

	Scope : USER MANUAL n°2015-01 For ENCLOSURE TYPE EJB A to H Zones 1, 2, 21, 22				Date : 2016-02-24
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Examples of Marking:

Without intrinsically versions group I

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 I M2		T.amb. (°)	
Ex d I Mb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

Warnings: • DO NOT OPEN WHEN ENERGIZED • DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

Without intrinsically versions group II

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 II2GD		T.amb. (°)	
Ex d IIB+H2 T** Gb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

Warnings: • DO NOT OPEN WHEN ENERGIZED • DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

With intrinsically versions group I

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 I M2		T.amb. (°)	
Ex d [Ia Ma] I Mb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 I M2		T.amb. (°)	
Ex d [Ib] I Mb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

Warnings: • DO NOT OPEN WHEN ENERGIZED • DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

With intrinsically versions group II

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 II2(1)GD		T.amb. (°)	
Ex d [Ia **** Ga] IIB+H2 T6 Gb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

		Veersteeg 15 4212 LR Spijk Netherlands	
EJB ..			
S.No.			
INERIS 12ATEX 0081 X		U _n = ...V AC ...Hz /DC	
CE 0344 II2GD		T.amb. (°)	
Ex d [Ib ****] IIB+H2 T6 Gb		P dis. Max. (**) W	
Year of construction:		T. Cable (**)	
Cable entries: See instructions			

Warnings: • DO NOT OPEN WHEN ENERGIZED • DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

(*) For the Ex d and Ex tb versions:

from -20°C up to -50°C to 40°C, 50°C or 60°C in accordance with the maximum dissipated power for enclosures EJB-A up to EJB-H without window and with or without operators.
from -20°C up to 40°C, 50°C or 60°C in accordance with the maximum dissipated power for enclosures EJB-B up to EJB-H with window and with or without operators.

(*) For the Ex d I:

from -20°C up to -50°C to 40°C, 50°C or 60°C in accordance with the maximum dissipated power for enclosures EJB-A up to EJB-H without window and with operators.

(*) For the Ex d [Ia] or [Ib] and Ex tb [Ia] or [Ib] versions:

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from -20 up to -50°C to 50°C or 60°C in accordance with the maximum dissipated power for enclosures EJB-A up to EJB-H without window and with operators and EJB-B up to EJB-H with window and operators.

The codes marking are :

Ex d IIB + H2 T4 or T5 or T6 Gb, Ex tb IIIC T85°C or T100°C or T135°C Db IP66

Ex d I Mb

Ex d [ia IIA or IIB or IIC Ga] IIB + H2 T6 Gb, Ex tb [ia Da] IIIC T85°C Db IP66

Ex d [ib IIA or IIB or IIC] IIB + H2 T6 Gb, Ex tb [ib] IIIC T85°C Db IP66

Ex d [ia Ma] I Mb or Ex d [ib] I Mb

(**) Depending on ambient temperature and temperature class.

(****) IIA or IIB or IIC.

.. Size of the enclosure

This equipment is made in accordance with the ATEX Directive 94/9/CE and with the following standards:

- IEC 60079-0 : 2011	EN 60079-0 : 2012/A11:2013
- IEC 60079-1 : 2007	EN 60079-1 : 2007
- IEC 60079-11 : 2011	EN 60079-11 : 2012
- IEC 60079-31 : 2013	EN 60079-31 : 2014

1. Installation:

The installation must be realised in accordance with IEC/EN 60079-14 and/or in accordance with the national requirements. This equipment must be installed and used only by qualified personnel, having knowledge concerning electrical equipment for use in potentially explosive areas containing gas and/or dust. Qualified personnel must have knowledge regarding the types of explosion protection.

This equipment is intended to be used in zone 1, 2, 21 & 22, for groups IIB+H2 and IIIC with temperature class T4/T5/T6 or T135°C/T100°C/T85°C, it is necessary to control if this equipment is in accordance with the atmosphere where it is installed.

Verify that the voltage marked on label is correct before powering.

2. Connections :

Electrical parameters:

Maximum supply voltage of "NIS" elements :	15.000 V ac/dc
Maximum supply voltage of "IS" elements :	250 V ac/dc
Frequency :	50/60Hz

Maximum powers dissipated : See table at the end

Ingress protection : IP 66

This equipment can be used with different voltage and power, the nominal parameters are specified on the label.

Cable glands:

The cable entry must be made in order not to alter the specific properties of the explosion proof enclosure, as indicated in the IEC/EN 60079-1 or dust enclosure as indicated in the IEC/EN 60079-31, with a minimum degree of protection IP66.

The connection to the external circuits must be realized by cable glands covered by a separate certificate in accordance with ATEX and in particular in accordance with item 10.4.2 of IEC/EN 60079-14.

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If a cable gland is not used the entry must be closed by a stopping plug covered by a separate certificate in accordance with ATEX.

The diameter of the cable gland is cylindrical ISO x 1.5 it can be conical NPT with different diameters. The tabel below indicate the maximum quantity of entries permitted for ISO and NPT treading.

Tightening torque cover bolts:

M8	22 Nm
M10	42 Nm
M12	73 Nm

A specific drawing with the different diameters of cable gland will be joined with each enclosure

Cylindric

LONG/SHORT SIDE								
Entry	Box type							
	EJB A	EJB B	EJB C	EJB D	EJB E	EJB F	EJB G	EJB H
M20	8/6	12/6	20/16	24/22	30/24	55/26	55/32	60/38
M25	8/4	8/4	12/9	22/16	25/20	38/18	40/22	44/24
M32	3/3	3/2	10/8	11/9	13/11	30/15	34/18	36/20
M50	2/1	2/1	4/3	8/8	8/8	14/6	16/12	17/13
M63			3/2	3/3	4/4	10/4	11/5	12/6
M75			2/2	2/2	3/2	4/2	6/4	6/4
M80				1/1	2/2	3/1	5/3	5/3

NPT

LONG/SHORT SIDE								
Entry	Box type							
	EJB A	EJB B	EJB C	EJB D	EJB E	EJB F	EJB G	EJB H
1/2"	8/6	12/6	20/16	24/22	30/24	55/26	55/32	60/38
3/4"	8/4	8/4	12/9	22/16	25/20	38/18	40/22	44/24
1"	3/3	3/2	10/8	11/9	13/11	30/15	34/18	36/20
1 1/2"	2/1	2/1	4/3	8/8	8/8	14/6	16/12	17/13

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Earting connection:

In addition to the internal ground connection, this equipment is also provided by an external secondary ground connection. Both are made in stainless steel and fitted with a split washer, must be connected for the internal ground the section must be equal to the active conductors. The external ground can receive a wire of 4 mm².

The user/installer must connect the internal and external earthing before powering.

4. Dismantling

All repairs of explosion-proof equipment must be made according the specified criteria of IEC/EN 60079-19 rule by qualified personnel, having knowledge concerning electrical equipment for potentially explosive areas containing gas. Qualified personnel must have knowledge regarding the types of explosion protection.

5. Maintenance:

The maintenance must be realised in accordance with IEC/EN 60079-17 and/or in accordance with the national requirements. This equipment must be installed and used only by qualified personnel, having knowledge concerning electrical equipment for use in potentially explosive areas containing gas and/or dust. Qualified personnel must have knowledge regarding the types of explosion protection.

When re-installing the covers, make sure the flanges are not damaged, clean and well lubricated and all cover screws are installed correctly.

The lubricant must not harden over time, must not contain solvents that evaporate and should not cause corrosion of the joints. (e.g. Copper Slibor Locktite 8150)

6. Special conditions for safe use

During the installation it will be necessary to keep a minimum of 30 mm distance between the flanged joint of the enclosure and all solid obstacles.

In case the enclosure is re-painted, the thickness of paint is to be less than 0,2 mm to avoid electrostatic risk.

The dimensions of the flameproof joints are superior to the value specified in tables of the standard IEC/EN 60079-1. For more information, contact Technor Benelux BV.

The gap between the cover and the body of the enclosure is less or equal to 0,04 mm.

The user must perform on regular cleaning of the enclosure to avoid accumulation of dust on the enclosure (thickness less than 5 mm).

Specific conditions for the Ex d [ia] or [ib] and Ex tb [ia] or [ib] versions

The installation of the intrinsic safety circuits "IS" inside the enclosure is subordinated to the respect of the requirements of their instructions and certificates joined, and with that after:

Circuits IS shall be cabled with connection wires of which the thickness of insulator is $\geq 0,5$ mm and the section $\geq 0,5$ mm². The connection wires shall support a dielectric test of 500 V effective.

After connection the air gap and creepage distances in the air, between the active parts under voltage of the intrinsic safety circuit compared to an intrinsic safety circuit close are higher or equal to 6 millimeters.

After connection the air gap and creepage distances in the air between the active parts under voltage of the intrinsic safety circuit compared to the metal parts which can be with the ground shall be higher or equal to 3 millimeters.

For the positive ambient temperature:

In case the enclosure is equipped with an internal thermal probe, the system must be connected to a cut-off device that will switch off of the circuits when the threshold of release is reached.

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For the negative ambient temperature below to -20°C:

in case of the minimum ambient temperature of the enclosure is greater or equal than the minimum ambient temperature specified in the certificate of the intrinsic safety elements, it is not necessary to add an internal thermostat.

In case of the minimum ambient temperature of the enclosure is lower than the minimum ambient temperature specified in the certificate of the intrinsic safety elements, the enclosure shall be provided with a calibrated thermostat near the intrinsic safety elements in order to switch off the power supply of of these elements.

The threshold of thermal probe shall be:

Ambient temperature of the IS element	Threshold of release of the thermal probe
$\geq -30^{\circ}\text{C}$	$-25^{\circ}\text{C} \pm 5^{\circ}\text{C}$
$\geq -40^{\circ}\text{C}$	$-35^{\circ}\text{C} \pm 5^{\circ}\text{C}$
$\geq -50^{\circ}\text{C}$	$-45^{\circ}\text{C} \pm 5^{\circ}\text{C}$

Note : The storage temperature specified for the IS element must be ensured inside the enclosure during the switch-off mode, for example using heating resistances.

Tables of maximum dissipated powers

Table 1: Enclosure without window and without intrinsic safety element:

Type of enclosure	Temperature class		Maximum power dissipated (W)			Cable temperature
	Gas	Dust	40 °C	50 °C	60 °C	
EJB-A	T6	T85 °C	80	60	35	NC
	T5	T100 °C	120	95	75	95 °C
	T4	T135 °C	205	180	155	135 °C
EJB-B	T6	T85 °C	125	90	55	85 °C
	T5	T100 °C	180	145	110	100 °C
	T4	T135 °C	305	270	235	135 °C
EJB-C	T6	T85 °C	210	150	95	85 °C
	T5	T100 °C	295	235	180	100 °C
	T4	T135 °C	500	440	380	135 °C
EJB-D	T6	T85 °C	255	185	115	85 °C
	T5	T100 °C	360	290	220	100 °C
	T4	T135 °C	610	535	465	135 °C
EJB-E	T6	T85 °C	275	200	125	95 °C
	T5	T100 °C	390	315	240	115 °C
	T4	T135 °C	655	580	505	160 °C
EJB-F	T6	T85 °C	365	265	165	95 °C
	T5	T100 °C	515	415	315	115 °C
	T4	T135 °C	850	755	660	160 °C
EJB-G	T6	T85 °C	430	315	195	95 °C
	T5	T100 °C	610	495	375	115 °C
	T4	T135 °C	1020	905	790	160 °C
EJB-H	T6	T85 °C	535	390	245	95 °C
	T5	T100 °C	610	460	320	115 °C
	T4	T135 °C	1260	1120	975	160 °C

Table 2: Enclosure fitted with window without intrinsic safety element

Type of enclosure	Temperature class		Maximum power dissipated (W)			Cable temperature
	Gas	Dust	40 °C	50 °C	60 °C	
EJB-B	T6	T85 °C	80	55	35	85 °C
	T5	T100 °C	115	90	70	100 °C
	T4	T135 °C	195	170	150	135 °C
EJB-C	T6	T85 °C	130	95	60	85 °C
	T5	T100 °C	185	150	115	100 °C
	T4	T135 °C	320	280	240	135 °C
EJB-D	T6	T85 °C	160	115	70	85 °C
	T5	T100 °C	230	185	140	100 °C
	T4	T135 °C	390	340	295	135 °C
EJB-E	T6	T85 °C	175	125	80	95 °C
	T5	T100 °C	250	200	150	115 °C
	T4	T135 °C	415	370	320	160 °C
EJB-F	T6	T85 °C	230	170	105	95 °C
	T5	T100 °C	330	265	200	115 °C
	T4	T135 °C	540	480	420	160 °C
EJB-G	T6	T85 °C	275	200	125	95 °C
	T5	T100 °C	390	315	240	115 °C
	T4	T135 °C	650	575	505	160 °C
EJB-H	T6	T85 °C	340	250	155	95 °C
	T5	T100 °C	390	290	205	115 °C
	T4	T135 °C	805	715	620	160 °C

Table 3: Enclosure without window and without intrinsic safety element for group I:

Type of enclosure	Maximum power dissipated (W)			Cable temperature
	40 °C	50 °C	60 °C	
EJB-A	205	180	155	135 °C
EJB-B	305	270	235	135 °C
EJB-C	500	440	380	135 °C
EJB-D	610	535	465	135 °C
EJB-E	655	580	505	160 °C
EJB-F	850	755	660	160 °C
EJB-G	1020	905	790	160 °C
EJB-H	1260	1120	975	160 °C

Table 4: Enclosure without window with intrinsic safety elements and with a thermal probe.

Type of enclosure	Temperature class		Maximum power dissipated and ambient temperature			Cable temperature
	Gas	Dust	40 °C	50 °C	60 °C	
EJB-A	T6	T85 °C	80 W	60 W	35 W	NC
EJB-B	T6	T85 °C	125 W	90 W	55 W	85 °C
EJB-C	T6	T85 °C	210 W	150 W	95 W	85 °C
EJB-D	T6	T85 °C	255 W	185 W	115 W	85 °C
EJB-E	T6	T85 °C	275 W	200 W	125 W	95 °C
EJB-F	T6	T85 °C	365 W	265 W	165 W	95 °C
EJB-G	T6	T85 °C	430 W	315 W	195 W	95 °C
EJB-H	T6	T85 °C	535 W	390 W	245 W	95 °C

Table 5: Enclosure with window with intrinsic safety elements and with a thermal probe.

Type of enclosure	Temperature class		Maximum power dissipated and ambient temperature			Cable temperature
	Gas	Dust	40° C	50° C	60° C	
EJB-B	T6	T85° C	80 W	55 W	35 W	85° C
EJB-C	T6	T85° C	130 W	95 W	60 W	85° C
EJB-D	T6	T85° C	160 W	115 W	70 W	85° C
EJB-E	T6	T85° C	175 W	125 W	80 W	95° C
EJB-F	T6	T85° C	230 W	170 W	105 W	95° C
EJB-G	T6	T85° C	275 W	200 W	125 W	95° C
EJB-H	T6	T85° C	340 W	250 W	155 W	95° C

Table 6: Enclosure without window with intrinsic safety elements and with a thermal probe for group I.

Type of enclosure	Maximum power dissipated and ambient temperature			Cable temperature
	40° C	50° C	60° C	
EJB-A	80 W	60 W	35 W	NC
EJB-B	125 W	90 W	55 W	85° C
EJB-C	210 W	150 W	95 W	85° C
EJB-D	255 W	185 W	115 W	85° C
EJB-E	275 W	200 W	125 W	95° C
EJB-F	365 W	265 W	165 W	95° C
EJB-G	430 W	315 W	195 W	95° C
EJB-H	535 W	390 W	245 W	95° C

Characteristics of the thermal probe installed in the enclosure for the maximum power dissipated in tables 4, 5 and 6.

Ambient temperature range of the enclosure	Ambient temperature of the intrinsic safety element	Threshold of release of the thermal probe
40° C	≥ 60° C	55° C ± 5° C
50° C	≥ 70° C	65° C ± 5° C
60° C	≥ 80° C	75° C ± 5° C

Table 7: Enclosure with intrinsic safety elements with or without window and without thermal sensor for temperature class T6/T85 °C.

Type of enclosure	Ambient temperature of the intrinsic safety element	Maximum dissipated power for ambient		
		40 °C	50 °C	60 °C
EJB-A	60 °C	10 W	NC	NC
	70 °C	30 W	10 W	NC
	80 °C	45 W	30 W	10 W
EJB-B	60 °C	20 W	NC	NC
	70 °C	40 W	20 W	NC
	80 °C	60 W	40 W	20 W
EJB-C	60 °C	35 W	NC	NC
	70 °C	65 W	35 W	NC
	80 °C	100 W	65 W	35 W
EJB-D	60 °C	40 W	NC	NC
	70 °C	85 W	40 W	NC
	80 °C	130 W	85 W	40 W
EJB-E	60 °C	50 W	NC	NC
	70 °C	100 W	50 W	NC
	80 °C	145 W	100 W	50 W
EJB-F	60 °C	65 W	NC	NC
	70 °C	130 W	65 W	NC
	80 °C	190 W	130 W	65 W
EJB-G	60 °C	80 W	NC	NC
	70 °C	155 W	80 W	NC
	80 °C	225 W	155 W	80 W
EJB-H	60 °C	100 W	NC	NC
	70 °C	190 W	100 W	NC
	80 °C	280 W	190 W	100 W

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EC- Declaration of Conformity:



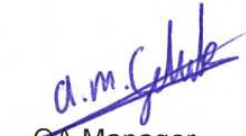
Equipment:	Enclosures type EJB
Manufacturer:	TechNed Benelux bv
Address:	Veersteeg 15, 4212 LR Spijk, Netherlands.

TechNed Benelux bv declares that the equipment is in compliance with the applicable requirements in the following European Directives:
ATEX Directive 94/9/EC and LVD Directive 2006/96/EC

EC-Type Examination Certificate **INERIS 12ATEX0081X** issued by:
Ineris (0080)
 Parc Technologique Alata BP2
 F060550 Verneuil-en-Halatte (France)

The following standards have been applied for certification:
EN 60079-0:2012, EN 60079-1:2007, EN 60079-31:2014, EN 60079-11:2012

Spijk, 24-02-2016


 QA Manager