



N-L4254

Updated 05.03.2019



APPLICATION MANUAL

Junction Box type **XD-JB85** with terminal block or strip

Contents :



1. Technical data.
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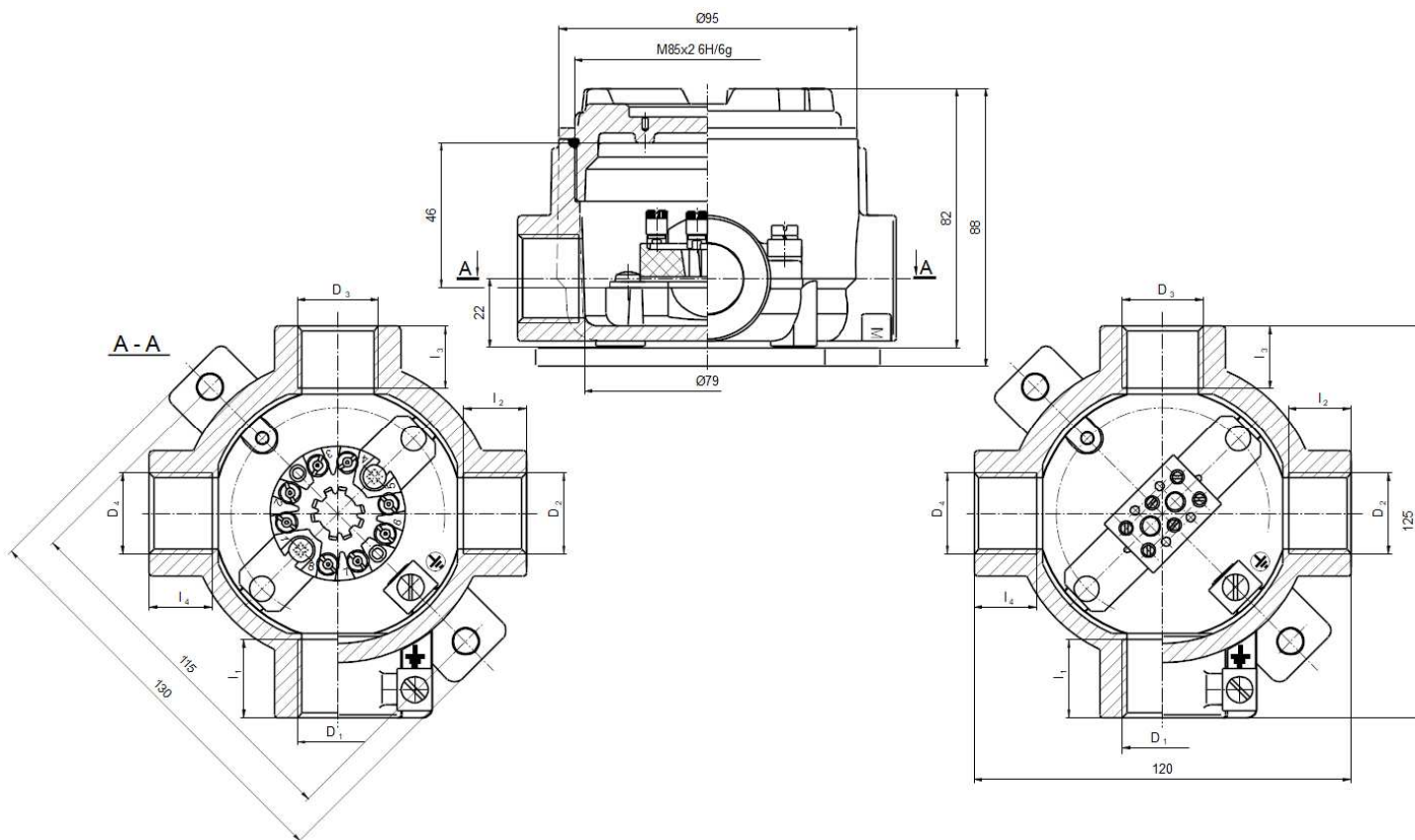
NOTES OF SAFETY

The XD-JB85 is designed to use in hazardous location both gas and dust atmospheres. If used incorrectly it is possible that application-related dangers may arise.

The XD-JB85 junction box may be installed by qualified and authorized personnel and people only, under strict observance of this application manual and relevant standards, legal requirements, and, where appropriate, the certificate.

1. TECHNICAL DATA.

Marking	CE 1026  II 2G Ex db IIC; T6...T4 Gb; IP65;  II 2D Ex tb IIIC; T=77/97/117°C Db
Standards	ATEX 2014/34/EU EN 60079-0, EN 60079-1, EN 60079-31
Type of enclosure	XD-JB85
Approval for enclosure	FTZU 05 ATEX 0262U
Terminal Strip	TSn/E and TSn Type (n=2, 3, 4, 6) TG5/n and ETG5/n (n=2, 3, 4, 6)
Terminal Block	ETB - Terminal Block XE-B12S-G8 TB6 - Terminal Block B12S-G4 TB8 - Terminal Block B9S-G4
Openings D ₁ , D ₂ , D ₃ , D ₄	M20x1.5, M24x1.5, M25x1.5, M27x2, 1/2NPT, 3/4NPT,
Material, surface, finishing	Copper-free aluminium, conversion layers, chemical resistant paint
Weight	~ 740g



2. TEMPERATURE CLASS, MAXIMUM SURFACE TEMPERATURE

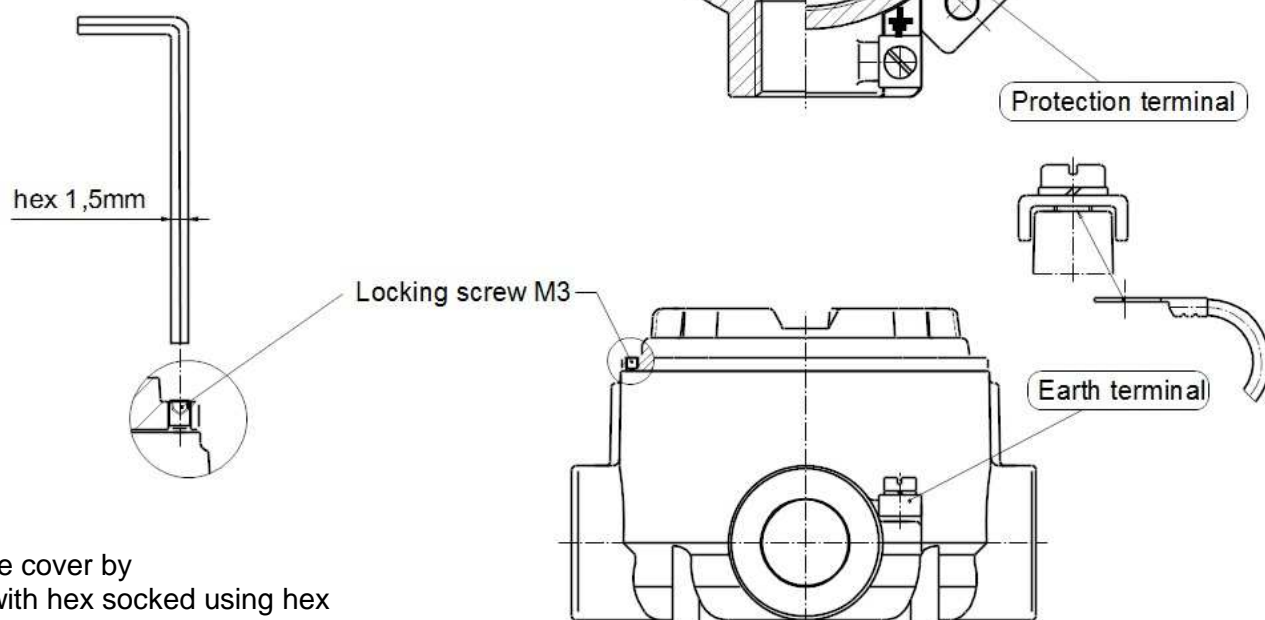
Category: II 2G, II 3G	
Temperature class	T _{amb}
T6	-40÷40 °C
T5	-40÷55 °C
T4	-40÷75 °C

Category: II 2D, II 3D	
T _{amb}	Maximum surface temperature
40 °C	65 °C
50 °C	75 °C
60 °C	85 °C
70 °C	95 °C

3. EARTH AND PROTECTION TERMINALS.

Place	Type	Cable cross section [mm ²]	
		Stranded wire	Solid wire
Inside	Protection terminal	4.0	6.0
Outside	Earth terminal	4.0	6.0

4. COVER LOCKING.



Lock the cover by screw with hex socket using hex spanner with across flat 1,5mm.

5. PROTECTION DEGREE

There are two connections of assembled device deciding about IP degree:

- 1 – cover,
- 2 – openings.

Threaded connection sealing	Possible IP
Without sealing - standard accuracy class thread	54
Use of a sealant, e.g. Loctite 577	68
Thread tightened with O-ring	68

If IP for each connection		IP of assembled device
1	2	
68	54	IP 54
	66	IP 66
	67	IP 67
	68	IP 68

! ATTENTION !

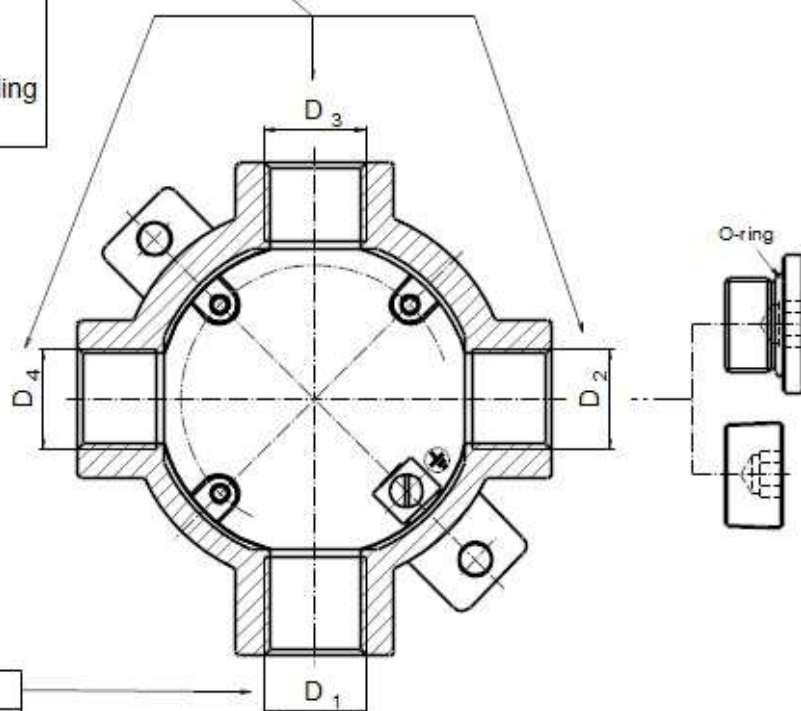
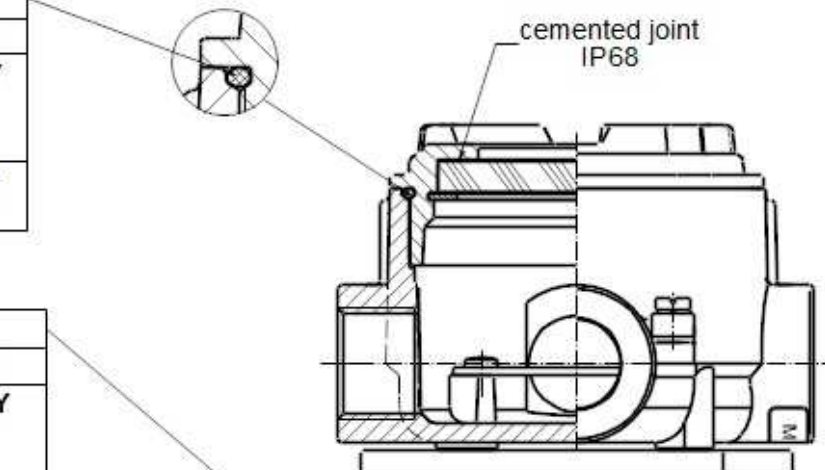
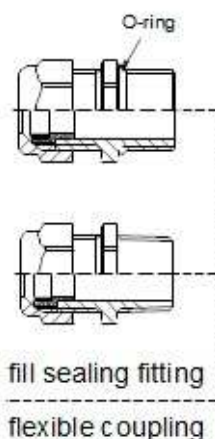
Protection IP68 refers to depth 1,0m of submersion under water.

It is required min IP65 protection for instruments designed for dust zones.

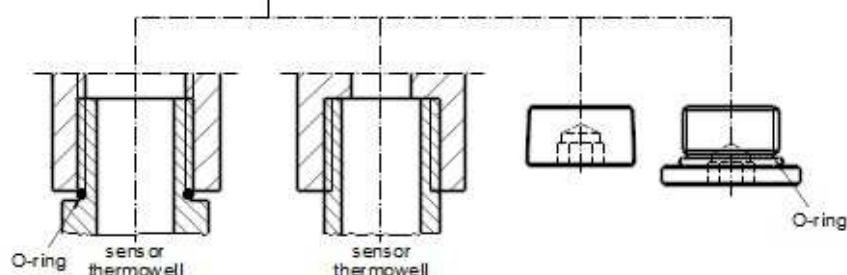
(Besides zone 22, non-conductive dust, where min IP54 protection is required)

1
max. possible to achieve IP68
LIMATHERM RESPONSIBILITY
<ul style="list-style-type: none"> • design • execution quality
CUSTOMER RESPONSIBILITY
<ul style="list-style-type: none"> • rate of screw tightness

2
max. possible to achieve IP68
LIMATHERM RESPONSIBILITY
<ul style="list-style-type: none"> • sealing surface quality • thread execution quality
CUSTOMER RESPONSIBILITY
<ul style="list-style-type: none"> • choice of cable gland type regarding to cable diameter and IP degree • cable gland mounting and sealing • rate of press cap tightness



2
max. possible to achieve IP68
LIMATHERM RESPONSIBILITY
<ul style="list-style-type: none"> • thread execution quality
CUSTOMER RESPONSIBILITY
<ul style="list-style-type: none"> • choice of type of connection between housing-sensor • housing-sensor sealing

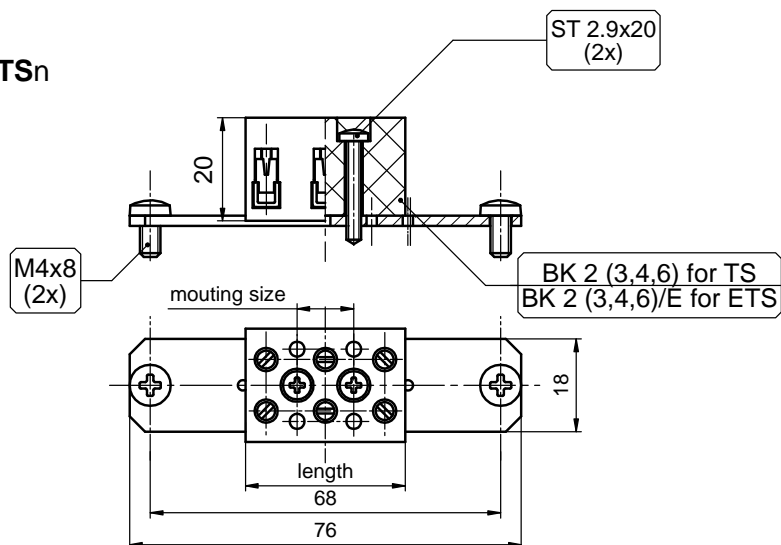


6. JUNCTION BOX EQUIPMENT

a) Terminal Strip

Type - **TSn**Ex e type – **ETSn**

(n=2, 3, 4, 6)



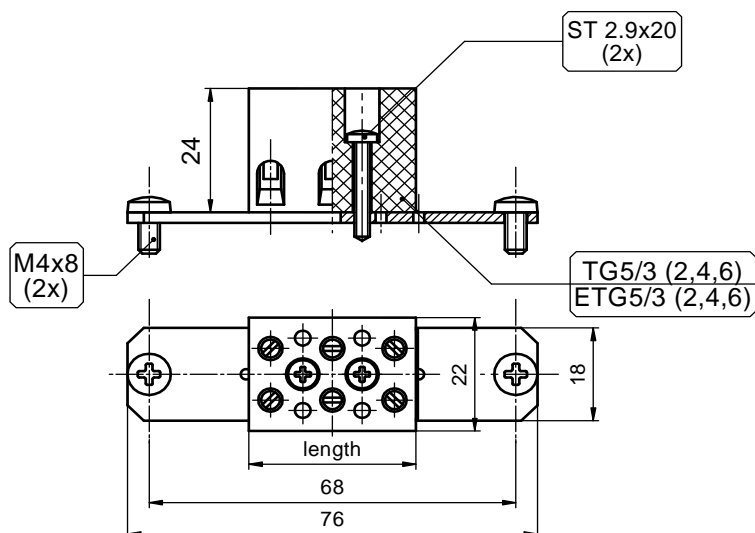
TECHNICAL DATA

Rating data	EN 60079-7	IEC	CSA	UL
Rated voltage [V]	275	400	300	300
Rated current [A]	21	32	10	10
Rated cross-section [mm ²]	4.0	4.0	22 ...2 AWG	
Rated surge voltage/polution severity [kV/-]	6 / 3			
Plug gauge acc. to IEC 60-947-1 / flammability class UL 94	A3 / 5VA			
Approval for ETS	SIRA 01 ATEX 3247U			
Clamping conductor H05V/H07V				
Solid / stranded [mm ²]	0.5 ... 4 / 1.5 ... 4			
Flexible / flexible with wire end ferrules [mm ²]	0.5 ... 4 / 0.5 ... 4			
Tightening torque range [Nm]	0.5 ... 0.7			
Stripping length / clamping screw / blade size[mm]	8mm / M3 / 4.0x0.8mm			
Version	2 - pole	3 - pole	4 – pole	6 – pole
Type TS	TS 2	TS 3	TS 4	TS 6
Type ETS	ETS2	ETS 3	ETS 4	ETS 6
Length / mounting size [mm]	20 / -	31 / 11	38 / 18	52 / 32

b) Terminal Strip

Type **TG5/n**Ex e **ETG5/n**

(n=2, 3, 4, 6)



TECHNICAL DATA

Nominal current	[A]	32
Nominal voltage	[V]	500
AWG		12 - 24
Rated current / cross section	[A]/[mm ²]	32 / 4
Rated surge voltage / pollution severity	[kV]/[-]	6/3
Surge category / Insulating material group	[-/-]	III/I
Rated surge voltage/pollution severity	[kV/-]	6/3
Conductor cross section flexible, with ferrule without plastic selve	[mm ²]	0,25 – 4 / 0,25 – 2,5
2 conductors with same cross section, solid / flexible	[mm ²]	0,2 – 1,5 / 0,2 – 1,5
2 conductors with same cross section,flexible, ferrules without plastic sleeve	[mm ²]	0,25 – 1,5
2 conductors with same cross section,flexible,TWIN ferrules with plastic sleeve	[mm ²]	0,5 - 1
Stripping length	[mm]	8
Internal cylindrical gage / Screw thread	[-/-]	A3 / M3
Tightening torque	[Nm]	0,6 – 0,8
Insulating material / Inflammability class acc. to UL 94		PA / VA

INCREASED SAFETY Ex e VERSION OF ETG5/N UNIT WITH MULTIPIN STRIPS

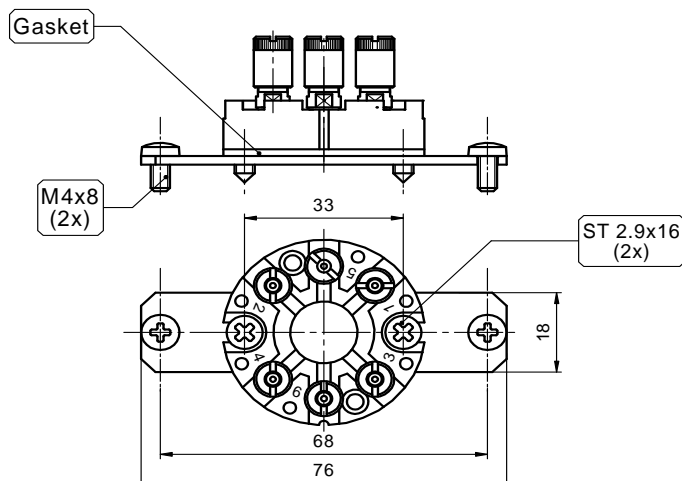
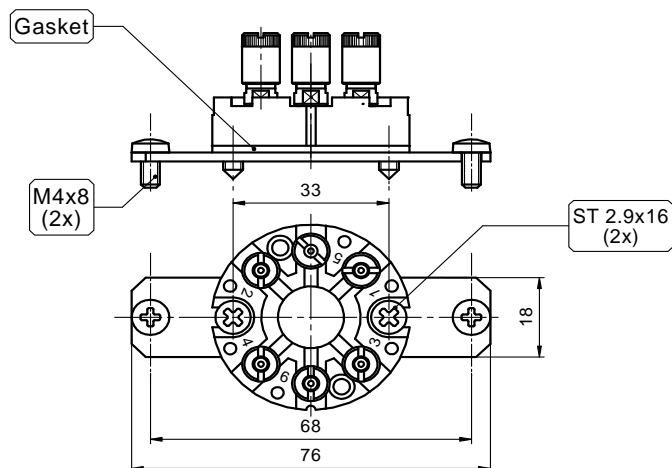
Conection in acc. with standard	UL / CUL	CSA
Nominal current [A]	300	
Nominal voltage [V]	300	
AWG	10 - 28	10 - 26

c) Terminal Block TypesEx e type ETB

terminal block XE-B12S-G8

Type TB6

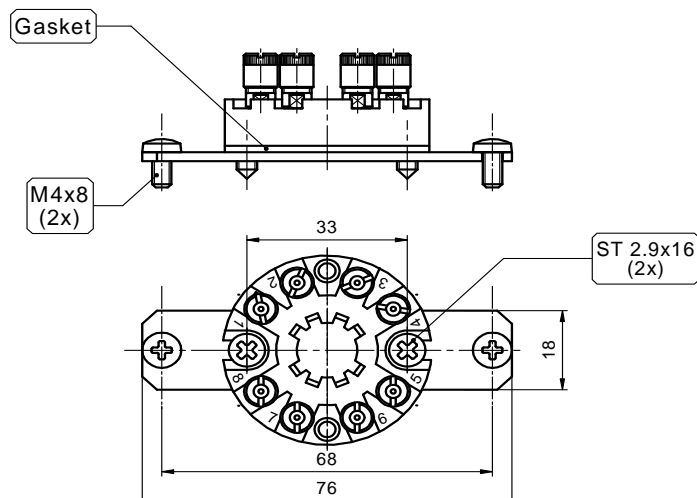
terminal block B12S-G4



Ordering example	ETB-2 to ETB-6
Number of terminals	2 to 6
Approvals	FTZU 04 ATEX 0003U

Ordering example	TB6-2 to TB6-6
Number of terminals	2 to 6

Type TB8
terminal block B9S-G4



TECHNICAL DATA

Nominal conductor cross-section [mm ²]	Max. current [A]	Max. voltage [V]
0.5	2	500
0.75	4	
1	8	
1.5	10	
2.5	15	
4.0	21	

Ordering example	TB8-2 to TB8-8
Number of terminals	2 to 8

CONDUCTORS CONNECTION
stranded or solid conductor
with equal cross-section
to one terminal together

Max. conductor number in one terminal	Max. cross-section of conductor [mm ²]	
	●	*
4	1.5	1.5
3	2.5	2.5
2	4.0	4.0

CONDUCTORS CONNECTION
stranded + solid
with different cross-section
to one terminal together

●	or	*	+	*	or	●
number	x	cross-section [mm ²]	+	number	x	cross-section [mm ²]
1	x	max.1.5	+	3	x	max.1.5
1	x	max.2.5	+	2	x	max.2.5
1	x	max.4.0	+	1	x	max.4.0

* stranded conductor

● solid conductor

7. WAY OF MOUTING.

NOTES

It is important to be careful when screw on or undo a cover. Thread surface should be free of any grains, pellets and other impurity, which cause seizing, and thread could be damaged.

! Never screw on the cover forcefully !

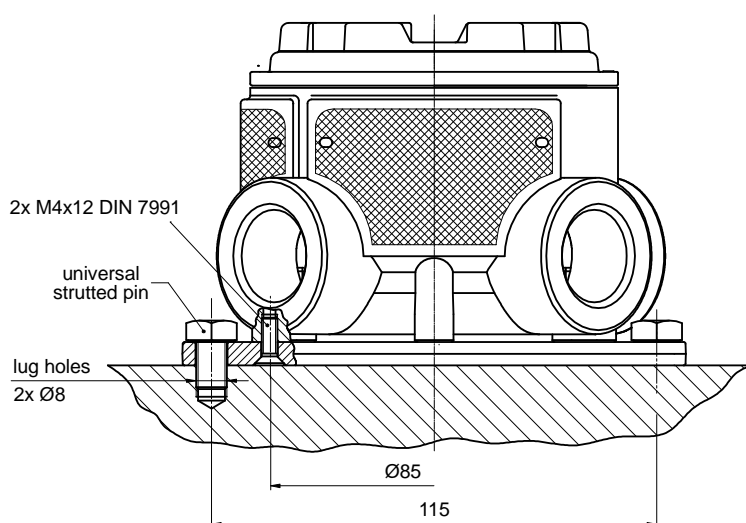
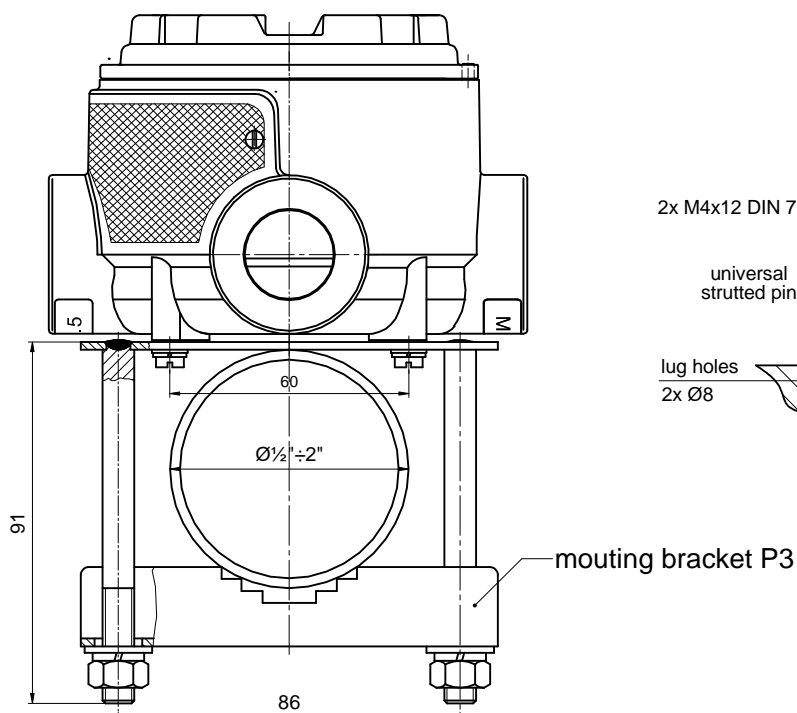
In case of necessities of opening of the box cover after operation in maximum temperature it can be blocked (does not give to open with the hand).

In such case keep cover tensioned with the hand to opening and hit delicate with rubber hammer into cover.

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WAY OF MOUNTING TO THE PIPE

WAY OF MOUNTING TO THE WALL



8. MARKING.

