

TYPE-EXAMINATION CERTIFICATE

1. Type-examination Certificate (Module A)
2. Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)



3. Type examination certificate Nr **ITS16ATEX101066X R.1**

4. **Product:** Field indicator JDF200*****

5. **Manufacturer:** ABB S.p.A

6. **Address:** Via L. Vaccani 4
22016 Tremezzina - Loc. Ossuccio (Como)
Italy

7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.

8. INTERTEK ITALIA S.p.A., certifies that the equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 102399251UDI-001B Issue: 00 Dated: April 2016 and 104831665UDI-002 Dated 04 Apr 2022

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN IEC 60079-7:2015/A1:2018, EN 60079-11:2012, EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule

10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.

11. This Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:



II 3G Ex ec IIC Tx Gc
II 3G Ex ic IIC Tx Gc
II 3G Ex tc IIIC Tx Dc IP67

-50°C ≤ Ta ≤ +40°C

-50°C ≤ Ta ≤ +70°C

-50°C ≤ Ta ≤ +75°C

11th of May 2022

Certificate issue date

Alessandro Savio
Certification Officer
Intertek Italia S.p.A.



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

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LFT-EMEA-IT-ATEX-OP-23p (6 April 2022)



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13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

Field Indicator JDF200 series. It provides remote indications of a process variable. JDF200 features a programmable signal display, providing alphanumeric plus bar graph indication.

The display is protected with a tempered glass window with a thickness of 10mm (for model JDF...L1...), or 6 mm (for model JDF...L5...). The window is fixed in the enclosure with a cemented joint. The enclosure consists of a main body and a cover manufacturer in aluminium alloy or AISI 316 L stainless steel and secured together by a threaded joint M84x1.5 and locked with a hexagon socket screw.

There are two basic types of the JDF200 Field Indicator differing in the functioning of the display (touch or not, see the type code). The touch version is the JDF200...L5 and the non-touch JDF...L1.

Both the L1 and L5 versions provide a degree of protection of IP67. The enclosure is sealed by an O-ring positioned between the cover and the main frame at the end of the threaded and by the cemented joint. All electronic circuits are protected with a limitation of the energy of sparks and surface temperature (intrinsic safety and non-sparking).

Only the JDF...L1 model is an explosion proof housing, Ex db type of protection.

The type code is:

	digit	Coding	Meaning
Commercial code	JDF200		
Housing material and electrical connection	*	A	Aluminum alloy: ½ in. – 14 NPT;
		B	Aluminum alloy: M20 x 1.5 (CM20);
		S	AISI 316L ss (I2 or I3 additional code required): ½ in. – 14 NPT;
		T	AISI 316L ss (I2 or I3 additional code required): M20 x 1.5 (CM20);
		C	AISI 316L ss painted (I2 or I3 additional code required): ½ in. –14 NPT;
		D	AISI 316L ss painted (I2 or I3 additional code required): M20 x 1.5 (M20).
Input signal/additional options	*	7	4 to 20 mA (Options requested by “Additional ordering code”).
Integral LCD	**	L1	digital LCD integral display with integrated keypad;
		L5	digital LCD integral display with TTG (Through-The-Glass) activated keypad (NOT EXPLOSION PROOF).
Hazardous area certifications:	**	E1	ATEX Intrinsic Safety II 1G Ex ia IIC Tx Ga and II 1D Ex ta IIIC Tx Da IP67 and II 1D Ex ia IIIC Tx Da IP67



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	E2	ATEX Explosion Proof II 2G Ex db IIC Tx Gb and II 2D Ex tb IIIC Tx Db IP67 (Note 1);
	E3	ATEX No sparking and Intrinsic Safety II 3G Ex ec IIC Tx Gc and II 3G Ex ic IIC Tx Gc and II 3D Ex tc IIIC Tx Dc IP67
	WU	UKCA Intrinsic Safety II 1G Ex ia IIC Tx Ga and II 1D Ex ta IIIC Tx Da IP67 and II 1D Ex ia IIIC Tx Da IP67
	WY	UKCA Explosion Proof II 2G Ex db IIC Tx Gb and II 2D Ex tb IIIC Tx Db IP67 (Note 1);
	WW	UKCA No sparking and Intrinsic Safety II 3G Ex ec IIC Tx Gc and II 3G Ex ic IIC Tx Gc and II 3D Ex tc IIIC Tx Dc IP67
	EW	Combined ATEX - Intrinsic Safety, Explosion Proof and No sparking Ex ec and Intrinsic Safety Ex ic (E1 + E2 + E3) (Note 1);
	E7	Combined ATEX - Intrinsic Safety and Explosion Proof (E1 + E2) (Note 1);
	E5	Combined ATEX, IECEx, Intertek (USA) and Intertek (Canada) (PENDING) (EW + EV + EU + EI) Note A (Note 1);
	WZ	Combined UKCA - Intrinsic Safety, Explosion Proof and No sparking Ex ec and Intrinsic Safety Ex ic (WU + WY + WW) (Note 1);
	EU	Intertek (Canada) approval (Note 1);
	EV	Intertek (USA) approval Note A (Note 1);
	EJ	Intertek (USA and Canada) Intrinsic Safety and Dustproof Note A
	EK	Intertek (USA and Canada) Explosion Proof Note A (Note 1)
	EL	Intertek (USA and Canada) Nonincendive Note A
	E8	IECEx Intrinsic Safety Ex ia IIC Tx Ga and Ex ta IIIC Tx Da IP67 and Ex ia IIIC Tx Da IP67
	E9	IECEx Explosion Proof Ex db IIC Tx Gb and Ex tb IIIC Tx Db IP67 (Note 1);
	ER	IECEx No sparking and Intrinsic Safety Ex ec IIC Tx Gc and Ex ic IIC Tx Gc and Ex tc IIIC Tx Dc IP67
	EI	Combined IECEx - Intrinsic Safety, Explosion Proof and No sparking Ex nA and Intrinsic Safety Ex ic (E8 + E9 + ER) (Note 1);
	EH	Combined IECEx - Intrinsic Safety and Explosion Proof (E8 + E9) (Note 1);
	Wx	for additional certification code, x can be various
Ex	for additional certification code, x can be various	
	**	M1 German



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Operating manual (multiple selection allowed)		M2	Italian
		M3	Spanish;
		M4	French;
		M5	English;
		M6	Chinese.
		Mx	for additional languages, x can be various
Plates language:	**	Tx	can be various
Additional tag plate:	**	Ix	x can be various For example I1 is "supplemental wired-on stainless steel plate".
Certificates not related with the Ex certification. (multiple selection allowed)	**	Cx	x can be various For example C1 is "Inspection certificate EN 10204-3.1 of calibrating point (9-point)"
Temperature Limit (mandatory for US Certifications)	**	NB	Installation to be performed down to -40 °C (-40 °F) ambient temperature"
		NC	Installation to be performed in an extended range down to -50°C (-58 °F) ambient temperature
Certificates not related with the Ex certification. (multiple selection allowed)	**	Zx	x can be various For example Z1 is "One certified stainless steel plug"

Note 1: not available with integral LCD code L5.

Note A: See relative report for US Certification

The relation between the type of protection and the class temperature are:

Type of protection	T4/T135	T4/T135	T5/T100	T6/T85
Ex II 3G Ex ec IIC Tx Gc Ex II 3D Ex tc IIIC Tx Dc IP67	-50°C < Ta < +75°C V= 42Vdc I= 100 mA	-50°C < Ta < +70°C V= 30Vdc I= 160 mA	-50°C < Ta < +40°C V= 42Vdc I= 40 mA	-50°C < Ta < +40°C V= 42Vdc I= 40 mA
Ex II 3G Ex ic IIC Tx Gc	-50°C < Ta < +75°C Ui= 42Vdc Ii= 100 mA Pi= 1 W Ci=6nF Li=0H	-50°C < Ta < +70°C Ui= 30Vdc Ii= 160 mA Pi= 1 W Ci=6nF Li=0H	-50°C < Ta < +40°C Ui= 42Vdc Ii= 40 mA Pi= 1 W Ci=6nF Li=0H	-50°C < Ta < +40°C Ui= 42Vdc Ii= 40 mA Pi= 1 W Ci=6nF Li=0H

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
JDF 200 LOCAL FIELD INDICATOR	DH3251	0	17/02/2015
JDF200 - FIELD INDICATOR	AU 3188 / 2	2	05/07/2016
* JDF200 - Field indicator	DH3242	0	06/07/2016
* Field Indicator	DH 3243	0	13/05/2014



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TITLE	DOCUMENT Nr	LEVEL	DATE
* Field Indicator "JDF200" Safety Plates	DH3253	1	26/11/2020
* Model JDF Field Indicator	DS/JDF200 -EN	A22	03.2022
* 2600T Series Model JDF200 Field Indicator	OI/JDF200-EN	F	06.2021
2600T Series-Field meter intrinsic safety evaluation	TRT.320.09	-	28/04/2016
Common HMI Type B with touch-key	9280346 P1	02	06/10/2011
Common HMI: "Type B"	DH3084	02	26/03/2008
Part list – Common HMI : "Type B"	AU 3042/3	3	26/03/2008
PCB Board HMI Type B with Touch Key	9280349	B	06/06/2012
JDF200 and HMI coupling	TRT.377.01	1	23/05/2016

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

15. SPECIFIC CONDITIONS OF USE

- Installation cable suitable for:

Tamb	Power supply	Cable type
Type of protection Ex ec, Ex tc		
-50°C up to +75°C	Up to 100mA	All cables can be used
-50°C up to +70°C	Up to 160mA	All cables can be used

- The ambient temperature is not indicating in the label but only in the user manual so there is an X on the certificate.
- The final user, can chose the level of protection of the equipment when the equipment is with the option EN, EW, E7, E1 and EH on the type code for the Hazardous area certifications. When the selection is made, it is not more possible to change it. The same procedure has to applied for all the other codes when it is present a multiple choice for the type of protection.
- Instruction manual reports information to reduce the risk of electrostatic charge.
- Details about electrical voltage supply in function of type of protection are indicated with the user manual and in product certification details.

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant Essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. 102399251UDI-001B Issue: 00 Dated: April 2016 and 104831665UDI-002 Dated 04 Apr 2022



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17. ROUTINE (FACTORY) TESTS

It is required, for IEC 60079-7, that the manufacturer shall perform an electric strength test at:

- at 500V r.m.s. for 60s or
- at 700V d.c. for 60s or
- at 600Vac for 100ms
- at 850Vdc for 100ms

All tests shall be recorded.

18. DETAIL OF CERTIFICATE CHANGES

R.1 (10 May 2022)

- Updated IEC60079-0 from edition 6th to 7th
- Updated standard from IEC 60079-15 edition 4 to IEC 60079-7 edition 5.1.
- Updated marking from “Ex nA IIC Tx Gc” to “Ex ec IIC Tx Gc”
- Update “Specific condition of Use”
- Update type code, changes not relevant for type of protection