813	9678	30	45	25	5888
EJB18B*	30	40	40	10	19292	30	45	15	30	35	9813	15565	30	45	35	5888

Hole Spacing Requirements per Size: EJBX* Stainless Steel

Type	Cover - Figure 1					Sides - Figure 2							Back - Figure 3					
	H	H	H	G	max. Material Removal [mm ²]	D3	D3	D3	D3	D2	D4	D1	max. Material Removal [mm ²]	max. Material Removal [mm ²]	D3	D3	D1	max. Material Removal [mm ²]
	Hole to Hole [mm]			Hole to Flange [mm]		Hole to Hole [mm]				Hole to Flange [mm]	Hole to Side [mm]	Hole to Rear [mm]	max. Material Removal [mm ²]	max. Material Removal [mm ²]	Hole to Hole [mm]		Hole to Wall [mm]	max. Material Removal [mm ²]
	≤ M20	M25	M32	all		≤ M32	M50	M63	M75	all	all	all	Short Side	Long Side	≤ M32	M50	all	
	≤ 1/2" NPT	3/4" NPT	1" NPT	all		≤ 1" NPT	1.5" NPT	2" NPT	2.5" NPT	all	all	all			≤ 1" NPT	1.5" NPT	all	
EJBX0	20	20	20	10	1608	20	30	30	45	15	15	25	804	1608	20	30	25	981
EJBX3A	20	30	30	10	2412	20	30	30	45	15	20	25	1963	3925	20	30	25	981
EJBX4A	20	30	30	10	7235	20	30	30	45	15	20	25	3116	5888	20	30	25	1608
EJBX6A	20	30	30	10	4823	20	30	30	45	15	20	25	1963	5888	20	30	25	1472
EJBX8A	25	30	30	10	9646	20	30	30	45	15	20	25	7850	9347	20	30	25	2412
EJBX8B	25	30	30	10	9646	20	30	30	45	15	20	25	9813	15579	20	30	25	2412
EJBX10A	25	30	30	10	8842	20	30	30	45	15	25	25	5888	9347	20	30	25	2412
EJBX10B	25	30	30	10	8842	20	30	30	45	15	25	25	9813	15579	20	30	25	2412
EJBX11A	25	30	30	10	14469	20	30	30	45	15	25	25	13247	13247	20	30	25	3925
EJBX11B	25	30	30	10	14469	20	30	30	45	15	25	25	14719	22078	20	30	25	3925
EJBX15A	25	30	30	10	20096	20	30	30	45	15	25	25	8831	17662	20	30	25	3925
EJBX17Q	25	30	30	10	19292	20	30	30	45	15	30	25	22078	22078	20	30	25	5888
EJBX18A	25	30	30	10	25723	20	30	30	45	15	30	25	13247	17662	20	30	25	5888
EJBX18B	25	30	30	10	25723	20	30	30	45	15	30	35	26494	35325	20	30	35	5888