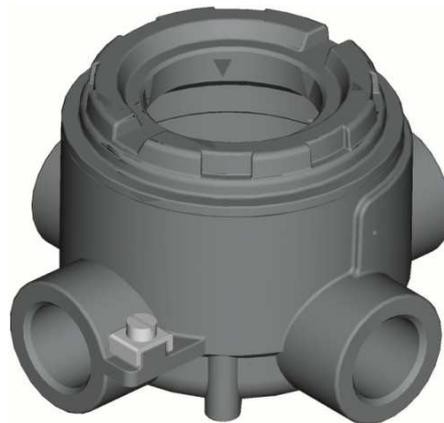




APPLICATION MANUAL

Universal box types XD-JB85, XD-JB85win XD-JB85I, XD-JB85Iwin



Contents:

1. Destination.
2. Flameproof joints.
3. Pressure test.
4. Temperature classes, ambient temperature, power dissipation.
5. Earth and protection terminals.
6. Cover locking.
7. Protection degree.
8. Way of mounting.
9. Marking.

NOTES OF SAFETY

The XD-JB85 series is designed to accommodate various electronic, electronic instruments or devices and electric power supply, electronic or mechanic indicators, status indicators. If used incorrectly it is possible that application-related dangers may arise.

The XD-JB85 universal box may be used by qualified and authorized company and people only, under strict observance of these application manual and relevant standards, legal requirements, and, where appropriate, the certificate.

Only the empty XD-JB85 enclosure is certified. When used as part of an end product assembly, subsequent approval of the end use equipment assembly is required.

1. DESTINATION .

- Marking:

2014/34/EU	IECEX
 II 2G Ex db IIC Gb	Ex db IIC Gb
 II 2D Ex tb IIIC Db	Ex tb IIIC Db

- Standards:

ATEX 2014/34/EU
 EN IEC 60079-0, EN 60079-1, EN 60079-31,
 IEC 60079-0, IEC 60079-1, IEC 60079-31

- Service temperature:

Housing type	T _{serv}		
	O-ring TPE rubber	O-ring VMQ rubber	O-ring FKM rubber
XD-JB85 XD-JB85I	-40 to + 100 °C	-40 to + 150 °C	-20 to + 200 °C
XD-JB85win XD-JB85Iwin	-40 to + 85 °C	-40 to + 85 °C	-20 to + 85 °C

- Possible zone application

Zone	Protection Code
Zone 1 Zone 21	Ex d
Zone 2 Zone 22	Ex d

- Ambient temperature:

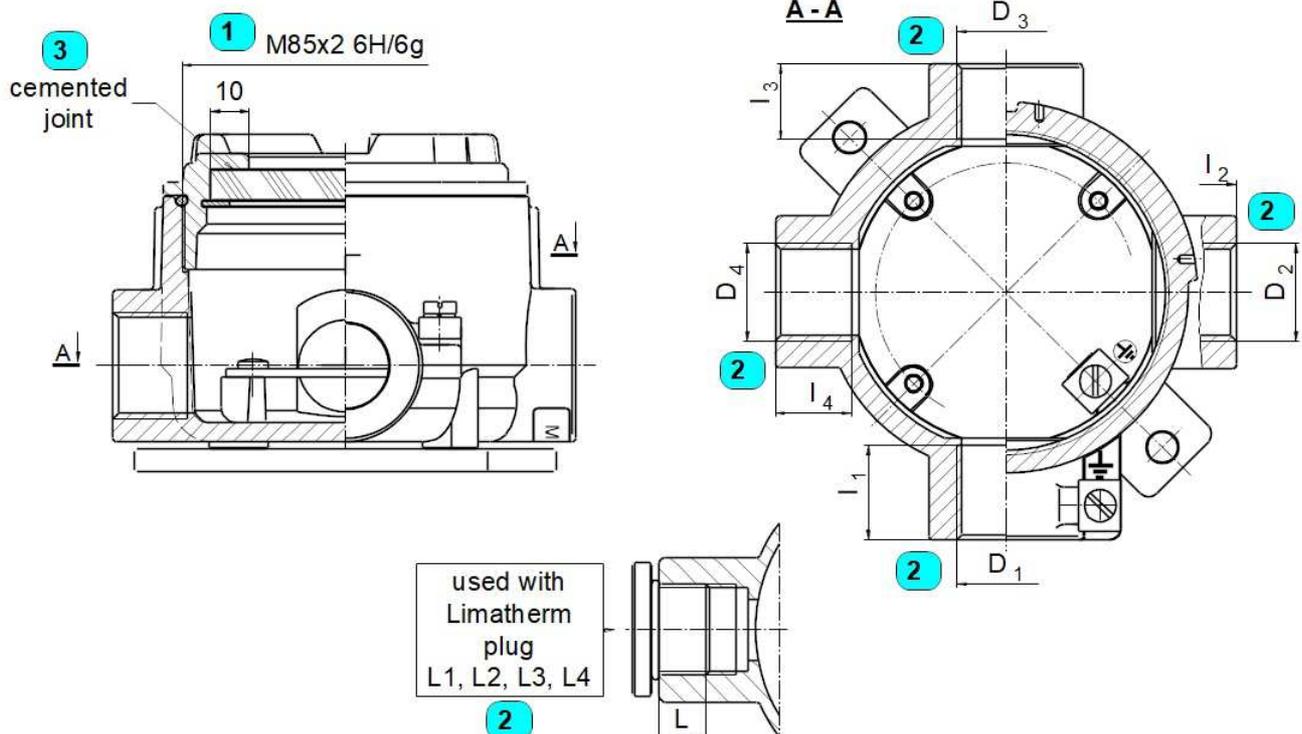
Housing type	T _{amb}
XD-JB85, XD-JB85I	-40 to + 200 °C
XD-JB85win, XD-JB85Iwin	-40 to + 85 °C

! Devices installed inside of enclosure can have any lay-out, which ensures, that in any cross-section area will be least 40% (group IIC) of area free !

! The empty enclosure must be installed to avoid a risk from propagating brush discharges for application in explosive dust atmosphere !

! It is not allowed to install circuit breaker or contactors with oil filling and rotating apparatus producing turbulence inside of the enclosure !

2. FLAMEPROOF JOINTS.



N-L3045

Lp.	Connection type		Requirements of 60079-1	Achieved values				
1	M85x2 6H/6g		threads engaged ≥ 5	7,5				
			depth of engagement ≥ 8 mm	15,3mm				
2	D ₁ , D ₂ , D ₃ , D ₄	M20x1.5 6H M24x1.5 6H M25x1.5 6H	fit of thread	l ₁	6g of male thread should be ensured by customer		L ₁	6H/6g
			threads engaged ≥ 5		should be ensured by customer, possible to reach: 12,5			6,5
			depth of engagement ≥ 8 mm		should be ensured by customer, possible to reach: 19mm			10mm
		M27x2 6H	fit of thread	l ₁	6g of male thread should be ensured by customer		L ₁	6H/6g
			threads engaged ≥ 5		should be ensured by customer, possible to reach: 9,5			5
			depth of engagement ≥ 8 mm		should be ensured by customer, possible to reach: 19mm			10mm
	½NPTmod ¾NPTmod	threads provided on each part ≥ 5	l ₁	9 male part should be ensured by customer		L ₁	-	
		threads engaged		should be ensured by customer, possible to reach: 5,0 ÷ 5,5			5	
	3	Cemented joint		min. length of joint 10mm	10mm			

NPT threads are modified to reach 5÷5,5 engaged threads and can create flameproof joint with threaded male part with standard cutting tolerance.

! Appropriate certify cable glands and blanking elements for direct entry have to be used !

3. PRESSURE TEST.

Enclosure passed overpressure static test 45 bar.

Reference pressure: 11,10 bar.

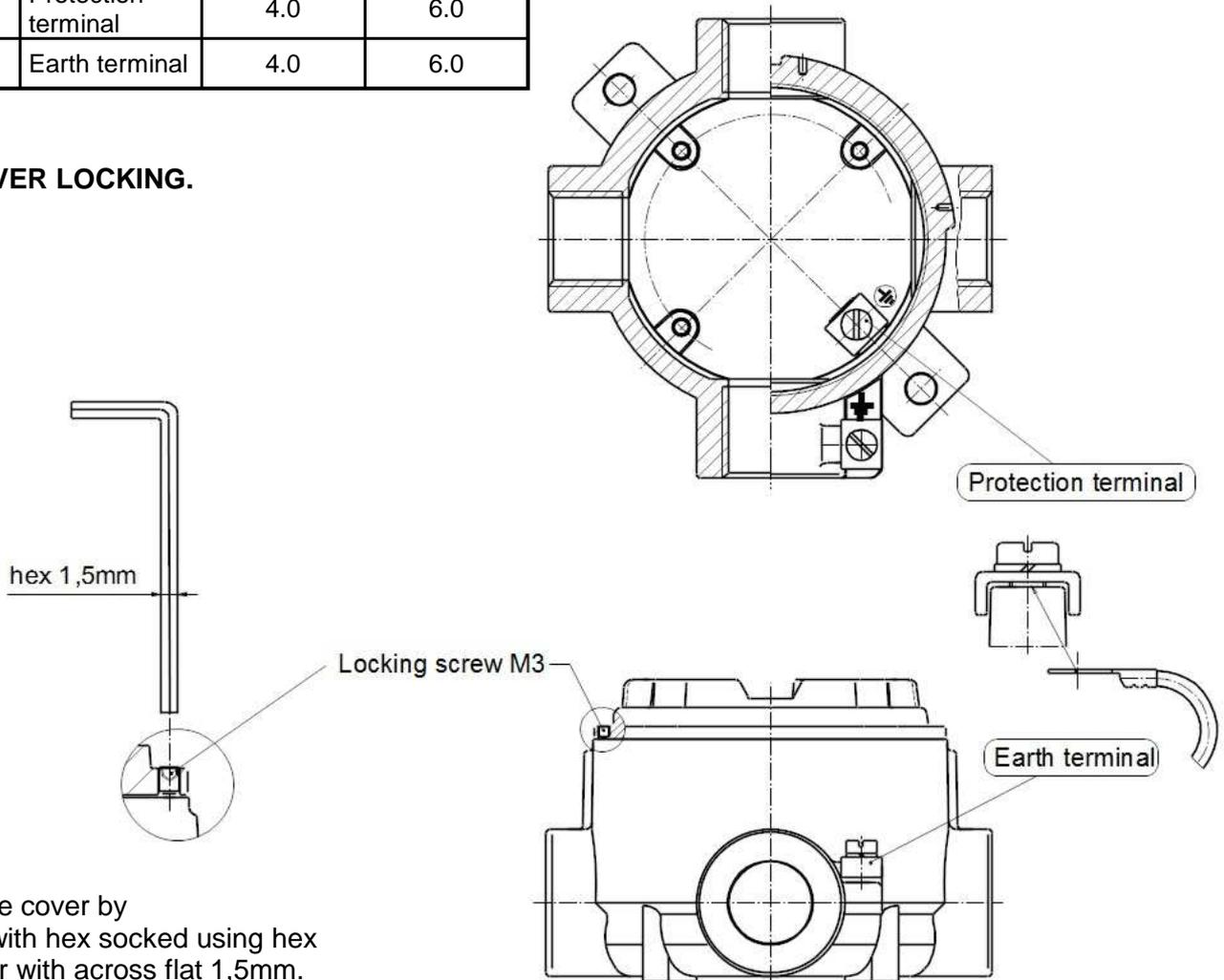
4. TEMPERATURE CLASSES, AMBIENT TEMPERATURE, MAX POWER DISSIPATION.

Maximum power dissipation [W]				
T _{amb}	Temp. class T6, or surface temp. 85° C	For all variety of enclosures Position horizontally/vertically	Temp. class T5, or surface temp. 100°C	For all variety of enclosures Position horizontally/vertically
40°C	$\Delta 0 \leq 40$ K	13.5 / 10.0	$\Delta 0 \leq 55$ K	18.5 / 15.5
55°C	$\Delta 0 \leq 25$ K	7.5 / 6.0	$\Delta 0 \leq 40$ K	13.5 / 10.0
70°C	$\Delta 0 \leq 10$ K	2.8 / 1.9	$\Delta 0 \leq 25$ K	7.5 / 6.0
85°C	N/A	-	$\Delta 0 \leq 10$ K	2.8 / 1.9

5. 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

6. COVER LOCKING.



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

7. 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

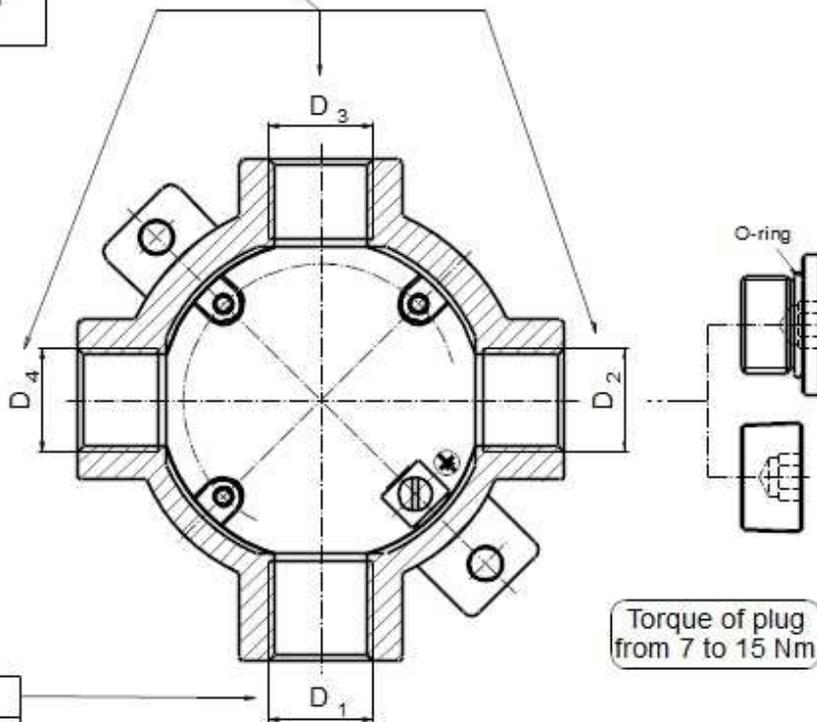
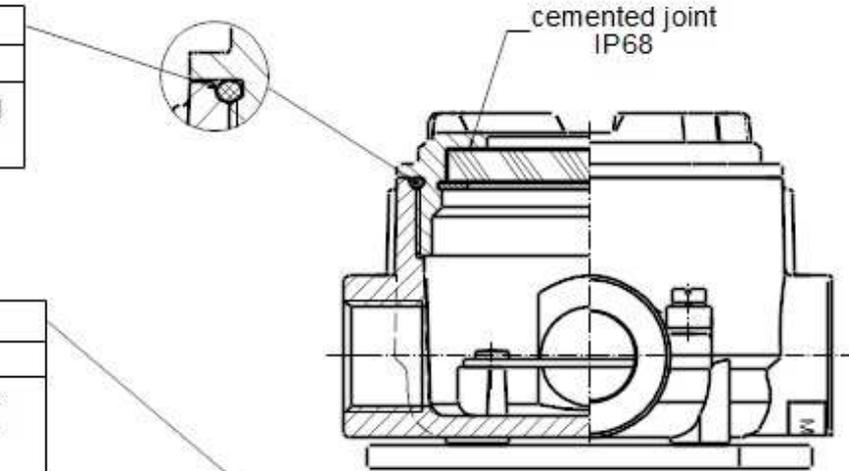
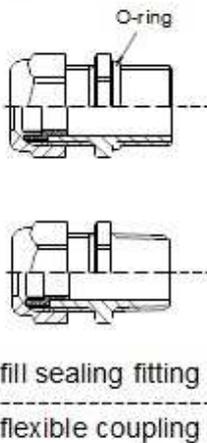
If IP for each connection		IP of assembled device
1	2	
68	54	IP 54
	66	IP 66
	67	IP 67
	68	IP 68

N-L3045

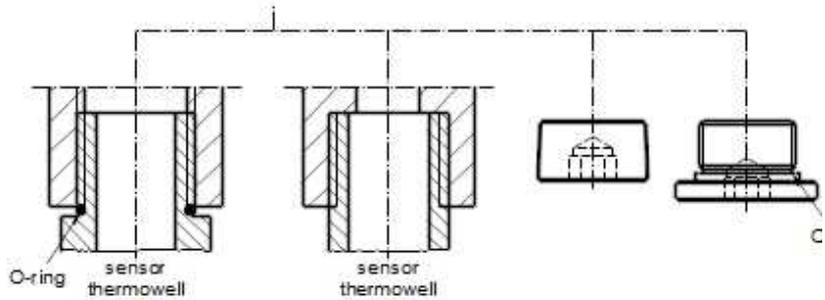
1
 max. possible to achieve IP68
 tighten up the cover with normal hand force until the end

2
 max. possible to achieve IP68
 choose cable gland under cable diameter and proper tightness - proper IP
 seal up thread connection
 tighten up press cap with proper torque

Torque of cable gland in accordance with gland producer's manual



2
 max. possible to achieve IP68
 seal up thread connection



! 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)

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8. WAY OF MOUNTING

NOTES

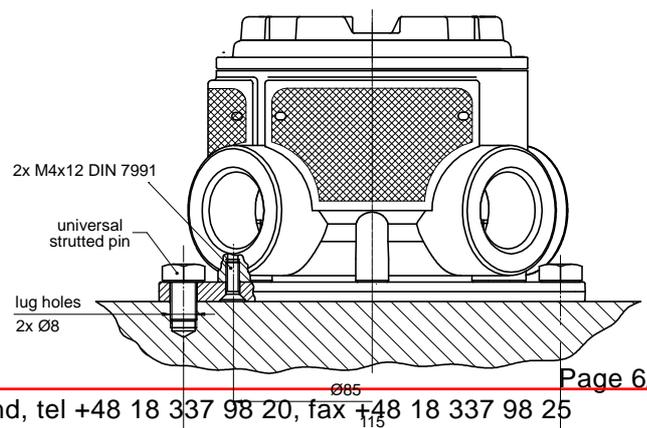
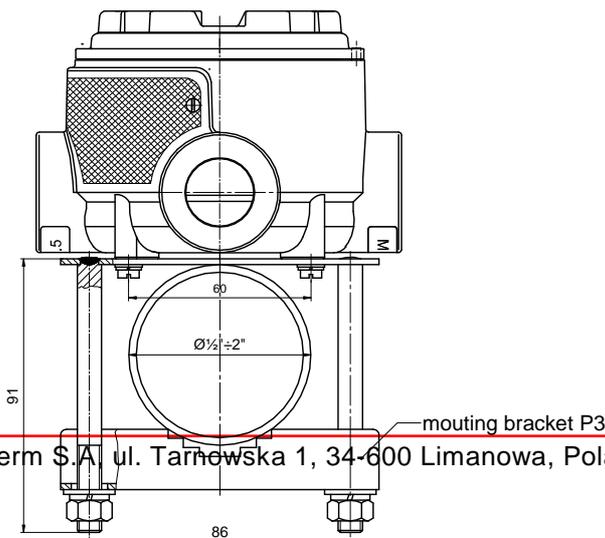
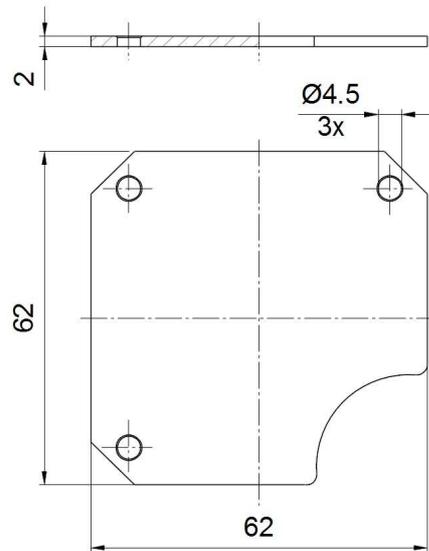
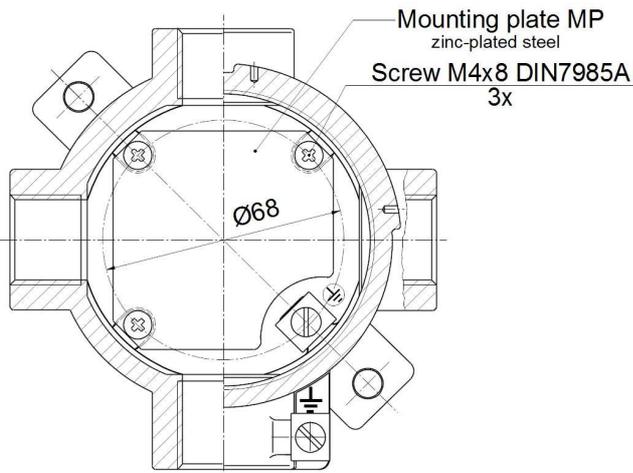
It is important to be careful when screw on or undo a cover. Thread surface should be free of any grains, pellets and other impurity, which cause seizing, and thread could be damaged.

! 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.

Universal box type **XD-JB85** and **XD-JB85win** can be equipped with mounting plate. Holes for mounting electric, electronic unit, etc. can be freely make.



9. MARKING

Limatherm label with marking is put inside the housing.

The label can be glued on the outside or inside surface, it's up to customer.

Producer of assembled instrument should apply additional own label with the marking of complete sensor or transfer valuable information from Limatherm's label to instrument nameplate.

