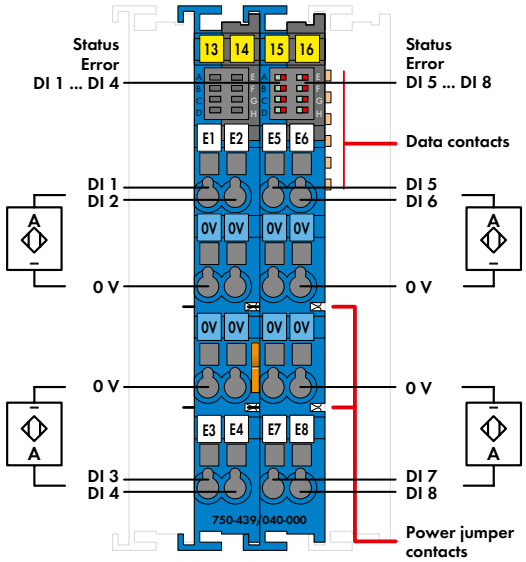
# 8-Channel Digital Input; NAMUR; Intrinsically Safe; Extreme




This digital input module records binary signals from sensors operating in Zone 0+1 hazardous areas, permitting channel-by-channel short circuit and wire-break diagnostics. NAMUR sensors, optocouplers, mechanical contacts (LED diagnostics can be turned off via control byte) or other actuating elements can be connected via intrinsically safe devices.
The WAGO-I/O-SYSTEM 750 XTR must be installed either in Zone 2 or in a non-hazardous area.
Each sensor is supplied with a short-circuit-protected voltage of 8.2 V.
Indicators:
- Green LED (signal ON)
- Red LED (short circuit)
- Red flashing LED (wire-break)

Field and system levels are electrically isolated.

Note: The digital input module must only be operated via 24 VDC Ex i XTR power supply (750-606/040-000)!

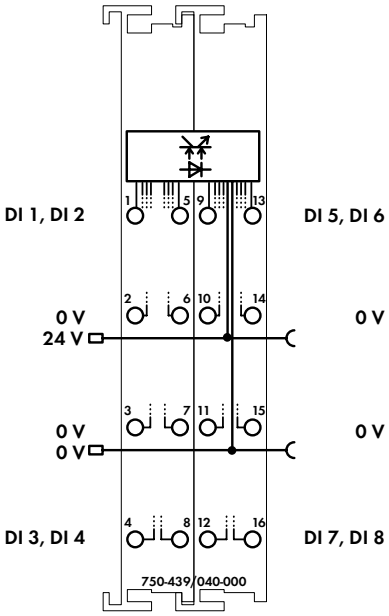
General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 XTR manuals!

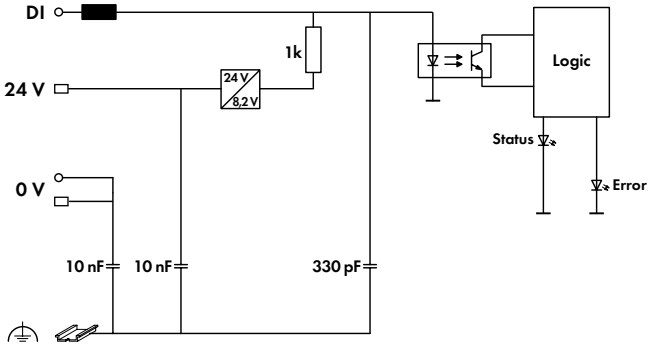
**The device is ideal for operation in harsh environments thanks to:**
- **Extended temperature range**
- **Greater immunity to impulse voltages and electromagnetic interference**
- **Higher vibration and shock resistance**

| Description | Item No. | Pack. Unit |
|---|---|---|
| 8DI NAMUR Ex i XTR | **750-439/040-000** | 1 |

| Accessories | Item No. | Pack. Unit |
|---|---|---|
| Mini-WSB Quick Marking System, plain | **248-501** | 50 |

| Technical Data | |
|---|---|
| Number of digital inputs | 8 |
| Signal type | NAMUR |
| Sensor connection | 2-conductor |
| Input characteristic | High-side switching |
| Input filter (digital) | 3 ms |
| Signal current (0) NAMUR | ≤ 1.2 mA |
| Signal current (1) NAMUR | ≥ 2.1 mA |
| Open-circuit voltage | 8.2 VDC |
| Input resistance | 1 kΩ |
| Input pulse length | ≥ 5 ms |
| Input pulse separation | ≥ 3 ms |
| Switching hysteresis | 0.2 mA |
| Short-circuit current | ≤ 8.2 mA (± 0.2 mA) |
| Short circuit monitoring | > 6.4mA |
| Wire break monitoring | < 0.3 mA |
| Diagnostics | Short circuit; wire break |
| Supply voltage (sensor) | 8.2 VDC (± 0.2 V); short-circuit-protected, isolated channels |
| Supply voltage (field) | 24 VDC via power jumper contacts |
| | (Ex i XTR power supply: $U_O$ = max. 26.8 V) |
| Current consumption (field supply) | 11 mA + load |
| Current consumption (system supply) | 56 mA |
| Power consumption $P_{max.}$ | 1.2 W |
| Power loss $P_l$ | 0.54 W |




| Technical Data | |
|---|---|
| Data width (internal) | 2 x 16-bit data |
| Isolation | $U_m$ = 300 VAC system/supply |
| Rated surge voltage | 1 kV; Rated surge voltage between intrinsically safe and non-intrinsically safe circuits: 1.5 kV (EN 60079-11) |
| Connection technology | CAGE CLAMP® |
| Conductor range | 0.25 … 2.5 mm² / 24 … 14 AWG |
| Strip length | 8 … 9 mm / 0.33 inch |
| Dimensions W x H x D | 24 x 67.8 x 100 mm |
| Weight | 95.4 g |
| Ambient temperature (operation) | –40 … +70 °C |
| Ambient temperature (storage) | –40 … +85 °C |
| Relative humidity | Max. 95 %, short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation) |
| Operating altitude | Without temperature derating: 0 … 2000 m; With temperature derating: 2000 … 5000 m (0.5 K/100 m); Maximum: 5000 m |
| Vibration resistance | Per IEC 60068-2-6 (acceleration: 5 g), EN 60870-2-2, IEC 60721-3-1, -3 |
| Shock resistance | Per IEC 60068-2-27 (15 g/11 ms/half-sine/1,000 shocks; 25 g/6 ms/1,000 shocks), EN 61373 |
| EMC immunity to interference | EN 61000-6-1, EN 61000-6-2, EN 61131-2 (marine applications), EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994 |
| EMC emission of interference | EN 61000-6-3 and EN 61000-6-4, EN 61131-2, EN 60255-26 (marine applications), EN 60870-2-1 and EN 61850-3 (industrial and residential areas) |

| Explosion Protection | |
|---|---|
| Safety-relevant data (circuit) | Uo = 11.76 V; Io = 12.48 mA; Po = 36.67 mW; Linear characteristic curve |
| Reactances Ex ia IIC | Lo = 100 mH; Co = 1.5 µF |
| Reactances Ex ia IIB | Lo = 100 mH; Co = 9.9 µF |
| Reactance Ex ia IIA | Lo = 100 mH; Co = 39 µF |
| Reactances Ex ia I | Lo = 100 mH; Co = 38 µF |
| Reactances | Reactances without considering the concurrence of L and C; for reactances that account for the concurrence of L and C, see manual |

| Guidelines and Approvals | |
|---|---|
| Conformity marking | CE |
| Ex guideline | EN/IEC 60079-0, -7, -11 |
| Marine applications | ABS, DNV GL, LR, PRS |
| E175199 Ordinary Locations | |
| TÜV 17 ATEX 196484 X | II 3 (1) G Ex ec [ia Ga] IIC T4 Gc |
| | II (1) D [Ex ia Da] IIIC |
| | I (M1) [Ex ia Ma] I |
| IECEx TUN 17.0005X | Ex ec [ia Ga] IIC T4 Gc |
| | [Ex ia Da] IIIC |
| | [Ex ia Ma] I |
| UL E198726 Hazardous Locations | Cl I, Div 2, Group A, B, C, D, T4 |