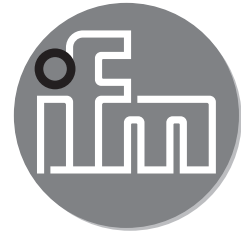


ifm electronic



Operating instructions

(Safety-related part ATEX)
Inductive NAMUR sensors

UK

N7SA (type I7S...)**

N7RA (type I7R...)**

Remarks for safe use in hazardous areas

Functions and features

- Use in hazardous areas according to the classification

II 1G (group II, category 1G, apparatus for gas atmosphere).

 II 1G Ex ia IIC T*¹⁾ Ga

¹⁾For more details regarding the temperature class see table 1.

- Use in hazardous areas according to the classification

II 1D (group II, category 1D, apparatus for dust atmosphere).

 II 1D Ex ia IIIC T*°C¹⁾ Da

¹⁾ For more details regarding the surface temperature see table 1.

Table 1

Type designation	Article no.	Minimum permissible operating temperature of the application in °C	Maximum permissible operating temperature of the application in °C for use in temperature class T* (1G) / at maximum surface temperature °C (1D)	
			T6 / 85°C	T4 / 125°C
I7S2***-N***	N7S20A N7S21A	-40	60	100
I7R2***-N***	N7R20A N7R22A N7R28A N7R30A	-40	60	100
I7R2***-NL***	N7R21A N7R23A N7R29A N7R31A	-40	70	100

The indications apply to intrinsically safe circuits with the following maximum values:
Ui = 15 V, li = 50 mA, Pi = 120 mW.

- The requirements of the standards IEC60079-0: 2011, IEC60079-11: 2011 and IEC60079-26: 2006 + Corr. 2009 are met.

EC type test certificate

BVS 08 ATEX E026

IECEx type test certificate

IECEx BVS 09.0016

Installation / Set-up

The units must only be installed, connected and set up by qualified staff. The qualified staff must have knowledge of protection classes, regulations and provisions for apparatus in hazardous areas.

Check whether the classification (see table 1 above and marking on the unit) is suitable for the application.

- Connection only to intrinsically safe circuits which are approved with the EC type test certificate and do not exceed the following maximum values:

$U_i = 15 \text{ V}$, $I_i = 50 \text{ mA}$, $P_i = 120 \text{ mW}$

- Permissible operating temperature of the application (referred to the maximum power which can be supplied):

see table 1

For further permissible maximum values for intrinsically safe circuits and corresponding limit values for the operating temperature please refer to the EC type test certificate.

- Maximum effective internal inductance (L_i) and capacitance (C_i):

Type designation	Article no.	Internal inductance L_i in μH	Internal capacitance C_i in nF
I7S2002-N***	N7S20A	120	150
I7S23,5-N***	N7S21A	150	150
I7R2010-N*** I7R2015-N***	N7R20A N7R28A N7R22A N7R30A	100	150
I7R2010-NL***	N7R21A N7R29A	90	90
I7R2015-NL***	N7R23A N7R31A	65	90

Installation remarks / Installation

- Adhere to the relevant national regulations and provisions.
- Avoid electrostatic charging on plastic units and cables.
- To avoid electrostatic charging steps must be taken to ensure the equalisation of potential of metal parts (plug housing, fixing elements, etc.).

UK

- Protect the units and the cables efficiently against damage.
- The units must not be installed in the partition between different zones.
- The relevant installation regulations must be adhered to.
- The wiring is indicated in the technical data sheet or on the type label.
- The correlation of the type of connected circuit on the one hand and the maximum permissible operating temperature and the temperature class / maximum surface temperature on the other hand is shown in the table in section 4 of the EC type test certificate.
- The electrical connections (cables, wires, connectors) must be installed so that at least the protection rating IP20 to IEC60529 is met.

Special conditions for safe operation

- Always refer to the operating instructions as space restrictions may not allow markings to be applied to the unit.
- Sensors of the type N7R**A may only be used in areas for which units of the category 1G are required if intensive electrostatic charges caused by the application or the process cannot arise.

Maintenance / Repair

The unit must not be modified nor can it be repaired. In case of a fault please contact the manufacturer.

If needed, you can obtain data sheets or EC type test certificates from the manufacturer.

