

# NF501A



## Inductive NAMUR sensor

IFB2004BN/US/1G/1D



### Product characteristics

|                    |                  |
|--------------------|------------------|
| Electrical design  | NAMUR            |
| Output function    | normally closed  |
| Sensing range [mm] | 4                |
| Housing            | threaded type    |
| Dimensions [mm]    | M12 x 1 / L = 45 |

### Electrical data

|                                    |                                                                                                             |
|------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Connection to switching amplifiers | yes                                                                                                         |
| Switching amplifiers               | connection to certified intrinsically safe circuits with the max. values: U = 15 V / I = 50 mA / P = 120 mW |
| Nominal voltage DC [V]             | 8.2; (1kΩ)                                                                                                  |
| Supply voltage DC [V]              | 7.5...30; (when used outside the hazardous area)                                                            |
| Current consumption [mA]           | < 1; (disabled; conductive: > 2,1)                                                                          |
| Protection class                   | III                                                                                                         |

### Outputs

|                                                      |                                            |
|------------------------------------------------------|--------------------------------------------|
| Electrical design                                    | NAMUR                                      |
| Output function                                      | normally closed                            |
| Permanent current rating of switching output DC [mA] | 30; (when used outside the hazardous area) |
| Switching frequency DC [Hz]                          | 700                                        |

### Detection zone

|                            |          |
|----------------------------|----------|
| Sensing range [mm]         | 4        |
| Real sensing range Sr [mm] | 4 ± 10 % |
| Operating distance [mm]    | 0...3.24 |

### Accuracy / deviations

|                              |                                                                             |
|------------------------------|-----------------------------------------------------------------------------|
| Correction factor            | steel: 1 / stainless steel: 0.7 / brass: 0.5 / aluminium: 0.4 / copper: 0.3 |
| Hysteresis [% of Sr]         | 1...15                                                                      |
| Switch point drift [% of Sr] | -10...10                                                                    |

### Operating conditions

|                          |          |
|--------------------------|----------|
| Ambient temperature [°C] | -20...70 |
| Protection               | IP 67    |

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| Tests / approvals             |                                                                   |                     |
|-------------------------------|-------------------------------------------------------------------|---------------------|
| Approval                      | BVS 04 ATEX E 091 X; IECEx BVS 06.0003X                           |                     |
| ATEX marking                  | <div>II 1G Ex ia IIC T6 Ga</div>                                  |                     |
|                               | <div>II 1D Ex ia IIIC T200 90°C Da</div>                          |                     |
| EMC                           | EN 60947-5-6                                                      |                     |
| Shock/vibration resistance    | 30 g (11 ms) / 10-55 Hz (1 mm)                                    |                     |
| MTTF                          | [years]                                                           | 3119                |
| Safety classification         |                                                                   |                     |
| Max. internal capacitance     | [nF]                                                              | 210                 |
| Max. internal inductance      | [μH]                                                              | 115                 |
| Mechanical data               |                                                                   |                     |
| Weight                        | [g]                                                               | 78.55               |
| Housing                       | threaded type                                                     |                     |
| Mounting                      | flush mountable                                                   |                     |
| Dimensions                    | [mm]                                                              | M12 x 1 / L = 45    |
| Thread designation            | M12 x 1                                                           |                     |
| Materials                     | housing: brass special coating; sensing face: PBT; LED window: PA |                     |
| Displays / operating elements |                                                                   |                     |
| Display                       | switching status                                                  | 4 x 90° LED, yellow |
| Accessories                   |                                                                   |                     |
| Items supplied                | lock nuts: 2                                                      |                     |
| Remarks                       |                                                                   |                     |
| Pack quantity                 | 1 pcs.                                                            |                     |
| Electrical connection - plug  |                                                                   |                     |
| Connector: 1 x M12; coding: A |                                                                   |                     |
| <div></div>                   |                                                                   |                     |

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### Connection



1 = connection to NAMUR amplifiers