



N-L4432

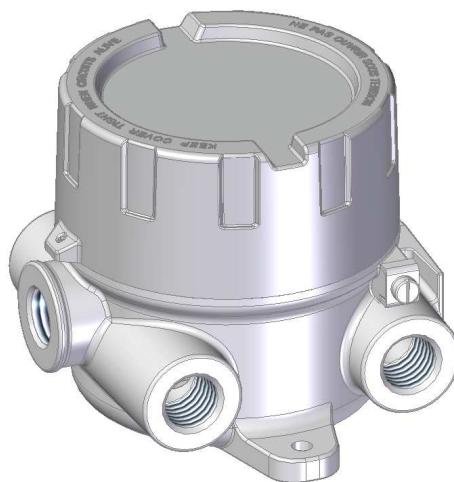
Updated 01.02.2021

APPLICATION MANUAL

Flameproof universal instrument housing

Types:

XD-FI, XD-FIwin, XD-FILwin



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-FI series are designed to accommodate various electronic instruments. If used incorrectly it is possible that application-related dangers may arise.

The XD-FI universal instrument housing 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-FI instrument housing is certified. When used as part of an end product assembly, subsequent approval of the end use equipment assembly is required.

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1. DESTINATION

STANDARDS	HAZARDOUS AREAS
FM 3600, FM 3615, FM 3810 ANSI/NEMA 250	Class I, Div 1, Groups A, B, C, D Class II, Div 1, Groups E, F, G Class III, Div 1 NEMA 4x
ANSI/ISA 60079-0, ANSI/ISA 60079-1, ANSI/ISA 60079-31 ANSI/IEC 60529	Class I, Zone 1, AEx db IIC IP66

Possible application

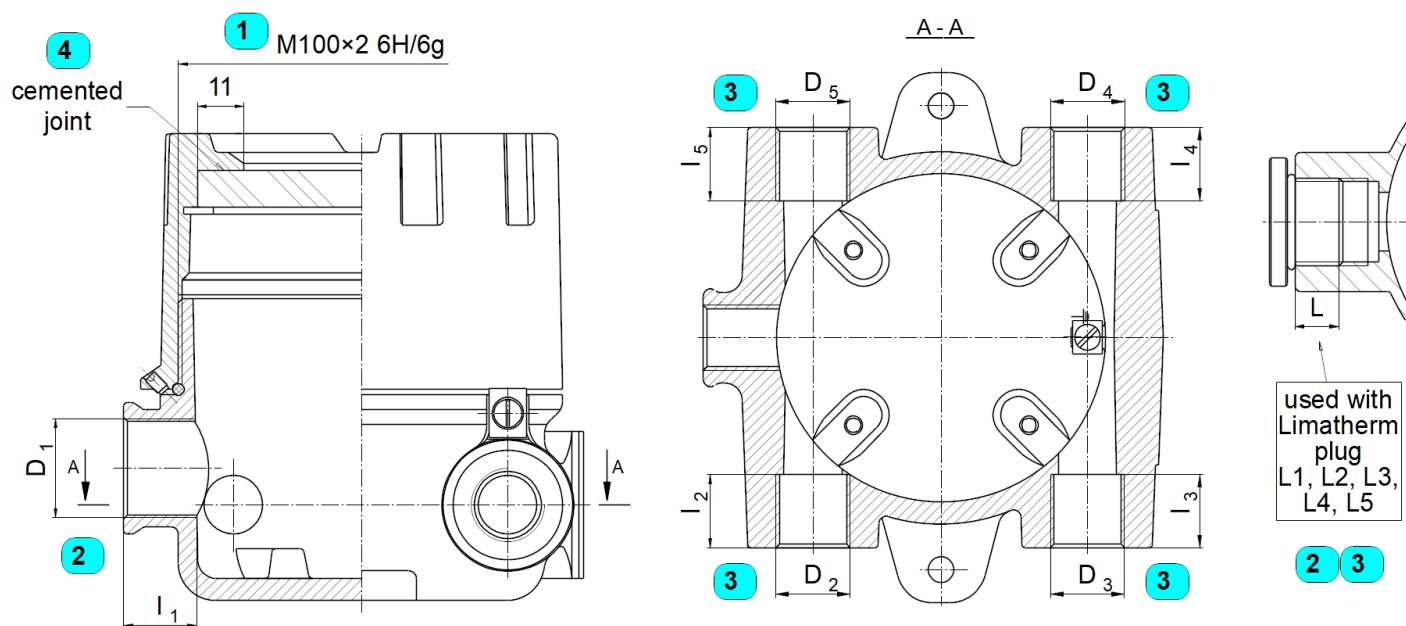
Division	Protection Code	Zone	Protection Code
Division 1	Explosionproof	Zone 1	Ex d
Division 2		Zone 2	Ex d

Ambient temperature:

Housing type	T _{amb}		
	O-ring TPE	O-ring VMQ	O-ring FKM
XD-FI	-40 to +212°F -40 to +100°C	-40 to +302°F -40 to +150°C	-4 to +392°F -20 to +200°C
XD-FIwin XD-FILwin	-40 to +212°F -40 to +100°C	-40 to +212°F -40 to +100°C	-4 to +212°F -20 to +100°C

2. FLAMEPROOF JOINTS.

Flameproof joints are designed for volume $500 < V \leq 2000 \text{ cm}^3$ group II C enclosures.



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Flameproof joints are designed for gas group A (Div), volume $500 < V \leq 2000 \text{ cm}^3$ group II C (Zone) enclosures.

Lp.	Connection type		Requirements of FM 3615 60079-1	Achieved values			
1	M100x2 6H/6g		threads engaged ≥ 7	9			
			width of engagement ≥ 12,5mm	18,5mm			
2	D ₁ proces opening	M20x1.5 6H M24x1.5 6H M25x1.5 6H	class 2 fit	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	class 2 fit	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
			depth of engagement ≥ 8 mm		should be ensured by customer, possible to reach: 19mm		10mm
		½NPTmod ¾NPTmod	threads engaged ≥ 5	l ₁	should be ensured by customer, possible to reach: 5,0 ÷ 5,5	L ₁	5
		3	D ₂ , D ₃ , D ₄ , D ₅ conduit openings	M20x1.5 6H M24x1.5 6H M25x1.5 6H	class 2 fit	l ₂ , l ₃	6g of male thread should be ensured by customer
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		
½NPTmod ¾NPTmod	threads engaged ≥ 5			l ₂ , l ₃	should be ensured by customer, possible to reach: 5,0 ÷ 5,5	L ₂ , L ₃	5
4	Cemented joint			min. joint length 10mm	11mm		
NPT threads are modified to reach 5÷5,5 engaged threads and can create flameproof joint with threaded male part with standard cutting tolerance.							

Process opening can be used for mounting sensor (e.g. level, flow sensor) or thermowell.

Conduit openings can be used to equip it with appropriate **certificated Ex d flameproof cable glands**, fill sealing fittings, flexible couplings or thermowells.

Each D₁, D₂, D₃ D₄ and D₅ opening can be **plugged**.

! Seal all conduits within 18 inches !

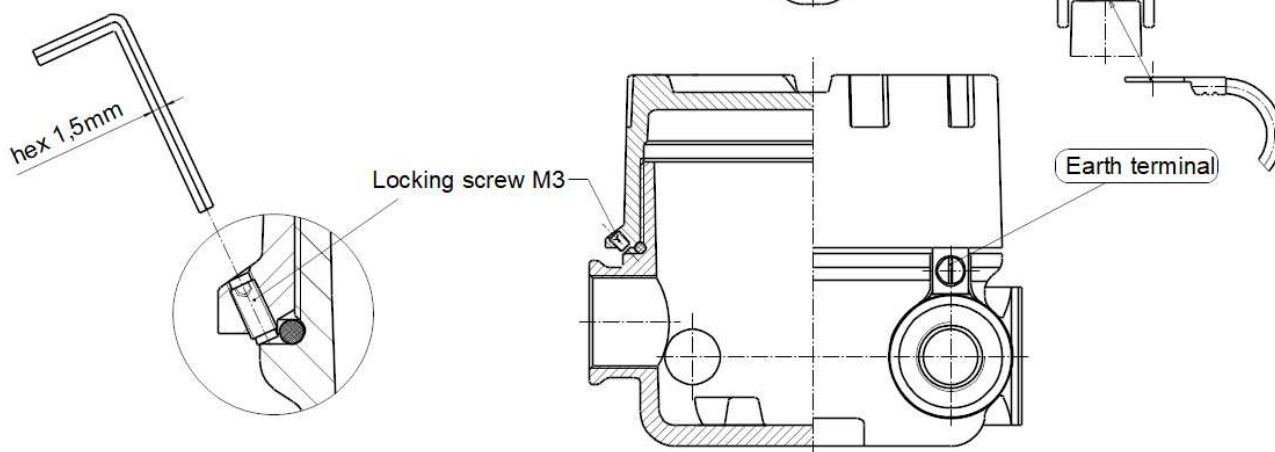
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3. EARTH AND PROTECTION TERMINALS.

Place	Type	AWG
Inside	Protection terminal	14
Outside	Earth terminal	10

4. COVER LOCKING.

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



5. PROTECTION AGAINST WATER AND DUST INGRESS, (Enclosure type 4x), PROTECTION DEGREE IP.

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

- 1 – cover,
- 2 – process opening,
- 3 – conduit openings.

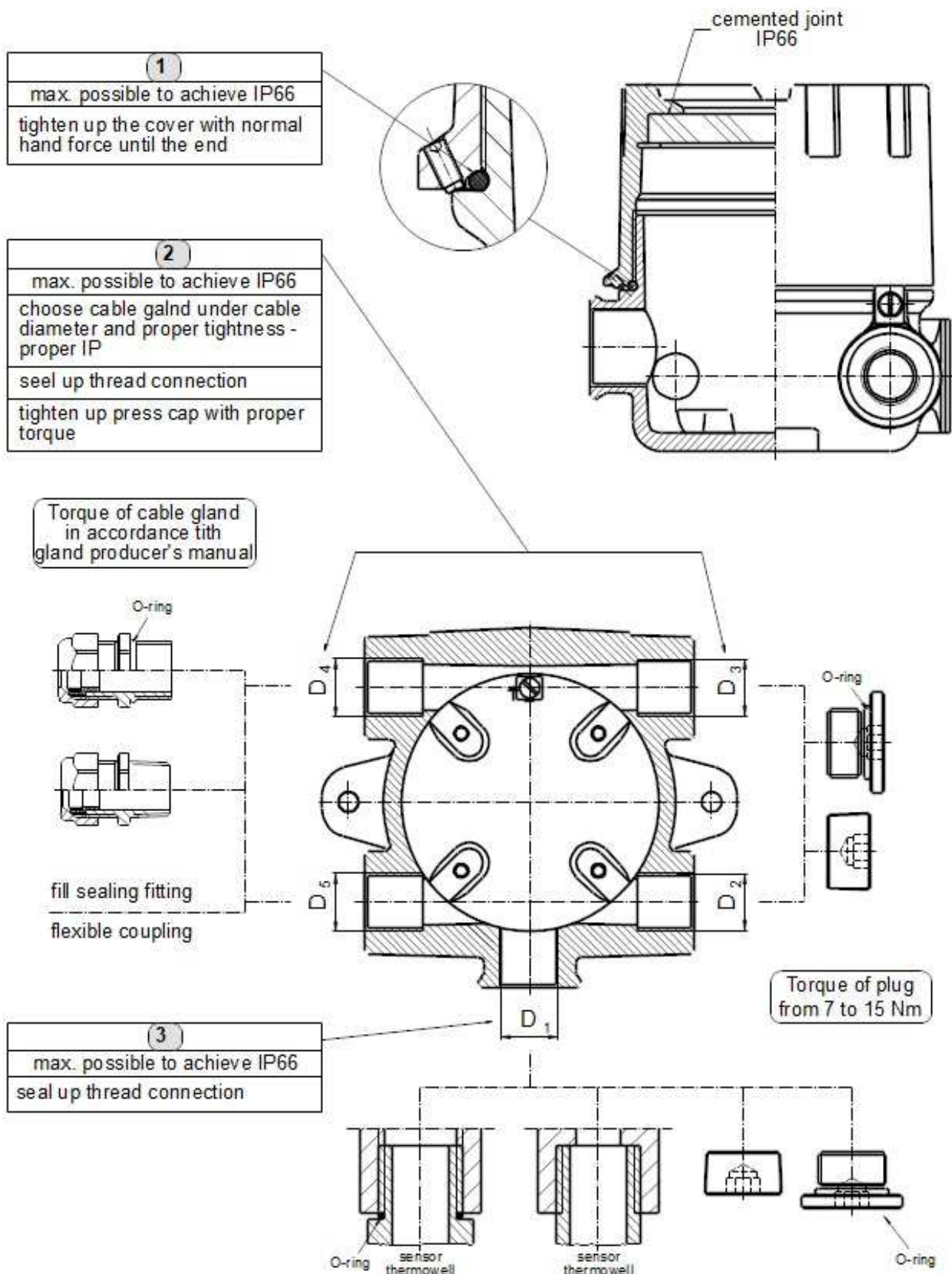
Threaded connection sealing	Protection against water and dust ingress	Possible IP
Without sealing - standard accuracy class thread	NO	IP54
Use of a sealant, e.g. Loctite 577	YES	IP66
Thread tightened with O-ring	YES	IP66

! ATTENTION !

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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6. WAY OF MOUNTING

NOTES

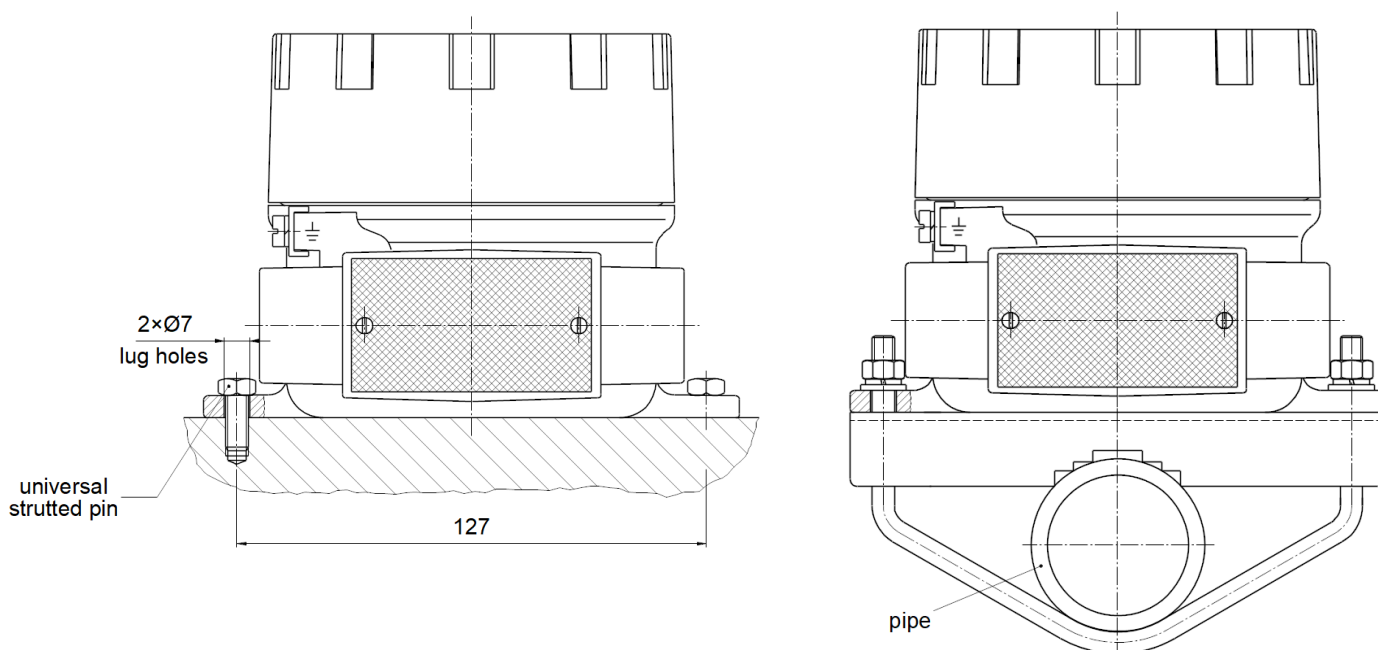
It is important to be careful when screw on or undo a cover. Thread surface should be free of any grains, pellets and other impurity, which cause seizing, and thread could be damaged.

! Never screw on the cover forcefully !

In case of necessities of opening of the connection head's 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.

WAY OF FIXING to WALL and to PIPE



7. MARKING

